



**CHECK LIST OF
THE FRESHWATER FISHES
OF SOUTH
AND CENTRAL AMERICA**

Organized by
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Check List of the Freshwater Fishes of South and Central America

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Foreword

The present Check List of the Freshwater Fishes of South and Central America (CLOFFSCA) is a product of exciting scientific detective work and an outstanding example of voluntary international collaboration. Why attach superlatives to a ‘simple’ annotated check list of fish names? Several reasons explain this appreciation. They relate to the *what* it is, *who* did it and *how*.

First and foremost, it has taken a sheer incredible amount of detailed scrutiny of old and not so old source material, not readily accessible to a large public, to reconstruct the sources of names, descriptions and occurrence of almost 4,500 species of Neotropical freshwater fishes. In the process, tentative evidence on a large number of undescribed species was uncovered and provides direction for where future work is much needed for completeness. Perhaps as many as 1,550 species are thus estimated to await scientific description. The result is the core information on identity and classification, which links so much of the other types of knowledge on Neotropical fishes, their ecosystems and the various types of use into a coherent whole.

CLOFFSCA provides the platform from which work can proceed in two complementary directions: (i) more detailed national lists or other functional sub-sets of this almost continental core information, e.g. by river catchment; and (ii) expanding the arrangement of other types of knowledge associated with the valid identity of a species, e.g. geographical range, use as a food species (and associated processing characteristics) or suitability for aquaculture, value in the aquarium

trade, conservation status and trade, legislation and regulations. Without valid identification and classification, knowledge on individual species is of limited usefulness beyond the immediate purpose and certainly does not allow any cost-effective inferences on related, yet little researched, species or other expanded use.

Though not without its own problems, the willingness of CLOFFSCA authors to include at least some of the more accessible local or vernacular names is commendable. Local names, though often not unambiguous and unique like scientific names, are the major access route to information for the majority of people. This is borne out by an analysis of FishBase use, ostensibly the most utilised public information system on fishes, which shows that about 40% of all search entries are via the local name. In addition, the inclusion of local names in scientific classifications can build bridges between local ecological and ethnographic knowledge and scientific knowledge.

CLOFFSCA enables countries to step up their compliance with the Convention on Biological Diversity (CBD). CBD demands documentation and conservation of global biodiversity – the very foundation of the smaller number of species directly used by humankind. 187 countries were already parties to CBD in early 2003, making it one of the most widely ratified or accepted international treaties ever. Yet the institutionalization of mechanisms at national and local level which would ensure systematic practice of the principles and commitments enshrined in CBD is

still a long way off. The present publication is a step in this direction.

Secondly, getting 64 authors from Southern America, North America and Europe with different cultural backgrounds under one roof is a fine piece of international scientific cooperation, all the more remarkable as it was not supported by big funding or even a formal project. It was initiated by a vision of Rainer Froese, the FishBase team leader and the trustful relationship between the editors, Sven Kullander, Roberto E. Reis, and Carl J. Ferraris, Jr. and the numerous authors and supporters and the sense of purpose and achievement developed in this voluntary collaboration. It was sustained by all partners making available their knowledge and institutional resources, driven by intellectual curiosity and a desire to render research useful for society and using limited available funds judiciously.

The European Commission has supported international scientific cooperation (INCO) based on mutual respect and partnership since 1983. This experience serves in good stead with the ambitious process to create a European Research Area open to the world, in which the best scientific competence of Europe and its partners in different parts of the world is harnessed to improve our common understanding of the Earth's ecosystems and help to make the transition towards rebuilding and sustainable use of their natural wealth. Every good cooperation experience, like the one bringing about CLOFFSCA, is a valuable building block in this much larger endeavor. The achievement should serve as inspiration to others of what voluntary collaboration can do.

Finally, how did the group of dedicated individuals and their institutions make it happen – and in a relatively short period of time at that? As is usually the case, several factors combined favorably.

Among the human factors were the sense of initiative with a clear understanding of the objective, the mutual respect between the collaborators cemented and further developed through direct interaction at two workshops and the leadership of the editors to keep the undertaking on course throughout.

Key among the material conditions was the availability of two core electronic databases relevant to the undertaking, namely Bill Eschmeyer's *Catalog of Fishes* with names of all genera and species of recent fishes and FishBase, the electronic encyclopedia on the world's fishes, which had been launched and developed by Rainer Froese and Daniel Pauly into a global collaboration around a public knowledge good. Backed up by the highly dedicated FishBase team in the Philippines, CLOFFSCA work could start with a pre-structured information base provided by these two sources and then bring in the CLOFFSCA collaborators' knowledge about Neotropical fishes for a complete review of accessible knowledge of this large group of freshwater fishes. Thanks to information technology, under conditions of mutual trust, a 'laboratory without walls' developed and produced the check list.

The European Commission has supported the FishBase collaboration from the very beginning and has been very pleased with its extremely fruitful interaction with the California Academy of Sciences' *Catalog of Fishes* and more recently CLOFFSCA. In addition to this printed version of CLOFFSCA, the material can be accessed globally through FishBase, thus adding significant value to the work accomplished. I trust that the check list provides a very useful baseline for systematic knowledge of Neotropical fishes and thus enables improved compilation of other biological and ecological knowledge around it, but also constitutes a great stimulus to explore the knowledge gaps it is making apparent.

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European Commission, DG Research

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Introduction

What is CLOFFSCA?

The Convention on Biological Diversity (CBD for short), established in Rio de Janeiro in 1992, was a major effort in several respects relevant to systematic research and the use of organisms. It made clear that mankind is dependent not on farm products alone, but on the functional interaction of the totality of the organisms on earth, the biological diversity. It stressed that this diversity is still unknown for the most part, that properties of unknown or little known organisms may be of vital interest to mankind, and that the obligation of management and right of exploitation of local diversity remains with the nation or traditional ethnic groups occupying the particular area.

The convention had several desirable effects. One was increased awareness of diversity itself, and focus on the presumed extremely species rich tropical forested regions of earth. Another was awareness of the need for sustainable use not only of farmland, but also of natural resources and need for research on natural harvesting and new channels for distribution of profits from natural products to benefit rural societies to a greater extent than before.

The undesirable effect was that numerous countries closed their boundaries to systematic research for fear of economic exploitation, and whereas deforestation and other large scale destructive activities continued as before or even accelerated, the exploration of biodiversity suffered greatly.

What matters in this world is not only economic profit. The intellectual gains from research on an inexhaustible global biological diversity is fundamental to any rational use of natural biological resources, and the basic science dealing with biodiversity is systematic research.

The CBD prescribes that all countries should establish lists of their national fauna and flora. Even for most developed countries, this remains a huge undertaking, much more so for tropical countries which mostly have other primary concerns with available funding. The only option is to organize local and international expertise to at least give such lists a start. Several projects have been started in this direction, notably GBIF the Global Biodiversity Information Facility, but also FishBase, Species2000, and similar database projects which on a smaller scale paved the way for the bigger undertakings. All of these are driven by scientists, and all recognize that mapping the world's biodiversity cannot be done with national concerns, but have to be based on a scientific approach. In the Neotropics, the NEODAT project has existed for two decades with the goal to collect and share all kinds of information of interest to the systematic study of Neotropical freshwater fishes.

CLOFFSCA is one more contribution towards the objectives of the CBD. It is intended to be a methodologically precise, complete, and reliable list of all freshwater fishes occurring in the Neotropical realm.

and can be used as a platform for both national and regional checklists.

The objectives of CLOFFSCA

CLOFFSCA is a biodiversity inventory of the freshwater fishes of South and Central America, including the Caribbean islands. It meets two immediate objectives, the first to list all known taxa for the region, and the second to establish a platform for keeping the inventory updated. The most frustrating part of making a checklist is knowing that the day after publication, it will inevitably be outdated by new discoveries; but in fact the checklist will boost new discoveries because it makes it easier to spot new taxa.

How CLOFFSCA was accomplished

CLOFFSCA was made possible by two database resources combined with a large number of systematic expertise. The *Catalog of Fishes* compiled by William N. Eschmeyer at the California Academy of Sciences, is the first large-scale animal names registry to become available in electronic form and covers all generic and species names of Recent fishes: 10,300 generic and subgeneric names, and 53,500 specific and subspecific names (Eschmeyer, 1998: 7). The Catalog also forms an important part of the taxonomic backbone in FishBase, which is a global information system covering all aspects of fish biology, created by Daniel Pauly and Rainer Froese (Froese & Pauly, 2000) and developed into one of the most comprehensive electronic data sources of any larger animal group. FishBase contributed the staff for editing and entering information into a version of the Catalog. Both the Catalog and FishBase have had free access to CLOFFSCA information and in this way all three projects have benefited from the enterprise.

The editors invited experts for each family or subfamily of Neotropical fishes to participate in CLOFFSCA. In the end 64 persons, mostly from South America, some from North America, and a few in Europe, were enlisted. All experts have exerted strong ambitions and considerable devotion to the task, and only two eventually gave up the idea. For groups where no experts were available, the editors have made the compilations to the best of their ability.

FishBase sent excerpts of names to the authors, who prepared lists of valid names with synonyms, and these clean lists were then used for successive revisions of information as now displayed in CLOFFSCA, including valid name and all synonyms with publication reference, information on name-bearing types, and type locality, as well as information on geographical distribution, length, and common name, and when needed also remarks on the status of the taxon con-

cerned. Authors have also compiled brief family descriptions.

The bibliographic references at the end of each family account were pulled from FishBase according to references given in the checklist proper, usually with considerable updates provided by the authors.

Editors have acted as pushers, and to quite some extent guided the work to comply with the intended format. Over the four years of existence, editors have met once to compile the final revisions, but otherwise corresponded by email. A major event in CLOFFSCA history was the gathering in September 2000 of more than half of the author score for a brainstorming in Santo Domingo, Dominican Republic. The week-long exercise also included several non-specialists from northern South America and the Caribbean region working with country checklists and FishBase staff. The meeting was especially fruitful in providing a better understanding of, and coordination of higher level systematics. There were considerable differences in the family classification of the Neotropical fishes between the Catalog, FishBase, and the active scientists, and CLOFFSCA reflects the opinion of the scientists.

The final version of CLOFFSCA was ready by the end of 2002, and the publishing house of the Pontificia Universidade Católica do Rio Grande do Sul accepted to publish the volume.

Present status of systematic ichthyology in South and Central America

The volume on Phylogeny and Classification of Neotropical Fishes (Malabarba et al., 1998) was a milestone in Neotropical ichthyology, with numerous specialists presenting overview information on nearly all groups of Neotropical freshwater fishes. As exposed in this volume, Neotropical fish systematics is still a dynamic field, with numerous problems still to be resolved, but it also reflects the existence of a stable platform grounded in cladistic methodology and with taxon coverage being a major obstacle. The Neotropical fish fauna is an extremely rich component of the global freshwater fish fauna, including about 6,000 of the world's about 13,000 freshwater fish species.

Many areas of the Neotropics are still not ichthyologically explored, and large collections exist that have still not been carefully studied by specialists.

How many Neotropical freshwater fish species are there?

The information available from CLOFFSCA can be used in numerous ways to calculate fish biodiversity, and will be a significant tool for creating regional.

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drainage, or country lists of species. Here we will be content to look at species numbers by family. CLOFFSCA recognizes 4,475 valid species of Neotropical freshwater fishes. This is the exact figure of the known species richness of the Neotropical freshwater fish fauna. Altogether, 1,550 undescribed species may be estimated from authors' expertise or conjectures and knowledge about ongoing work, bringing

the estimated existing fish species in Neotropical freshwater to 6,025 (Table 1). This is slightly higher than the traditional recent estimate of 5,000 South American freshwater fishes (Schaefer, 1998: 377), but much less than Schaefer's (1998:378) calculated estimate of possibly more than 8,000 Neotropical freshwater fish species.

TABLE 1. Numbers of valid, estimated undescribed, and total estimate of freshwater species in Neotropical freshwaters, in systematic order. Estimates may be considered low, and even for families with no expected new species, at least the more species rich families have a potential for new discoveries.

FAMILY	VALID SPECIES	UNDESC SPECIE	TOTAL SPECIES	FAMILY	VALID SPECIES	UNDESC SPECIES	TOTAL SPECIES
Geotriidae	2	0	2	Heptapteridae	186	52	238
Carcharhinidae	1	0	1	Pimelodidae	83	45	128
Pristidae	2	0	2	Pseudopimelodidae	26	14	40
Potamotrygonidae	18	5	23	Ariidae	46	10	56
Lepisosteidae	1	0	1	Doradidae	74	25	99
Osteoglossidae	2	0	2	Auchenipteridae	91	40	131
Arapaimatidae	1	0	1	Gymnotidae	19	10	29
Megalopidae	1	0	1	Sternopygidae	27	20	47
Anguillidae	1	0	1	Rhamphichthyidae	13	5	18
Ophichthidae	1	0	1	Hypopomidae	25	20	45
Clupeidae	10	0	10	Apterontidae	52	30	82
Engraulididae	20	10	30	Galaxiidae	6	0	6
Pristigasteridae	5	0	5	Bythitidae	6	0	6
Parodontidae	23	6	29	Batrachoididae	5	0	5
Curimatidae	97	10	107	Gobiesocidae	7	0	7
Prochilodontidae	21	0	21	Atherinidae	3	0	3
Anostomidae	138	25	163	Atherinopsidae	94	12	106
Chilodontidae	7	0	7	Rivulidae	235	35	270
Crenuchidae	73	30	103	Cyprinodontidae	58	10	68
Hemiodontidae	28	10	38	Poeciliidae	216	53	269
Gasteropelecidae	9	2	11	Anablepidae	15	3	18
Characidae	952	400	1352	Belonidae	9	0	9
Acestrorhynchidae	15	3	18	Hemiramphidae	2	0	2
Cynodontidae	14	2	16	Syngnathidae	5	0	5
Erythrinidae	15	15	30	Synbranchidae	4	10	14
Lebiasinidae	61	12	73	Percichthyidae	5	0	5
Ctenoluciidae	7	0	7	Perciliidae	2	0	2
Diplomystidae	6	1	7	Sciaenidae	21	2	23
Cetopsidae	20	20	40	Polycentridae	2	0	2
Aspredinidae	36	11	47	Cichlidae	406	165	571
Nematogenyidae	1	0	1	Mugilidae	2	0	2
Trichomycteridae	171	55	226	Gobiidae	40	10	50
Callichthyidae	177	45	222	Achiridae	20	5	25
Scoloplacidae	4	2	6	Tetraodontidae	2	0	2
Astroblepidae	54	10	64	Lepidosirenidae	1	0	1
Loricariidae	673	300	973	Total	4475	1550	6025

Methods

Summary of Information Included

CLOFFSCA lists provide basic nomenclature] information on genera and species of freshwater fishes from South and Central America, including the Caribbean islands. The southern limit extends to the southern tip of the continent and includes the Falkland Islands/Islas Malvinas. All Antillean islands are covered, and all Central America. The northern limit is less precise. The Neotropical fish fauna is well characterized by numerous endemic families in South America, e.g., almost all ostariophysan families. That fauna extends to southern Mexico, and traditionally the Isthmus of Tehuantepec is considered to be an imprecise northern limit of the Neotropical fauna. The North American fauna, characterized by circumarctic families like pikes (Esocidae), perches (Percidae) and cyprinids (Cyprinidae), extends into northern Mexico. We include members of Neotropical families that are found north of the Isthmus of Tehuantepec, principally cichlids and poeciliids, but we exclude North American families from that area. Thus, Cyprinidae and Ictaluridae are not covered in CLOFFSCA, even though they are represented by several species within the range of the Cichlidae and Poeciliidae in northern Mexico. There is thus a slight overlap with the American Fisheries Society checklist of North American fishes (Robins et al., 1991; new edition in preparation), but essentially CLOFFSCA complements that checklist.

Most families included in CLOFFSCA are purely freshwater fishes. Several of the included families,

however, include species which are predominantly marine or brackish water. The Gobiidae are globally chiefly shallow water coastal marine or estuarine fishes, with rather few representatives restricted to freshwater. Many species of Atherinopsidae are marine but migrate to estuaries for spawning, whereas others are euryhaline or restricted to freshwater. In these and other families with representatives in both fresh and more or less saline waters, we have included species that are likely to be found in freshwater conditions near the coast, but excluded species for which available information suggests that they are only found in salt water. Decisions have not always been straightforward and for many taxa the relevant information is simply not available. Other families include migratory species, like the Anguillidae, and Megalopidae, which spend only part of their life cycle in fresh water. In CLOFFSCA, these migratory species are included. A selection was made of families which only contain brackish or marine species, some of which are regularly encountered in fresh water, e.g. the Carcharhinidae. We have otherwise strived to exclude essentially marine fishes which would be expected to be covered by check-lists of coastal and marine fishes. All in all, CLOFFSCA is a documentation of the highly endemic and particular Neotropical freshwater fish fauna, not a field guide to whatever fish might be encountered in South or Central American streams and ponds.

The coverage is believed to be exhaustive up through mid-2002, and probably quite complete also up through December 2002. New taxa are being des-

cribed all the time, and descriptions in obscure literature are difficult to locate immediately.

Classification used

CLOFFSCA classification builds on results covered in Malabarba et al. (1998), which radically revised views of both relationships and classification of Neotropical fishes. CLOFFSCA thus departs from many traditional texts, such as Nelson (1984), Eschmeyer (1998), or FishBase, and implements the frontline in systematic research. This is most notable in the classification of families within catfishes and characids. Research by de Pinna (1998) shows that Neotropical catfishes are not a monophyletic group, but particular families have their closest relatives on other continents, and traditional groups were based on overall similarity rather than on shared derived characters. Thus, a large part of the traditional Pimelodidae here appears as a separate family, the Hepapteridae, and a smaller component is now the Pseudopimelodidae. The classification is thus novel with CLOFFSCA, but is judged to be stable in regard to novel proposals. Ongoing research may further improve on the classification used herein, however.

Listing standards

Families are arranged in systematic order as far as possible. Two large families, the Characidae and the Loricariidae, have been subdivided into subfamilies. Several smaller families also contain subfamilies, but such are then detailed on only in the family synopsis.

Within families, genera, and species within genera, are listed in alphabetical order under the valid name for the taxon. Each genus entry is followed by a list of synonyms with reference to author, year and page number in the original publication, followed by the name of the type species and type category (by monotypy, original designation, or subsequent designation), and the gender of the generic name (masculine, feminine, or neuter). The name of the type species is the original combination unless particular conditions require that some other combination be used. Synonyms are listed in chronological order.

The same arrangement is followed for species, but in the synonymy list reference is given also to the principal illustration, if any, in the original publication. The type locality is intended to be the type locality as stated in the original publication. Clarifications or corrections to the original type locality are sometimes included in square brackets. Information about type specimens is derived from the original publication or from other sources.

Contextual information for species includes maximum length, geographical distribution, countries of occurrence, common names, and remarks and references.

Maximum length is derived from various sources available to authors, but is often not known to a reasonable degree of certainty. Many species are known only from the type series, which may be based on subadult specimens. Length information derived from systematic sources is usually standard length, abbreviated SL, which is the length from the tip of the snout to the base of the caudal fin (details of measurement may vary between systematic groups, however). Length information from other sources, however, is commonly total length, abbreviated TL, which is the length from the tip of the snout to the tip of the caudal fin with the caudal fin lobes pressed together. The size of skates and rays is rather given as disk width, DW, which is the greatest width between tips of pectoral fins.

The geographical distribution refers to river drainages, lakes, islands or similar geographical features, and extends to the best of knowledge. The distribution is only sketchily documented for most species. Geographical names are mostly in the language of the country where the fishes are distributed. In cases of rivers running through different countries, like the Maroni (French)/Marowijne (Surinamese), which forms the border between French Guyana and Suriname, only one of the names is used consistently. We use Paraguay and Uruguay (Spanish) instead of Paraguai or Uruguai (Brazilian) for two major rivers in southern South America, and we use Amazon basin (English) instead of Amazonas (Brazilian, Spanish) for the major river in South America.

The list of countries simply records the countries from which a species is positively recorded. Introductions are indicated as such. Also this list is often to be considered preliminary.

Common names are listed by country, and derive from FishBase as a principal source, but modified and completed by authors. Any list of common names of fishes from a large tropical region cannot presently be complete. Common names may be unavailable because the species are not recognized by non-systematists, and particular species may be called by a generic term. Thus, cichlids are known as acar, bujurqui, vieja, or mojarra in different regions, but noncommercial species are often not given particular names. It is also frequently the case that recorded common names cannot be correlated with a particular species as known in a scientific sense. The recording of common names thus has a potential for development, and lack of a common name for any particular

species in CLOFFSCA should be considered an inspiration for efforts of recording and allocating names rather than as a shortcoming.

Remarks and references highlight important recent revisions, and cases of nomenclatural uncertainty or different opinion on the status of names. The remarks and references are certainly not exhaustive.

Original spelling of names

In the synonymies, we use the original spelling of a name, as it appears in the original description. The International Code of Zoological Nomenclature (ICZN, 1999), says that capital first letters in species epithets and diacritic marks have to be corrected to lower-case letter or deleted, respectively, in subsequent usage, but we consider it more appropriate to record here the original spelling rather than introduce corrections in the citation, particularly because this facilitates correction of spelling of names whenever used as valid names. Thus diacritic marks appear in the synonym list, but of course may never be used in valid names.

Type-localities as originally stated by author of name

The type locality is the locality from which the name bearing type was collected. Often the type locality is erroneously reported, or place names are misspelled. Sometimes, additional information is available rendering greater precision to a vaguely expressed type locality. Whenever a neotype is selected, the type locality is formally changed to that of the neotype. A syntype series consisting of specimens from several localities has a complex type locality including different geographical sites; when a lectotype is selected, the type locality automatically becomes that of the lectotype. By citing "corrected" type localities or only a neotype locality one loses information that could affect future revisions negatively. Whenever the cited original type locality is different from the known type locality, we add information about the known type locality.

Date of publication of names

The date of publication of all names listed herein represents the best available information on what year the publication containing the new name, or that portion of the publication in which all elements necessary to make the new name available, was actually issued. In many cases, this date differs from that stated on the publication. Publications were sometimes issued earlier than stated but, more often, the publication was not actually issued until a date later than that listed (sometimes several years later). In the References

section of each family account, the actual date of publication is listed along with the stated year of publication (usually enclosed in square brackets). More precise information on the date of publication (i.e., month or month and day) is only provided if that information is relevant to the decision of the valid name for a species in which two or more available names for the species were published during the same year.

Cited page numbers for new names

Page numbers provided for each proposed new name represent the page of the publication in which the name is first proposed as new and for which information is provided that makes the name available. In a few cases, two page numbers are listed, because the information needed to make the name available is divided between those two pages.

In some 19th and early 20th Century journals, offprints of articles were issued with pagination that differs from that of the article in the journal. In general, the page numbers cited herein are the journal numbers and not those of the offprints. However, if evidence exists that the offprint was issued in advance of the journal, that is so noted in the References and the appropriate page number of the offprint is listed.

In a few cases, cited publications were issued without pagination. New names described in such publications are listed with a page number enclosed in square brackets, with the assumption that the article containing the new name began on page 1.

Cuvier and Valenciennes' (1828-1850) *Histoire naturelle des Poissons* was issued in two, apparently simultaneous, editions. One edition, called (by Bailey 1951, 1957) the *Regular Edition*, consists of 22 volumes in octavo format. The other, called the *Strasbourg Deluxe Edition*, also consists of 22 volumes, but in a slightly larger, royal octavo, format. Although the contents of each volume the two editions are identical, the pagination of the volumes differs, with fewer pages in the Strasbourg deluxe edition. Although the existence of the two editions is well known (see Dean, 1916: 287), most authors have access to only one of the two editions (usually the *Regular Edition*, which is more widely available), which has resulted in a certain amount of confusion about the correct page of a new name. Herein, we cite the page numbers of the *Regular Edition*. When authors provided page numbers from the *Strasbourg Deluxe Edition*, we list those numbers in square brackets after the page from the Regular Edition.

Genera and species of uncertain relationships

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In several accounts within this volume, genera and species are listed as valid, but their placement within a higher taxon is unclear. These genera and species are listed at the beginning of the Order or Family to which they belong, under the heading *Incertae sedis*, to make clear that the species should be considered valid, but not in the genus in which it was described or any of the treated genera.

Names of uncertain status

A number of available species names and, in a few cases, generic names, for Neotropical fishes could not be placed either as a valid name or as a synonym of another name. In general, these names were proposed with descriptions that were not sufficiently precise to allow the CLOFFSCA author to assign the name to a particular species and the type or types are either missing or otherwise unavailable for study. These names have been included at the end of the taxon to which their assignment could be made, under the heading *Species inquirenda* (*Species inquirendae*, pl.) for species names and *GENUS INQUIRENDUM* (*GENERA INQUIRENDAE*, pl.) for generic names. Species names that were not assignable to any genus are listed at the end of the family account, with *SPECIES INQUIRENDA* in capital letters.

Museum codes

Type specimens of Neotropical fishes are distributed in numerous collections all over the Americas, Europe and elsewhere. Each such collection is identified by a 2-5 letter code (sometimes longer). Museum codes generally follow Leviton et al. (1985), Leviton & Gibbs (1988), and Eschmeyer (1998).

AFAQ Australia Amateur Fisheries Association of Queensland, Australia. Most specimens transferred to Queensland Museum (QM), Brisbane
AFY Personal collection of Agustin Fernandez-Yepez, Venezuela
ANSP Academy of Natural Sciences of Philadelphia, Philadelphia, USA
AMNH American Museum of Natural History, New York, USA
AMS Australian Museum, Sydney, Australia
BMNH Natural History Museum, London, UK
CAS California Academy of Sciences, San Francisco, USA
CBF Coleccion Boliviana de Fauna, Museo Nacional de Historia Natural, Instituto de Ecologia, La Paz, Bolivia
CM Carnegie Museum (now in FMNH)
DBCUC Universidad de Chile, Departamento de Biologia Celular y Genetica, Santiago, Chile

DZSASP Departamento de Zoologia da Secretaria de Agricultura do Estado de Sao Paulo (specimens now at MZUSP)
DZUH Departamento de Zoologia, Universidad de la Habana, Habana, Cuba
EEBP Estacao Experimental de Biologia e Piscicultura de Pirassununga, Pirassununga, Brazil
ENCB, ENCB-IPN, IPN, PNCB Instituto Politecnico. Escuela Nacional de Ciencias Biologicas de Mexico, Mexico, Mexico
FCLR Fundacion Cientifica Los Roques, Venezuela
FFSUC Ichthyology Collection, Faculty of Forestry Sciences, Universidad de Chile, Santiago, Chile
FML Instituto Fundacion Miguel Lillo, Tucuman, Argentina
FMNH Field Museum of Natural History, Chicago, USA
INHS Illinois Natural History Survey, Champaign, USA
INPA Instituto Nacional de Pesquisas da Amazonia, Manaus, Brazil
ICNMHN Unidad de Ictiologia del Instituto de Ciencias Naturales, Museo de Historia Natural, Universidad Nacional de Colombia, Bogota, Colombia
IRSNB Institut royal des Sciences naturelles de Belgique, Brussels, Belgium
ISER Institutul Speologie Emil G Rachovita, Bucaresti, Romania
ILPLA Instituto de Limnologia, Museo de La Plata. La Plata, Argentina
INVEMAR Instituto de Investigaciones Marinas de Punta de Betin, Santa Marta, Colombia
IO Instituto Oceanografico da Universidade de Sao Paulo, Brazil. Formerly Instituto Paulista de Oceanografia.
IU Indiana University (now distributed among several North American museums)
IZAC Academia de Ciencias, Instituto de Zoologia, La Habana, Cuba
IZUA Universidad Austral de Chile, Instituto de Zoologia, Valdivia, Chile
KU University of Kansas, Museum of Natural History, Lawrence, USA
LACM Los Angeles County Museum, Los Angeles, USA
LGP Laboratorio de Genetica de Peixes. Departamento de Biologia, Universidade de Sao Paulo, Brazil
LIVCM Merseyside County Museum, Liverpool, UK
MACLPI Ministerio de Agricultura y Cria, Laboratorio de la Seccion de Pesca Interior y Piscicultura. Venezuela.
MACN Museo Argentino de Ciencias Naturales "Bernardino Rivadavia", Buenos Aires, Argentina
MB Universidade de Lisboa, Museu Bocage, Lisboa, Portugal

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- MBLUZ Museo de Biología de la Universidad del Zulia, Venezuela
- MBUCV Museo de Biología, Universidad Central de Venezuela, Caracas, Venezuela
- MCNG Museo de Ciencias Naturales, Guanare, Venezuela
- MCP Museu de Ciências e Tecnologia, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil
- MCN Museu de Ciências Naturais, Fundação Zoológica do Rio Grande do Sul, Porto Alegre, Brazil
- MCZ Museum of Comparative Zoology, Cambridge, Massachusetts, USA
- MFA Museo Provincial de Ciencias Naturales "Florentino Ameghino", Santa Fe, Argentina
- MHNG Museum d'Histoire naturelle, Genève, Switzerland
- MLP Museo de La Plata, La Plata, Argentina
- MNHN Museum National d'Histoire naturelle, Paris, France
- MHNLS, SCN Museo de Historia Natural La Salle, Caracas, Venezuela
- MHNM Museo de Historia Natural de Montevideo, Montevideo, Uruguay
- MFINN Museum d'Histoire naturelle, Neuchâtel, Switzerland
- MNHNC Museo Nacional de Historia Natural, Santiago, Chile
- MNHNM Museo Nacional de Historia Natural, Mexico, Mexico
- MNRJ Museu Nacional, Rio de Janeiro, Brazil
- MPEG Museu Paraense Emílio Goeldi, Belém, Brazil
- MRAC Afrika-Museum, Tervuren, Belgium
- MSNG Museo Civico di Storia Naturale di Genova 'Giacomo Doria', Genova, Italy
- MTD Museum für Tierkunde, Dresden
- MUSM Universidad Nacional Mayor de San Marcos, Museo de Historia Natural 'Javier Prado', Lima, Peru
- MZUB Museo Zoológico dell'Università di Bologna, Bologna, Italy
- MZUF Università di Firenze, Museo Zoológico de la Specola, Firenze, Italy
- MZUSP Museu de Zoologia da Universidade de São Paulo, São Paulo, Brazil
- MZUT Università di Torino, Museo Zoológico, Torino, Italy
- NMNZ National Museum of New Zealand, Wellington, New Zealand
- NMV Museum Victoria, Melbourne, Australia
- NMW Naturhistorisches Museum, Wien, Austria
- NRM Naturhistoriska riksmuseet, Stockholm, Sweden
- PSU Pennsylvania State University, University Park, USA
- RMNH Nationaal Natuurhistorisch Museum, Leiden, The Netherlands
- ROM Royal Ontario Museum, Toronto, Canada
- RUSI South African Institute for Aquatic Biodiversity, Grahamstown, South Africa
- SIUC Southern Illinois University at Carbondale, Carbondale, USA
- SMF Senckenberg-Museum, Frankfurt am Main, Germany
- SMNS Staatliches Museum für Naturkunde Stuttgart, Stuttgart, Germany
- SU Stanford University (now in CAS)
- TNHC Texas Memorial Museum, Texas Natural History Collection, Austin, USA
- TU Tulane University, Tulane, USA
- UAB Universidad Autónoma de Barcelona, Departamento de Biología, Barcelona, Spain
- UANL Universidad Autónoma de Nuevo León, Monterrey, Mexico
- UBJTL Universidad Bogotá Jorge Tadeo Lozano, Bogotá, Colombia
- UFPB Universidade Federal de Paraíba, João Pessoa, Brazil
- UHMP Universidad de La Habana Museo Poey, La Habana, Cuba
- UMMZ University of Michigan Museum of Zoology, Ann Arbor, USA
- USNM National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA
- ZFMK Zoologisches Forschungsinstitut und Museum Alexander Koenig, Bonn, Germany
- ZMA Zoologisches Museum, Universiteit van Amsterdam, Amsterdam, The Netherlands
- ZMB Zoologisches Museum, Humboldt-Universität, Berlin, Germany
- ZMH Zoologisches Museum und Zoologisches Institut, Universität Hamburg, Hamburg, Germany
- ZMUC Zoological Museum, University of Copenhagen, Copenhagen, Denmark
- ZMUL Lund University, Zoological Museum, Lund, Sweden
- ZSM Zoologische Sammlung des Bayerischen Staates, München, Germany
- ZUEC Universidade Estadual de Campinas, Departamento de Zoologia, Campinas, Brazil
- ZVC Departamento de Zoología Vertebrados de la Facultad de Humanidades y Ciencias, Montevideo, Uruguay.

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References

- Bailey, R.M. 1951. The authorship of names proposed in Cuvier and Valenciennes' "Histoire Naturelle des Poissons." *Copeia*, 1951:249-251.
- Bailey, R.M. 1957. Request for a ruling determining the authorship to be attributed to the various portions of the work entitled "Histoire Naturelle des Poissons" written partly by Cuvier and partly by Valenciennes and published in the period 1828-1850. *Bulletin of Zoological Nomenclature*, 13(10/11): 309-312.
- Cuvier, G. and A. Valenciennes. 1828-1850. *Histoire Naturelle des Poissons*. Ch. Pitois & V^c Levrault, Paris & Strasbourg.
- Dean, B. 1916. A bibliography of fishes; enlarged and edited by Charles Rochester Eastman. Vol. 1, A—K. American Museum of Natural History, New York, x + 718 p.
- Eschmeyer, W.N. (ed.). 1998. *Catalog of Fishes*. California Academy of Sciences, San Francisco.
- Froese, R. and D. Pauly. 2000. *FishBase 2000: concepts, design and data sources*. ICLARM, Los Banos, Laguna, Philippines, <http://www.fishbase.org>
- IC/N [International Commission on Zoological Nomenclature]. 1999. *International Code of Zoological Nomenclature*. The International Trust for Zoological Nomenclature, London.
- Leviton, A.E., R.H. Gibbs Jr., E. Heal and C.E. Dawson. 1985. Standards in Herpetology and Ichthyology. Part 1. Standard symbolic codes for institutional resource collections in herpetology and ichthyology. *Copeia*, 1985:802-832.
- Leviton, A.E. and R.H. Gibbs, Jr. 1988. Standards in Herpetology and Ichthyology. Standard symbolic codes for institution resource collections in herpetology and ichthyology. Supplement No. 1: Additions and corrections. *Copeia*, 1988: 280-282.
- Malabarba, L.R., R.E. Reis, R.P. Van, Z.M. Lucena and C.A.S. Lucena (eds.). 1998. Phylogeny and classification of Neotropical fishes. Edipucrs, Porto Alegre.
- Nelson, J.S. 1994. *Fishes of the World*. 3rd Edition. J. Wiley and Sons, New York, London, Sydney & Toronto.
- de Pinna, M.C.C. 1998. Phylogenetic relationships of Neotropical Siluriformes (Teleostei: Ostariophysi): Historical overview and synthesis of hypotheses. Pp. 279-330 In: L.R. Malabarba, R.E. Reis, R.P. Van, Z.M. Lucena & C.A.S. Lucena (eds.). *Phylogeny and classification of Neotropical fishes*. Edipucrs, Porto Alegre.
- Robins, C.R., R.M. Bailey, C.E. Bond, J.R. Brooker, E.A. Lachner, R.N. Lea and W.B. Scott, 1991. Common and scientific names of fishes from the United States and Canada. *American Fisheries Society, Special Publication* (20): 183 p.
- Schaefer, S.A. 1998. Conflict and resolution: impact of new taxa on phylogenetic studies of the Neotropical cascudinhos (Siluroidei: Loricariidae). Pp. 375-400 In: L.R. Malabarba, R.E. Reis, R.P. Van, Z.M. Lucena & C.A.S. Lucena (eds.). *Phylogeny and classification of Neotropical fishes*. Edipucrs, Porto Alegre.

Family Geotriidae (Southern lampreys)

Sven O. Kullander and Bo Fernholm

The Petromyzontiformes are represented in South and Central America by two species of the family Geotriidae in southern South America, and two species of Petromyzontidae in Northern Mexico north of the CLOFFSCA limit (*Tetrapleurodon geminis* Alvarez, 1964, and *Tetrapleurodon spadiceus* (Bean, 1887)). The Geotriidae are found also in Australia and New Zealand where represented by the widespread *G. australis* and the endemic *Mordacia preaecox* Potter, 1968, and *Mordacia mordax* (Richardson, 1846). The family level classification of recent petromyzontiforms is unstable with authors recognizing Petromyzontidae, Geotriidae, and Mordaciidae as separate families or as subfamilies of Petromyzontidae, or the Mordaciidae are ranked under the Geotriidae or Geotriinae.

Lampreys are eel-like in shape. The skeleton is entirely cartilaginous. Jaws, scales and lateral fins absent. The larval (ammocoetes) stage lives for several years in fresh water before undergoing a radical metamorphosis and then as a rule returns to the sea. Non-parasitic species breed immediately after metamorphosis. Adults have well developed eyes and corneous teeth on the circular oral disk and the tongue. The larval stage is filter feeding, whereas the adult uses the sucker shaped mouth to attach to other fishes and feeds off the wound. Land-locked, lake populations or species are common in the northern hemisphere petromyzontids, which also commonly appear as species pairs, with one species parasitic, and the other non-parasitic. The South American species, *Geotria australis* and *Mordacia lapicida*, are both anadromous. Taxonomic reviews are provided by de Buen (1961), Hubbs & Potter (1971) and Fernholm (1990). Eigenmann (1927) illustrated life stages of both South American species, but used names now mostly appearing in the synonymy of *Geotria australis*.

GEOTRIA

Geotria Gray, 1851: 142. Type species: *Geotria australis* Gray, 1851. Type by monotypy. Gender: feminine.

Velasia Gray, 1851: 143. Type species: *Velasia chilensis* Gray, 1851. Type by monotypy. Gender: feminine.

Thysanochilus Philippi, 1857: 268, footnote. Type species: *Thysanochilus valdivianus* Philippi, 1857. Type by monotypy. Gender: masculine.

Yarra Castelnau, 1872: 231. Type species: *Yarra singularis* Castelnau, 1872. Type by monotypy. Gender: feminine.

Neomordacia Castelnau, 1872: 232. Type species: *Neomordacia howittii* Castelnau, 1872. Type by monotypy. Gender: feminine.

Exomegas Gill, 1883: 524. Type species: *Petromyzon macrostomus* Burmeister, 1868. Type by original designation. Gender: masculine.

Macrophthalmia Plate, 1897: 137. Type species: *Macrophthalmia chilensis* Plate, 1897. Type by monotypy. Gender: feminine.

Dionisia Lahille, 1915: 374. Type species: *Dionisia patagonica* Lahille, 1915. Type by monotypy. Gender: feminine. Availability uncertain as *D. patagonica* appears in the synonymy of *Geotria chilensis* on p. 380.

Geotria australis Gray, 1851

Geotria australis Gray, 1851: 142, pl. 1 (fig. 3). Type locality: Inkar Pinki R., Hobson's Bay or Onkaparinga, South Australia. Holotype: BMNH 1851.7.11.1.

Velasia chilensis Gray, 1851: 143, pl. 1 (fig. 4). Type locality: Chile. Holotype: BMNH 1951.10.4.2.

Thysanochilus valdivianus Philippi, 1857: 268. Type locality: Valdivia, Chile. No types known.

Ammocoetus landbecki Philippi 1858: 307. Type locality: Valdivia, Chile. Syntypes: ?NMW 77395 (2).

Petromyzon acutidens Philippi, 1865: 107. Type locality: Chile. No types known.

Petromyzon onki Philippi, 1865: 109. Type locality: Chile. No

types known.

Petromyzon macrostomus Burmeister, 1868: xxxvi. Type locality: Buenos Aires, Argentina. No types known.

Geotria allporti Günther, 1872: 675, pl. 70. Type locality: Tasmania, Australia. Holotype: BMNH 1871.8.18.51.

Yarra singularis Castelnau, 1872: 231. Type locality: Captain Sinnot's dock, lower Yarra R., Victoria, Australia. Holotype: MNHN A-7542.

Neomordacia howittii Castelnau, 1872: 232. Type locality: Cape Schanck, Victoria, Australia. Holotype: MNHN A-7543.

Velasia stenostomus Ogilby, 1896: 409. Type locality: Se. and s. Australia, Tasmania, etc. Based on literature sources; types not researched.

Macrophthalmia chilensis Plate, 1897: 137. Type locality: Source of Río Maullin from Lake Llanquihué, s. Chile.

Geotria macrostoma gallegensis Smitt, 1901: 26, pl. 4. Type locality: Río Gallegos et ... ses affluents, Río Ruben et Río Turbio. Syntypes: NRM 17755 (1), 28537 (30), NRM 28995 (1), NRM 28996 (1), 28997 (1), 28998 (3), 30109 (6), 30111 (8), 30118 (fragments), 43782 (9). As subspecies on p. 29, as species *Geotria gallegensis* on p. 28, as "forma (l. var.)" [forma (or varieties)] on p. 26, apparently intended as subspecific taxon.

Geotria saccifera Regan, 1911: 197. Type locality: Otago, New Zealand. Holotype: BMNH 1886.11.18.112.

Dionisia patagonica Lahille, 1915: 374. Type locality: Río de la Plata, San Isidro and Dock Sur, Buenos Aires, Argentina. Types: unknown. Availability uncertain as *D. patagonica* appears in the synonymy of *G. chilensis* on p. 380.

Maximum length: 62 cm TL

Distribution: Coasts of southern South America, South Georgia, New Zealand and southern Australia, ascending rivers to spawn. Countries: Chile, Argentina, South Georgia, Australia, New Zealand

Common names: Lamprea de bolsa, anguila blanca (Chile)

MORDACIA

Caragola Gray, 1851: 143. Type species: *Caragola lapicida* Gray, 1851. Type by monotypy. Gender: feminine.

Mordacia Gray, 1851: 143. Type species: *Petromyzon mordax* Richardson, 1846. Type by monotypy. Gender: feminine.

***Mordacia lapicida* (Gray, 1851)**

Caragola lapicida Gray, 1851: 143, pl. 1 (fig. 5). Valparaíso, Chile. Holotype: BMNH 1951.10.4.1.

Maximum length: 16 cm SL

Distribution: South America: Rivers of southern Chile.

Countries: Chile

GENUS INQUIRENDUM

Chilopterus Philippi, 1858:308. Type species: uncertain, possibly *Ammocoetes caeruleus* Philippi, 1858, as reported in Eschmeyer (1998: 1890). Gender: masculine.

SPECIES INQUIRENDA

Ammocoetes caeruleus Philippi, 1858: 306. Type locality: Valdivia, Chile. No types known.

References

Burmeister, H.C.C. 1868. [*Petromyzon macrostomus*, descripción de una nueva especie de pez.]. Actas Sociedad Paleontologica, Buenos Aires (In: Anles Mus. Publ. B. Aires), 1: xxxv-xxxvii.
 Castelnau, F.L. 1872. Contribution to the ichthyology of Australia. No. 1.--The Melbourne fish market. No. II.--Note on some South Australian fishes. Proc. Zool. Acclim. Soc. Victoria, 1: 29-247.
 de Buen, F. 1961. Las lampreas (Marsipobranchii o Ciclostomi) en aguas de Chile. Investigaciones zoológicas chilenas, 7: 101-124.
 Eigenmann, C.H. 1927. The fresh-water fishes of Chile. Memoirs of the National Academy of Sciences, 22 (2): 1-63.
 Eschmeyer, W.N. (ed.). 1998. Catalog of Fishes. California Acad-

emy of Sciences, San Francisco.
 Fernholm, B. 1990. Petromyzontidae. Pp. 79-80, In: Gon, O. and P.C. Heemstra (ed.). Fishes of the Southern Ocean. J.L.B. Smith Institute of Ichthyology, Grahamstown.
 Gill, T.N. 1883. Note on the petromyzontids. Proceedings of the U. S. National Museum, 5 (310): 521-525.
 Gray, J.E. 1851. List of the specimens of fish in the collection of the British Museum. Part I.--Chondropterygii. British Museum, London, i-x + 1- 160.
 Günther, A. 1872. Report on several collections of fishes recently obtained for the British Museum. Proceedings of the Zoological Society, London, 1871: 652-675.
 Hubbs, C.L. and I.C. Potter. 1971. Distribution, phylogeny and taxonomy. Pp. 1-65, In: Hardisty, M.W. and I.G. Potter (ed.). The biology of lampreys, 1. Academic Press, London.
 Lahille, F. 1915. Apuntes sobre las lampreas Argentinas y los acraniotas. Anales del Museo Nacional de Historia Natural, Buenos Aires, 26: 361-382.
 Ogilby, J.D. 1896. A monograph of the Australian Marsipobranchii. Proceedings of the Linnaean Society of New South Wales, 21: 388-426.
 Philippi, R.A. 1865. Über die chilenische Anguilla. Archiv für Naturgeschichte, 31 (1): 107-109.
 Philippi, R.A. 1857. Ueber einige Chilenische Vögel und Fische. Archiv für Naturgeschichte, 23 (1): 262-272.
 Philippi, R.A. 1858. Beschreibung neuer Wirbelthiere aus Chile. Archiv für Naturgeschichte, 24 (1): 303-311.
 Plate, L. 1897. Ein neuer Cyclostom mit grossen, normal entwickelten Augen, *Macrophthalmia chilensis*, n.g. n.sp. Sitzungsberichte der Gesellschaft Naturforschender Freunde zu Berlin, 1897: 137-141.
 Regan, C.T. 1911. A synopsis of the marsipobranchs of the order Hyperoartii. Annals and Magazine of Natural History (8), 7: 193-204.
 Smitt, F.A. 1901. Poissons d'eau douce de la Patagonie recueillis par E. Nordenskiöld, 1898-1899. Bihang till Kongl. Svenska Vetenskaps-Akademiens Handlingar, 26 (13): 1-31.

Family Carcharhinidae (Requiem sharks)

Marcelo R. de Carvalho and John D. McEachran

Carcharhinid sharks, popularly known as requiem sharks, are the only sharks with recurrent and confirmed fresh water records. The family is circumglobally distributed in tropical and temperate marine waters, but a few species, the most noteworthy of which is the bull shark (*Carcharhinus leucas*), enter tropical rivers that have access to the sea. Altogether, some 12 species of requiem sharks may be present in brackish waters, even if marginally, but the bull shark is the only euryhaline carcharhinid that is widely distributed in tropical rivers (Compagno & Cook, 1995). The Ganges shark, *Glyphis gangeticus*, may be the only carcharhinid restricted to fresh waters, but it is known from only three specimens from the Ganges-Hooghly River system (India) and may be extinct (Compagno, 1984, 1988; Compagno & Cook, 1995; Zorzi, 1995). Some 50 valid species and 12 genera presently comprise the Carcharhinidae (Compagno, 1999).

Carcharhinids are small to large-sized sharks (ranging from 75 to over 550 cm TL), with two prominent dorsal fins (the first is always larger), a large caudal fin clearly divided into two lobes (the upper lobe with undulations), an anal fin, moderately long labial furrows, five gill slits, lateral eyes, internal nictitating lower eyelids, spiracles usually absent, precaudal pits present, scroll intestinal valve, strong dignathic heterodonty, gray, olive, brown or bluish dorsal coloration, white or creamy white ventrally, and mostly devoid of strong color patterns. Reproduction is viviparous (ovoviviparous in the tiger shark, *Galeocerdo cuvier*), and many species form maternal-fetal connections in the form of yolk-sac placentae (Compagno, 1988). Most carcharhinid species are coastal, but some are oceanic and very widespread (Compagno, 1984).

The species-rich genus *Carcharhinus* was reviewed by Garrick (1982, 1985), and the general morphology and systematics of carcharhinid sharks has been extensively reviewed by Compagno (1984, 1988), who summarized most of the pertinent literature. Many references concerning the taxonomic history of carcharhinids can be found in Eschmeyer (1998). Grace (2001) is a recent update of western north Atlantic carcharhinids, Last & Stevens (1994) reviews the Australian requiem shark fauna, and Compagno & Niem (1998) provide an overview of Indo-west Pacific species. Compagno (1999) is an updated list of living carcharhinid (and chondrichthyan) species. Fresh water carcharhinds are discussed in detail in Thorson (1976b), Compagno & Cook (1995) and Zorzi (1995), and references cited therein. The carcharhinid fossil record is reviewed in Cappetta (1987) and Cappetta et al. (1993).

The extensive generic synonymy below follows Compagno (1988) and Eschmeyer (1998) for the most part, with the exception that *Prionodon* Müller & Henle, 1838 (preoccupied by *Prionodon* Horsfield, 1822 in Mammalia) is not listed as a synonym of *Carcharhinus* Blainville, 1816, because its type species is *Squalus glaucus* Linnaeus, 1758 (= *Prionace glauca*), and it should therefore be included in the synonymy of *Prionace* Cantor, 1849. The nominal genera *Bogimba* Whitley, 1943, and *Lamnarius* Whitley, 1943, are based on nominal species later synonymized with the bull shark. There is a single nominal species that is based on a Neotropical freshwater shark, *Eulamia nicaraguensis* Gill, 1877, from Lake Nicaragua, which was synonymized with *Carcharias* (*Prionodon*) *leucas* Müller & Henle, 1839, by Bigelow & Schroeder (1961). Authorship of *Carcharias* (*Prionodon*) *leucas* is attributed to Müller & Henle, 1839, and not to Valenciennes (in Müller & Henle, 1839), following Eschmeyer (1998; cf. Compagno, 1984).

CARCHARHINUS

Carcharhinus Blainville, 1816: 121. Type species: *Carcharias melanopterus* Quoy & Gaimard, 1824. Type designated by ICZN and genus placed on official list (Opinion 723; Eschmeyer, 1998). Gender: masculine. Originally published as a subgenus of *Squalus* Linnaeus, 1758.

Carcharias Cuvier, 1816: 125. Type species: *Squalus carcharias* Linnaeus, 1758. Type by monotypy and tautonymy. Junior homonym of *Carcharias* Rafinesque, 1810 (valid in Odontaspidae, Lamniformes). Gender: masculine. Placed on official index (opinion 723). Originally published as a subgenus of *Squalus* Linnaeus, 1758.

Hypoprion Müller & Henle, 1838: 34. Type species: *Carcharias* (*Hypoprion*) *macloti* Müller & Henle, 1839. Type by subsequent designation of Gill (1862: 401). Gender: masculine.

Aprion Müller & Henle, 1839: 31. Type species: *Carcharias*

(*Aprion*) *isodon* Müller & Henle, 1839. Type by subsequent designation (not determined; Eschmeyer, 1998). Gender: masculine. Preoccupied by *Aprion* Valenciennes, 1830, in Osteichthyes.

Galeolamna Owen, 1853: 96. Type species: *Galeolamna greyi* Owen, 1853. Type by original designation. Gender: feminine.

Aprionodon Gill, 1861: 59. Type species: *Squalus punctatus* Mitchell, 1815 (preoccupied by *Squalus punctatus* Bloch & Schneider, 1801). Type by monotypy. Gender: masculine. Synonymized with *Carcharhinus* by Garrick (1985).

Eulamia Gill, 1862: 399, 401. Type species: *Carcharias* (*Prionodon*) *milberti* Müller & Henle, 1839. Type by monotypy. Gender: feminine.

Hypoprionodon Gill, 1862: 400, 401. Type species: *Carcharias* (*Hypoprion*) *hemiodon* Müller & Henle, 1839. Type by original designation. Gender: masculine.

Isoplagiodon Gill, 1862: 400, 401. Type species: *Carcharias*

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- (*Prionodon*) *sorrah* Müller & Henle, 1839. Type by original designation. Gender: masculine.
- Platyodon* Gill, 1862: 401. Type species: *Carcharias* (*Prionodon*) *menisorrhah* Müller & Henle, 1839. Type by original designation. Gender: masculine.
- Gymnorhinus* Hilgendorf in Hemprich & Ehrenberg, 1899: 8. Type species: *Gymnorhinus pharaonis* Hemprich & Ehrenberg, 1899. Preoccupied by *Gymnorhinus* Maxillian, 1840, in Aves. Gender: masculine.
- Mapolamia* Whitley, 1934: 188. Type species: *Carcharias melanopterus* Quoy & Gaimard in Freycinet, 1824. Type by original designation. Gender: feminine.
- Gillisqualus* Whitley, 1934: 189. Type species: *Gillisqualus amblyrhynchoides* Whitley, 1934. Type by original designation. Gender: masculine.
- Galeolamnoides* Whitley, 1934: 191. Type species: *Carcharias macrurus* Ramsay & Ogilby, 1887. Type by original designation. Gender: masculine.
- Longmania* Whitley, 1939: 231. Type species: *Carcharias* (*Aprion*) *brevipinna* Müller & Henle, 1839. Type by original designation. Gender: feminine.
- Ogilamia* Whitley, 1939: 231. Type species: *Carcharias stevensi* Ogilby, 1911. Type by monotypy. Gender: feminine. Originally published as a subgenus of *Galeolamna* Owen, 1853.
- Uranga* Whitley, 1943: 115. Type species: *Uranga nasuta* Whitley, 1943. Type by original designation. Gender: feminine.
- Urangops* Whitley, 1943: 117. Type species: *Galeolamna* (*Urangops*) *fitzroyensis* Whitley, 1943. Type by original designation. Gender: masculine. Originally published as a subgenus of *Galeolamna* Owen, 1853.
- Lamnarius* Whitley, 1943: 119. Type species: *Carcharias spenceri* Ogilby, 1910 [= *Carcharias* (*Prionodon*) *leucas* Müller & Henle, 1839]. Type by original designation. Gender: masculine. Originally published as a subgenus of *Galeolamna* Owen, 1853.
- Bogimba* Whitley, 1943: 125. Type species: *Galeolamna* (*Bogimba*) *bogimba* Whitley, 1943 [= *Carcharias* (*Prionodon*) *leucas* Müller & Henle, 1839]. Type by absolute tautonomy. Gender: neuter. Originally published as a subgenus of *Galeolamna* Owen, 1853.
- Pterolamia* Springer, 1950: 7. Type species: *Squalus* (*Carcharias*) *longimanus* Poey, 1861. Type by original designation. Gender: feminine. Preoccupied by *Pterolamia* Breuning, 1942, in Coleoptera.
- Pterolamiops* Springer, 1951: 244. Type species: *Squalus* (*Carcharias*) *longimanus* Poey, 1861. Type by being a replacement name (for *Pterolamia* Springer, 1950). Gender: masculine. Placed on official index (opinion 723).
- Carcharhinus leucas* (Müller & Henle, 1839)**
- Carcharias* (*Prionodon*) *leucas* Müller & Henle, 1839: 42, pl. 26, fig. 2. Type locality: Antilles. Syntypes: MNHN A-9650 (dry specimen), A-9652 (dry specimen), and 2 lost specimens.
- Carcharias* (*Prionodon*) *zambezensis* Peters, 1852: 276. Type locality: Zambezi River, Mozambique. Holotype: ZMB 4468.
- Prionodon platyodon* Poey, 1860: 336, pl. 19, figs. 5-6. Type locality: Cuba. No types known.
- Squalus obtusus* Poey, 1861: 337, pl. 19, figs. 7-8. Type locality: Cuba. No types known. As *Prionodon obtusus* on pl. 19.
- Eulamia nicaraguensis* Gill in Gill & Bransford, 1877: 190. Type locality: Lake Nicaragua, Nicaragua. Holotype: USNM 16887 (skin, skull and jaws only).
- Carcharias azureus* Gilbert & Starks, 1904: 11, pl. 2, fig. 5. Type locality: Panama. Holotype: SU 11890.
- Carcharias spenceri* Ogilby, 1910: 3. Type locality: E. Australia. Holotype: AFAQ 290 (jaws only, not QM).
- Galeolamna* (*Bogimba*) *bogimba* Whitley, 1943: 123, fig. 5. Type locality: Bogimbah, Fraser Island. Holotype: AMS IB 1225 (teeth and skin only).
- Galeolamna greyi mckaili* Whitley, 1945: 1. Type locality: Swan River dist. (Australia). Holotype: AMS IB 508. Type specimen originally illustrated as *Galeolamna greyi* without subspecific designation in Whitley (1940: 273, fig. 303), according to Eschmeyer (1998).
- Carcharhinus vanrooyeni* Smith, 1958: 12. Type locality: St. Lucia, Natal, South Africa. Holotype: RUSI 175. Synonymy follows Compagno (1984: 478).
- Maximum length: 350 cm TL
- Distribution: Central and South America: Amazon and Ucayali Rivers (in Peru, some 4200 km from the Atlantic). Lake Nicaragua and San Juan River, Lake Izabal and Dulce River, Patuca River, Honda River. Probably elsewhere in other Neotropical systems.
- Countries: Belize, Brazil, Colombia, Guatemala, Honduras, Nicaragua, Peru.
- Remarks and references: The bull shark is viviparous with a yolk-sac placenta, producing from 1 to 13 young per gestation, which may take from 10 to 12 months (Jensen, 1976; Compagno, 1984). This species breeds mostly in marine coastal and estuarine areas, but is able to reproduce in fresh water at least in Lake Nicaragua, even though this may occur only occasionally (Jensen, 1976; Thorson, 1976a). Size at birth ranges from roughly 50 to 80 cm TL (Jensen, 1976; Thorson, 1976a; Compagno, 1984), and pups congregate in brackish or fresh water nursery grounds. Reproductive maturity comes after about 6 years, and bull sharks are reported to live for more than 15 years (even in captivity). Bull sharks are very common in lagoons, estuaries and river mouths (Schwartz, 1959, 1960; Sadowsky, 1971), and may be the dominant predator in murky waters of coastal regions (Compagno, 1984). In the Amazon River, the bull shark has been recorded from Iquitos (Peru), Leticia (Colombia), Manaus, Santarém and Belém (Myers, 1952; Thorson, 1972; Figueiredo, 1977; Ferreira et al., 1998). Thorson (1972) also presents circumstantial evidence of its occurrence 200 km south of Iquitos, representing the farthest inland occurrence of any fresh water elasmobranch that is primarily marine. There is only scant information about the bull shark in the Amazon River, especially concerning its reproductive biology (we have only examined a small juvenile male from Belém, AMNH 4031). Studies similar to those compiled in Thorson (1976b) on the Lake Nicaragua bull sharks are therefore very much needed. Lake Nicaragua and San Juan River (Nicaragua) records are summarized in Thorson (1976a), who reviews the literature (see also Thorson, 1965, 1971, 1982; Thorson et al., 1966a, 1966b; Thorson & Lacy, 1982; Tuma, 1976). Other verified fresh water Neotropical records of the bull shark are from the Honda River (Belize; Greenfield & Thomerson, 1997), Lake Izabal (Guatemala; Bigelow & Schroeder, 1948; Thorson et al., 1966a) and the Patuca River (Honduras; Strong, 1934, cited in Bigelow & Schroeder, 1948: 341, footnote 25). The bull shark is also present in the Panama Canal (Bigelow & Schroeder, 1948). Miles (1947) mentions a shark, as "*Carcharhinus spec.*" from the Magdalena River (Colombia), but does not provide any data. The bull shark has a very wide distribution outside of the Neotropical region, occurring in coastal waters of the Indian, Pacific and Atlantic oceans, as well as in the mouths, tidal estuaries and far upriver in many tropical rivers worldwide (for a summary of occurrences and references from areas outside the Neotropical region, see Bigelow & Schroeder, 1948; Garrick, 1982; Daget, 1984; Compagno, 1984; Séret, 1990; Shimizu & Taniuchi, 1991; Last & Stevens, 1994; Compagno & Cook, 1995). Bigelow & Schroeder (1948), Thomerson et al. (1977) and Burgess & Ross (1980) provide information on North American fresh water reports (in the Mississippi River system, reaching 3800 km upriver to Illinois). For a physiological review of the fresh water tolerance of bull sharks, see Thorson (1962, 1967), Thorson & Gerst (1972) and Thorson et al. (1973). Compagno (1984) provides a summary of other biological aspects of the bull shark, including its potential danger.

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Common names: Cabeça-chata (Brazil), Bull shark (USA), Tiburón or tiburón sarda (Colombia, Peru, Honduras, Nicaragua, Guatemala).

References

- Bigelow, H.B. and W.C. Schroeder. 1948. Fishes of the Northwestern Atlantic. Part I. Lancelets, Cyclostomes and Sharks. Memoirs of the Sears Foundation for Marine Research 2: xvii + 576pp.
- Bigelow, H.B. and W.C. Schroeder. 1961. *Carcharhinus nicaraguensis*, a synonym of the bull shark, *C. leucas*. Copeia, 1961 (3): 359.
- Blainville, H. 1816. Prodrome d'une nouvelle distribution systématique du règne animal. Bull. Soc. Philomathique, Paris, 8: 105-112.
- Burgess, G.H. and S.W. Ross. 1980. *Carcharhinus leucas* (Valenciennes), bull shark. p. 36, In: D.S. Lee (ed.). Atlas of North American freshwater fishes. North Carolina State Museum of Natural History, Raleigh.
- Cappetta, H. 1987. Chondrichthyes II. Mesozoic and Cenozoic Elasmobranchii, In: H.-P. Schultze (ed.). Handbook of Paleichthyology, vol. 3B. Gustav Fisher Verlag, Stuttgart.
- Cappetta, H., C. Duffin and J. Zidek. 1993. Chondrichthyes, In: M. J. Benton (ed.). The Fossil Record, vol. 2. Chapman & Hall, London.
- Compagno, L.J.V. 1984. FAO species catalogue. Vol. 4, part 1. Sharks of the world. An annotated and illustrated catalogue of shark species known to date. Food and Agriculture Organization of the United Nations, Rome.
- Compagno, L.J.V. 1988. Sharks of the order Carcharhiniformes. Princeton Univ. Press, Princeton.
- Compagno, L.J.V. 1999. Checklist of living elasmobranchs. Pp. 471-498, In: W. C. Hamlett (ed.). Sharks, Skates, and Rays, The Biology of Elasmobranch Fishes. John Hopkins Univ. Press Baltimore. 515pp.
- Compagno, L.J.V. and S.D. Cook. 1995. The exploitation and conservation of freshwater elasmobranchs: status of taxa and prospects for the future. Pp. 62-90, In: M.I. Oetinger and G.D. Zorzi (eds.). The Biology of Freshwater Elasmobranchs, a Symposium to Honor Thomas B. Thorson. Journal of Aquaculture & Aquatic Sciences, vol. VII.
- Compagno, L.J.V. and V.H. Niem. 1998. Carcharhinidae. Pp.1312-1360, In: K.E. Carpenter and V.H. Niem (eds.). FAO Species Identification Guide for Fisheries Purposes: Western Central Pacific. FAO, Rome.
- Cuvier, G. 1816. Le règne animal distribué d'après son organisation pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Les reptiles, les poissons, les mollusques et les annélides. Edition 1., v. 2. Paris. xviii + 532 p.
- Daget, J. 1984. Carcharhinidae. p. 2, In: J. Daget, J.P. Gosse and D.F.E. Thys van den Audernaerde (eds.). Check-list of the freshwater fishes of Africa. Vol. I. ORSTOM, Paris.
- Eschmeyer, W.N. (ed.). 1998. Catalog of fishes. California Academy of Sciences, San Francisco. 3 vols. 2905 pp.
- Ferreira, E.J.G., J.A.S. Zuanon and G.M. Santos. 1998. Peixes comerciais do médio Amazonas. Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis. 211 p.
- Figueiredo, J.L. 1977. Manual de peixes marinhos do sudeste do Brasil. I. Introdução, Cações, raias e quimeras. São Paulo: Museu de Zoologia da USP.
- Garrick, J.A.F. 1982. Sharks of the genus *Carcharhinus*. NOAA Tech. Rep. NMFS, Circ. no. 445: 1-194.
- Garrick, J.A.F. 1985. Additions to a revision of the shark genus *Carcharhinus*: synonymy of *Aprionodon* and *Hypoprion*, and description of a new species of *Carcharhinus* (Carcharhinidae). NOAA Tech. Rep. NMFS, no. 34: i-iii + 1-26.
- Gilbert, C.H. and E.C. Starks. 1904. The fishes of Panama Bay. Mem. Calif. Acad. Sci., 4: 1-304.
- Gill, T.N. 1861. Catalogue of the fishes of the eastern coast of North America, from Greenland to Georgia. Proc. Acad. Nat. Sci. Philadelphia, 13 (Suppl.): 1-63.
- Gill, T.N. 1862. Analytical synopsis of the order of Squali; and revision of the nomenclature of the genera. Ann. Lyc. Nat. Hist. N. Y., 7: 367-408.
- Gill, T.N. and J.F. Bransford. 1877. Synopsis of the fishes of Lake Nicaragua. Proc. Acad. Nat. Sci. Philadelphia, 29: 175-191.
- Grace, M. 2001. Field guide to requiem sharks (Elasmobranchii: Carcharhinidae) of the western north Atlantic. NOAA Tech. Report NMFS 153. 32pp.
- Greenfield, D.W. and J.E. Thomerson. 1997. Fishes of the continental waters of Belize. University Press of Florida, Gainesville.
- Hemprich, F.G. and C.G. Ehrenberg. 1899. Symbolae physicae, seu icones adhuc ineditae ... ex itineribus per Libyam, Aegyptiam, Nubiam, Dongolam, Syriam, Arabiam et Habessiniam publico institutis sumptu ... studio annis MDCCCXX - MDCCCXXV redierunt. Zoologica. Berlin. 17p.
- Jensen, N.H. 1976. Reproduction of the bull shark, *Carcharhinus leucas*, in the Lake Nicaragua - Rio San Juan system. Pp. 539-559, In: T.B. Thorson (ed.). Investigations of the Ichthyofauna of Nicaraguan Lakes. University of Nebraska, Lincoln.
- Last, P.R. and J.D. Stevens. 1994. Sharks and Rays of Australia. CSIRO, Melbourne.
- Linnaeus, C. 1758. Systema Naturae. Vol. I. Regnum Animalae. Holmiae. 824 pp.
- Miles, C. 1947. Los peces del Rio Magdalena. Min. Economia Nac., Sec. Pesci., Pesca y Caza, Bogota.
- Mitchill, S.L. 1815. The fishes of New York described and arranged. Trans. Lit. Phil. Soc. N. Y., 1: 355-492.
- Müller, J. and F.G.J. Henle. 1838-41. Systematische Beschreibung der Plagiostomen. Berlin. xxii + 200 p., 60 pls.
- Myers, G.S. 1952. Sharks and sawfishes in the Amazon. Copeia, 1952 (4): 268-269.
- Ogilby, J.D. 1910. On new or insufficiently described fishes. Proc. R. Soc. Queensland, 23: 1-55.
- Ogilby, J.D. 1911. Descriptions of new or insufficiently described fishes from Queensland waters. Ann. Queensland Mus., 10: 36-58.
- Owen, R. 1853. Descriptive catalogue of the osteological series contained in the Museum of the Royal College of Surgeons of England. Vol. 1. Pisces, Reptilia, Aves, Marsupialia. London. Cat. Osteol. Ser. Royal College of Surgeons, 350 pp.
- Paepke, H.-J. & K. Schmidt. 1988. Kritischer Katalog der Typen der Fischeammlung des Zoologischen Museums Berlin. Teil 2: Agnatha, Chondrichthyes. Mitt. Zool. Mus. Berlin, 64 (1): 155-189.
- Peters, W. 1852. Diagnosen von neuen Flussfischen aus Mossambique. Monatsb. Akad. Wiss. Berlin, 1852: 275-276, 681-685.
- Poey, F. 1860. Memorias sobre la historia natural de la Isla de Cuba, acompañadas de sumarios Latinos y extractos en Francés. Tomo 2. La Habana. Mem. Hist. Nat. Cuba, 2: 1-96 (1858), 97-336 (1860), 337-442.
- Poey, F. 1861. Memórias sobre la história natural de la Isla de Cuba, acompañadas de sumários Latinos y extractos en Francés. Tomo 2. La Habana. Mem. Hist. Nat. Cuba, 2: 337-442.
- Quoy, J.R.C. and J.P. Gaimard. 1824. Description des Poissons. Chapter IX, In: Freycinet, L. de, Voyage autour du Monde...exécuté sur les corvettes de L. M. "L'Uranie" et "La Physicienne," pendant les années 1817, 1818, 1819 et 1820. Paris. Voyage Uranie, Zool.: 192-401 [1-328 in 1824; 329-616 in 1825].
- Rafinesque, C.S. 1810. Caratteri di alcuni nuovi generi e nuove specie di animali e piante della sicilia, con varie osservazioni sopra i medesimi. Part 1, pp. iv, 3-69; Part 2, pp. iv, 71-105.
- Ramsay, E.P. and J.D. Ogilby. 1887. On an undescribed shark

Check List of the Freshwater Fishes of South and Central America

- from Port Jackson. Proc. Linn. Soc. N. S. W. (Ser. 2), 2 (1): 163-164.
- Sadowsky, V. 1971. Notes on the bull shark *Carcharhinus leucas* in the lagoon region of Cananéia, Brazil. Bol. Inst. Oceanogr. São Paulo, 20 (2): 71-78.
- Schwartz, F.J. 1959. Two eight-foot cub sharks *Carcharhinus leucas* (Müller and Henle), captured in Chesapeake Bay, Maryland. Copeia 1959: 251-252.
- Schwartz, F.J. 1960. Additional comments on adult bull sharks *Carcharhinus leucas* (Müller and Henle), from Chesapeake Bay, Maryland. Chesapeake Science, 1960 (1): 68-71.
- Séret, B. 1990. Carcharhinidae. Pp. 57-59, In: C. Lévêque, D. Paugy and G.G. Teugels (eds.). Faune des poissons d'eaux douces et saumâtres de l'Afrique de l'Ouest. ORSTOM, MRAC, Paris & Tervuren.
- Shimizu, M. and T. Taniuchi. 1991. Studies on Elasmobranchs Collected from Seven River Systems in Northern Australia and Papua New Guinea. Tokyo: University Museum, University of Tokyo, Nature and Culture 3. 109 p.
- Springer, S. 1950. A revision of North American sharks allied to the genus *Carcharhinus*. Am. Mus. Novit., 1451:1- 13.
- Springer, S. 1951. Correction for "A revision of North American sharks allied to the genus *Carcharhinus*." Copeia, 1951 (3): 244.
- Thomerson, J.E., T.B. Thorson and R.L. Hempel. 1977. The bull shark, *Carcharhinus leucas*, from the upper Mississippi River near Alton, Illinois. Copeia, 1977 (1): 166-168.
- Thorson, T.B. 1962. Partitioning of the body fluids in the Lake Nicaragua shark and three marine sharks. Science, 138: 688-690.
- Thorson, T.B. 1965. Gravid female shark (*Carcharhinus leucas*) in fresh water of the Río San Juan, Nicaragua. Amer. Zool., 5: 700.
- Thorson, T.B. 1967. Osmoregulation in freshwater elasmobranchs. Pp. 265-270, In: P.W. Gilbert, R.F. Matthewson and D.P. Rall (eds.). Sharks, skates and rays. Johns Hopkins Univ. Press, Baltimore.
- Thorson, T.B. 1971. Movement of bull sharks, *Carcharhinus leucas*, between Caribbean Sea and Lake Nicaragua demonstrated by tagging. Copeia, 1971 (2): 336-338.
- Thorson, T.B. 1972. The status of the bull shark, *Carcharhinus leucas*, in the Amazon river. Copeia, 1972 (3): 601-605.
- Thorson, T.B. 1976a. The status of the Lake Nicaragua shark: an updated appraisal. Pp. 561-574, In: T.B. Thorson (ed.). Investigations of the Ichthyofauna of Nicaraguan Lakes. University of Nebraska, Lincoln.
- Thorson, T.B. (ed.). 1976b. Investigations of the Ichthyofauna of Nicaraguan Lakes. University of Nebraska, Lincoln.
- Thorson, T.B. 1982. The impact of commercial exploitation on sawfish and shark populations in Lake Nicaragua. Fisheries, 7: 2-10.
- Thorson, T.B., C.M. Cowan and D.E. Watson. 1966a. Sharks and sawfish in the Lake Izabal-Rio Dulce system, Guatemala. Copeia, 1966 (3): 620-622.
- Thorson, T.B., C.M. Cowan and D.E. Watson. 1973. Body fluid solutes of juveniles and adults of the euryhaline bull shark, *Carcharhinus leucas*, from fresh and saline environments. Physiological Zoology, 46 (1): 29-42.
- Thorson, T.B. and J.W. Gerst. 1972. Comparison of some parameters of serum and uterine fluid of pregnant, viviparous sharks (*Carcharhinus leucas*) and serum of their near-term young. Comp. Biochem. Physiol., 42A: 33-40.
- Thorson, T.B. and E.J. Lacy, Jr. 1982. Age, growth and longevity of *Carcharhinus leucas* estimated from tagging and vertebral ringas. Copeia, 1982 (1): 110-116.
- Thorson, T.B., D.E. Watson and C.M. Cowan. 1966b. The status of the freshwater shark of Lake Nicaragua. Copeia, 1966 (3): 385-402.
- Tuma, R.E. 1976. An investigation of the feeding habits of the bull shark, *Carcharhinus leucas*, in the Lake Nicaragua - Rio San Juan system. Pp. 533-538, In: T.B. Thorson (ed.). Investigations of the Ichthyofauna of Nicaraguan Lakes. University of Nebraska, Lincoln.
- Whitley, G.P. 1934. Notes on some Australian sharks. Mem. Queensl. Mus., 10 (4): 180-200.
- Whitley, G.P. 1939. Taxonomic notes on sharks and rays. Aust. Zool., 9 (3): 227-262.
- Whitley, G.P. 1940. The fishes of Australia. Part 1. The sharks, rays, devil-fish, and other primitive fishes of Australia and New Zealand. Royal Zoological Society of New South Wales, Sydney.
- Whitley, G.P. 1943. Ichthyological descriptions and notes. Proc. Linn. Soc. N. S. W., 68 (3-4): 114-144.
- Whitley, G.P. 1945. New sharks and fishes from Western Australia. Part 2. Aust. Zool., 11 (1): 1-42.
- Zorzi, G.D. 1995. The biology of freshwater elasmobranchs: an historical perspective. Pp. 10-31, In: M.I. Oetinger and G.D. Zorzi (eds.). The Biology of Freshwater Elasmobranchs a Symposium to Honor Thomas B. Thorson. Journal of Aquaculture & Aquatic Sciences, vol. VII.

Family Pristidae (Sawfishes)

Marcelo R. de Carvalho and John D. McEachran

Sawfishes are large to extremely large (reported to 8 m in length), sluggish, bottom-dwelling batoids, distributed circum-globally in tropical and subtropical shallow coastal marine waters, estuaries, mouths of rivers, and inland fresh waters (with some populations breeding in fresh water; Thorson, 1976). They occur on sandy and muddy bottoms, usually in less than 10 m. Presently, sawfishes comprise from 4 to 7 valid species (of 23 nominal species) in 2 genera (*Pristis* and *Anoxypristis*), placed in a single family (Pristidae) and order (Pristiformes). *Anoxypristis* is monotypic, but the exact number of species of *Pristis* needs to be determined, and ranges from 3 to 6 according to recent authors (Last & Stevens, 1994; Compagno & Cook, 1995; Zorzi, 1995; Compagno, 1999; Compagno & Last, 2000). Lack of adequate material in collections constrains more detailed taxonomic studies of sawfishes, an unfortunate situation because many forms are critically threatened (Compagno & Cook, 1995; Zorzi, 1995).

Sawfishes are among the most easily recognizable elasmobranchs, presenting an extremely elongated rostrum (rostral blade) endowed with lateral rostral spines (together forming the “rostral saw”). The rostral saw is between one-third and one-fifth of total length (proportionally longer in *Anoxypristis*), originating just anterior to the eyes (dorsally) and nostrils (ventrally). The rostral spines (also known as “rostral teeth”; not to be confused with oral teeth) are hypertrophied dermal denticles that grow continuously, perpendicular to the rostral blade, and are not replaced when broken or lost (as in sawsharks, family Pristiophoridae). The rostral spines are of more or less equal size in a given individual (less so in specimens of *Anoxypristis*), but vary in both size and number among the species groups of *Pristis* (see below). In *Anoxypristis*, the rostral spines are very short and do not reach the saw base, being dorso-ventrally compressed with a single posterior edge. In contrast, the rostral spines of *Pristis* are posteriorly double-edged and triangular in cross-section (rostral spines of both genera also differ histologically, Herman et al., 1997). In pristids, the rostral spines are embedded within sockets (alveoli) in the saw, and the superficial ophthalmic and buccopharyngeal nerves are enclosed in canals within the rostrum itself (Miller, 1974, 1995). This is in contrast to the condition in sawsharks (Pristiophoridae), in which the rostral spines only abut the rostral saw, and both nerves and vessels pass outside of the rostral blade (Hoffmann, 1912; Slaughter & Springer, 1968; sawfishes cannot be confused with the much smaller, usually deep-water sawsharks, as these have ventral rostral barbels on the saw and lateral gill openings, among other differences).

Sawfishes, unlike most other batoids, have the pectoral fins somewhat disjunct from the head and not reaching the level of the mouth (i.e., not forming a complete or continuous disc), and have a stout, but moderately depressed, shark-like body (therefore swimming exclusively by lateral movements of the tail as opposed to undulations of the disc). Gill openings, mouth and nostrils are entirely ventral. Nostrils are more or less on the same level as the dorso-lateral eyes, while the mouth is level with the dorsal spiracles. The eyes are large and bulging, and the spiracles are separated from them by a small gap. Two well developed, shark-like dorsal fins are present, the first positioned over the pelvic fins and slightly greater than the second. The caudal fin is also shark-like, with a much greater dorsal lobe, and without a definitive ventral lobe in some species (*Anoxypristis* has a more developed lower lobe). The anal fin is absent. Oral teeth numerous (in up to 180 rows), small and situated in pavement-like bands along jaws. Body covered with small denticles, but lacks bucklers or thorns of any kind. Coloration is usually greyish-brown, yellowish or olive dorsally, white ventrally, and without distinctive patterns.

Two groups of species within *Pristis* are apparent: one with proportionally larger, heavier saws but with fewer rostral spines (usually), and with a small ventral caudal lobe (*Pristis pristis* group), and another with proportionally smaller, lighter saws but with usually more rostral spines, and without a noticeable ventral caudal lobe (*Pristis pectinata* group). Most species of sawfishes have wide distributions, and some occur in rivers far beyond tidal reaches (and in inland lakes) as well as in tropical seas (some are even reported from different ocean basins, e.g., *P. pectinata*). Most sawfish species, if not all, appear to have some capacity to enter fresh or brackish water, but the following two species have definitive fresh water records, i.e., they are reported to be euryhaline with extended periods in freshwaters (including breeding), and not just found in estuaries or a few km upriver (Thorson, 1974, 1976, 1982b; Shimizu & Taniuchi, 1991; Last & Stevens, 1994; Compagno & Cook, 1995): *P. pristis* (including *P. perotteti*, see below), and *P. microdon* (species of the *P. pristis* group). The remaining species (*P. pectinata*, *P. clavata* and *P. zijnsron* – *P. pectinata* group) also have freshwater records but have not been recorded to reach as far inland as the former two species (Ishihara et al., 1991; Compagno & Cook, 1995). The status of *Anoxypristis cuspidata* in Asian fresh waters (e.g., in India and Myanmar; Day, 1873) awaits confirmation (Compagno & Cook, 1995).

The identification of sawfishes worldwide is still difficult at present, and many records are in need of verification through additional collection and taxonomic study. Systematic, long-term studies, such as Thorson's (1976, 1982) seminal work on species of *Pristis* in Lake Nicaragua, need to be conducted in order to correctly identify sawfish species and account for their true occurrence in fresh water (including reproductive cycles). Shimizu & Taniuchi (1991) is a good initial study of Australian and Papua New Guinean sawfishes, but much remains to be done especially in relation to South American forms. In the present account we use the nominal species *Squalus pristis* Linnaeus, 1758 for the more commonly employed *Pristis perotteti* Müller & Henle, 1841, following Robins et al. (1986), Zorzi (1995), Smith (1997), McEachran & Fechhelm (1998) and McEachran & Carvalho (in press), among others, because their separation has not been adequately substantiated (cf. Bigelow & Schroeder, 1953).

All species of sawfishes are viviparous without a placenta (ovoviviparous), giving birth to between 1 and 23 young per gestation, but litters are usually between 6 and 9 young. Fetuses feed exclusively on yolk. Gestation periods and reproductive cycles are poorly known for most species, but reproductive maturity is achieved only after some 20 years in western Atlantic *P. pristis* (Thorson, 1976; see below). Sawfishes may occupy different habitats during different phases of their life-cycles, such as migrating from the sea into freshwaters to give birth. They feed on benthic organisms and small schooling ray-fined fishes. The saw is used to probe the bottom for benthic prey and to slash and disable schooling fishes (Breder, 1952; Bigelow & Schroeder, 1953).

Sawfishes are frequently captured in tropical regions by trammel nets, gill nets, set nets and trawls. The flesh is sometimes sold fresh, frozen and dried-salted for human consumption, and the saws are procured as ornaments. Overexploitation and habitat degradation has led to the decline of many sawfish populations (Compagno & Cook, 1995). All sawfish species are listed by the IUCN (www.redlist.org), but not all are given the same status. Sawfishes are more threatened in certain areas, but fresh water populations may be at greater risk (e.g., in Nicaragua). Compagno & Cook (1995) provide an up to date account of the current threat to sawfishes worldwide.

There is an extensive literature on sawfishes, dating back at least to Latham (1794), the first comprehensive systematic overview of the group. Subsequent systematic works include Garman (1913), Beebe & Tee-Van (1941), Fowler (1936, 1941), Whitley (1940), Bigelow & Schroeder (1953), Tortonese (1956), Krefft & Stehmann (1973), Stehmann (1978), Daget (1984), Stehmann & Bürkel (1984), Séret (1990), Stehmann (1990), Shimizu & Taniuchi (1991), Last & Stevens (1994), Compagno & Cook (1995), Zorzi (1995), Eschmeyer (1998), McEachran & Fechhelm (1998), Compagno & Last (2000) and McEachran & Carvalho (in press). Life history aspects, including reproductive biology and distribution, can be found in Bigelow & Schroeder (1953) and Thorson (1974, 1976, 1982a, 1982b). Compagno & Cook (1995) and Zorzi (1995) provide historical summaries with notes on sawfish conservation and taxonomy, citing numerous references. Their fossil history is reviewed by Woodward (1889), Arambourg (1935, 1940), Schaeffer (1963), Cappetta (1987) and Cappetta et al. (1993). Anatomical or descriptive works of varying scope include Engel (1910), Hoffmann (1912), Holmgren (1941), Bradford (1957), Slaughter & Springer (1968), Miller (1974, 1995), Thorson (1973), Oetinger (1979), Shellis & Berkovitz (1980) and Herman et al. (1997). Phylogenetic relationships of sawfishes are discussed in Compagno (1973, 1977), Nishida (1990) and McEachran et al. (1996).

PRISTIS

Pristis Linck, 1790: 31. Type species: *Squalus pristis* Linnaeus, 1758. Type by monotypy and tautonymy. Gender: feminine.

Pristis Latham, 1794: 276. Type species: *Squalus pristis* Linnaeus, 1758. Type by tautonymy. Objective synonym of *Pristis* Linck, 1790.

Pristobatus Blainville, 1816: 121. Type species: *Pristis antiquorum* Latham, 1794 (= *Squalus pristis* Linnaeus, 1758). Type by subsequent designation of Jordan & Evermann (1896: 60). Gender: masculine.

Myriosteon Gray, 1864: 164. Type species: *Myriosteon higginsii* Gray, 1864. Type by monotypy. Gender: Neuter. Described originally as an echinoderm, but specimen is a segment of a pristid rostral saw (Woodward, 1889: 73; Fowler, 1941: 291; Cappetta, 1987: 158; Stehmann, 1990: 51).

Pristiopsis Fowler, 1905: 459. Type species: *Pristis perotteti* Müller & Henle, 1841 (= *Squalus pristis* Linnaeus, 1758). Type by original designation. Gender: feminine.

***Pristis pectinata* Latham, 1794**

Pristis pectinatus Latham, 1794: 278, pl. 26, fig. 2. Type locality: Not mentioned ("Habitat in oceano"). Types: No types known.

Pristis granulosa Bloch & Schneider, 1801: 352. Type locality: Havana, Cuba. Type material: Reported lost by Eschmeyer (1998). Synonymy follows Krefft & Stehmann (1973: 52) and Stehmann (1990: 52).

?*Pristis serra* Bloch & Schneider, 1801: pl. 70 (upper fig.; as *Pristis pectinata* on p. 351; new species was not intended according to Eschmeyer, 1998.).

Pristis megalodon Duméril, 1865: 476, pl. 9, fig. 4. Type locality: Cayenne, French Guiana. Holotype: MNHN 3483 (rostrum only). Holotype erroneously given as MNHN 3484 (Bertin, 1939: 78) and Séret & McEachran (1986: 9).

Pristis acutirostris Duméril, 1865: 479. Type locality: Antilles. Holotype: MNHN A-9476 (stuffed specimen, 740 mm TL male; Séret & McEachran, 1986: 9).

?*Pristobatus occa* Duméril, 1865: 479. Type locality: Unknown. Type material: Unknown.

?*Pristis woermanni* Fischer, 1884: 39. Type locality: Cameroon. Holotype: ZMH 6278.

Maximum length: to 750 cm TL

Distribution: North, Central, and South America: Amazon River (reaching perhaps only to Belém), Essequibo River (?), and Atrato and Quito rivers. Lake Nicaragua and San Juan River, Lake Izabal and Dulce River, and Colorado River.

Countries: Brazil, Colombia, Costa Rica, Guyana ?, Guatemala, Mexico, Nicaragua

Remarks and references: Little is known about its reproductive biology, but 15 to 20 young are born at the end of each gestation, each measuring some 60 cm TL. Credited as having a very wide distribution, perhaps more widespread than any other sawfish, occurring in the Indian, Pacific and Atlantic oceans, and recorded from the mouths and tidal estuaries of many tropical rivers

worldwide (for a summary of marine occurrences and references, see Bigelow & Schroeder, 1953 and Compagno & Cook, 1995). Bigelow & Schroeder (1953) provide information on North American fresh water reports (in Florida and in the Mississippi River basin). Not believed to reach far inland in rivers where it occurs, even though there is a confirmed record in Lake Nicaragua (Thorson, 1976). Thorson (1976) also mentions this species from near the mouth of the Colorado River (Costa Rica). Occurrences in the Amazon River are summarized in Thorson (1974), and Thorson et al. (1966) provide data for this species in the Lake Izabal-Dulce River basin of Guatemala. Eigenmann (1920a, 1920b, 1922) records this species from the Atrato basin (Atrato and Quito Rivers; Colombia). Schultz's (1949) records of this species from Venezuela are all marine. Miles' (1947) account of *P. pectinata* from 600 km upriver of the Magdalena River mouth (Colombia) probably refers to *P. pristis* (he also correctly noted *P. pectinata* from the estuary of the Magdalena). Fowler's (1910) record of *P. pectinata* from the Essequibo River (Guyana) is too vague to corroborate, but may also refer to *P. pristis*. True fresh-water Mexican records of this species are from Gulf of Mexico drainages (Castro-Aguirre, 1978).

Common names: Peixe-serra (Brazil), Smalltooth sawfish (USA), Pez sierra (Colombia, Nicaragua, Guatemala, Costa Rica).

Pristis pristis (Linnaeus, 1758)

Squalus pristis Linnaeus, 1758: 235-236. Type locality: "Habitat in Europa" [= Europe]. Type material: No type material.

Pristis antiquorum Latham, 1794: 277. Type locality: Not mentioned ("Habitat in oceano"). Types: No types known.

Pristis canaliculata Bloch & Schneider, 1801: 351. Based on Latham (1794, pl. 26, fig. 1 = *Pristis antiquorum* Latham, 1794), according to Eschmeyer (1998).

?*Pristis mississippiensis* Rafinesque, 1820: 86. Type locality: Mississippi River, Lake Pontchartrain, Red River, Arkansas River, Mobile River, Ohio River. Type material: No type material.

Pristis perotteti Müller & Henle, 1841: 108. Type locality: Senegal (fresh water). No type material, according to Séret & McEachran (1986). Bertin (1939) inaccurately considered MNHN A 9699 (a stuffed female specimen) a paratype (see Séret & McEachran, 1986: 36), but Eschmeyer (1998) considered this specimen a syntype along with another male specimen (107 mm TL), collected by Perottet, apparently lost (Séret & McEachran, 1986).

Pristis typica Poey, 1861: 360. Unneeded new name for *Squalus pristis* Linnaeus, 1758.

?*Pristis woermanni* Fischer, 1884: 39. Type locality: Cameroon. Holotype: ZMH 6278.

Pristis zephyreus Jordan & Starks, in Jordan, 1895: 383. Type locality: Mouth of Presidio River (Mazatlan, Sinaloa, Mexico). Holotype: SU 12670 (skin only).

Maximum length: to 750 cm TL

Distribution: Central and South America: Amazon, Atrato and Magdalena Rivers. Chucunaque and Tuirra Rivers, Lake Nicaragua and San Juan River, Lake Izabal and Dulce River.

Countries: Brazil, Colombia, Ecuador, Guatemala, Nicaragua, Panama, Venezuela

Remarks and references: Lake Nicaragua *P. pristis* is the most intensely researched fresh water sawfish population to date. Thorson (1976, 1982b, as *P. perotteti*) provides much data on its reproductive biology, noting that sexual maturity occurs at about 300 cm TL, females bear from 1 to 13 young, breeding season is primarily in June (parturition is in late October/early November), gestation is 5 months, size at birth about 80 cm TL, and breeding occurs probably every other year. Thorson (1976, 1982b) confirmed that young are born in fresh water at least in Lake Nicaragua and the San Juan River (Nicaragua), and that copulation also takes place in the lake. Adults remain in the lake for several years, but neo-natal young were recorded to go out to sea (Thorson, 1976). This species probably breeds in fresh waters in other areas as well. *P. pristis* reaches farther inland than does *P. pecti-*

nata in the Amazon River (Thorson, 1974, 1976). However, data concerning *P. pristis* in the Brazilian Amazon is scarce. According to Thorson (1974; also Figueiredo, 1977; both as *P. perotteti*), the farthest record inland in the Amazon River is near Manacapuru, some 80 km west of Manaus, and about 1340 km from the sea (see Thorson, 1974 for summary of records in the Amazon River). Roberts (1972) provides anecdotal evidence of its occurrence in the Madeira River. Ferreira et al. (1998) document this species from the mid-Amazon basin (near Santarém). A very large but incomplete saw (measuring some 135 cm in length) of *P. pristis* from Brazil (AMNH 49528) could not be conclusively traced to fresh water. Other fresh water records (usually as *P. perotteti*) of Atlantic or Caribbean drainages include Lake Izabal and Dulce River (Guatemala; Bigelow & Schroeder, 1953; Thorson et al., 1966), Magdalena River (Colombia; Miles, 1947), Atrato River (Colombia; Eigenmann, 1920a), and Maracaibo Lake (Venezuela; Schultz, 1949). Fowler's (1910) and Miles' (1947) accounts of *P. pectinata* in the Essequibo (Guyana) and Magdalena Rivers, respectively, probably refer to *P. pristis*. Records from Pacific drainages include the Chucunaque and Tuirra Rivers (Panama; Breder, 1927; Schultz, 1949; both as *P. microdon*), the San Juan River (Colombia; Eigenmann, 1920b), and coastal estuaries of Ecuador (Barriga, 1991, as *P. microdon*, but lacks more specific information). References for marine occurrences (usually as *P. perotteti*) are summarized in Bigelow & Schroeder (1953) and Compagno & Cook (1995). Beebe & Tee-Van (1941, as *P.*) summarize Pacific sawfish records (including from fresh water). For fresh water occurrences in western tropical Africa, see Daget (1984) and Séret (1990). Castro-Aguirre (1978) summarizes Mexican occurrences, but none appear to be from true fresh water. The identity of *P. microdon*, the name most commonly employed for largetooth sawfishes in Asia (e.g., Last & Stevens, 1994), needs to be clarified and compared to Atlantic *P. pristis*. Thorson (1976, 1982a) outlines the threatened status of this species in Lake Nicaragua.

Common names: Peixe-serra (Brazil), Largetooth sawfish (USA), Pez sierra (Ecuador, Colombia, Venezuela, Panama, Nicaragua, Guatemala, Costa Rica).

References

- Arambourg, C. 1935. Note préliminaire sur les vertébrés fossiles des phosphates du Maroc. Bull. Soc. Geol. France, ser. 5, 5: 413-440.
- Arambourg, C. 1940. Les group des ganopristinés. Bull. Soc. Geol. France, ser. 5, 10: 127-147.
- Barriga, R. 1991. Peces de agua dulce del Ecuador. Revista de Información técnico-científica, Quito, Ecuador, Politecnica, XVI (3): 7-88.
- Beebe, W. and J. Tee-Van. 1941. Eastern Pacific expeditions of the New York Zoological Society. XXVII. Fishes from the Tropical Eastern Pacific. Part 3. Rays, Mantas and Chimaeras. Zoologica, 26 (26): 245-280, 4 pls.
- Bertin, L. 1939. Catalogue des types de poissons du Muséum national d'Histoire Naturelle. Ire Partie. Cyclostomes et Séla-ciens. Bull. Mus. Natl. Hist. Nat. (Sér. 2), 11 (1): 51-98.
- Bigelow, H.B. and W.C. Schroeder. 1953. Fishes of the Northwest ern Atlantic. Part II. Sawfishes, Guitarfishes, Skates, Rays and Chimaeroids. Memoirs of the Sears Foundation for Marine Research 2: xv + 588pp.
- Blainville, H. 1816. Prodrome d'une nouvelle distribution systématique du règne animal. Bull. Soc. Philomathique, Paris, 8: 105-112.
- Blainville, H. 1818. Sur les ichthyolites ou les poissons fossiles. Ichthyolites Poisson Fossiles (Nouv. Edit.), 27: 310-395.
- Blainville, H. 1825. Vértèbres. Class V. Poissons. Pp. 1-96, In: L.P. Viellot, et al. (eds.). Faune Française; ou histoire naturelle, générale et particulière des animaux qui se trouvent en France...1820-1830. Faune Française Livr. 13 & 14. Paris

Check List of the Freshwater Fishes of South and Central America

- Bloch, M.E. and J.G. Schneider. 1801. *Systema Ichthyologiae iconibus ex illustratum. Post obitum auctoris opus inchoatum absolutum, correctum, interpolavit Jo. Gott. Schneider. Berolini.* 584 pp., 110 pls.
- Bradford, E.W. 1957. The structure of rostral teeth and the rostrum of *Pristis microdon*. *J. Dent. Res.*, 36: 663-668.
- Breder, Jr., C.M. 1927. The fishes of the Rio Chucunaque drainage, eastern Panama. *Bull. Amer. Mus. Nat. Hist.*, 62 (3): 91-176.
- Breder, Jr., C.M. 1952. On the utility of the saw of the sawfish. *Copeia*, 1952 (2): 90-91.
- Cappetta, H. 1987. Chondrichthyes II. Mesozoic and Cenozoic Elasmobranchii. In: H.-P. Schultze (ed.). *Handbook of Paleichthyology*, vol. 3B. Stuttgart: Gustav Fisher Verlag.
- Cappetta, H., C. Duffin and J. Zidek. 1993. Chondrichthyes. In: M. J. Benton (ed.). *The Fossil Record*, vol. 2. Chapman & Hall, London.
- Castro-Aguirre, J.L. 1978. Catálogo sistemático de los peces marinos que penetran a las aguas continentales de México con aspectos zoogeográficos y ecológicos. Dirección General del Instituto Nacional de Pesca, Serie Científica no. 19.
- Compagno, L.J.V. 1973. Interrelationships of living elasmobranch fishes. 15-61. In: P. H. Greenwood, C. Patterson and R. Miles (eds.). *Interrelationships of Fishes*. London: Academic Press.
- Compagno, L.J.V. 1977. Phyletic relationships of living sharks and rays. *American Zoologist*, 17 (2): 303-322.
- Compagno, L.J.V. 1999. Checklist of living elasmobranchs. Pp. 471-498. In: W. C. Hamlett (ed.). *Sharks, Skates, and Rays, The Biology of Elasmobranch Fishes*. Baltimore: John Hopkins Univ. Press. 515pp.
- Compagno, L.J.V. and S.D. Cook. 1995. The exploitation and conservation of freshwater elasmobranchs: status of taxa and prospects for the future. pp. 62-90. In: M.I. Oetinger and G.D. Zorzi (eds.). *The Biology of Freshwater Elasmobranchs, a Symposium to Honor Thomas B. Thorson*. *Journal of Aquaculture & Aquatic Sciences*, vol. VII.
- Compagno, L.J.V. and P. R. Last. 2000. Pristidae. Pp. 1410-1417. In: K.E. Carpenter and V. Niem (eds.). *FAO Species Identification Guide for Fisheries Purposes: Western Central Pacific*. Rome: FAO.
- Day, F. 1873. Report on the fresh water fish and fisheries of India and Burma. Office of the Superintendent of Government Printing. Calcutta. 307 pp.
- Daget, J. 1984. Pristidae. Pp. 3. In: J. Daget, J.P. Gosse and D.F.E. Thys van den Audernaerde (eds.). *Check-list of the freshwater fishes of Africa*. Vol. I. Paris: ORSTOM.
- Duméril, A.H.A. 1865. Histoire naturelle des poissons ou ichthyologie générale. Tome Premier. I. Elasmobranchs. Plagiostomes et Holocephales ou Chimères. 1-720. Atlas: pp. 1-8, pls. 1-14.
- Eigenmann, C.H. 1920a. South America west of the Maracaibo, Orinoco, Amazon, and the Titicaca basins, and the horizontal distribution of its fresh-water fishes. *Indiana University Studies*, 7 (45).
- Eigenmann, C.H. 1920b. The fishes of the rivers draining the western slope of the cordillera Occidental of Colombia, Rios Atrato, San Juan, Dagua, and Patia. *Indiana University Studies*, 7 (46).
- Eigenmann, C.H. 1922. The fishes of western South America. Part I. *Memoirs of the Carnegie Mus.*, 9: 1-346.
- Engel, H. 1910. Die Zähne am Rostrum der Pristiden. *Zool. Jahr., Abt. Anat. Ontog.*, 29: 51-100.
- Engelhardt, R. 1912. Über einige neue Selachier-Formen. *Zoologischer Anzeiger*, 39 (21/22): 643-648.
- Eschmeyer, W.N. (ed.). 1998. *Catalog of fishes*. California Academy of Sciences, San Francisco.
- Ferreira, E.J.G., J.A.S. Zuanon and G.M. Santos. 1998. Peixes comerciais do médio Amazonas. Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis. 211p.
- Figueiredo, J.L. 1977. *Manual de peixes marinhos do sudeste do Brasil*. I. Introdução, Cações, raias e quimeras. São Paulo: Museu de Zoologia da USP.
- Fischer, J.G. 1884. Über einige Afrikanische Reptilien, Amphibien, und Fische des Naturhistorischen Museums. *Jahr. Wiss. Anst. Hamburg*, 1: 1-39.
- Fowler, H.W. 1905. Some fishes from Borneo. *Proc. Acad. Natur. Sci. Philadelphia*, 57: 455-523.
- Fowler, H.W. 1910. Notes on batoid fishes. *Proc. Acad. Natur. Sci. Philadelphia*, 62: 468-475.
- Fowler, H.W. 1936. The marine fishes from west Africa based on the collections of the American Museum of Natural History Congo expedition, 1909-1915. *Bull. Amer. Mus. Nat. Hist.*, 70 (1): 1-606.
- Fowler, H.W. 1941. Contributions to the biology of the Philippine archipelago and adjacent regions. The fishes of the groups Elasmobranchii, Holocephali, Isospondyli, and Ostariophysi obtained by the United States Bureau of Fisheries steamer "Albatross" in 1907 to 1910, chiefly in the Philippine Islands and adjacent seas. *Bull. U.S. Natl. Mus.*, 100 (13): 1-879.
- Garman, S. 1913. The Plagiostomia (sharks, skates, and rays). *Memoirs of the Museum of Comparative Zoölogy*, 36: i-xiii + 1-515, also Atlas: 77 pls.
- Gray, J.E. 1864. Notice of a portion of new form of animal (*Myriosteon higginsi*) probably indicating a new group of echinodermata. *Proc. Zool. Soc. London*, 1864 (pt. 2): 163-166.
- Herman, J., M. Hovestadt-Euler, D.C Hovestadt and M. Stehmann. 1997. Part B: Batomorphii. No. 2: Order Rajiformes – Suborder: Pristoidae – Family: Pristidae – Genera: *Anoxypristis* and *Pristis*. No. 3: Suborder Rajoidei – Superfamily Rhinobatoidea – Families: Rhinidae – Genera: *Rhina* and *Rhynchobatus* and Rhinobatidae – Genera: *Aptychotrema*, *Platyrrhina*, *Platyrrhinoidis*, *Rhinobatos*, *Trygonorrhina*, *Zanobatus* and *Zapteryx*. Pp. 107-162. In: M. Stehmann (ed.). *Contributions to the study of the comparative morphology of teeth and other relevant ichthyodorulites in living supra-specific taxa of chondrichthyan fishes*. *Bull. Inst. Roy. Sci. nat. Belgique, Biologie*, vol. 67.
- Hoffmann, L. 1912. Zur Kenntnis des Neurocraniums der Pristiden und Pristiophoriden. *Zool. Jahr., Abt. Anat. Ontog.*, 33: 239-360.
- Holmgren, N. 1941. Studies on the head in fishes. Part II. Comparative anatomy of the adult selachian skull, with remarks on the dorsal fins in sharks. *Acta Zoologica*, 22: 1-100.
- Ishihara, H., T. Taniuchi, M. Sano and P.R. Last. 1991. Record of *Pristis clavata* Garman from the Pentecost River, Western Australia, with brief notes on its osmoregulation, and comments on the systematics of the Pristidae. Pp. 43-53. In: M. Shimizu and T. Taniuchi (eds.). *Studies on Elasmobranchs Collected from Seven River Systems in Northern Australia and Papua New Guinea*. Tokyo: University Museum, University of Tokyo, Nature and Culture 3.
- Jordan, D.S. 1895. The fishes of Sinaloa. *Proc. Calif. Acad. Sci.*, 2 (5): 377-514, 29 pls.
- Jordan, D.S. and B.W. Evermann. 1896. A check-list of the fishes and the fish-like vertebrates of North and Middle America. Report of the U. S. Commission on Fish and Fisheries for 1895: 207-584.
- Krefft, G. and M. Stehmann. 1973. Pristidae. In: J.C. Hureau and T. Monod (eds.). *Check-list of the fishes of the northeastern Atlantic and the Mediterranean*. Vol. 1. Paris: Unesco.
- Last, P.R. and J.D. Stevens. 1994. *Sharks and Rays of Australia*. CSIRO: Melbourne.
- Latham, J. 1794. An essay on the various species of saw-fish. *Transactions of the Linnaean Society of London*, 2: 273-282.
- Linck, H.F. 1790. Versuch einer Einteilung der fische nach den Zähnen. *Mag. Physik Naturgesch.* 6 (3): 28-38.
- Linnaeus, C. 1758. *Systema Naturae*. Vol. I. Regnum Animalae. Holmiae. 824 pp.

Check List of the Freshwater Fishes of South and Central America

- McEachran, J.D. and M.R. Carvalho. In Press. Pristidae. Batoid Fishes, In: K.E. Carpenter (ed.). FAO Species Identification Guide for Fisheries Purposes: Western Central Atlantic. FAO, Rome.
- McEachran, J.D., K.A. Dunn and T. Miyake. 1996. Interrelationships of batoid fishes (Chondrichthyes: Batoidae). pp. 63-84, In: M.L.J. Stiassny, L.R. Parenti and G.D. Johnson (eds.). Interrelationships of Fishes. Academic Press, New York.
- McEachran, J.D. and J.D. Fechhelm. 1998. Fishes of the Gulf of Mexico. Austin: University of Texas Press.
- Miles, C. 1947. Los peces del Río Magdalena. Bogota: Min. Economía Nac., Sec. Pesci., Pesca y Caza.
- Miller, W.A. 1974. Observations on the developing rostrum and rostral teeth of sawfish: *P. perotteti* and *P. pectinatus*. Copeia, 1974 (2): 311-318.
- Miller, W.A. 1995. Rostral and dental development in sawfish (*Pristis perotteti*). Pp. 98-107, In: M.I. Oetinger and G.D. Zorzi (eds.). The Biology of Freshwater Elasmobranchs a Symposium to Honor Thomas B. Thorson. Journal of Aquaculture & Aquatic Sciences, vol. VII.
- Müller, J. and F.G.J. Henle. 1838-41. Systematische Beschreibung der Plagiostomen. Berlin. xxii + 200 p., 60 pls.
- Nishida, K. 1990. Phylogeny of the suborder Myliobatoidaei. Mem. Fac. Fish. Hokkaido Univ., 37 (1/2): 1-108.
- Oetinger, M.I. 1979. Post-embryonic development of the sawfish, *Pristis perotteti* Müller and Henle, 1841. Unpubl. Master's thesis, University of Nebraska, Lincoln.
- Poey, F. 1861. Memórias sobre la história natural de la Isla de Cuba, acompañadas de sumários Latinos y extractos en Francés. Tomo 2. La Habana. Mem. Hist. Nat. Cuba, 2: 337-442.
- Rafinesque, C.S. 1820. Ichthyologia Ohiensis, or natural history of the fishes inhabiting the river Ohio and its tributary streams, preceded by a physical description of the Ohio and its branches. 90 p.
- Roberts, T.R. 1972. Ecology of fishes in the Amazon and Congo basins. Bull. Mus. Comp. Zool. Harvard Univ., 143 (2): 117-147.
- Robins, C.R., C. Ray and J. Douglas. 1986. A Field Guide to Atlantic Coast Fishes of North America. Boston: Houghton-Mifflin Co. 354 pp.
- Schaeffer, B. 1963. Cretaceous fishes from Bolivia with comments on pristid evolution. American Museum Novitates, no. 2159: 1-20.
- Schultz, L.P. 1949. A further contribution to the ichthyology of Venezuela. Proceedings of the United States National Museum, 99: 1-211.
- Séret, B. 1990. Pristidae. Pp. 60-61, In: C. Lévêque, D. Paugy and G.G. Teugels (eds.). Faune des poissons d'eaux douces et saumâtres de l'Afrique de l'Ouest. ORSTOM, MRAC.
- Séret, B. and J. D. McEachran. 1986. Catalogue critique des types de Poissons du Muséum national d'Histoire naturelle. (Suite) Poissons Batoïdes (Chondrichthyes, Elasmobranchii, Batoidea). Bulletin du Muséum National d'Histoire Naturelle, Ser. 4, Sect. A, 8 (4, Suppl.): 3-50.
- Shellis, R.P. and B.K.B. Berkovitz. 1980. Dentine structure in the rostral teeth of the sawfish, *Pristis* (Elasmobranchii). Arch. Oral Biol., 25: 339-343.
- Shimizu, M. and T. Taniuchi. 1991. Studies on Elasmobranchs Collected from Seven River Systems in Northern Australia and Papua New Guinea. Tokyo: University Museum, University of Tokyo, Nature and Culture 3. 109pp.
- Slaughter, B.H. and S. Springer. 1968. Replacement of rostral teeth in sawfishes and sawsharks. Copeia 1968 (3): 499-506.
- Smith, C.L. 1997. Audubon Field Guide – Tropical Marine Fishes. Audubon Society. 720 pp.
- Stehmann, M. 1978. Pristidae, In: W. Fischer (ed.). FAO identification sheets for fisheries purposes, Western Central Atlantic. Rome: Food and Agriculture Organization of the United Nations.
- Stehmann, M. 1990. Pristidae, In: J.C. Quéro, J.C. Hureau, C. Karrer, A. Post and L. Saldanha (eds.). Check-list of the fishes of the eastern tropical Atlantic. Unesco: Paris.
- Stehmann, M. and D.L. Bürkel. 1984. Pristidae. Pp. 153-155, In: P.J.P. Whitehead, M.-L. Bauchot, J.-C. Hureau, J. Nelson and E. Tortonese (eds.). Fishes of the Northeastern Atlantic and the Mediterranean. Vol. I. Paris: Unesco.
- Thorson, T.B. 1973. Sexual dimorphism in number of rostral teeth of the sawfish, *Pristis perotteti* Müller and Henle, 1841. Transactions of the American Fisheries Society, 102 (3): 612-614.
- Thorson, T.B. 1974. Occurrence of the sawfish, *Pristis perotteti*, in the Amazon River, with notes on *P. pectinatus*. Copeia, 1974 (2): 560-564.
- Thorson, T.B. 1976. Observations on the reproduction of the sawfish, *Pristis perotteti*, in Lake Nicaragua, with recommendations for its conservation, In: T.B. Thorson (ed.). Investigations of the Ichthyofauna of Nicaraguan Lakes. Lincoln: University of Nebraska.
- Thorson, T.B. 1982a. The impact of commercial exploitation on sawfish and shark populations in Lake Nicaragua. Fisheries, 7: 2-10.
- Thorson, T.B. 1982b. Life history implications of a tagging study of the largetooth sawfish, *Pristis perotteti*, in the Lake Nicaragua-Rio San Juan system. Environmental Biology of Fishes 7: 207-228.
- Thorson, T.B., C.M. Cowan and D.E. Watson. 1966. Sharks and sawfish in the Lake Izabal-Rio Dulce system, Guatemala. Copeia, 1966 (3): 620-622.
- Tortonese, E. 1956. Fauna D'Italia. Vol. II. Leptocardia, Ciclostomata, Selachii. Bologna: Edizioni Calderini.
- Whitley, G.P. 1940. The fishes of Australia. Part I. The sharks, rays, devil-fish, and other primitive fishes of Australia and New Zealand. Sydney: Royal Zoological Society of New South Wales.
- Wilkens, H. and R. Dohse. 1993. Die Typen der Ichthyologischen Sammlung des Zoologischen Instituts und Zoologischen Museums der Universität Hamburg (ZMH) Teil IV. Mitt. Hamb. Zool. Mus. Inst., 90: 401-426.
- Woodward, A.R. 1889. Catalog of the fossil fishes in the British Museum. Pt. I. British Museum, London. 474 p.
- Zorzi, G.D. 1995. The biology of freshwater elasmobranchs: an historical perspective. Pp. 10-31, In: M.I. Oetinger and G.D. Zorzi (eds.). The Biology of Freshwater Elasmobranchs a Symposium to Honor Thomas B. Thorson. Journal of Aquaculture & Aquatic Sciences, vol. VII.

Family Potamotrygonidae (River stingrays)

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Neotropical freshwater stingrays of the family Potamotrygonidae includes three genera (*Potamotrygon*, *Paratrygon* and *Plesiotrygon*) and at least 18 species. The family has an extensive taxonomic history dating back to 1834, but was known long before formal taxonomic recognition (Castex, 1963a). Potamotrygonids are much maligned and feared because of their venomous caudal stings, but pose little or no threat if not stepped on or directly interfered with. The Potamotrygonidae is the only living chondrichthyan family restricted to freshwater habitats.

Potamotrygonid stingrays are clearly monophyletic, sharing unique morphological and physiological specializations, including a pelvis with a greatly expanded anterior median process (pre-pelvic process), blood with low concentrations of urea, and reduction of the rectal gland (Garman, 1877; Thorson et al., 1983a). They are generally medium to large sized batoids, ranging from about 25 cm in disc width or length to well over 100 cm in adults of some species (e.g., *Paratrygon aiereba*). Species of *Potamotrygon* have moderately stout and short tails, usually shorter than disc length, whereas *Paratrygon* and *Plesiotrygon* have slender, filiform or whiplike tails (in *Paratrygon* the tail is very long in juveniles but reduced in adults, and in *Plesiotrygon* it is much longer than disc length but also stout at base). The dorsal surface of the disc and tail are usually covered with many denticles, thorns and tubercles. The caudal sting (or serrated spine) is a rigid dermal derivative, located on the dorsal surface of the tail, containing small lateral serrations directed toward its base and an acute distal tip. The sting is reduced and situated closer to the tail base in *Paratrygon*, but well developed and located farther posteriorly in both *Plesiotrygon* and *Potamotrygon*. The stings contain longitudinal grooves to conduct venom produced in special glands at their bases, and are continuously worn, shed and replaced; up to four stings may be present in one individual. Additionally, many species have enlarged, non-venomous spines on disc margins or over tail, sometimes in numerous rows. The disc is usually slightly longer than wide (especially in *Paratrygon*), and covers most of the pelvic fins posteriorly (but less in *Plesiotrygon*). Dorsal and caudal fins are absent, but membranous skin folds (finfolds), with rudimentary internal radial elements, occur in *Potamotrygon* on both upper and lower tail midlines posterior to caudal stings (only ventral finfold is present in *Plesiotrygon*, and finfolds are absent in *Paratrygon*). The eyes are moderately large in *Potamotrygon*, but smaller and less protruded in *Paratrygon* and *Plesiotrygon*. Oral teeth are small with short, single cusps (more prominent in adult males), in usually less than 50 rows in either jaw (large specimens of *Plesiotrygon* may have more than 60 rows), and set in quincunx. Most potamotrygonid species have colorful dorsal arrangements, including spots of various dimensions, ocelli, reticulate patterns, and vermiform markings, which are generally species-specific, and grey, brown, reddish-brown or black background coloration.

The genus *Paratrygon* is monotypic, but one putative additional species, currently not assigned to genus but closely related to *Paratrygon*, has been cited from the Orinoco River (Ishihara & Taniuchi, 1995; cf. Carvalho, 1996). References to its generic validity and synonymy include Rosa et al. (1987), and Rosa (1990). *Plesiotrygon* is also monotypic but one additional form that may represent a new species has been reported in the aquarium literature (no museum specimens of this form are available). *Potamotrygon* is a species rich and complex genus containing, as here recognized, 16 valid species, but at least three additional new species have been recently discovered. The status of a few nominal species is still uncertain (e.g. *Trygon garrapa* Jardine, 1843), and some valid species below may require subdivision after further study (*Potamotrygon motoro*, *Potamotrygon orbignyi*). The list below is therefore conservative. Recent references concerning its generic and specific composition include Rosa (1985a, 1985b), Rosa et al. (1987), and Compagno & Cook (1995).

Potamotrygonids are ovoviviparous (aplacentally viviparous), and the developing embryos are nourished by uterine milk secreted by trophonemata (Thorson et al., 1983b). Both uteri are functional and appear to be synchronous. Gestation may be restricted to certain stations or occur throughout the year, and the number of young produced in each gestation varies among species, but is usually from two to seven.

Potamotrygonids occur only in South American rivers that drain into the Atlantic Ocean or Caribbean Sea. They are conspicuously absent, however, from the São Francisco basin in northeastern Brazil, rivers that drain into the Atlantic from the Atlantic rainforest of northeastern and southeastern Brazil, the upper Paraná basin, and rivers south of the La Plata River in Argentina. Generally, most potamotrygonid species have distributions restricted to a single basin or river system, with only a few species present in more than one basin (e.g. *Potamotrygon motoro*, *Potamotrygon orbignyi*). Some species are even restricted to a single river (e.g. *Potamotrygon leopoldi*). This high degree of endemism has led recent workers to express concern that some species may be endangered (Compagno & Cook, 1995; Rosa & Menezes, 1996), or are at least clearly

vulnerable at present (two species are cited on the IUCN Red List as “data deficient”). Potamotrygonids are generally not consumed as food, but are commercialized in increasing quantity by the aquarium trade, and are only seldomly bred in captivity for commercial purposes (Ross & Schäfer, 1999; cf. Carvalho, 2001). Further studies on their population structure and dynamics are therefore very much needed.

The literature concerning potamotrygonids is vast. After the revision of Garman (1913), the next taxonomic study to treat the entire family is that of Rosa (1985a). Anatomical descriptions can be found in Garman (1877, 1913), Thorson & Watson (1975), Rosa (1985a), Nishida (1990), Taniuchi & Ishihara (1990), and Lovejoy (1996). Their phylogenetic relationships have been treated by Rosa (1985a), Dingerkus (1995), Lovejoy (1996) and McEachran et al. (1996). Accounts of their natural history are presented by Castex (1964a) and Castello (1975). Physiological aspects of potamotrygonids are summarized in Thorson et al. (1983a), and the reproductive biology of certain species by Thorson et al. (1983b), Teshima & Takeshita (1992), and Lasso et al. (1997a). Their historical biogeography has been studied by Brooks et al. (1981), Lovejoy (1996, 1997), Lovejoy et al. (1998), and Lundberg (1998). Recent descriptions of fossil remains (mostly isolated denticles) can be found in Deynat & Brito (1996) and Lundberg (1997). Recent taxonomic and historic compilations are those by Compagno & Cook (1995) and Zorzi (1995), and the extensive literature on potamotrygonid parasites is summarized in Brooks & Amato (1992).

The following account is based mostly on original work by the first author, supplemented by information from Rosa (1985a) concerning type specimens of *Potamotrygon* deposited in museums in Argentina. This account differs from the revision of Rosa (1985a) in relation to the fate of various nominal species, and is also more conservative, recognizing fewer species. At least five new species have been found and are not included below (these are presently being described elsewhere). Taxonomic work on the family is constrained by the fact that many species of *Potamotrygon* are poorly described, lack adequate material, or present much intraspecific variation in coloration. This is compounded by generally overlapping meristic and morphometric features among species of *Potamotrygon*. Therefore, the approach adopted here is to not recognize certain species that are inadequately defined at present, or that lack adequate material for proper characterization (e.g. *Potamotrygon dumerilii*, *Potamotrygon humerosa*). The account that follows is a working summary of the family, one that is subject to modifications as more collecting and research is conducted. We treat the family as it has traditionally been used in the literature, i.e. restricting it to *Potamotrygon*, *Paratrygon* and *Plesiotrygon* only, and refrain from including in it other genera that have recently been hypothesized as being their sister-taxa (amphi-American *Himantura* and *Taeniura*; Lovejoy, 1996; McEachran et al. 1996). Note that, below, DW is disc width, and DL is disc length, which are standard measurements in stingrays (total length is usually not used as the distal tip of the tail is frequently missing in stingray specimens).

PARATRYGON

Paratrygon Duméril, 1865: 594. Type species: *Trygon aiereba* Müller & Henle, 1841. Type by monotypy. Gender: feminine.

Disceus Garman, 1877: 208. Type species: *Trygon stroglyopterus* Jardine, 1843. Type by monotypy. Gender: masculine.

Paratrygon aiereba (Müller & Henle, 1841)

Trygon aiereba Müller & Henle, 1841: 196. Type locality: Brasilien [= Brazil]. Types: No types known, one original specimen mentioned in ZSM, probably lost. Appeared on p. 160 as "(Dubia) *Trygon Aiereba*".

Trygon stroglyopterus Jardine, 1843: 183, pl. 22. Type locality: Rio Branco. No types known.

Disceus thayeri Garman, 1913: 426, pl. 34. Type locality: Juruá river, a southwestern affluent of the Upper Amazon above Tefé. Syntypes: MCZ 297-S, MCZ 563-S, MCZ 606-S (localities: Óbidos, Manaus, and Pará River, Brazil).

Maximum length: 80 cm DW

Distribution: South America: Amazon River basin (Ucayali, Solimões, Amazon, Negro, Branco, Madeira and its affluents in Bolivia, and Tocantins River) and Orinoco basin.

Countries: Bolivia, Brazil, Ecuador, Peru, Venezuela

Remarks and references: Synonymy follows Rosa (1990). Paepke & Schmidt (1988) report the type of *T. stroglyopterus* as ZMB 4632 - but this is not type (Paepke pers. comm.). Reproductive biology in upper Orinoco basin provided by Lasso et al. (1997a), where females appear to bear only two young per gestation. Larger individuals may attain 25 kg in weight. Food includes insects, crustaceans and fishes.

Common names: Arraia (Brazil), Raia (Brazil), Raya (Bolivia, Ecuador, Peru, Venezuela)

PLESIOTRYGON

Plesiotrygon Rosa, Castello & Thorson, 1987: 449. Type species: *Plesiotrygon iwamae* Rosa, Castello & Thorson, 1987. Type by original designation. Gender: feminine.

Plesiotrygon iwamae Rosa, Castello & Thorson, 1987

Plesiotrygon iwamae Rosa, Castello & Thorson, 1987: 449, figs. 1-10. Type locality: Rio Solimões, above Tefé, Amazonas [Brazil]. Holotype: MZUSP 10153.

Maximum length: 58 cm DW

Distribution: South America: Upper to lower Amazon River basin, from Ecuador to Belém, Brazil, in the rivers Napo, Solimões, Amazon and Pará.

Countries: Brazil, Ecuador

Remarks and references: Food items consist of fishes (e.g. catfishes), insects, crustaceans and nematodes (Rosa et al., 1987). Nothing is known of its reproductive biology, but pups are free-swimming at least by 12 cm DL.

Common names: Arraia (Brazil), Raia (Brazil), Raya (Ecuador)

POTAMOTRYGON

Potamotrygon Garman, 1877: 210. Type species: *Trygon histrix* Müller & Henle, 1834. Type by subsequent designation of Jordan (1919: 389). Gender: feminine.

Potamotrygon brachyura (Günther, 1880)

Trygon brachyurus Günther, 1880: 8. Type locality: Buenos Ayres [= Buenos Aires, Argentina]. Holotype: BMNH 1953.8.10.14.

Potamotrygon brumi Devincenzi & Teague, 1942: 99, pl. 6. Type locality: Isla Queguay Grande, rio Uruguay [Uruguay]. Holotype: originally in MHN reported lost by Luengo (1966) and Olazarri et al. (1970).

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Maximum length: 95 cm DW

Distribution: South America: Paraná-Paraguay (including Cuiabá River in Brazil) and Uruguay basins.

Countries: Argentina, Brazil, Paraguay, Uruguay

Remarks and references: One of the largest species, reaching 30 kg in weight. Reproductive biology relatively unknown.

Common names: Arraia (Brazil), Raia (Brazil), Raya (Argentina, Bolivia, Peru)

***Potamotrygon castexi* Castello & Yagolkowski, 1969**

Potamotrygon castexi Castello & Yagolkowski, 1969: 2, pls.; fig. 1. Type locality: Rosário, Río Paraná [Argentina]. Holotype: MACN 5777 presently lost (Rosa, 1985a).

Maximum length: 60 cm DW

Distribution: South America: Upper Amazon River basin (Guaporé, Beni, Solimões and Marañón Rivers), and Paraná-Paraguay River basin.

Countries: Argentina, Bolivia, Brazil, Peru

Remarks and references: One of the few species cited to occur in both the Amazon and Paraná-Paraguay basins, but some reports may actually refer to other species. Reproductive biology unknown.

Common names: Arraia (Brazil), Raia (Brazil), Raya de agua dulce (Argentina, Bolivia, Peru)

***Potamotrygon constellata* (Vaillant, 1880)**

Toeniura constellata Vaillant, 1880: 252. Type locality: Calderón [= Calderão, Solimões River, Brazil]. Holotype: MNHN A.1010.

Potamotrygon circularis Garman, 1913: 419. Type locality: Teffé, Brazil [= Tefé, Amazonas State, Brazil]. Syntypes: MCZ 291-S (from Tefé), 295-S (from Coari, Amazonas State, Brazil). Junior synonym of *Potamotrygon constellata* (in part, 291-S) and of *P. motoro* (in part, pl. 31 (1-2), 295-S, 296-S?), as type-series is complete.

Maximum length: 62 cm DW

Distribution: South America: Amazon and Solimões River basin.

Countries: Brazil, Colombia

Remarks and references: Thorson et al. (1983b) document the reproductive maturity for males at 32 to 34 cm DW, and at 35 to 45 cm DW for females, which can carry up to 11 fetuses per gestation. Delimitation of type-series of *Potamotrygon circularis* follows Hartel & Dingerkus (1997).

Common names: Arraia (Brazil), Raia (Brazil)

***Potamotrygon falkneri* Castex & Maciel, 1963**

Potamotrygon falkneri Castex & Maciel, 1963: 60. Type locality: puerto de la ciudad de Santa Fe, río Paraná [Argentina]. Holotype: MFA 236 (as by Rosa, 1985a).

Potamotrygon menchacai Achenbach, 1967: 1. Type locality: río Colastiné, Paraná Médio [Santa Fe, Argentina]. Holotype: MFA 289.

Maximum length: 47 cm DW

Distribution: South America: Paraná-Paraguay River basin, from Cuiabá and Piquiri Rivers (among others) to the La Plata River.

Countries: Argentina, Brazil, Paraguay

Remarks and references: Synonymy of *P. menchacai* follows Rosa (1985a), but possibly valid. Reproductive biology unknown.

Common names: Arraia (Brazil), Raia (Brazil), Raya (Argentina, Paraguay)

***Potamotrygon henlei* (Castelnau, 1855)**

Trygon (Taenura) henlei Castelnau, 1855: 102, pl. 48 (fig. 3). Type locality: Tocantins [Tocantins River, Brazil]. Holotype: MNHN 2353.

Maximum length: 45 cm DW

Distribution: South America: Tocantins River basin (Tocantins and Araguaia Rivers).

Countries: Brazil

Remarks and references: Reproductive biology unknown. A large

female weighing some 15 kg gave birth to one pup of 12.5 cm DW, according to Rosa (1985a). Rare in scientific collections, but frequently commercialized by aquarium industry. Highly endemic distribution coupled with commercial interests makes this species vulnerable to overexploitation.

Common names: Arraia de fogo (Brazil)

***Potamotrygon histrix* (Müller & Henle, 1834)**

Trygon histrix Müller & Henle, in d'Orbigny, 1834: by indication only, as legend of a plate published in d'Orbigny (1834). Type locality: Buenos Ayres [= Buenos Aires, Argentina]. Holotype: MNHN A.2449 (specimen on which plate in d'Orbigny [1834] was based).

Maximum length: 40 cm DW

Distribution: South America: Paraná-Paraguay River basin.

Countries: Argentina, Brazil, French Guiana(?), Guyana(?), Suriname(?), Venezuela(?)

Remarks and references: Authorship controversial, but follows Rosa (1985a) in crediting original species name to Müller & Henle and not to d'Orbigny. Species later redescribed (as *P. histrix* by Müller & Henle (1841) based on five additional specimens, but these do not have type status. The action of Castex (1969) in designating a lectotype is therefore not valid (Rosa, 1985a). May be confused in the literature with *P. orbignyi* (occurrences in French Guiana, Guyana, Suriname, Venezuela). Reproductive biology unknown.

Common names: Arraia (Brazil), Raia (Brazil), Raya (Argentina, Spar (Suriname), Tjoeboela (Suriname)

***Potamotrygon leopoldi* Castex & Castello, 1970**

Potamotrygon leopoldi Castex & Castello, 1970a: 1, fig. 5; pl. on p.15. Type locality: Little creek on the right shore of Alto Xingú, down river of the Auaia-Missu confluence, Mato Grosso state, Brazil [Auaia-Miçu River]. Holotype: IRSNB 475.

Maximum length: 40 cm DW

Distribution: South America: Xingu and Fresco Rivers (Xingu River basin).

Countries: Brazil

Remarks and references: Known from three specimens in collections, this species may be vulnerable to overexploitation because of its high endemism and commercial appeal (Rosa & Menezes, 1996). Reproductive biology unknown.

Common names: Arraia (Brazil), Raia (Brazil)

***Potamotrygon magdalenae* (Valenciennes, 1865)**

Taeniura magdalenae Valenciennes in Duméril, 1865: 625. Type locality: Rio de la Magdalena [= Magdalena River, Colombia]. Holotype: MNHN A.2368.

Maximum length: 35 cm DW

Distribution: South America: Magdalena and Atrato River basins.

Countries: Colombia

Remarks and references: Teshima & Takeshita (1992) studied the reproductive biology of this species, and found that males are usually reproductively mature at 17 to 19 cm DW (however, the holotype is an adult male of 15 cm DW), and that females are sexually mature between 17 and 21 cm DW and produce one embryo per uterus (born at 10 cm DW). Females give birth throughout the year.

Common names: Raya (Colombia), Raya de río (Colombia)

***Potamotrygon motoro* (Müller & Henle, 1841)**

Taeniura motoro Müller & Henle, 1841: 197. Type locality: Fluss Cuyaba [= Cuiabá River, Brazil]. Syntypes: Three reported, of which remains ZMB 4662 (Rosa 1985a; Paepke & Schmidt, 1988).

Trygon (Taenura) mulleri Castelnau, 1855: 102, pl. 48 (fig. 2). Type locality: rios Crixas et Araguay [= Crixás and Araguaia Rivers, Brazil]. Holotype: MNHN 2354.

Potamotrygon circularis Garman, 1913: 419. Type locality: Teffé,

- Brazil [= Tefé, Amazonas State, Brazil]. Syntypes: MCZ 291-S (from Tefé), 295-S (from Coari, Amazonas State, Brazil). Junior synonym of *Potamotrygon constellata* (in part, 291-S) and of *P. motoro* (in part, pl.31 (1-2), 295-S, 296-S?), as type-series is complete.
- Potamotrygon laticeps* Garman, 1913: 417, pl. 31 (figs. 3-4). Type locality: Obidos [=Óbidos], Brazil. Holotype: 605-S (MCZ).
- Potamotrygon labradori* Castex in Castex, Maciel & Achenbach, 1963: 117, fig. 1. Type locality: perto de la ciudad de Santa Fe [Paraná River, Argentina]. Holotype: MFA (number unknown).
- Potamotrygon alba* Castex, 1963a: 55. Type locality: Asunción [Paraguay River, Paraguay]. Syntypes: 3 original specimens mentioned, whereabouts unknown.
- Potamotrygon pauckei* Castex, 1963c: 291. Type locality: río Colastiné [near Santa Fe, Argentina]. Syntypes (6 specimens): MFA 232 and 245.
- Maximum length: 50 cm DW
- Distribution: South America: Uruguai, Paraná-Paraguay, Orinoco, and Amazon River basins.
- Countries: Argentina, Bolivia, Brazil, Colombia, Paraguay, Peru, Uruguay
- Remarks and references: Hartel and Dingerkus (1997) also credit 290-S as syntype (along with 605-S) of *P. laticeps*, but Garman (1913) only mentions specimen from Óbidos in original description, therefore MCZ 605-S is considered holotype. Authorship of *T. motoro* is credited to Müller & Henle (1841) and not to Natterer (who collected the type specimen) as in Rosa (1985a). *Potamotrygon pauckei* (Castex 1963a), and *Potamotrygon labradori* Castex (1963b) are nomina nuda. A widespread species that may require further subdivision after more study. Studies of its reproductive biology indicate that females attain sexual maturity between 24 and 32 cm DW (males between 20 and 30 cm DW), and may produce from three to 21 embryos per gestation (Achenbach & Achenbach, 1976) or only six or seven (Thorson et al., 1983b; these differences may be populational). Larger specimens may weigh 10 kg. This species has been captively bred in aquaria, but is still the most commercially imported species by the aquarium industry.
- Common names: Arraia de fogo (Brazil), Raya amazónica (Peru)
- Potamotrygon ocellata* (Engelhardt, 1912)**
- Trygon hystrix ocellata* Engelhardt, 1912: 647. Type locality: Südküste von Mexiana: Brasilien [= south shore of Mexiana island at mouth of Amazon River, Brazil] Type: reported lost, originally in ZSM (Rosa, 1985a).
- Maximum length: 20 cm DW
- Distribution: South America: Pedreira River (Amapá) and south of Mexiana Island (Pará).
- Countries: Brazil
- Remarks and references: This species may be synonymous with *Potamotrygon motoro* (Müller & Henle, 1841), and is tentatively accepted as valid on the basis of a single specimen from the Pedreira River that differs slightly in coloration from typical *P. motoro*, following Rosa (1985a). Reproductive biology unknown.
- Common names: Arraia (Brazil), Raia (Brazil)
- Potamotrygon orbignyi* (Castelnau, 1855)**
- Trygon (Taenura) dumerillii* Castelnau, 1855: 101, pl. 48 (fig. 1). Type locality: rio Araguay [= Araguaia River, Brazil]. Holotype: MNHN 2367.
- Trygon (Taenura) d'orbignyi* Castelnau, 1855: 102, pl. 49 (fig. 1). Type locality: Tocantins [Tocantins River, Brazil]. Holotype: MNHN 2333. Also spelled *Toenura orbignyi* as legend of pl. 49.
- Trygon reticulatus* Günther, 1880: 8. Type locality: Surinam. Holotype: BMNH 1870.3.10.1.
- Potamotrygon humerosus* Garman, 1913: 419. Type locality: Parietuba river at Monte Alegre, Brazil, on the lower Amazon [Amazon River, Brazil]. Holotype: MCZ 299-S.
- Maximum length: 35 cm DW
- Distribution: South America: Widespread in Amazon and Orinoco River basins and in river systems in Suriname, Guyana and French Guiana.
- Countries: Bolivia, Brazil, French Guiana, Guyana, Suriname, Venezuela
- Remarks and references: A widespread species that may require subdivision. Rosa (1985a) recognizes *Potamotrygon dumerilli* (Castelnau, 1855) and *Potamotrygon humerosus* Garman, 1913 as distinct species, but evidence given is meager. Larger specimens may weigh close to five kg. Reproductive biology studied by Lasso et al. (1997a) in Venezuela; males achieve sexual maturity at 23 cm DL and females at 18.5 cm DL, and females give birth to up to two pups during any time of year. Food consists of fishes, insects and crustaceans.
- Common names: Arraia (Brazil), Laraie rivièrè (French Guiana), Liba spari (Suriname), Raia (Brazil), Spar (Suriname), Tjoeboela (Suriname)
- Potamotrygon schroederi* Fernández-Yépez, 1957**
- Potamotrygon schroederi* Fernández-Yépez, 1957: 8, fig. 1. Type locality: Río Apure, Boca Apurito [= Apure River at mouth of Apurito tributary, Apure State, Venezuela]. Holotype: MHNLS 2504 (consisting of isolated remains of mouth, caudal sting and edge of disc only; Lasso et al. 1997b).
- Maximum length: 60 cm DW
- Distribution: South America: Apure (Orinoco basin) and Negro (Amazon basin) Rivers.
- Countries: Brazil, Venezuela
- Remarks and references: Holotype was originally in the private collection of A. Fernández-Yépez (AFY 51289). Distribution of this species was expanded by Castex & Yagolkowski (1970) to include the Negro River of the Amazon basin. Note that the species we recognize as *Potamotrygon schroederi* does not correspond to this species in Rosa (1985a) – his “*P. schroederi*” actually represents a new species. Reproductive biology unknown.
- Common names: Arraia (Brazil), Raia (Brazil), Raya guacamaya (Venezuela)
- Potamotrygon schuhmacheri* Castex, 1964**
- Potamotrygon schuhmacheri* Castex, 1964b: 92, fig. on p. 93. Type locality: río Colastiné [Santa Fe, Argentina]. Museo Provincial de Ciencias Naturales, Santa Fe 269.
- Maximum length: 25 cm DW
- Distribution: South America: Paraná-Paraguay River basin.
- Countries: Argentina, Paraguay
- Remarks and references: Spelled *Potamotrygon schuhmacheri* in the title of the original description, but *Potamotrygon schühmacheri* in the text, and wrongly emended by Taniuchi (1982) to *Potamotrygon schuemacheri*. Reproductive biology unknown. Possibly a junior synonym of *P. hystrix*.
- Common names: Raya (Paraguay)
- Potamotrygon scobina* Garman, 1913**
- Potamotrygon scobina* Garman, 1913: 418. Type locality: Cametá, Brazil [= Tocantins River at Cametá, Pará, Brazil]. Holotype: MCZ 602-S.
- Maximum length: 45 cm DW
- Distribution: South America: Mid to lower Amazon River, lower Tocantins River, Pará River, Trombetas River.
- Countries: Brazil
- Remarks and references: Nothing is known about its reproductive biology.
- Common names: Arraia (Brazil), Raia (Brazil)
- Potamotrygon signata* Garman, 1913**
- Potamotrygon signatus* Garman, 1913: 420. Type locality: Rio Poti a tributary of the Paranahyba River, and Paranahyba at San Gonçallo [= Poti River and Parnaíba River at São Gonçalo, Brazil]. Syntypes: MCZ 560-S (1), 600-S (1); USNM 153589 [ex

MCZ 560-S] (1).

Maximum length: 30 cm DW

Distribution: South America: Parnaíba River basin.

Countries: Brazil

Remarks and references: The only species reported from northern Brazil to the east of the Amazon basin. Nothing is known about its reproductive biology.

Common names: Arraia (Brazil), Raia (Brazil)

Potamotrygon yepezi Castex & Castello, 1970

Potamotrygon yepezi Castex & Castello, 1970b: 16, fig. on p. 19.

Type locality: Palmar river at bridge 70 km southwest of Maracaibo [southeast of Maracaibo Lake, Venezuela]. Holotype: USNM 121662.

Maximum length: 40 cm DW

Distribution: South America: Rivers draining into Maracaibo Lake.

Countries: Venezuela

Remarks and references: Reproductive biology unknown.

Common names: Raya (Venezuela)

GENUS INQUIRENDUM

Elipesurus Jardine, 1843: 184. Type species: *Elipesurus spinicauda* Jardine, 1843. Type by monotypy. Gender: masculine [Wrongly emended to *Ellipesurus* by Duméril (1865), and followed by various subsequent authors (e.g. Günther, 1870; Miranda Ribeiro, 1907, 1923)].

SPECIES INQUIRENDAE

Elipesurus spinicauda Jardine, 1843: 184, pl. 23. Type locality: Rio Branco at Fort San Joaquim. Holotype: unknown. [We follow the cogent arguments of Rosa (1985a, 1985b) in considering *Elipesurus* Schomburgk, 1843, and its only originally included species *Elipesurus spinicauda* Schomburgk, 1843, as nomina dubia. Additional reference: Zorzi (1995)].

Pastinachus humboldtii Duméril 1865: 625. Type locality: fluviale du Meta [= Meta River, Colombia]. Type specimen unknown [Rosa (1985a) summarizes evidence that this nominal species cannot be unequivocally applied].

Trygon garrapa Jardine, 1843: 182, pl. 21. Type locality: Rio Branco. Type: unknown (Paepke, pers. comm.). [Further collecting in the Branco River is needed to determine if this species is valid, a junior synonym of *Potamotrygon motoro* or a senior synonym of *Potamotrygon henlei*. The last option is the most improbable of these (*P. henlei* is endemic to the Tocantins River), but this decision cannot be made without additional specimens from the Branco River].

Pastinachus humboldtii Roulin, in Duméril, 1865: 625. Type locality: fluviale du Meta [Meta River, Colombia]. Type: unknown [Rosa (1985a) summarizes evidence that this name cannot be unequivocally applied to any known species].

References

Achenbach, G.M. 1967. Notas sobre una nueva especie de raya fluvial (Batoidei, Potamotrygonidae) pescada en el río Colastiné (Paraná medio, Departamento La Capital, Provincia de Santa Fe, Republica Argentina). Comunicaciones del Museo Provincial de Ciencias Naturales Florentino Ameghino, 1: 1-7.

Achenbach, G.M. and S.V.M. Achenbach. 1976. Notas acerca de algunas especies de raya fluvial (Batoidei, Potamotrygonidae) que frecuentan el sistema hidrográfico del Paraná medio en el Departamento La Capital (Santa Fe - Argentina). Comunicaciones del Museo Provincial de Ciencias Naturales Florentino Ameghino, 8: 1-34.

Brooks, D.R. and J.F.R. Amato. 1992. Cestode parasites in *Potamotrygon motoro* (Müller & Henle) (Chondrichthyes: Potamotrygonidae) from southwestern Brazil, including *Rhinebothroides mclennanae* sp. n. (Tetraphyllidea: Phyllobothriidae) and

a revised host-parasite checklist for helminths inhabiting Neotropical freshwater stingrays. Journal of Parasitology, 78: 393-398.

Brooks, D.R., T.B. Thorson and M.A. Mayes. 1981. Freshwater stingrays (Potamotrygonidae) and their helminth parasites: testing hypotheses of evolution and coevolution. Pp. 147-175. In: V.A. Funk and D.R. Brooks (eds.). Advances in Cladistics, Proceedings of the First Meeting of the Willi Hennig Society. New York Botanical Garden, New York.

Carvalho, M.R. 1996. Review of: "Biology of Freshwater Elasmobranchs: A Symposium to Honor Thomas B. Thorson". Copeia, 1996 (4): 1047-1050.

Carvalho, M.R. 2001. Review of: "Freshwater Stingrays from South America" by R. Ross, and "Freshwater Rays" by R. Ross and F. Schäfer. Copeia, 2001 (4): 1167-1169.

Castello, H.P. 1975. Hunting for freshwater stingrays. Tropical Fish Hobbyist, 23(12): 19-34.

Castello, H.P. and D.R. Yagolkowski. 1969. *Potamotrygon castexi* (Chondrichthyes, Potamotrygonidae), a new species of freshwater sting-ray for the Paraná River. Acta Sci. Inst. Latinoam. Fisiol. Reprod., 6: 1-21, 1 pl.

Castelnau, F.L. 1855. Poissons. xii + 112 p., 50 pls, In: Animaux nouveaux or rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847. Chez P. Bertrand, Paris.

Castex, M.N. 1963a. Breves noticias del genero *Potamotrygon* en la cuenca del Rio Paraguay y Hallazgo de una nueva especie: el *Potamotrygon alba*, In: El género *Potamotrygon* en el Paraná medio. Anales del Museo Provincial de Ciencias Naturales Florentino Ameghino, 2 (1) Zool.: 53-55.

Castex, M.N. 1963b. La raya fluvial. Notas histórico-geográficas. Librería y Editorial Castellví, Sante Fe.

Castex, M.N. 1963c. Una nueva especie de raya fluvial: *Potamotrygon pauckei*. Notas distintivas. Bol. Acad. Nac. Cienc. (Cordoba), 43: 289-294.

Castex, M.N. 1964a. Estado actual de los estudios sobre la raya fluvial Neotropical. Cincuentenario del Museo Provincial de Ciencias Naturales "Florentino Ameghino," : 9-49.

Castex, M.N. 1964b. Una nueva especie de raya fluvial americana: *Potamotrygon schuhmacheri* sp. n. Neotropica (La Plata), 10 (32): 92-94.

Castex, M.N. 1969. Designation of the lectotype of *Potamotrygon hystrix* with comments on the heterogeneous material that founded the species. Acta Sci. Inst. Latinoam. Fisiol. Reprod., no. 5: 1-12.

Castex, M.N. and H.P. Castello. 1970a. *Potamotrygon leopoldi*, a new species of freshwater sting-ray for the Xingú River, Brazil (Chondrichthyes, Potamotrygonidae). Acta Sci. Inst. Latinoam. Fisiol. Reprod., no. 10: 1-16.

Castex, M.N. and H.P. Castello. 1970b. *Potamotrygon yepezi*, n. sp. (Chondrichthyes, [sic] Potamotrygonidae), a new species of freshwater sting-ray from Venezuelan rivers. Acta Sci. Inst. Latinoam. Fisiol. Reprod., 8: 15-39.

Castex, M.N. and I. Maciel. 1963. Características del *Potamotrygon falkneri* sp. n., In: El género *Potamotrygon* en el Paraná medio. An. Mus. Prov. C.N. Fno. Ameghino, 2 (1) Zool.: 56-61.

Castex, M.N., I. Maciel and G.M. Achenbach. 1963. Acerca de la raya fluvial *Potamotrygon labradori*. Neotropica, 9 (30): 117-121.

Castex, M.N. and F. Suilar. 1965. Observaciones sobre un lote de *Potamotrygon magdalenae* (Duméril, 1865), (Chondrichthyes, Potamotrygonidae). Physis, 25 (70): 239-243.

Castex, M.N. and D.R. Yagolkowski. 1970. Note on two freshwater sting-rays species (Chondrichthyes, Potamotrygonidae): a. Redescription of *Potamotrygon schroederi*, Yezpe 1957. b. Designation of two paratypes of *P. pauckei*, Castex 1963 and their

Check List of the Freshwater Fishes of South and Central America

- description. Acta Sci. Inst. Latinoam. Fisiol. Reprod., no. 9: 1-26.
- Compagno, L.J.V. and S.D. Cook. 1995. The exploitation and conservation of freshwater elasmobranchs: status of taxa and prospects for the future. pp. 62-90, In: M.I. Oetinger and G.D. Zorzi (eds.). The Biology of Freshwater Elasmobranchs, a Symposium to Honor Thomas B. Thorson. Journal of Aquaculture & Aquatic Sciences, vol. VII.
- Devincenzi, G.J. and G.W. Teague. 1942. Ictiofauna del Rio Uruguay medio. An. Mus. Nac. Hist. Nat. Montev. (Ser. 2) 5(4): 1-100 + index + i-viii, pls. 1-6.
- Deynat, P.P. and P.B. Brito. 1994. Révision des tubercules cutanés de raies (Chondrichthyes, Batoidea) du bassin du Paraná, Tertiaire d'Amérique du Sud. Annales de Paléontologie (Vert.-Invert.), 80(4): 237-251.
- Dingerkus, G. 1995. Relationships of potamotrygonin stingrays (Chondrichthyes: Batiformes: Myliobatidae). Pp. 32-37, In: M.I. Oetinger and G.D. Zorzi (eds.). The Biology of Freshwater Elasmobranchs, a Symposium to Honor Thomas B. Thorson. Journal of Aquaculture & Aquatic Sciences, vol. VII.
- D'Orbigny, A. 1934. Voyage dans l'Amérique méridionale. 4 vols. P. Bertrand, Paris.
- Duméril, A.H.A. 1865. Histoire naturelle des poissons ou ichthyologie générale. Tome Premier. I. Elasmobranchs. Plagiostomes et Holocéphales ou Chimères. 720 p., Atlas: pp. 1-8, pls. 1-14.
- Engelhardt, R. 1912. Über einige neue Selachier-Formen. Zoologischer Anzeiger, 39 (21/22): 643-648.
- Eschmeyer, W.N. (ed.). 1998. Catalog of fishes. California Academy of Sciences, San Francisco.
- Fernández-Yépez, A. 1958. Nueva raya para la ciencia: *Potamotrygon* [sic] *schroederi* n. sp. Boletín Mus. Cienc. Nat., 2-3: 8-11.
- Garman, S. 1877. On the pelvis and external sexual organs of selachians, with especial references to the new genera *Potamotrygon* and *Disceus* (with descriptions). Proceedings of the Boston Society of Natural History, 19: 197-215.
- Garman, S. 1913. The Plagiostomia (sharks, skates, and rays). Memoirs of the Museum of Comparative Zoology, 36: i-xiii + 1-515, plus Atlas: 77 pls.
- Günther, A. 1870. Catalogue of the fishes in the British Museum. Vol. 8. London: British Museum (Natural History).
- Günther, A. 1880. A contribution to the knowledge of the fish fauna of the Rio de la Plata. Annals and Magazine of Natural History (5), 6 (31): 7-13, pl. 2.
- Hartel, K.E. and G. Dingerkus. 1997. Types of Garman chondrichthian species in the Museum of Comparative Zoology. Pp. xxxvi-xlix, In: Reprint of "The Plagiostomia (Sharks, Skates and Rays)" by Samuel Garman. Benthic Press, Los Angeles.
- Ishihara, H. and T. Taniuchi. 1995. A strange potamotrygonid ray (Chondrichthyes: Potamotrygonidae) from the Orinoco river system. pp. 91-97, In: M.I. Oetinger and G.D. Zorzi (eds.). The Biology of Freshwater Elasmobranchs, a Symposium to Honor Thomas B. Thorson. Journal of Aquaculture & Aquatic Sciences, vol. VII.
- Jardine, W. 1843. The natural history of fishes of Guiana.--Part II. The Naturalists' Library. Vol. 5. W. H. Lizars, Edinburgh.
- Jordan, D.S. 1919. The genera of fishes, part III, from Günther to Gill, 1859-1880, twenty-two years, with the accepted type of each. A contribution to the stability of scientific nomenclature. Leland Stanford Jr. Univ. Publ., Univ. Ser., no. 39: 285-410.
- Lasso, C.A., A. Rial-B. and O. Lasso-Alcalá. 1997a. Notes on the biology of the freshwater stingrays *Paratrygon aiereba* (Müller & Henle, 1841) and *Potamotrygon orbignyi* (Castelnau, 1855) (Chondrichthyes: Potamotrygonidae) in the Venezuelan Llanos. Aqua, 2 (3): 39-52.
- Lasso, C.A., V. Ponte and O. Lasso-Alcalá. 1997b. Catálogo de la colección de tipos de peces de la Fundación La Salle de Ciencias naturales. Parte I: Museo de Historia Natural la Salle (MHNLS). Memoria, Sociedad de Ciencias Naturales La Salle, 57 (147): 37-52.
- Lovejoy, N.R. 1996. Systematics of myliobatoid elasmobranchs: with emphasis on the phylogeny and historical biogeography of Neotropical freshwater stingrays (Potamotrygonidae: Rajiformes). Zoological Journal of the Linnaean Society, 117: 207-257.
- Lovejoy, N.R. 1997. Stingrays, parasites, and Neotropical biogeography: a closer look at Brooks et al.'s hypothesis concerning the origins of Neotropical freshwater rays (Potamotrygonidae). Systematic Biology, 46(1): 218-230.
- Lovejoy, N.R., E. Birmingham and A.P. Martin. 1998. Marine incursion into South America. Nature, 396: 421-422.
- Luengo, J.A. 1966. Relación de los géneros y especies de peces descritos por Garibaldi J. Devincenzi y de los tipos depositados en el Museo Nacional de Historia Natural de Montevideo. Atas Sociedade de Biologia do Rio de Janeiro, 10 (2): 19-21.
- Lundberg, J.G. 1997. Freshwater fishes and their paleobiotic implications. pp. 67-91, In: R.F. Kay, R.H. Madden, R.L. Cifelli and J.J. Flynn (eds.). Vertebrate Paleontology in the Neotropics: the Miocene Fauna of La Venta, Colombia. Smithsonian Inst. Press, Washington D.C.
- Lundberg, J.G. 1998. The temporal context for the diversification of Neotropical fishes. Pp. 49-68, In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). Phylogeny and Classification of Neotropical Fishes. Edipucrs, Porto Alegre.
- McEachran, J.D., K.A. Dunn and T. Miyake. 1996. Interrelationships of batoid fishes (Chondrichthyes: Batoidae). pp. 63-84, In: M.L.J. Stiassny, L.R. Parenti and G.D. Johnson (eds.). Interrelationships of Fishes. Academic Press, New York.
- Miranda Ribeiro, A. 1907. Fauna brasiliense. Peixes. Museu Nacional, Rio de Janeiro.
- Miranda Ribeiro, A. 1923. Fauna brasiliense. Peixes [re-issue of 1907 work]. Museu Nacional, Rio de Janeiro.
- Müller, J. and F.G.J. Henle. 1838-41. Systematische Beschreibung der Plagiostomen. Berlin. xxii + 200 p., 60 pls.
- Nishida, K. 1990. Phylogeny of the suborder Myliobatoidaei. Mem. Fac. Fish. Hokkaido Univ., 37 (1/2): 1-108.
- Olazarri, J., A. Mones, A. Ximenez and M.E. Philippi. 1970. Lista de los ejemplares-tipo depositados en el Museo Nacional de Historia Natural de Montevideo, Uruguay. Comunicaciones Zoológicas del Museo de Historia Natural de Montevideo, 10 (131): 1-12.
- Paepke, H.-J. and K. Schmidt. 1988. Kritischer Katalog der Typen der Fischeammlung des Zoologischen Museums Berlin. Teil 2: Agnatha, Chondrichthyes. Mitt. Zool. Mus. Berlin, 64 (1): 155-189.
- Planquette, P., P. Keith and P.-Y. Le Bail. 1996. Atlas des poissons d'eau douce de Guyane (Tome 1). Muséum National d'Histoire Naturelle, Ministère de l'Environnement. 431 p.
- Rosa, R.S. 1985a. A systematic revision of the South American freshwater stingrays (Chondrichthyes: Potamotrygonidae). Unpubl. PhD. Diss., The College of William and Mary, Virginia.
- Rosa, R.S. 1985b. Further comment on the nomenclature of the freshwater stingray *Elipesus spinicauda* Schomburgk, 1843 (Chondrichthyes, Potamotrygonidae). Revista Brasileira de Zoologia, 3 (1): 27-31.
- Rosa, R.S. 1990. *Paratrygon aiereba* (Muller & Henle, 1841): the senior synonym of the freshwater stingray *Disceus thayeri* Garman, 1913 (Chondrichthyes: Potamotrygonidae). Revista Brasileira de Zoologia, 7(4): 425-437.
- Rosa, R.S., H.P. Castello and T.B. Thorson. 1987. *Plesiotrygon iwamae*, a new genus and species of Neotropical freshwater stingray (Chondrichthyes: Potamotrygonidae). Copeia, 1987 (2): 447-458.
- Rosa, R.S. and N.A. Menezes. 1996. Relação preliminar das espécies de peixes (Pisces, Elasmobranchii, Actinopterygii) ameaçadas no Brasil. Revista brasileira de Zoologia, 13(3): 647-667.

Check List of the Freshwater Fishes of South and Central America

- Ross, R. A. and F. Schäfer. 2000. Freshwater rays. Aqualog Verlag. 192 p.
- Taniuchi, T. 1982. Investigational report of freshwater stingrays in South America. Pp. 21-58, In: Studies on the adaptability and phylogenetic evolution of freshwater elasmobranchs. Scientific Research Team on Freshwater Elasmobranchs. University of Tokyo, Tokyo.
- Taniuchi, T. and H. Ishihara. 1990. Anatomical comparisons of claspers of freshwater stingrays (Dasyatidae and Potamotrygonidae). Japanese Journal of Ichthyology, 37(1): 10-16.
- Teshima, K. and K. Takeshita. 1992. Reproduction of the freshwater stingray, *Potamotrygon magdalenae* taken from the Magdalena river system in Colombia, South America. Bulletin of the Seikai National Fisheries Research Institute, 70: 11-27.
- Thorson, T.B., D.R. Brooks and M.A. Mayes. 1983a. The evolution of freshwater adaptation in stingrays. National Geographic Research Reports, 15: 663-694.
- Thorson, T.B., J.K. Langhammer and M.I. Oetinger. 1983b. Reproduction and development of the South American freshwater stingrays, *Potamotrygon circularis* and *P. motoro*. Environ. Biol. Fish. 9(1): 3-24.
- Thorson, T.B. and D.E. Watson. 1975. Reassignment of the African freshwater stingray, *Potamotrygon garouaensis*, to the genus *Dasyatis*, on physiologic and morphologic grounds. Copeia, 1975 (4): 701-712.
- Vaillant, L.L. 1880. Sur les raies recueillies dans l'Amazon par M. le Dr. Jobert. Bulletin de la Société Philomathique, Paris (Ser. 7), 4: 251-252.
- Zorzi, G.D. 1995. The biology of freshwater elasmobranchs: an historical perspective. Pp. 10-31, In: M.I. Oetinger and G.D. Zorzi (eds.). The Biology of Freshwater Elasmobranchs a Symposium to Honor Thomas B. Thorson. Journal of Aquaculture & Aquatic Sciences, vol. VII.

Family Lepisosteidae (Gars)

Carl J. Ferraris, Jr.

The family Lepisosteidae comprise the true gars, a group that is known from at least as far back in time as the Cretaceous. In its history, gars were widely distributed through the world's continents, but at present, they are only known from seven species in the Americas.

Gars are readily identified by the following combination of characters: body long and cylindrical; snout elongate, with large numbers of needle-like teeth in both jaws; body with diamond-shaped, ganoid scales that cover the entire body in a heavy coating of armor; caudal fin rounded and abbreviate heterocercal (i.e., with caudal skeleton extending part way along dorsal margin of the fin); dorsal fin with short base and located well posterior along body, dorsal to the anal fin.

Only two species of gar are known to occur south of the United States. One species, *Atractosteus tristoechus* occurs only in western Cuba and the Isla de la Juventud (formerly Isle of Pines); the second species (*A. tropicus*) occurs sporadically through Mexico and Central America.

The taxonomy of living gars is based on the conclusion that there are two groups of species that are either considered to be separate genera (*Lepisosteus* and *Atractosteus*) or two subgenera of *Lepisosteus*. Herein, we follow the former classification and place the two Neotropical species into *Atractosteus*.

Gars are typically piscivores and individuals of some species may grow to more than three m. in length. Gars are little economic value, except that they are sometimes considered pests to local fishermen when they become entangled in nets.

ATRACTOSTEUS

Atractosteus Rafinesque, 1820: 171. Type species: *Lepisosteus (Atractosteus) ferox* Rafinesque, 1820. Type by monotypy. Gender: masculine.

***Atractosteus tristoechus* (Bloch & Schneider, 1801)**

Esox Tristoechus Bloch & Schneider, 1801: 395. Type locality: Fluvios et paludes Havannae [Cuba]. No types known, based on drawing in Parra (1787, pl. 40, fig. 2).

Lepidosteus Manjuari Poey, 1853: 273, pl. 28. Type locality: Cuba. No types known.

Maximum length: 200 cm TL

Distribution: Caribbean Islands: Western Cuba and Isla de la Juventud.

Countries: Cuba

Remarks and references: Reported from brackish and marine waters as well as rivers.

Common names: Cuban alligator gar (Cuba), Manjuan (Cuba)

***Atractosteus tropicus* Gill, 1863**

Atractosteus tropicus Gill, 1863: 172. Type locality: Western coast Central America. Holotype: USNM 6806.

Maximum length: 125 cm TL

Distribution: North and Central America: Caribbean and Pacific drainages of southern Mexico and Central America.

Countries: Belize, Costa Rica, Guatemala, Honduras, Mexico, Nicaragua

Common names: Catán (Mexico), Pejelagarto (Mexico)

References

- Bloch, M.E. and J.G. Schneider. 1801. M. E. Blochii, Systema Ichthyologiae iconibus cx illustratum. Post obitum auctoris opus inchoatum absolvit, correxit, interpolavit Jo. Gottlob Schneider, Saxo. Berolini. Sumtibus Auctoris Impressum et Bibliopolio Sanderiano Commissum. lx + 584 p., 110 pls.
- Gill, T.N. 1863. Descriptive enumeration of a collection of fishes from the western coast of Central America, presented to the Smithsonian Institution by Captain John M. Dow. Proc. Acad. Nat. Sci. Philadelphia, 15: 162-174.
- Parra, D.A. 1787. Descripción de diferentes piezas de historia natural, las más del ramo marítimo, representadas en setenta y cinco laminas. Havana. 195 p., 73 pl.
- Poey, F. 1853 [1851-54]. Memorias sobre la historia natural de la Isla de Cuba, acompañadas de sumarios Latinos y extractos en Francés. La Habana. 463 p., pls. 1-34. [Published in parts, section that includes *Lepidosteus* (sic., *Lepisosteus*) published in 1853].
- Rafinesque, C. 1820. Ichthyologia Ohioensis (part 8). Western Rev. Misc. Mag., 3 (3): 165-173.

Family Osteoglossidae (Arowanas)

Carl J. Ferraris, Jr.

The Osteoglossidae consists of five species of tropical freshwater fishes. Two of these species occur in the Neotropical region; one in the freshwaters of Southeast Asia, and the remaining two in Australia and New Guinea. Osteoglossids are similar in appearance to arapaimatids and were, until recently, considered to be part of one family. Species of both families have elongate, slender bodies with large scales. Osteoglossids differ from arapaimids in a number of characters, the most obvious of which are the presence of barbels at the symphysis of the lower jaw, a highly compressed abdomen (instead of a nearly cylindrical abdomen), and huge mouth with a markedly oblique gape.

In the Neotropics the distribution of the two species is quite different. One species, *Osteoglossum ferreirai*, appears to be restricted to the Negro River system of the upper Amazon basin. The second species, *O. bicirrhosum*, in contrast, occurs widely through the lowland waters of the Amazon basin as well as the rivers of Guyana, and in the Oyapock River.

Both species are important as food fishes as well as specimens for the home aquarium market.

OSTEOGLOSSUM

Osteoglossum Cuvier, 1829: 328. Type species: *Osteoglossum bicirrhosum* Cuvier, 1829. Type species established in Opinion 1621. Gender: neuter.

Osteoglossum Spix & Agassiz, 1829: 30, 46. Type species: *Osteoglossum bicirrhosum*, Spix & Agassiz 1829. Type by monotypy. Gender: neuter.

Ischnosoma Agassiz in Spix & Agassiz, 1829: 46. Not available, name published in synonymy of *Osteoglossum* Cuvier, 1829, and apparently never made available.

***Osteoglossum bicirrhosum* (Cuvier, 1829)**

Ischnosoma bicirrhosum Cuvier, 1829: 328. Type locality: Brésil. Holotype: MNHN A.9632. Originally appeared as, "On en connaît une espèce assez grande du Brésil (*Osteoglossum Vandellii*, n., ou *Ischnosoma bicirrhosum*, Spix, xxv)." Established as senior synonym of *Osteoglossum vandellii*, and placed on the Official List of Specific Names in Zoology in Opinion 1621.

Osteoglossum vandellii Cuvier, 1829: 328. Type locality: Brésil. Holotype: MNHN A.9632. Placed on the Official Index of Rejected and Invalid Specific Names in Zoology in Opinion 1621.

Osteoglossum arowana Jardine in Schomburgk, 1841: 205, pl. 12. Type locality: "... the Rupununi, although few if any are found in the Essequibo. In the Rio Branco they are also plentiful, though scarce in the Rio Negro..." No types known.

Osteoglossum minus Valenciennes in Cuvier & Valenciennes, 1847: 294. Not available, mentioned in the account of *Osteoglossum vandellii* and apparently never validated.

Maximum length: 90 cm. TL (Goulding, et al., 1988)

Distribution: South America: Amazon River basin, Rupununi and Oyapock Rivers.

Countries: Brazil, Colombia, Ecuador, Guyana, French Guiana, Peru

Common names: aruana

***Osteoglossum ferreirai* Kanazawa, 1966**

Osteoglossum ferreirai Kanazawa 1966: 166, fig. 3. Type locality: Lago de Limao on lower Rio Branco, trib. of Rio Negro, Amazonas, Brazil. Holotype: USNM 198197.

Maximum length: 90 cm TL (Goulding, et al., 1988)

Distribution: South America: Negro River basin.

Countries: Brazil

References

- Cuvier, G. 1829. Le règne animal, distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Edition 2, vol. 2. Paris. xv + 406 p.
- Cuvier, G. and A. Valenciennes 1847. Histoire naturelle des poissons. Tome dix-neuvième. Suite du livre dix-neuvième: Brochets ou Lucioïdes; Livre vingtième: De quelques familles de Malacoptérygiens, intermédiaires entre les Brochets et les Clupes. Ch. Pitois & V^e. Levrault, Paris & Strasbourg. xix + 544 + [6] p., pls. 554-590.
- Goulding, M., M.L. Carvalho and E.G. Ferreira. 1988. Rio Negro, rich life in poor water. SPB Academic Publishing, The Hague. 200 p.
- Schomburgk, R.H. 1841. The Natural history of fishes of Guiana. - Part I. In W. Jardine (ed.). The Naturalists' Library. Vol. 3. W. H. Lizars, Edinburgh. 263 p., 30 pl.
- Kanazawa, R.H. 1966. The fishes of the genus *Osteoglossum* with a description of a new species from the Rio Negro. Ichthyol. Aquarium J., 37 (4): 161-172.
- Spix, J.B. von and L. Agassiz 1829. Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXVII-MDCCCXX jussu et auspiciis Maximiliani Josephi I.... colleget et pingendo curavit Dr J. B. de Spix.... Monachii. Part 1. xvi + ii + 82 p., 48 pl.

Family Arapaimatidae (Bonytongues)

Carl J. Ferraris Jr.

The Arapaimatidae includes only two species, the Neotropical arapaima, *Arapaima gigas*, and the African bonytongue, *Heterotis niloticus*. These two species had in the past often been included within the Osteoglossidae, but are now generally considered to represent a distinct family. The name Heterotidae has been used for the family name of this group, but the name Arapaimatidae is older and, therefore, is the correct name.

The sole Neotropical representative of the family, *Arapaima gigas*, is one of the most distinctive and easily recognized species of freshwater fishes. It is the largest truly freshwater fish in South America, the largest known individuals of which are at least 390 cm in length (with unconfirmed reports of even larger individuals, of greater than 450 cm). In addition to its great size, it is readily recognized by its long cylindrical body that becomes compressed posteriorly, large scales, and heavily sculptured bones of the head.

The arapaima is found throughout the lowland waters of the Amazon basin as well as the rivers of Guyana. In life, the arapaima often relies on atmospheric oxygen to survive. The fish rises to the surface of the water and inspires air in a noisy, distinctive, gulp. Fishermen locate individuals of the arapaima by the sounds they make during aerial respiration, which is reported to carry for long distances. Active fishing of these fishes has reduced both the population size, and occurrence of large individuals, especially around populated regions of the Amazon. The arapaima is listed on Cites II.

ARAPAIMA

Sudis Cuvier, 1816: 180. Type species: *Sudis gigas* Schinz, 1822.

Type by monotypy. Gender: feminine. Appeared first without species. First addition of species by Schinz (in Cuvier, 1822). Preoccupied by *Sudis* Rafinesque, 1810, in fishes.

Arapaima Müller, 1843: 327. Type species: *Sudis gigas* Cuv. [=Schinz, 1822]. Type by monotypy. Gender: feminine. Placed on the Official List of Generic Names in Zoology in Opinion 1132.

Vastres Valenciennes in Cuvier & Valenciennes, 1847: 433. Type species: *Vastres cuvieri* Valenciennes, 1847. Type by subsequent designation by Jordan (1919). Gender: masculine.

Arapaima gigas (Schinz, 1822)

Sudis gigas Schinz, in Cuvier, 1822: 305. Type locality: aus Brasilien. Holotype: specimen illustrated in Cuvier (1816: pl. 10). Placed on the Official List of Species Names in Zoology in Opinion 1132. Name available from reference to plate in Cuvier 1816 (pl. 10, in vol. 4).

Sudis pirarucu Spix & Agassiz 1829: 31, pl. 6. Not available, first published in the synonymy of *Sudis gigas* of Cuvier and apparently not made available subsequently.

Vastres Agassizii Valenciennes in Cuvier & Valenciennes 1847: 456. Type locality: [Brazil]. Based Spix and Agassiz (1829: fig. 16).

Vastres Cuvieri Valenciennes in Cuvier & Valenciennes 1847: 441, pls. 579-580. Type locality: Il est probable qu'il vient du Pará [Brazil]. Holotype: MNHN ?

Vastres arapaima Valenciennes in Cuvier & Valenciennes 1847: 461. Type locality: le Rupununi. No types known. Name based on the description of *Sudis gigas* in Jardine (1841).

Vastres Mapae Valenciennes in Cuvier & Valenciennes 1847: 449, pls. 581-582. Type locality: lac Mapa, sur les confins des nouvelles frontières de la Guyane française. Holotype: MNHN A.8836 (mounted).

Maximum length: 395 + cm

Distribution: South America: Amazon River basin.

Countries: Brazil, Colombia, Ecuador, ? Guyana, Peru.

Common names: Pirarucu (Brazil); Paiche (Peru, Ecuador).

References

- Cuvier, G. 1816. Le règne animal distribué d'après son organisation pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Les reptiles, les poissons, les mollusques et les annélides. Edition 1. vol. 2. xviii + 532 p. (plus pl. 10, in vol. 4).
- Cuvier, G. 1822. Das Thierreich eingetheilt nach dem Bau der Thiere als Grundlage ihrer Naturgeschichte und der vergleichenden Anatomie, von dem Herrn Ritter von Cuvier, aus dem Französischen frei übersetzt und mit vielen Zusätzen versehen, 2. [Fishes pp. 189-553.] J. G. Cotta'schen, Stuttgart and Tübingen, 833 pp.
- Cuvier, G. and A. Valenciennes 1847. Histoire naturelle des poissons. Tome dix-neuvième. Suite du livre dix-neuvième: Brochets ou Lucioïdes; Livre vingtième: De quelques familles de Malacoptérygiens, intermédiaires entre les Brochets et les Clupes. Ch. Pitois & V.^e Levrault, Paris & Strasbourg. xix + 544 + [6] p., Pls. 554-590.
- Jordan, D.S. 1919. The genera of fishes, part II, from Agassiz to Bleeker, 1833-1858, twenty-six years, with the accepted type of each. A contribution to the stability of scientific nomenclature. Leland Stanford Jr. Univ. Publ., Univ. Ser., no. 36: i-ix + 163-284 + i-xiii.
- Müller, J. 1843. Beiträge zur Kenntniss der natürlichen Familien der Fische. Arch. Naturgeschichte, 9: 292-330.
- Schomburgk, R.H. 1841. The Natural history of fishes of Guiana. - Part I, In: W. Jardine (ed.). The Naturalists' Library. Vol. 3. W. H. Lizars, Edinburgh. 263 p., 30 pl.
- Spix, J.B. von and L. Agassiz, 1829. Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXVII-MDCCCXX jussu et auspiciis Maximiliani Josephi I.... colleget et pingendo curavit Dr J. B. de Spix.... Monachii. xvi + ii + 82 p., Pls. 1-48.

Family Megalopidae (Tarpons)

Carl J. Ferraris, Jr.

The Megalopidae consists of two species of large, silvery bodied fishes generally referred to as tarpon. Tarpon can be distinguished from similar looking fishes by the presence of a filamentous last ray of the single dorsal fin, a large mouth, in which the maxilla extends at least to the posterior margin of the orbit, large scales covering the body, and a large gular plate.

Tarpon are found only in near-shore habitats in tropical and warm temperate waters. Both species can exist in freshwater and are often found in river mouths and estuaries. Tarpon are generally not considered to be a valuable food fish, but are important game fish through much of their distribution. The countries listed here for the species are only those for which specimens are reported in Neodat (<http://neodat.org>) and probably are not a comprehensive list.

MEGALOPS

Megalops La Cepède, 1803: 289. Type species: *Megalops filamentosus* La Cepède, 1803. Type by monotypy. Gender: masculine.

Brisbania Castelnau, 1878:241. Type species: *Brisbania staigeri* Castelnau, 1878. Type by monotypy. Gender: feminine.

Tarpon Jordan & Evermann, 1896:408. Type species: *Megalops atlanticus* Valenciennes, 1847. Type by original designation. Gender: masculine.

Megalops atlanticus Valenciennes, 1847

?*Clupea thrissoides* Bloch & Schneider, 1801:424. Type locality: mari Atlantico et Pacifico. On several literature sources, which include both valid species of megalopids. Types not identified.

?*Clupea gigantea* Shaw, 1804:173. Type locality: American and Indian seas. On several literature sources, types not identified.

Megalops atlanticus Valenciennes, in Cuvier & Valenciennes, 1847:398. Type locality: Guadeloupe, Martinique, Saint-Domingue, Porto-Rico. Syntypes: MNHN A.8839, MNHN A.8840, MNHN 3317.

Megalops elongatus Girard, 1859:224. Type locality: Long Island, New York. No types known.

Maximum length: 250 cm TL

Distribution: Tropical Atlantic Ocean and associated estuaries, lagoons, and rivers. Reportedly also taken on Pacific Ocean side of Panama Canal.

Countries: Bahamas, Brazil, Cuba, French Guiana, Guatemala, Haiti, Mexico, Panama, Puerto Rico, Venezuela.

Remarks and references: Recent authors are divided on the generic placement of this species. Many place it in the monotypic genus *Tarpon* Jordan & Evermann, apparently following Forey (1973). Others place it into *Megalops* together with the one other species of the family, *Megalops cyprinoides* (Broussonet). *Clupea thrissoides* Bloch & Schneider and *Clupea gigantea* Shaw are based on literature sources that include both the Atlantic and Pacific

Ocean species of megalopids. Until lectotypes or neotypes are designated for these names, the species with which they should be associated remains uncertain.

References

- Bloch, M.E. and J.G. Schneider. 1801. M.E. Blochii, Systema Ichthyologiae iconibus cx illustratum. Post obitum auctoris opus inchoatum absolvit, correxit, interpolavit Jo. Gottlob Schneider, Saxo. Berolini. Sumtibus Austoris Impressum et Bibliopolio Sanderiano Commisum. lx + 584 p., pls. 1-110.
- Castelnau, F.L. 1878. Australian fishes. New or little known species. Proc. Linn. Soc. New South Wales, 2 (3): 225-248, pls. 2-3.
- Cuvier, G. and A. Valenciennes. 1847. Histoire naturelle des poissons. Tome dix-neuvième. Suite du livre dix-neuvième. Brochets ou Lucioïdes. Livre vingtième. De quelques familles de Malacoptérygiens, intermédiaires entre les Brochets et les Clupes. Ch. Pitois & Levrault, Paris and Strasbourg. xix + 550 p., pls. 554-590.
- Forey, P.L. 1973. A revision of the elopiform fishes, fossil and Recent. Bull. British Mus. (Nat. Hist.), Geol. Suppl., 10: 1-222.
- Girard, C.F. 1859. Ichthyological notices. Proc. Acad. Nat. Sci. Philadelphia, 11: 223-225.
- Jordan, D.S. and B.W. Evermann 1896. The fishes of North and Middle America: a descriptive catalogue of the species of fish-like vertebrates found in the waters of North America, north of the Isthmus of Panama. Part I. Bull. U. S. Natl. Mus., no. 47: i-lx + 1-1240.
- La Cepède, B.G.E. 1803. Histoire naturelle des poissons. Vol. 5. Plassan, Paris. lxxviii + 803 p. + index, 21 pl.
- Shaw, G. 1804. General zoology or systematic natural history. Vol. 5 (pt 1), Pisces. G. Kearsley, London. v + 250 p. + pls. 93-132.

Family Anguillidae (Freshwater eels)

Carl J. Ferraris, Jr.

The Anguillidae comprise a small family of true eels, which can be distinguished from other eel families by the presence of small embedded scales on the body, pectoral fins, and a slightly protruding lower jaw. The Anguillidae includes one genus, *Anguilla*, with 16 species that are found in various parts of the world. Most, if not all, species of this family are catadromous, living most of their lives in freshwaters and returning to the sea to reproduce (Tesch, 1977).

Only one species is known from the western side of the Atlantic Ocean basin. This species has been named at least 20 times due, in part, to the marked morphological changes the species undergoes during its transformation from fresh to salt water environments. Most reports of the species are from localities in the temperate regions of the northern hemisphere, but the species has been found throughout the Caribbean region. Specimens are only rarely encountered from the northern coast of South America.

The synonymy presented here follows Smith (1989). Country reports are based on museum records as listed in Neodat (<http://neodat.org>).

ANGUILLA

Anguilla Schrank, 1798: 304, 307. Type species: *Muraena anguilla* Linnaeus, 1758. Type by monotypy. Placed on the Official List in Opinion 1672, with *Muraena anguilla* Linnaeus, 1758, as type species. Gender: feminine.

Terpolepis McClelland, 1844: 225. Type species: *Anguilla brevirostris* McClelland, 1844. Type by original designation. Proposed as a subgenus of *Anguilla*. Gender: feminine.

Tribranchus Peters, in Müller, 1846: 193. Type species: *Tribranchus anguillaris* Peters, 1846. Type by monotypy. Gender: masculine.

Anguilla rostrata (Lesueur, 1817)

Muraena argentea Lesueur, 1817: 82. Type locality: Boston Harbor, Massachusetts. No types known

Muraena bostoniensis Lesueur, 1817: 81. Type locality: Boston, Massachusetts. No types known.

Muraena macrocephala Lesueur, 1817: 82. Type locality: Saratoga, New York; Philadelphia market. No types known.

Muraena rostrata Lesueur, 1817: 81. Type locality: Cayuga and Geneva lakes, New York. No types known.

Muraena serpentina Lesueur, 1817: 81. Type locality: Harbor of Newport, Rhode Island. No types known.

Anguilla blephura Rafinesque, 1817: 120. Type locality: Southwest shore of Long Island, New York. No types known.

Anguilla chrisypa Rafinesque, 1817: 120. Type locality: Lake George, Lake Champlain, and Hudson River above the Falls.

Anguilla laticauda Rafinesque, 1818: 447. Type locality: Ohio River, Wabash River, Green River, etc. A. No types known. Name also spelled *laticanda*, but *laticauda* in wide use.

Anguilla aterrima Rafinesque, 1820: 245. Type locality: Tennessee River, Cumberland River, etc. No types known.

Anguilla lutea Rafinesque, 1820: 246. Type locality: Cumberland, Green and Licking rivers. No types known.

Anguilla xanthomelas Rafinesque, 1820: 245. Type locality: Ohio River No types known.

Anguilla tenuirostris DeKay, 1842: 310, pl. 53 (fig. 173). Type locality: New York. No types known.

Anguilla cubana Kaup, 1856: 44. Type locality: Cuba. Holotype: MNHN B-2105.

Anguilla macrops Kaup, 1856: 49, pl. 7 (fig. 38). No locality. Holotype: MNHN B-3154.

Anguilla novaeorleanensis Kaup, 1856: 43, pl. 6 (fig. 33). Type locality: New Orleans, Louisiana. Syntypes: MNHN B-2111 (2).

Anguilla novaeterrae Kaup, 1856: 45, pl. 7 (fig. 35). Type locality: Newfoundland, Canada. Holotype: MNHN B-2106.

Anguilla punctatissima Kaup, 1856: 44. Type locality: Niagara Falls and Canada. Holotype: MNHN (not found).

Anguilla texana Kaup, 1856: 45, pl. 7 (fig. 36). Type locality: Texas. Holotype: MNHN B-2109.

Anguilla wabashensis Kaup, 1856: 46. Type locality: Wabash River, tributary of Ohio River Holotype: MNHN B-2117.

Anguilla tyrannus Girard, 1858: 171. Type locality: Mouth of Rio Grande del Norte (Rio Bravo), Texas. Holotype: USNM 857.

Leptocephalus grassii Eigenmann & Kennedy, 1902: 84, figs. 1, 1a-b. Type locality: Atlantic Ocean, Albatross sta. at 38°25'N, 72°40'W and Albatross sta. 2103, 38°47'20"N, 72°37'W. Syntypes: USNM 49751, 49752.

Maximum length: 150 cm TL

Distribution: North, Central, and South America and Caribbean Islands: Atlantic Ocean and northern Caribbean draining rivers.

Countries: Bahamas, Belize, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Guatemala, Haiti, Honduras, Jamaica, Martinique, Mexico, Panama, Puerto Rico, St. Martin, Trinidad and Tobago, Turks & Caicos, Venezuela.

References

- DeKay, J.E. 1842. Zoology of New-York; or the New-York fauna; comprising detailed descriptions of all the animals hitherto observed within the state of New-York, with brief notices of those occasionally found near its borders... In: Natural History of New York. Part 4. Fishes: 1-415, Fishes Pls. 1-79.
- Eigenmann, C.H. and C.H. Kennedy. 1902. The leptocephalus of the American eel and other American Leptocephali. Bull. U. S. Fish Comm., 21 [for 1901]: 81-92.
- Girard, C.F. 1858. Notes upon various new genera and new species of fishes, in the museum of the Smithsonian Institution, and collected in connection with the United States and Mexican

Check List of the Freshwater Fishes of South and Central America

- boundary survey: Major William Emory, Commissioner. Proc. Acad. Nat. Sci. Philadelphia, 10: 167-171.
- Kaup, J.J. 1856. Catalogue of the apodal fish in the collection of the British Museum. London. 1-163, Pls. 1-19.
- Lesueur, C.A. 1817. A short description of five (supposed) new species of the genus *Muraena*, discovered by Mr. Le Sueur, in the year 1816. J. Acad. Nat. Sci. Philadelphia, 1 (5): 81-83.
- McClelland, J. 1844. Apodal fishes of Bengal. J. Nat. Hist. Calcutta, 5 (18): 151-226, pls. 5-14.
- Müller, J. 1846. Über den Bau und die Grenzen der Ganoiden und über das natürliche System der Fische. Abh. Dtsch. Akad. Wiss. Berl. 1844: 119-216, pls.
- Rafinesque, C.S. 1817. First decade of new North American fishes. Am. Monthly Mag. Crit. Rev., 2 (2): 120-121.
- Rafinesque, C.S. 1818. Further discoveries in natural history made during a journey through the western region of the United States. Am. Monthly Mag. Crit. Rev., 3 (6): 445-447.
- Rafinesque, C.S. 1820. Ichthyologia Ohiensis [Part 9]. Western Rev. Misc. Mag., 3 (4): 244-252.
- Schrank, F. von P. 1798. Fauna Boica. Durchgedachte Geschichte der in Baieren einheimischen und zahmen Thiere. Nürnberg., 1: i-xii + 1-720.
- Smith, D.G. 1989. Anguillidae, In: E. B. Böhlke (ed.). Fishes of the Western North Atlantic, Part 9, vol. 1: Orders Anguilliformes and Saccopharyngiformes. Sears Found. Mar. Res., Yale Univ., Number 1. xvii + 655 p.
- Tesch, F.-W. 1977. The eel, biology and management of anguillid eels. Chapman and Hall, London. 434 p.

Family Ophichthidae (Worm eels and snake eels)

Sven O. Kullander

The Ophichthidae comprise more than 250 species distributed among 55 genera, all from tropical marine waters except one species which is only known from freshwater in South America. The American Ophichthidae were monographed by McCosker et al. (1989). Many other species occur in shallow water in the Neotropics.

STICTORHINUS

Stictorhinus Böhlke & McCosker, 1975:5. Type species: *Stictorhinus potamius* Böhlke & McCosker, 1975. Type by original designation. Gender: masculine.

***Stictorhinus potamius* (Böhlke & McCosker, 1975)**

Stictorhinus potamius Böhlke & McCosker, 1975: 5, fig. 1. Type locality: Freshwater pool of Rio Tocantins near Tucuruí, Pará, Brazil. Holotype: MZUSP 9248.

Maximum length: 34.5 cm TL

Distribution: South America: Amazon River basin, in the lower Tocantins River; Orinoco River basin, in the lower Orinoco River; northeastern Brazil in Bahia.

Countries: Brazil, Venezuela

References

- Böhlke, J.E. and J.E. McCosker. 1975 The status of the ophichthid eel genera *Caecula* Vahl and *Sphagebranchus* Bloch, and the description of a new genus and species from fresh waters in Brazil. Proceedings of the Academy of Natural Sciences of Philadelphia, 127: 1-11.
- McCosker, J.E., E.B. Böhlke & J.E. Böhlke. 1989. Family Ophichthidae. Pp. 254-412, In: E.B. Böhlke (ed.). Fishes of the Western North Atlantic, Part 9, Volume 1. Orders Anguilliformes and Saccopharyngiformes. Memoir, Sears Foundation for Marine Research, 1: i-xiv+1-655.

Family Clupeidae (Herrings)

Sven O. Kullander & Carl J. Ferraris, Jr.

The family Clupeidae includes fishes known as herrings, shads, sardines, pilchards, and sprats. The family currently consists of about 180 species, but Whitehead (1985:25) estimates that the true number of clupeid species to be closer to 200. Clupeids are generally fusiform fishes that typically have a single series of scutes running along the ventral midline of the body. Fins are without spines, and there is no adipose fin or lateral line canal system on the body. The mouth is usually terminal, but distinctly inferior in some genera (e. g., most species of *Dorosoma*).

Clupeids are distributed throughout temperate and tropical waters. Most clupeids are schooling, coastal marine species. Some species venture into estuaries and freshwaters and a few are found primarily, if not exclusively, in inland waters. Many of the coastal marine species are important food fishes. None of the species listed here are thought to be significant as a food fishery, except in localized regions.

There are four genera of clupeids in the Neotropics that have species found in freshwaters. Three of these genera are endemic to the Neotropical region and the fourth, *Dorosoma*, is also found in North America. All species of these four genera are reported here, even though the distributions of some species of *Dorosoma* do not extend into the Neotropics. The taxonomy and nomenclature presented here is taken from Whitehead (1985).

DOROSOMA

Dorosoma Rafinesque, 1820: 171. Type species: *Dorosoma notata* Rafinesque, 1820. Type by monotypy. Gender: neuter.

Chatoessus Cuvier, 1829: 320. Type species: *Megalops cepedianana* Lesueur, 1818. Type by subsequent designation by Valenciennes (in Cuvier & Valenciennes, 1848:94). Gender: masculine.

Signalosa Evermann & Kendall, 1898: 127. Type species: *Signalosa atchafalaya* Evermann & Kendall, 1898. Type by original designation. Gender: feminine.

***Dorosoma anale* Meek, 1904**

Dorosoma anale Meek, 1904: 93, fig. 26. Type locality: El Hule, Oaxaca, Mexico. Holotype: FMNH 4637.

Maximum length: 20 cm SL.

Distribution: North and Central America: Atlantic slope, from the Papaloapán River basin to the Usumacinta River basin.

Countries: Guatemala, Mexico

***Dorosoma cepedianum* (Lesueur, 1818)**

Megalops cepedianana Lesueur 1818: 361. Type locality: Philadelphia. Possible syntypes: MNHN 0004, 3630, 3631, 3632 (3 specimens), 3633 (2 specimens).

Clupea heterurus Rafinesque, 1818: 355. Type locality: Ohio River. No types known.

Dorosoma notata Rafinesque, 1820: 172. Type locality: Ohio River, below falls. No types known.

Chatoessus insociabilis Abbott, 1861: 365. Type locality: 2 miles below Trenton, New Jersey. Syntypes: ANSP 23030-31 (2).

Dorosoma cepedianum exile Jordan & Gilbert, 1883: 585. Type locality: Galveston Bay, Texas. Syntypes: USNM 30913 (2, lost). Maximum length: 35 cm SL.

Distribution: North America: Widespread in southern and eastern USA, south to the Panuco River basin in Mexico.

Countries: Mexico, USA

***Dorosoma chavesi* (Meek, 1907)**

Dorsoma chavesi Meek, 1907: 112. Type locality: Laguna Jenicero, Granada, Nicaragua. Holotype: FMNH 5928 (1 of 6, 170

mm).

Maximum length: 18 cm SL.

Distribution: Central America: Lakes Managua and Nicaragua, and tributaries.

Countries: Costa Rica, Nicaragua

Common names: Sabaleta (Costa Rica).

***Dorosoma petenense* (Günther, 1867)**

Meletta petenensis Günther, 1867: 603. Type locality: Lake Petén, Guatemala. Syntypes: BMNH 1864.1.26.372 (1).

Chatoessus mexicanus Günther 1868: 409. Type locality: Mexico, New Orleans, and "said to be from Boero, East Indies". Syntypes: BMNH 1857.7.31.21 (2 ?) Mexico.

Signalosa atchafalaya Evermann & Kendall, 1898: 127, pl. 7 (fig. 4). Type locality: Atchafalaya R. at Melville, Louisiana. Holotype: USNM 48790.

Signalosa mexicana campi Weed, 1925: 143. Type locality: Resaca de la Guerra, near Media Luna Ranch, Brownsville, Texas. Holotype: FMNH 11413.

Signalosa atchafalaya vanhyingi Weed, 1925: 145. Type locality: Prairie Creek, 6 mi. southeast of Gainesville, Florida. Holotype: FMNH 11395.

Maximum length: 18 cm SL.

Distribution: North and Central America: Along the Gulf of Mexico from northern Florida to Guatemala and Belize, in rivers, but also brackish water.

Countries: Belize, Guatemala, Mexico, USA

***Dorosoma smithi* (Hubbs & Miller, 1941)**

Dorsoma smithi Hubbs & Miller, 1941: 232. Type locality: Flood pool between 2 branches of Río Piaxtla, ca. 12 mi. from ocean, near the town of Piaxtla, Sinaloa, Mexico. Holotype: UMMZ 133749.

Maximum length: 14 cm SL

Distribution: North America: Pacific slope, in northwestern Mexico, between Sinaloa and Sonora.

Countries: Mexico

PLATANICHTHYS

Platanichthys Whitehead, 1968:479. Type species: *Lile platana* Regan, 1917. Type by original designation. Gender: masculine.

Platanichthys platana (Regan, 1917)

Lile platana Regan, 1917: 394. Type locality: Río de la Plata. Holotype: BMNH 1908.8.29.15.

Spratella pallida de Buen, 1952: 7. Type locality: en el embalse de Rio Negro, Uruguay. Holotype: MHNM CI 1800.

?*Clupea melanostoma limnoica* Alonso de Arámburu, 1961: 2, fig. 1. Type locality: Laguna de Chascomús, Buenos Aires, Argentina. Holotype: MLP 12-X-58-31 (apparently lost).

Maximum length: 6.7 cm SL.

Distribution: South America: Lagoons, estuaries and lower parts of rivers from about Rio de Janeiro south to La Plata River.

Countries: Argentina, Brazil, Uruguay

Remarks and references: *Clupea melanostoma limnoica* could be a synonym of either *P. platana* or *Ramnogaster melanostoma* (see Whitehead, 1985: 121, 124).

RAMNOGASTER

Ramnogaster Whitehead, 1965:324. Type species: *Clupea arcuata* Jenyns, 1842. Type by original designation. Gender: feminine.

Ramnogaster arcuata (Jenyns, 1842)

Clupea arcuata Jenyns, 1842: 134. Type locality: Bahía Blanca [Argentina]. Syntypes: UMZC [Darwin no. 416] (2).

Maximum length: 9 cm SL.

Distribution: South America: Inshore regions around mouth of La Plata River, but apparently not entering freshwater.

Countries: Argentina, Uruguay.

Ramnogaster melanostoma (Eigenmann, 1907)

Pomolobus melanostomus Eigenmann, 1907: 452, pl. 23 (fig. 6). Type locality: Buenos Aires [Argentina]. Holotype: Princeton Univ. (not located).

?*Clupea melanostoma limnoica* Alonso de Arámburu, 1961: 2, fig. 1. Type locality: Laguna de Chascomús, Buenos Aires, Argentina. Holotype: MLP 12-X-58-31 (apparently lost).

Maximum length: 10 cm SL.

Distribution: South America: Lower portions of rivers along margins of the La Plata River.

Countries: Argentina, Uruguay.

RHINOSARDINIA

Heringia Fowler, 1911:207. Type species: *Clupea amazonica* Steindachner, 1879. Type by original designation. Preoccupied by *Heringia* Rondani, 1856, in Diptera; not replaced. Gender: feminine.

Rhinosardinia Eigenmann, 1912:445. Type species: *Rhinosardinia serrata* Eigenmann, 1912. Type by original designation. Gender: feminine.

Rhinosardinia amazonica (Steindachner, 1879)

Clupea amazonica Steindachner, 1879: 183. Type locality: Pará [Amazon River, Brazil]. Lectotype: NMW 1104, designated by Whitehead (1970: 12).

Rhinosardinia serrata Eigenmann, 1912: 445, pl. 62 (fig. 3). Type locality: Morawhanna, British Guiana. Holotype: FMNH 53927 [ex CM 2443].

Maximum length: 8 cm SL.

Distribution: South America: Along the coasts of eastern Venezuela, the Guianas, and northern Brazil, from the Orinoco to the Amazon River basin, in lower reaches of rivers.

Countries: Bolivia, Brazil

Rhinosardinia bahiensis (Steindachner, 1879)

Pellonula bahiensis Steindachner, 1879: 181, pl. 3 (fig. 2). Type

locality: Bahía, Brazil. Lectotype: NMW 2870, designated by Whitehead (1970:14).

Sardinella pernamencana Schreiner & Miranda Ribeiro, 1903: 6. Type locality: Pernambuco, Brazil. Holotype: MNRJ 1835.

Maximum length: 8 cm SL.

Distribution: South America: Along the Atlantic coast, from the Orinoco River to northeastern Brazil, in lower reaches of rivers.

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela

References

- Abbott, C.C. 1861. Description of a new species of *Chaetoessus* Cuv. from New Jersey. Proc. Acad. Nat. Sci. Philadelphia, 12: 365-366.
- Alonso de Arámburu, A. 1961. Una nueva subespecie de Clupeido (*Clupea melanostoma limnoica*. n. sbsp.) de aguas interiores bonaerenses. Notas Mus. La Plata, 20 (186): 1-9, Pls. 1-2.
- de Buen, F. 1952. Contribuciones a la ictiología. IV. Los Clupeidos Uruguayos del genero *Spratella* Cuv. & Val., con descripción de *Spratella pallida* nov. sp. Comun. Zool. Mus. Hist. Nat. Montevideo, 4 (67): 1-13.
- Cuvier, G. 1829. Le règne animal, distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Edition 2; vol. 2. Paris. xv + 406 p.
- Eigenmann, C.H. 1907. On a collection of fishes from Buenos Aires. Proc. Washington Acad. Sci., 8: 449-458, pls. 21-23.
- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, Pls. 1-103.
- Evermann, B.W. and W.C. Kendall 1898. Descriptions of new or little-known genera and species of fishes from the United States. Bull. U. S. Fish Comm., 17: 125-133.
- Fowler, H.W. 1911. Notes on clupeoid fishes. Proc. Acad. Nat. Sci. Philadelphia, 63: 204-221.
- Günther, A. 1867. On the fishes of the states of Central America, founded upon specimens collected in fresh and marine waters of various parts of that country by Messrs. Salvin and Godman and Capt. J. M. Dow. Proceedings of the Zoological Society, London, 1866: 600-604.
- Günther, A. 1868. Catalogue of the fishes in the British Museum, Volume 7th. Catalogue of the Physostomi, containing the families Heteropygii, Cyprinidae, Gonorrhynchidae, Hyodontidae, Osteoglossidae, Clupeidae,... [thru]... Halosauridae, in the collection of the British Museum. London, xx + 512 pp.
- Hubbs, C.L. and R.R. Miller 1941. *Dorosoma smithi*, the first known gizzard shad from the Pacific drainage of middle America. Copeia, 1941: 232-238.
- Jenyns, L. 1842. Part IV, Fish, In: C. Darwin (ed.). The zoology of the voyage of H. M. S. Beagle, under the command of Captain FitzRoy, R. N., during the years 1832 to 1836. Smith, Elder, and Co., London. xvi + 172 p., pls. 1-29. [Issued in 4 parts, from 1840 to 1842; Clupeidae in part dated Apr. 1842.]
- Lesueur, C.A. 1818. Description of several new species of North American fishes. J. Acad. Nat. Sci. Philadelphia, 1 (2): 222-235; 359-368, Pls. 10, 11, 14.
- Meek, S.E. 1904. The fresh-water fishes of Mexico north of the isthmus of Tehuantepec. Field Columbian Mus. Zool. Ser., 5: i-lxiii + 1-252, pls. 1-17.
- Meek, S.E. 1907. Synopsis of the fishes of the great lakes of Nicaragua. Field Columbian Museum Publication, Zoölogical Series, 7 (4): 97-132.
- Rafinesque, C.S. 1818. Discoveries in natural history, made during a journey through the western region of the United States. Am. Monthly Mag. Crit. Rev., 3 (5): 354-356.
- Rafinesque, C.S. 1820. Ichthyologia Ohiensis [Part 4]. Western Rev. Misc. Mag., 2 (3): 169-177.

Check List of the Freshwater Fishes of South and Central America

- Regan, C.T. 1917. A revision of the clupeid fishes of the genera *Sardinella*, *Harengula*, &c. Ann. Mag. Nat. Hist. (Ser. 8), 19: 377-395.
- Schreiner, C. and A. Miranda Ribeiro. 1903. A collecção de peixes do Museu Nacional do Rio de Janeiro. Arq. Mus. Nac. Rio de Janeiro, 12 [for 1902]: 1-41.
- Steindachner, F. 1879. Ichthyologische Beiträge (VIII). Sitzungsber. Akad. Wiss. Wien, 80: 119-191, Pls. 1-3.
- Weed, A.C. 1925. A review of the fishes of the genus *Signalosa*. Field Mus. Nat. Hist. Publ. Zool. Ser., 12 (2): 137-146.
- Whitehead, P.J.P. 1965. A new genus and subgenus of clupeid fishes and notes on the genera *Clupea*, *Sprattus* and *Clupeonella*. Ann. Mag. Nat. Hist. (Ser. 13), 7 (78) [for 1964]: 321-330.
- Whitehead, P.J.P. 1970. The clupeoid fishes described by Steindachner. Bull. British Mus. (Nat. Hist.) Zool., 20 (1): 1-46, pls. 1-3.
- Whitehead, P.J.P. 1985. FAO species catalogue. Clupeoid fishes of the world (Suborder Clupeioidi). An annotated and illustrated catalogue of the herrings, sardines, pilchards, sprats, anchovies and wolf-herrings. Part 1. Chirocentridae, Clupeidae and Pristigasteridae. FAO Fish. Synop. No. 125, 7 (pt 1): 1-304.

Family Engraulididae (Anchovies)

Sven O. Kullander & Carl J. Ferraris, Jr.

The clupeiform family Engraulididae consists of small to medium sized fishes that are most easily recognized by their large underslung mouth and prominent snout. The body is covered with moderately sized scales which are often lost during specimen handling. The lateral line is absent from the body. The fins are without spines: The dorsal fin is short based and usually situated over the middle of the body and the pelvic fin located abdominally. A single pelvic scute is present and, in species found in areas other than the Neotropics, additional abdominal scutes are usually found.

Engraulidids, widely known as anchovies, are primarily found in coastal marine environments of the tropics and temperate regions. Some species enter brackish or freshwater environments sporadically and other species appear to be restricted to freshwaters. More than 130 species of anchovies are currently recognized and Whitehead et al. (1988) anticipate that more species await description. The family name for anchovies has been widely cited as Engraulidae, but it is now frequently referred to by the corrected formation Engraulididae.

Marine anchovies are an important food source, with more than 4 million tons harvested worldwide in 1982 (Whitehead et al., 1988) and a recorded peak annual harvest of over 13 million tons. Information on harvest of Neotropical inland species is largely lacking, and it is likely that the food fishery for anchovies in freshwaters is quite localized.

AMAZONSPRATTUS

Amazonsprattus Roberts, 1984: 317. Type species: *Amazonsprattus scintilla* Roberts, 1984. Type by original designation. Gender: masculine

***Amazonsprattus scintilla* Roberts, 1984**

Amazonsprattus scintilla Roberts, 1984: 318, fig. 1. Type locality: Rio Jufari between Castanheiro Grande and Santa Fe, Brazil. Holotype: CAS 52175.

Maximum length: 1.95 cm SL

Distribution: South America: Amazon River basin, in the lower Negro River.

Countries: Brazil

ANCHOA

Anchoa Jordan & Evermann, 1927: 501. Type species: *Engraulis compressus* Girard, 1858. Type by original designation. Gender: feminine. Originally proposed as a subgenus of *Anchoviella*.

Anchoviella Nelson, 1986: 895 Type species: *Stolephorus naso* Gilbert & Pierson, 1898. Type by original designation. Gender: feminine. Originally proposed as a subgenus of *Anchoa*

***Anchoa belizensis* (Thomerson & Greenfield, 1975)**

Anchoviella belizensis Thomerson & Greenfield, 1975: 50, fig. 1. Type locality: Sibun River, one km upriver from Freetown, Belize District, Belize. Holotype: FMNH 78363

Maximum length: 5.8 cm SL

Distribution: Central America: Pacific slope, in the Sibun River, Belize, and the Dulce River and Lake Izabal, Guatemala.

Countries: Belize, Guatemala

Common name: Belize anchovy (Belize)

***Anchoa spinifer* (Valenciennes, 1848)**

Engraulis spinifer Valenciennes, in Cuvier & Valenciennes, 1848: 39. Type locality: Cayenne. Lectotype: MNHN 3754, designated by Whitehead (1967: 129).

Engraulis thrissoides Müller & Troschel, 1849: 639. Cuyuni River, British Guiana. Holotype: ZMB 3836.

Anchoa argenteus Schultz, 1949: 45, fig. 5. Lago de Maracaibo 1 km. off Pueblo Viejo [Venezuela]. Holotype: USNM 121777.

Maximum length: 18.6 cm SL

Distribution: South and Central America: Atlantic and Pacific slope, usually in coastal marine environments, but recorded from fresh waters of the Guianas, Panama, and Venezuela.

Countries: French Guiana, Guyana, Panama, Suriname, Venezuela

ANCHOVIA

Anchovia Jordan & Evermann, in Jordan, 1895: 411. Type species: *Engraulis macrolepidotus* Kner, 1863. Type by monotypy. Gender: feminine.

***Anchovia surinamensis* (Bleeker, 1866)**

Stolephorus surinamensis Bleeker, 1866: 178. Type locality: Suriname. Holotype: RMNH 7072.

Anchovia pallida Starks, 1913: 9, pl. 1. Type locality: Market at Pará, Brazil. Holotype: SU 22216.

Anchoviella venezuelae Fowler, 1931: 406, fig. 6. Type locality: Caño Guanoco, Venezuela. Holotype: ANSP 53322.

Anchoviella potiana Schultz & Simões de Menezes, 1951: 235, fig. 1. Type locality: Poti and Parnaíba Rivers, Teresina, State of Piauí, Brazil. Holotype: USNM 112081

Maximum length: 12.4 cm SL

Distribution: South America: Estuarine and lower parts of rivers from Trinidad to the Amazon River, ascending the Amazon River to about Manaus.

Countries: Brazil, French Guiana, Guyana, Suriname, Trinidad and Tobago, Venezuela

ANCHOVIELLA

Anchoviella Fowler, 1911: 211. Type species: *Engraulis per fasciatus* Poey, 1860. Type by original designation. Gender: feminine. Originally proposed as a subgenus of *Anchovia*.

Amplovia Jordan & Seale, 1925: 31. Type species: *Anchovia brevisrostra* Meek & Hildebrand, 1923. Type by original designation. Gender: feminine.

Anchoviella alleni (Myers, 1940)

Amplova alleni Myers, 1940: 441. Type locality: Lake Cashiboya, Ucayali and Morona rivers, Peruvian Amazon system. Holotype: CAS 6421.

Maximum length: 8.8 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

Anchoviella brevirostris (Günther, 1868)

Engraulis brevirostris Günther, 1868: 392. Caxoeira, Province of Bahia [Brazil]. Syntypes: BMNH 1840.2.16.27.

Anchoviella brasiliensis Hildebrand 1943: 138, fig. 62. Rio Ribeira de Iguapé, Sao Paulo, Brazil. Holotype: UMMZ 133663.

Anchoviella hildebrandi Carvalho, 1950: 78, fig. 1. Río Paraguaçu at Caxoeira, Bahia. Holotype: IO (apparently lost).

Maximum length: 7.2 cm SL

Distribution: South America: Atlantic estuaries and river mouths.

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela

Anchoviella carrikeri Fowler, 1940

Anchoviella carrikeri Fowler, 1940: 73, fig. 28. Type locality: Mouth of Río Chapare, Cochabamba, Bolivia. Holotype: ANSP 68980.

Maximum length: 6.5 cm SL

Distribution: South America: Amazon River basin, in the Madeira River drainage, and upper Amazon River in Brazil

Countries: Bolivia, Brazil

Anchoviella cayennensis (Puyo, 1946)

Stolephorus cayennensis Puyo, 1946: 101, fig. 1. Cayenne River at Macouria, ca. 4 km from its mouth, French Guiana. Syntypes: (2) ?MNHN.

Anchoviella victoriae Hildebrand & Carvalho, 1948: 292, fig. 3. Victoria, State of Espirito Santo, Brazil. Holotype: USNM 143901.

Maximum length: 12 cm SL

Distribution: South America: Atlantic coastal estuaries and river mouths.

Countries: Brazil, French Guiana, Suriname, Trinidad and Tobago

Anchoviella guianensis (Eigenmann, 1912)

Stolephorus guianensis Eigenmann, 1912: 447, pl. 62 (fig. 5). Type locality: Bartica rocks, British Guiana. Holotype: FMNH 53932 [ex CM 2448].

Maximum length: 6 cm SL

Distribution: South America: Orinoco River basin, Atlantic and Caribbean coastal rivers south to Amazon River.

Countries: Brazil, Colombia, French Guiana, Guyana, Suriname, Venezuela

Anchoviella jamesi (Jordan & Seale, 1926)

Amplova jamesi Jordan & Seale, 1926: 410. Type locality: Brazil: Rio Jutahy. Holotype: MCZ 18014.

Maximum length: 4 cm SL

Distribution: South America: Amazon River basin; middle Orinoco River basin.

Countries: Brazil, Colombia, Peru, Venezuela

Anchoviella lepidentostole (Fowler, 1911)

Anchovia lepidentostole Fowler 1911: 214, fig. 3. Surinam. Holotype: ANSP 1346.

Anchoviella iheringi Fowler 1941: 124, fig. 2. Rio Jaguaribe, Brazil. Holotype: ANSP 69345.

Anchoviella hubbsi Hildebrand 1943: 128, fig. 56. Rio Ribeira de Iguapé, Sao Paulo, Brazil. Holotype: UMMZ 133664.

Anchoviella nitida Hildebrand & Carvalho 1948: 294, fig. 4. Victoria, State of Espirito Santo, Brazil. Holotype: USNM 143906.

Maximum length: 11.6 cm SL

Distribution: South America: Atlantic Ocean, in estuaries and

entering rivers.

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela

Anchoviella manamensis Cervigón, 1982

Anchoviella manamensis Cervigón, 1982: 220, fig. 5. Type locality: Caño Mánamo, near Tucupita, Orinoco Delta, Venezuela.

Holotype: FCLR 638.

Maximum length: 2.5 cm SL

Distribution: South America: Orinoco River basin delta.

Countries: Venezuela

Anchoviella nattereri (Steindachner, 1879)

Engraulis nattereri Steindachner, 1879: 174. Type locality: Pará, Brazil. Holotype: NMW.

Maximum length: 5 cm SL

Distribution: South America: Amazon River mouth.

Countries: Brazil

Remarks and references: Only known from the holotype, which cannot be located. Whitehead et al. (1988: 227) considered that this might be a senior synonym of *A. lepidentostole* Fowler, 1911. Market fish from Belém may be of marine origin.

Anchoviella perezi Cervigón, 1987

Anchoviella perezi Cervigón 1987: 27, fig. 2. Laguna La Ceiba, Los Castillos de Guayana, Venezuela. Holotype: FCLR 650.

Maximum length: 3.6 cm SL

Distribution: South America: Orinoco River basin delta.

Countries: Venezuela

Anchoviella vaillanti (Steindachner, 1908)

Engraulis vaillanti Steindachner, 1908: 193. Type locality: Rio São Francisco at Joazeiro and Cidade da Barra; Rio Preto and Rio Grande do Norte, Brazil. Lectotype: NMW 1931 (1 of 22, 62.4 mm SL), designated by Whitehead (1970: 30).

Maximum length: 6.7 cm SL

Distribution: South America: Middle São Francisco River.

Countries: Brazil

JURENGRAULIS

Jurengraulis Whitehead, in Whitehead, et al., 1988: 384. Type species: *Cetengraulis juruensis* Boulenger, 1898. Type by original designation. Gender: feminine.

Jurengraulis juruensis (Boulenger, 1898)

Cetengraulis juruensis Boulenger, 1898: 427, pl. 41 (fig. 3). Type locality: Rio Juruá, Brazil. Holotype: BMNH 1897.12.1.196.

Maximum length: 16 cm SL

Distribution: South America: Amazon River basin, including the Madeira, Mamoré, Solimões and Juruá Rivers.

Countries: Bolivia, Brazil

LYCENGRAULIS

Lycengraulis Günther, 1868: 385, 399. Type species: *Engraulis grossidens* Spix & Agassiz, 1829. Type by subsequent designation by Jordan & Evermann (1896: 451). Gender: feminine. Originally proposed as a subgenus of *Engraulis*.

Lycengraulis batesii (Günther, 1868)

Engraulis batesii Günther, 1868: 399. Type locality: River Pará [Brazil]. Syntypes: BMNH 1849.11.8.73-75 (3).

Engraulis iquitiensis Nakashima, 1941: 62, fig. Type locality: Peruvian Amazon. No types known.

Lycengraulis barbouri Hildebrand, 1943: 151, fig. 69. Type locality: Rio Puty, Pianí State, Brazil. Holotype: MCZ 35277.

Maximum length: 26 cm SL

Distribution: South America: Amazon and Orinoco River basins, and the Guianas.

Countries: Brazil, Colombia, Guyana, French Guiana, Suriname, Venezuela

***Lycengraulis grossidens* (Spix & Agassiz, 1829)**

Engraulis grossidens Spix & Agassiz, 1829: 50, pl. 24 (fig. 1).
Type locality: Brasiliam. No types known. As *Engraulis janeiro* on plate.

Engraulis dentex Valenciennes, in Cuvier & Valenciennes, 1848: 28. Type locality: Rio de Janeiro, Brazil. Lectotype: MNHN 3720, designated by Whitehead (1967: 134).

Engraulis olidus Günther, 1874: 455. Type locality: Parana River, Brazil. Holotype: BMNH 1872.6.8.12.

Anchovia abbotti Fowler, 1915: 522, fig. 1. Type locality: Port of Spain, Trinidad I., West Indies. Holotype: ANSP 45079.

Cuplea [sic] *inermis* Larrañaga, 1923: 377. Type locality: Uruguay. No types known. Corresponds to *Clupea 25-radiata* on p. 389. Permanently invalid; preoccupied by *Clupea inermis* Basilewsky, 1855.

Clupea 25-radiata Larrañaga, 1923: 389. Type locality: Uruguay. No types known. Corresponds to *Clupea inermis* on p. 377.

Lycengraulis schroederi Hildebrand, 1943: 153, fig. 70. Type locality: Rio Doce, between Linhares and Aimors, Brazil. Holotype: MCZ 35275.

Lycengraulis simulator Fuster de Plaza, 1962: 2, fig. 1. Type locality: Río Paraná, zona de Bella Vista, Corrientes Prov., Argentina. Holotype: MACN 4571.

Maximum length: 23.5 cm SL

Distribution: South and Central America: Chiefly marine, in Belize, and from Venezuela to La Plata River, ascending rivers.

Countries: Argentina, Belize, Brazil, Colombia, Guiana, French Guiana, Suriname, Trinidad, Uruguay, Venezuela

Common names: Anchoa (Argentina), Manjubao, Sardinha prata (Brazil)

***Lycengraulis limnichthys* Schultz, 1949**

Lycengraulis limnichthys Schultz, 1949: 51. Type locality: Río Agua Caliente, 2 to 3 km. above Lago de Maracaibo, Venezuela. Holotype: USNM 121751.

Maximum length: 12.8 cm SL

Distribution: Lake Maracaibo basin.

Countries: Venezuela

PTERENGRAULIS

Pterengraulis Günther, 1868: 384, 398. Type species: *Clupea atherinoides* Linnaeus, 1766. Type by monotypy. Gender: feminine. Originally proposed as a subgenus of *Engraulis*.

***Pterengraulis atherinoides* (Linnaeus, 1766)**

Clupea atherinoides Linnaeus, 1766: 523. Type locality: Surinami. No types known.

Maximum length: 20 cm SL

Distribution: South America: Estuarine and freshwater, along the Atlantic coast from Trinidad to NE Brazil.

Countries: Brazil, Guiana, French Guiana, Suriname, Trinidad and Tobago, Venezuela.

References

Boulenger, G.A. 1898. On a collection of fishes from the Rio Jurua, Brazil. Trans. Zool. Soc. London, 14 (7, no. 2): 421-428, pls. 39-42.
Bleeker, P. 1866. Description d'une espece inedite de *Stolephorus* de Suriname. Neder. Tijdschr. Dierk., 3: 178-180.
Carvalho, J.P. 1950. *Anchoviella hildebrandi* n. sp. Engraulideo do Rio Paraguacu -- Bahia. Bol. Inst. Paul. Oceanogr., 1 (2): 77-81.
Cervigon, F. 1982. La ictiofauna estuarina del Caño Manamo y areas adyacentes. pp. 205-260, In: D. Novoa R. (ed.). Los recursos pesqueros del Río Orinoco y su explotacion. Corporación Venezolana de Guyana, División de Desarrollo Agrícola, Caracas. 1-386, Plates.

Cervigon, F. 1987. Las especies del género *Anchoviella* de Venezuela (Pisces: Engraulidae). Contribuciones Científicas Centro de Investigaciones Científicas, Univ. Oriente [Venezuela], no. 14: 1-32.
Cuvier, G. and A. Valenciennes. 1848. Histoire naturelle des poissons. Tome vingt et unième. Suite du livre vingt et unième et des Clupeoïdes. Livre vingt-deuxième. De la famille des Salmonoïdes. Ch. Pitois & Levrault, Paris & Strasbourg. xiv + 536 p., pls. 607-633.
Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.
Fowler, H.W. 1911. Notes on clupeoid fishes. Proc. Acad. Nat. Sci. Philadelphia, 63: 204-221.
Fowler, H.W. 1915. The fishes of Trinidad, Grenada and St. Lucia, British West Indies. Proc. Acad. Nat. Sci. Philadelphia, 67: 520-546.
Fowler, H.W. 1931. Fishes obtained by the Barber Asphalt Company in Trinidad and Venezuela in 1930. Proc. Acad. Nat. Sci. Philadelphia, 83: 391-410.
Fowler, H.W. 1940. Zoological results of the second Bolivian expedition for the Academy of Natural Sciences of Philadelphia, 1936-1937. Part I.--The fishes. Proc. Acad. Nat. Sci. Philadelphia, 92: 43-103.
Fowler, H.W. 1941. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. Proc. Acad. Nat. Sci. Philadelphia, 93: 123-199.
Fuster de Plaza, M.L. 1962. Una nueva especie de anchoa de las aguas argentinas *Lycengraulis simulator* (Pisces: Engraulidae). Physis (Buenos Aires), 23 (64): 1-9.
Günther, A. 1868. Catalogue of the fishes in the British Museum. Vol. 7, Catalogue of the Physostomi, containing the families Heteropygii, Cyprinidae, Gonorhynchidae, Hyodontidae, Osteoglossidae, Clupeidae,... [thru]... Halosauridae, in the collection of the British Museum. Trustees, London. xx + 512 p.
Günther, A. 1874. Descriptions of new species of fishes in the British Museum [continuation]. Ann. Mag. Nat. Hist. (Ser. 4), 14 (84): 453-455.
Hildebrand, S.F. 1943. A review of the American anchovies (family Engraulidae). Bull. Bingham Oceanogr. Collect. Yale Univ., 8 (2): 1-165.
Hildebrand, S.F. and J.P. Carvalho. 1948. Notes on some Brazilian anchovies (family Engraulidae) with descriptions of four new species. Copeia, 1948 (4): 285-296.
Jordan, D.S. 1895. The fishes of Sinaloa. Proc. California Acad. Sci. (Ser. 2), 5: 377-514, pls. 26-55.
Jordan, D.S. and B.W. Evermann. 1927. New genera and species of North American Fishes. Proc. California Acad. Sci. (Ser. 4), 16 (15): 501-507.
Jordan, D.S. and A. Seale. 1926. Review of the Engraulidae, with descriptions of new and rare species. Bull. Mus. Comp. Zool., 67 (11): 355-418.
Jordan, D.S. and A. Steele [sic. Seale]. 1925. Analysis of the genera of anchovies of Engraulidae. Copeia, (141): 27-32.
Larrañaga, D.A. 1923. Escritos de Don Dámaso Antonio Larrañaga. Los Publica el Instituto Historico y Geographico del Uruguay. Edicion Nacional, 2: 1-512.
Linnaeus, C. 1766. Systema naturae sive regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. 12th ed. Vol. 1 (pt 1). Laurentii Salvii, Holmiae. 532 p.
Muller, J. and F.H. Troschel. 1849. Fische, pp. 618-644, In: R.H. Schomburgk, Reisen in Britisch-Guiana in den Jahren 1840-44 in Auftrag Sr. Majestät des Königs von Preussen ausgeführt von Richard Schomburgk. Part. 3. Leipzig.
Myers, G.S. 1940. The Neotropical anchovies of the genus *Amplova*. Proc. California Acad. Sci. (Ser. 4), 23 (29): 437-442.

Check List of the Freshwater Fishes of South and Central America

- Nakashima, S. 1941. Algunos peces del Orient peruano. Bol. Mus. Hist. Nat. "Javier Prado" Lima, 5 (16): 61-78.
- Nelson, G.J. 1986. Identity of the Anchovy *Engraulis clarki* with notes on the species-groups of *Anchoa*. Copeia, 1986 (4): 891-902.
- Poey, F. 1858-61. Memorias sobre la historia natural de la Isla de Cuba, acompañadas de sumarios Latinos y extractos en Francés. Tomo 2. La Habana. 442 p., pls. 1-19.
- Puyo, J. 1946. Les poissons du genre *Stolephorus* de la Guyane française. Bull. Soc. Hist. Nat. Toulouse, 80 [for 1945]: 100-107.
- Roberts, T.R. 1984. *Amazonsprattus scintilla*, new genus and species from the Rio Negro, Brazil, the smallest known clupeomorph fish. Proc. California Acad. Sci. (Ser. 4), 43 (20): 317-321.
- Schultz, L.P. 1949. A further contribution to the ichthyology of Venezuela. Proc. U. S. Natl. Mus., 99 (3235): 1-211, pls. 1-3.
- Schultz, L.P. and R.S. Menezes. 1951. A new anchovy of the genus *Anchoviella* from the Poti and Parnaiba Rivers of Brazil. J. Washington Acad. Sci., 41 (7): 235-237.
- Starks, E.C. 1913. The fishes of the Stanford expedition to Brazil. Stanford Univ. Publ., Univ. Ser., 77 p., 15 pl.
- Steindachner, F. 1879. Ichthyologische Beiträge (VIII). Sitzungsber. Akad. Wiss. Wien, 80: 119-191, pls. 1-3.
- Steindachner, F. 1908. Über zwei neue Fischarten aus dem Stromgebiete des Rio San Francisco. Anz. Akad. Wiss. Wien, 45 (13): 191-194.
- Thomerson, J.E. and D.W. Greenfield. 1975. *Anchoviella belizensis*, a new species of anchovy from Belize, Central America, with records of associated freshwater species. Copeia, 1975 (1): 50-52.
- Whitehead, P.J.P. 1967. The clupeoid fishes described by La Cépède, Cuvier and Valenciennes. Bull. Br. Mus. (Nat. Hist.) Zool., Suppl. 2: 1-180.
- Whitehead, P.J.P. 1970. The clupeoid fishes described by Steindachner. Bull. British Mus. (Nat. Hist.) Zool., 20 (1): 1-46.
- Whitehead, P.J.P., G.J. Nelson and T. Wongratana. 1988. FAO species catalogue. Clupeoid fishes of the world (Suborder Clupeoidei). An annotated and illustrated catalogue of the herrings, sardines, pilchards, sprats, anchovies and wolf-herrings. Part 2. Engraulidae. FAO Fish. Synop. No. 125, 7 (pt 2): 305-579.

Family Pristigasteridae (Pristigasterids)

Mário C. C. de Pinna and Fábio Di Dario

Species of the family Pristigasteridae are sardines superficially similar to those of Clupeidae, but rather distinctive in internal anatomy, as first noticed by Nelson (1967). They seem to be the sister group to Clupeidae plus Engraulididae (including Coiliidae), according to Di Dario (2002). The Pristigasteridae includes coastal marine sardines distributed in all tropical oceans and in the freshwaters of South America and Southeast Asia. Pristigasterids can be externally distinguished from other sardines (Clupeidae) by their long anal fin, with at least 30 fin rays. Also, in nearly all pristigasteroids, the small pelvic fin is markedly displaced anteriorly, so that the tip of the pectoral fin reaches or surpasses the vertical through the base of the pelvic fin. In practically all clupeids, the tip of the pectoral fin ends anteriorly to that point. The pelvic fin is absent in several pristigasterids worldwide, but only in *Pristigaster cayana* among South American freshwater taxa.

The family Pristigasteridae, as defined here, includes the Pristigasteridae and Pellonidae of Grande (1985), and is equivalent to the superfamily Pristigasteroidea. Ongoing phylogenetic work by the authors indicates that maintenance of two separate families, Pristigasteridae and Pellonidae, would be nomenclaturally costly, because it would require many additional family-group names to avoid paraphyletic groups. So, we prefer to consider an expanded Pristigasteridae as the single family in the superfamily Pristigasteroidea, an arrangement identical to that of Nelson (1967). Current generic limits in Pristigasteridae are poorly reflective of phylogenetic relationships. The genera *Pellona* and *Ilisha*, especially, form a complex ladder-like series of sister groups to the rest of the family. The South American freshwater pristigasterids are few and form a polyphyletic subgroup of the family, which indicates that there has been more than one freshwater invasion in the evolutionary history of the group in the region.

The taxonomy of the freshwater pristigasterids of South America has been the object of very little attention and needs to be re-investigated. Whitehead (1985) is the latest taxonomic treatment of all relevant forms. The only valid new species described from the region during the last eight decades was *Pristigaster whiteheadi* Menezes & de Pinna, but there are additional undescribed species of *Pellona* and possibly *Ilisha* as well. Also, a taxonomy of the larval and juvenile stages, currently unavailable, is badly needed for ecological studies and fisheries management

ILISHA

Platygaster Swainson, 1838: 278. Type species: *Clupea africana* Bloch, 1795, by subsequent designation by Swain, 1883. Preoccupied by *Platygaster* Latreille, 1809 in Hymenoptera and *Platygaster* Schilling, 1829 in Hemiptera. Gender: feminine

Ilisha Richardson, 1846: 306. Type species: *Ilisha abnormis* Richardson, 1846, by monotypy (synonym of *Alosa elongata* Bennett). Gender: feminine

Zunasia Jordan & Metz, 1913. Type species: *Pristigaster chinensis* Basilewski, 1855, by original designation (synonym of *Alosa elongata* Bennett). Gender: feminine

Pseudochirocentron Miranda Ribeiro, 1920: 8. Type species: *Pseudochirocentron amazonicum* Miranda Ribeiro, 1920, by monotypy. Gender: masculine

Euplatygaster Fowler, 1934: 246. Type species: *Pellona brachysoma* Bleeker, 1852, by original designation (synonym of *Clupea melastoma* Schneider). Gender: feminine.

Ilisha amazonica (Miranda Ribeiro, 1920)

Pseudochirocentron amazonicum Miranda Ribeiro, 1920: 8. Type locality: Manáos - R. Amazonas. Lectotype: MNRJ 1789A, designated by Miranda Ribeiro (1953: 398).

Ilisha iquitensis Nakashima 1941: 66. Type locality: Oriente peruano, cercanías del puerto de Iquitos (mentioned in title and introduction of the work). Types unknown.

Ilisha apapae Hildebrand, 1948: 3, fig. 2. Type locality: Amazon River somewhere between Pará and Manáos, Brazil. Holotype: USNM 52550

Maximum length: 19.5 cm

Distribution: South America: Amazon River basin.

Countries: Brazil, Colombia, Peru

PELLONA

Pellona Valenciennes, in Cuvier & Valenciennes, 1847: 300. Type species: *Pellona orbignyana* Valenciennes, 1847. Type by subsequent designation by Gill (1861:38). Gender: feminine.

Neosteus Norman, 1923:17. Type species: *Pellona ditchela* Valenciennes, 1847. Type by subsequent designation. Type designated by Norman in Zoological Record for 1923:25. Gender: masculine.

Pellona castelnaeana (Valenciennes, 1847)

Pellona castelnaeana Valenciennes in Cuvier & Valenciennes, 1847: 306. Type locality: bouches de l'Amazone. Lectotype: MNHN 3705, designated by Whitehead (1967:108).

Pellona altamazonica Cope, 1872: 256. Type locality: From the Ambyiacu. Types not found at ANSP (Böhlke, 1984).

Ilisha deauratus Nakashima, 1941: 77, fig. Type locality: Oriente peruano, cercanías del puerto de Iquitos (mentioned in title and introduction of the work). No types known.

Maximum length: 47 cm SL.

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil, Colombia, Ecuador, Peru

Pellona flavipinnis (Valenciennes, 1836)

Pristigaster flavipinnis Valenciennes, 1836: pl. 10 (fig. 2). Type locality: Le nom de pellone est celui que porte l'espèce à Buenos-Ayres. Je n'ai pas besoin de dire pourquoi je l'ai dédié au zélé voyageur qui l'a procuré à la science. No types known.

Pellona orbignyana Valenciennes in Cuvier & Valenciennes, 1847: 302. Type locality: L'espèce a été rapportée de Buénos-Ayres par M. d'Orbigny...les pêcheurs du pays assurent que l'espèce remonte de la haute mer dans La Plata. No types known.

Maximum length: 55 cm SL.

Distribution: South America: Amazon, Parnaíba, Orinoco, Paraná/Prata River basins, and the Guianas.

Countries: Argentina, Brazil, Colombia, French Guiana, Guyana, Surinam, Venezuela, Uruguay

PRISTIGASTER

Pristigaster Cuvier, 1816: 176. Type species: *Pristigaster cayanus* Cuvier, 1829. Type by subsequent designation by Cuvier (1829: 321). Gender: feminine.

Pristigaster cayanus Cuvier, 1829

Pristigaster argenteus Schinz, in Cuvier, 1822: 300. Type locality: In den amerikanischen Meeren. Based on an illustration in Cuvier (1816). Nomen oblitum.

Pristigaster lichtensteini Jarocki, 1822: 332, fig. 3. Type locality: Zyie w południowych morzach Ameryki [Cayenne, French Guiana]. Types unknown. Based on an illustration in Cuvier 1916. Nomen oblitum.

Pristigaster triangularis Stark, 1828: 408. Type locality: American Seas. Based on an illustration in Cuvier (1816). Nomen oblitum.

Pristigaster cayanus Cuvier, 1829: 321, pl. 10 (fig. 3) [in Vol. 4]. Type locality: Cayenne, French Guiana. Holotype: MNHN 3699.

Pristigaster martii Spix & Agassiz, 1829: 55, pl. 24a. Type locality: Habitat in ostiis fluminis Amazonum. No types known.

Pristigaster americanus Guérin-Méneville, 1844: 33, pl. 57 (fig. 3). Type locality: les côtes de l'Amérique méridionale dans l'Atlantique. No types known.

Pristigaster phaeton Valenciennes in Cuvier & Valenciennes, 1847: 338. Type locality: l'Amazone. Holotype: MNHN 3700.

Maximum length: 14.5 cm SL.

Distribution: South America: Amazon River basin.

Countries: Brazil, Colombia, Peru

Pristigaster whiteheadi Menezes & de Pinna, 2000

Pristigaster whiteheadi Menezes & de Pinna, 2000: 239, fig. 1. Type locality: Brazil: Amapá, Rio Araguari, Ferreira Gomes. Holotype: MZUSP 52963.

Maximum length: 8.9 cm

Distribution: Amazon River basin.

Countries: Brazil, Ecuador

References

- Basilewsky, S. 1855. Ichthyographia Chinae Borealis. Nouv. Mém. Soc. imp. Nat. Mosc., 10: 215-264.
- Bleeker, P. 1852. Bijdrage tot de kennis der Haringachtige vissen van den Soenda-Mollukschen Archipel. Verh. Batav. Genootsch. Kunst. Wet., 24: 1-52.
- Bloch, M.E. 1795. Naturgeschichte der ausländischen Fische, part 9. J. Morino Kunsthandlung, Berlin, 192 pp.
- Böhlke, E.B. 1984. Catalog of type specimens in the ichthyological collection of the Academy of Natural Sciences of Philadelphia. Academy of Natural Sciences of Philadelphia, Special Publication 14: 246.
- Cope, E.D. 1872. On the fishes of the Ambyiacu river. Proc. Acad. Nat. Sci. Philadelphia, 23: 250-294.
- Cuvier, G. 1816. Le regne animal distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée, 1st ed., 2. Deterville, Paris, 532 pp.
- Cuvier, G. 1822. Das Thierreich eingetheilt nach dem Bau der Thiere als Grundlage ihrer Naturgeschichte und der vergleichenden Anatomie, von dem Herrn Ritter von Cuvier, aus dem Französischen frei übersetzt und mit vielen Zusätzen versehen, 2. [Fishes pp. 189-553.] J. G. Cotta'schen, Stuttgart and Tübingen, 833 pp.
- Cuvier, G. 1829. Le regne animal distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée, 2nd ed., 2. Deterville, Paris, 406 pp.
- Cuvier, G. and A. Valenciennes. 1847. Histoire naturelles des poissons, 20. P. Bertrand, Paris, 427 pp.
- Di Dario, F. 2002. Evidence supporting a sister-group relationship between Clupeoidea and Engrauloidea (Clupeomorpha). Copeia, 2002 (2): 496-503.
- Fowler, H.W. 1934. Descriptions of new fishes obtained 1907 to 1910 chiefly in the Philippine Islands and adjacent seas. Proc. Acad. Nat. Sci. Philad., 85: 233-367.
- Gill, T.N. 1861. Synopsis of the subfamily Clupeinae, with descriptions of new genera. Proc. Acad. Nat. Sci. Philadelphia, 13: 33-38.
- Grande, L. 1985. Recent and fossil clupeomorph fishes, with materials for revision of the subgroups of clupeoids. Bull. Amer. Mus. Nat. Hist., 181: 231-372.
- Guérin-Méneville, F.E. 1844. Iconographie du Règne animal de G. Cuvier, ou représentation d'après nature de l'une des especes les plus remarquables et souvent non figurées de chaque genre d'animaux. Avec un texte descriptif mis au courant de la science. Ouvrage pouvant servir d'atlas a tous les traités de zoologie. Paris, 450 pls in 45 livraisons (1829-1837) and Texte (1844).
- Günther, A. 1867. On the fishes of the states of Central America, founded upon specimens collected in fresh and marine waters of various parts of that country by Messrs. Salvin and Godman and Capt. J. M. Dow. Proceedings of the Zoological Society, London, 1866: 600-604.
- Günther, A. 1868. Catalogue of the fishes in the British Museum, Volume 7th. Catalogue of the Physostomi, containing the families Heteropogii, Cyprinidae, Gonorrhynchidae, Hyodontidae, Osteoglossidae, Clupeidae,... [thru]... Halosauridae, in the collection of the British Museum. London, xx + 512 pp.
- Hildebrand, S.F. 1948. A new genus and five new species of American fishes. Smithson. Misc. Collns., 110 (9): 1-15.
- Hubbs, C.L. and R.R. Miller. 1941. *Dorosoma smithi*, the first known gizzard shad from the Pacific drainage of middle America. Copeia, 1941: 232-238.
- Jarocki, F.P. 1822. Zoologia czyli zwierzetopismo ogólne podług najnowszego Systematu, 4. Drukarni Latkiewiczza, Warsaw, 464 pp.
- Jordan, D.S. and C.W. Metz. 1913. A catalog of the fishes known from the waters of Korea. Mem. Carnegie. Mus., 6 (1): 1-65, Pls. 1-10.
- Meek, S.E. 1907. Synopsis of the fishes of the great lakes of Nicaragua. Field Columbian Museum Publication, Zoölogical Series, 7: 97-132.
- Menezes, N.A. and M.C.C. de Pinna. 2000. A new species of *Pristigaster*, with comments on the genus and redescription of *P. cayanus* (Teleostei: Clupeomorpha: Pristigasteridae). Proc. Biol. Soc. Wash., 113 (1): 238-248.
- Miranda Ribeiro, A. 1920. Peixes (excl. Characinidae). Comissão de Lhas Telegraphicas Estrategicas de Matto-Grosso ao Amazonas, Publicação no. 58, Anexo no. 5. Historia Natural - Zoologia: 1-15, 16 pl.
- Miranda Ribeiro, P. 1953. Tipos das espécies e subespécies do Prof. Alípio de Miranda Ribeiro depositados no Museu Nacional. Arq. Mus. Nac., Rio de Janeiro, 42: 389-418.
- Nakashima, S. 1941. Algunos peces del oriente peruano. Bol. Mus. Hist. Nat. "Javier Prado", 16: 61-78.

Check List of the Freshwater Fishes of South and Central America

- Nelson, G.J. 1967. Gill arches of teleostean fishes of the family Clupeidae. *Copeia*, 1967: 389-399.
- Norman, J.R. 1923. A revision of the genus *Ilisha* and allied genera. *Ann. Mag. Nat. Hist.*, 11: 1-22.
- Spix, J.B. von and L. Agassiz. 1829-31. *Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXVII-MDCCCXX jussu et auspiciis Maximiliani Josephi I.... collegit et pingendos curavit Dr J. B. de Spix.... Monachii*. Part 1: i-xvi + i-ii + 1-82, Pls. 1-48; part 2: 83-138, pls. 49-101.
- Stark, J. 1828. *Elements of natural history containing the generic characters of nearly the whole animal kingdom and descriptions of the principal species*, 1. William Blackwood, Edinburgh and T. Cadell, London, vi plus 527 pp.
- Richardson, J. 1846. Report on the ichthyology of the seas of China and Japan (pp. 187-320 of *Rep. Brit. Ass. Adv. Sci.*, 1845). Richard and John E. Taylor, London.
- Swain, T. 1883. A review of Swainson's genera of fishes. *Proc. Acad. Nat. Sci. Philad.* 1882, 34: 272-284.
- Swainson, W. 1838. *The natural history of fishes, amphibians and reptiles, or monocardian animals*, 1. Longman, Orme, Brown, Green and Longman, London, 368 pp.
- Valenciennes, A. 1834-42 *Poissons (plates)*, In: A. d'Orbigny. *Voyage dans l'Amérique méridionale.*, Pls. 1-16. (Text published in 1847. Plates 1-10 published between 1834-36, 11-16 before 1842; Pl. 3 is 1835.).
- Whitehead, P.J.P. 1967. The clupeoid fishes described by La Cepède, Cuvier and Valenciennes. *Bull. Br. Mus. Nat. Hist. (Zool.)*, suppl.2: 1-180.
- Whitehead, P.J.P. 1985. *FAO Species Catalogue. Vol. 7. Clupeoid fishes of the world (suborder Clupeioidi). Part 1. Chirocentridae, Clupeidae and Pristigasteridae.* *FAO Fisheries Synopsis* 7, part 1: 1-303.

Family Parodontidae (Parodontids)

Carla S. Pavanelli

Parodontid species have been included in many families and subfamilies since the description of *Parodon*, its first genus. Nowadays, the family Parodontidae is recognized by a majority of authors, although its definition and relationship with other groups have not yet been satisfactorily investigated. Here, the family Parodontidae is recognized based mainly on Roberts (1974b).

Parodontidae are a relatively small family within the Characiformes. Its species are distributed throughout South America and part of Panama, except in some coastal basins, Patagonia and the Amazon channel. Most species do not exceed 15 cm in length, and are not usually commercially important. All species have fusiform bodies, no fontanel, and an inferior mouth with a poorly developed, or absent, upper lip. There are commonly four (rarely two) spatulate premaxillary teeth, which have a straight or cusped cutting border. Dentary and maxillary teeth occur in some species. Gill membranes are joined together and free of scaly isthmus.

There are three genera recognized in the family: *Apareiodon* Eigenmann, characterized by the absence of dentary teeth and the possession of only one unbranched pectoral-fin ray; *Parodon* Valenciennes, with dentary teeth present; and *Saccodon* Kner, without dentary teeth and with two unbranched pectoral-fin rays. The diagnostic characters among the parodontid genera, basically related to teeth that are difficult to see in young specimens and easily broken, allied with brief, incomplete or even mistaken descriptions, had previously caused several nomenclatural problems in the family.

Thirty-five names of parodontid species have been published since 1849. Originally 13 *Apareiodon*, 18 *Parodon* and three *Saccodon* were been described. Carl Eigenmann and Henry Fowler were the researchers that described the most parodontid nominal species. Britski (1969, 1976), Roberts (1974b), and Starnes & Schindler (1993) published some papers about parodontid nomenclature. Pavanelli (1999) made the most recent revision of the family recognizing 21 valid species (eight *Apareiodon*, 10 *Parodon* and three *Saccodon*). In addition, she recognized five new species of *Apareiodon*, mainly from headwater streams of the Amazon basin, and one of *Parodon*, but they have not yet been formally described. Richard Vari sent individuals of another supposed new species of *Apareiodon*, but the material has not yet been examined. Thus, some new species remain and others may appear in the family Parodontidae, mainly in headwater and less collected areas.

Parodontid species are popularly know as “canivetes” or “charutos” in Brazil and as “virolitos”, “rollizos” or other names in the rest of the Latin American countries where they occur. They are frequently found in current waters, exhibiting well-developed pelvic fins, which allow them a very good attachment to the substrate (mainly stony), where they usually feed by scraping the epilithon. Sazima (1980) published a behavioral study about some parodontid species. Species of the genus *Saccodon* exhibit the most extraordinary dental polymorphism among characoids (Roberts, 1974a). Travassos (1951, 1952a) and Miquelarena (1984, 1986) have made osteological studies on parodontids.

Some species of Parodontidae develop true nuptial tubercles mainly on the side of the snout and internasal regions. See Wiley & Collette (1970) and Pavanelli (1999) for more details. Azevedo et al. (1988a, b) and Barbieri & Barbieri (1989b) examined aspects of the reproduction of parodontids and Barbieri & Barbieri (1989a) consider their growth. Various researchers including Moreira-Filho (1983), Moreira-Filho et al. (1993), Jorge (1995), and Jesus (1996), have studied genetic aspects of parodontids.

Although nice to watch in aquarium, parodontids are not very exploited commercially, at least in Brazil. They have no importance as food at all, due to their small size. However, in some places, they are used as live bait in angling.

APAREIODON

Apareiodon Eigenmann, 1916: 71. Type species: *Parodon piracicabae* Eigenmann, 1907. Type by original designation. Gender: masculine. Revised by Pavanelli (1999), with species descriptions, geographical distributions, pictures and keys.

Apareiodon affinis (Steindachner, 1879)

Parodon affinis Steindachner, 1879a: 20. Type locality: La Plata-Strome (innerhalb der Provinz Buenos-Ayres) [La Plata River basin, Argentina]. Holotype: whereabouts unknown. Species also

described in Steindachner (1879b: 32) and in Steindachner (1879c: 179).

Parodon paraguayensis Eigenmann, in Eigenmann & Ogle, 1907: 6. Type locality: Asuncion, Rio Paraguay [Paraguay]. Holotype: CAS 6765 [ex IU 9953].

Maximum length: 14.3 cm SL

Distribution: South America: La Plata River basin.

Countries: Argentina, Brazil, Paraguay

Common names: Canivete (Brazil), Charuto (Brazil), Duro-duro (Brazil), Piki (Paraguay), Virolito (Argentina)

***Apareiodon davisi* Fowler, 1941**

Apareiodon davisi Fowler, 1941: 167, fig. 80. Type locality: Rio Jaguaribe, Russas, Ceará [Brazil]. Holotype: ANSP 69467.

Maximum length: 5.9 cm SL

Distribution: South America: Jaguaribe and Paraíba River basins.

Countries: Brazil

Common names: Peixe-rei (Brazil), Piaba-rei (Brazil)

***Apareiodon gransabana* Starnes & Schindler, 1993**

Apareiodon gransabana Starnes & Schindler, 1993: 756, fig. 1.

Type locality: Venezuela, Bolivar State, Gran Sabana, Río Tatorotá, tributary to Río Apongua, about 8 km S of Luepa, approximately 5°35'N, 61°25'W. Holotype: MBUCV 17000.

Maximum length: 9.2 cm SL

Distribution: South America: Orinoco River basin and the coastal basins of French Guiana, Guyana, and Suriname.

Countries: French Guiana, Guyana, Suriname, Venezuela

***Apareiodon hasemani* Eigenmann, 1916**

Apareiodon hasemani Eigenmann, 1916: 75, pl. 12. Type locality: Pirapora [São Francisco River, Minas Gerais, Brazil]. Holotype: FMNH 57615.

Maximum length: 6.8 cm SL

Distribution: South America: São Francisco River basin.

Countries: Brazil

Common names: Canivete (Brazil)

***Apareiodon ibitiensis* Campos, 1944**

Apareiodon ibitiensis Campos, 1944: 173, unnumbered fig. Type locality: Rio Camanducaia, Monte Alegre, Estado de São Paulo [Brazil]. Holotype: MZUSP 3411.

Apareiodon mogiguaçuensis Travassos, 1952b: 313, fig. 1. Type locality: Cachoeira do Espriado, Rio Mogi-Guaçu, 1ª Cachoeira Grande depois de Soledade, Estado Minas Gerais [Brazil]. Holotype: MNRJ 6240.

Maximum length: 11.3 cm SL

Distribution: South America: Upper Paraná and upper São Francisco River basins.

Countries: Brazil

Common names: Canivete (Brazil)

***Apareiodon itapicuruensis* Eigenmann & Henn, 1916**

Apareiodon itapicuruensis Eigenmann & Henn, in Eigenmann, 1916: 72, pl. 11 (fig. 2). Type locality: Rio Paiaia, tributary of Rio Itapicuru [Bahia, Brazil]. Holotype: FMNH 56988.

Maximum length: 8.6 cm SL

Distribution: South America: Coastal basins of Bahia State.

Countries: Brazil

***Apareiodon machrisi* Travassos, 1957**

Apareiodon machrisi Travassos, 1957: 147, fig. 1. Type locality: Ribeirão Cristalino, Fazenda Oliver, Município de Amaro Leite, Goiás [Tocantins River basin, State of Maranhão (not Goiás), Brazil]. Holotype: MNRJ 8932.

Maximum length: 7.4 cm SL

Distribution: South America: Tocantins-Araguaia River basin.

Countries: Brazil

***Apareiodon orinocensis* Bonilla, Machado-Allison, Silvera, Chernoff, Lopez & Lasso (1999)**

Apareiodon orinocensis Bonilla, Machado-Allison, Silvera, Chernoff, López, & Lasso, 1999: 2, fig 1a. Type locality: Raudal Dimoshi, Río Tabaro, BO [Orinoco River basin, Venezuela]. Holotype: MBUCV V 29170.

Maximum length: 13.2 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela.

Remarks and references: Legend of fig. 1 reads holotype MBUCV 27180, contrary to the number listed in the material examined

section.

***Apareiodon piracicabae* (Eigenmann, 1907)**

Parodon piracicabae Eigenmann, in Eigenmann & Ogle, 1907: 6.

Type locality: Piracicaba [Piracicaba River, São Paulo, Brazil].

Holotype: CAS 6763 [ex IU 9292].

Maximum length: 11.4 cm SL

Distribution: South America: Upper Paraná and upper São Francisco River basins.

Countries: Brazil

Common names: Canivete (Brazil)

***Apareiodon vittatus* Garavello, 1977**

Apareiodon vittatus Garavello, 1977: 449, fig. 1. Type locality: Rio Iguaçú, Bituruna, Estado do Paraná, Brasil. Holotype: MNRJ 10481.

Maximum length: 8.9 cm SL

Distribution: South America: Iguaçú River basin.

Countries: Brazil

Common names: Canivete (Brazil)

PARODON

Parodon Valenciennes, in Cuvier & Valenciennes, 1850: 50. Type species: *Parodon suborbitale* Valenciennes, 1850. Type by monotypy. Gender: masculine. Revised by Pavanelli (1999), with species descriptions, geographical distributions, pictures, and keys.

Nematoparodon Fowler, 1943: 226. Type species: *Parodon apolinari* Myers, 1930. Type by original designation. Gender: masculine.

***Parodon apolinari* Myers, 1930**

Parodon apolinari Myers, 1930: 66. Type locality: Guaicaramo, Rio Guavio, Colombia. Holotype: CAS-SU 23725.

Maximum length: 9.3 cm SL

Distribution: South America: Orinoco River basin.

Countries: Colombia, Venezuela

***Parodon bifasciatus* Eigenmann, 1912**

Parodon bifasciatus Eigenmann, 1912: 274, pl. 36 (fig. 1). Type locality: Maripicru Creek [Branco River basin, Amazon, Guyana]. Holotype: FMNH 53582.

Maximum length: 9.8 cm SL

Distribution: South America: Branco River basin.

Countries: Brazil, Guyana

***Parodon buckleyi* Boulenger, 1887**

Parodon buckleyi Boulenger, 1887: 279, pl. 23 (fig. 1). Type locality: Canelos [Pastaza River basin, Amazon, Ecuador]. Holotype: BMNH 1880.12.5.125.

Maximum length: 15 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil, Ecuador, Peru

Common names: Julilla (Peru)

***Parodon caliensis* Boulenger, 1895**

Parodon caliensis Boulenger, 1895: 480. Type locality: Cali River, Colombia, 3200 feet. Syntypes: BMNH 1895.11.16.83-87 (5).

Parodon medellinense Posada, 1909: 299. Type locality: Medellín [Cauca River basin, Colombia]. Holotype: Unnumbered, whereabouts unknown.

Maximum length: 13 cm SL

Distribution: South America: Cauca River basin.

Countries: Colombia

Common names: Mazorca (Colombia), Rollizo (Colombia)

***Parodon carrikeri* Fowler, 1940**

Parodon carrikeri Fowler, 1940: 47, fig. 1. Type locality: Rio Lipeo, Bolivia [Argentina (not Bolivia)]. Holotype: ANSP

68735.

Parodon caudalis Fowler, 1940: 58, fig. 15. Type locality: Villa Montes, Rio Pilcomayo, Bolivia. Holotype: ANSP 68837.

Maximum length: 14.7 cm SL

Distribution: South America: headwaters of Bermejo and Pilcomayo rivers, Paraguay River basin.

Countries: Argentina, Bolivia, Paraguay

***Parodon guyanensis* Géry, 1959**

Parodon guyanensis Géry, 1959: 481, fig. 1. Type locality: Guyane Française, Haute-Mana, crique Deux-Branches, à la hauteur de Saut-Fini [Mana River basin, French Guiana]. Holotype: Géry coll. H04-20 bis-1.

Maximum length: 12 cm TL

Distribution: South America: Orinoco River basin and coastal rivers of French Guiana, Guyana, and Suriname.

Countries: French Guiana, Guyana, Suriname, Venezuela

Common names: Akusipila (French Guiana)

***Parodon hilarii* Reinhardt, 1866**

Parodon hilarii Reinhardt, 1866: 62, pl. 2 (fig. 3-4). Type locality: Minas Geraes,... da der i en ubetydelig lille Aa en Fjerdingsvei fra Byen Lagoa Santa [das Velhas River, Lagoa Santa, Minas Gerais, Brazil]. Holotype: ZMUC 90.

Maximum length: 13 cm SL

Distribution: South America: São Francisco River basin.

Countries: Brazil

Common names: Canivete (Brazil)

***Parodon nasus* Kner, 1859**

Parodon nasus Kner, 1859: 167, pl. 7 (fig. 17). Type locality: Cujabaflusse [Cuiabá River, Paraguay River basin, Brazil]. Syn-types: NMW 56545.

Parodon tortuosus Eigenmann & Norris, 1900: 356. Type locality: Rio Tieté [Paraná River basin, São Paulo, Brazil]. Holotype: CAS 6762 [ex IU 9312].

Parodon gestri Boulenger, 1902: 285. Type locality: Rio Coxipó, Matto Grosso [Paraguay River basin, Brazil]. Holotype: MSGN 14863.

Apareiodon pirassunguae Campos, 1945: 442, fig. 8. Type locality: Rio Mogi-Guaçu, Pirassungua, Cachoeira [Paraná River basin, São Paulo, Brazil]. Holotype: MZUSP 3469.

Maximum length: 12.7 cm SL

Distribution: South America: La Plata River basin.

Countries: Argentina, Brazil, Paraguay

Remarks and references: See Britski (1976: 436) for synonymy.

Common names: Canivete (Brazil), Duro-Duro (Brazil), Tanchina (Brazil)

***Parodon pongoensis* (Allen, 1942)**

Apareiodon pongoense Allen, in Eigenmann & Allen, 1942: 286, pl. 14 (fig. 7). Type locality: Forest brook, foothills at Pongo de Manseriche [Marañon River basin, Amazon, Peru]. Holotype: CAS 6757.

Apareiodon caquetae Fowler, 1945: 106, fig. 6. Type locality: Morelia, Río Caquetá drainage, Colombia. Holotype: ANSP 71696 (with paratypes).

Maximum length: 10.4 cm SL

Distribution: South America: Western Amazon River tributaries.

Countries: Brazil, Colombia, Ecuador, Peru

Common names: Julilla (Peru), Pongo pongo (USA)

***Parodon suborbitalis* Valenciennes, 1850**

Parodon suborbitale Valenciennes, in Cuvier & Valenciennes, 1850: 51, pl. 637. Type locality: Rivières de Maracaibo [Lake Maracaibo, Venezuela]. Lectotype: MNHN 1807.

Maximum length: 12.1 cm SL

Distribution: South America: Lake Maracaibo and Orinoco River basins.

Countries: Colombia, Venezuela

Common names: Cochinito (Colombia), Corunta (Colombia), Marranito (Colombia), Mazorca (Colombia), Tuso (Colombia)

SACCODON

Saccodon Kner, 1863: 225. Type species: *Saccodon wagneri* Kner, 1863. Type by monotypy. Gender: masculine. Genus also described in Kner & Steindachner (1864: 31). Revised by Pavanelli (1999), with species descriptions, geographical distributions, pictures, and keys.

Parodontops Schultz & Miles, 1943: 251. Type species: *Parodon ecuadoriensis* Eigenmann & Henn, 1914. Type by original designation. Gender: masculine.

***Saccodon dariensis* (Meek & Hildebrand, 1913)**

Parodon dariensis Meek & Hildebrand, 1913: 83. Type locality: Rio Cupe, Cituro, Panama. Holotype: FMNH 7587.

Apareiodon compressus Breder, 1925: 4, fig. 3. Type locality: Rio Turquesa, Darien, Panama. Holotype: AMNH 8408.

Saccodon cauae Schultz & Miles, 1943: 252, fig. 2. Type locality: Upper Río Cauca north of Cali, Colombia. Holotype: USNM 121285.

Apareiodon brevipinnis Dahl, 1971: 117. Type locality: Río Verde, affluent of Río Sinu, Colombia. Holotype: unnumbered, whereabouts unknown.

Maximum length: 12.7 cm SL

Distribution: Central and South America: Continental waters of Panama east of Panama Canal, and Atrato and Magdalena River basins.

Countries: Colombia, Panama

Common names: Dormilón (Colombia), Mazorca (Colombia), Rayado (Colombia), Torpedo (Colombia)

***Saccodon terminalis* (Eigenmann & Henn, 1914)**

Parodon terminalis Eigenmann & Henn, in Eigenmann, Henn & Wilson, 1914: 12. Type locality: Vinces, rivers and forest pools [Ecuador]. Holotype: FMNH 56599.

Maximum length: 4 cm SL

Distribution: South America: Daule River basin.

Countries: Ecuador

***Saccodon wagneri* Kner, 1863**

Saccodon wagneri Kner, 1863: 225, fig. 10. Type locality: Aus dem Staate Ecuador. Holotype: unnumbered, whereabouts unknown. Species also described in Kner & Steindachner (1864: 31).

Saccodon cranocephalum Thominot, 1882: 248, unnumbered pl. Type locality: Río Guayaquil [Ecuador]. Syntypes: MNHN 2503, B.2996; USNM 150431.

Parodon ecuadoriensis Eigenmann & Henn, in Eigenmann, Henn & Wilson, 1914: 12. Type locality: River and forest pools, Vinces, Ecuador. Holotype: FMNH 56597.

Maximum length: 10.1 cm SL

Distribution: South America: Coastal drainages of Ecuador and northernmost coastal basins of Peru.

Countries: Ecuador, Peru

Remarks and references: Species also described in Kner & Steindachner (1864: 31).

Common names: Roncador (Ecuador)

References

Azevedo, C.O., M.C. Barbieri and G. Barbieri. 1988a. Ciclo reprodutivo de *Parodon tortuosus* (Eigenmann and [sic] Norris, 1900) do rio Passa-Cinco, Ipeúna-SP. I. Estádios de maturação dos testículos. Época de reprodução. Revista Brasileira de Biologia, 48 (3): 565-569.

Azevedo, C.O., M.C. Barbieri and G. Barbieri. 1988b. Ciclo reprodutivo de *Parodon tortuosus* (Eigenmann and [sic] Norris, 1900) do rio Passa-Cinco, Ipeúna-SP. II. Estádios de maturação

Check List of the Freshwater Fishes of South and Central America

- do ovário. Época de reprodução. Revista Brasileira de Biologia, 48 (3): 571-575.
- Barbieri, G. and M.C. Barbieri. 1989a. Growth of *Apareiodon affinis* (Steindachner, 1879) (Osteichthyes, Parodontidae) from Passa Cinco River (Ipeúna – São Paulo – Brazil). Revista Brasileira de Biologia, 49(2): 539-544.
- Barbieri, G. and M.C. Barbieri. 1989b. Growth and first sexual maturation size of *Parodon tortuosus* Eigenmann & Norris, 1900 from Passa Cinco river (Ipeúna – São Paulo – Brazil) (Osteichthyes, Parodontidae). Naturalia, 14: 45-54.
- Bonilla, A., A. Machado-Allison, C. Silvera, B. Chernoff, H. López and C. Lasso 1999. *Apareiodon orinocensis*, una nueva especie de pez de agua dulce (Pisces: Characiformes: Parodontidae) proveniente de los rios Caura y Orinoco, Venezuela. Acta Biol. Venez., 19 (1): 1-10.
- Boulenger, G.A. 1887. An account of the fishes collected by Mr. C. Buckley in eastern Ecuador. Proc. Zool. Soc. London, 1887 (2): 274-283, pls. 20-24.
- Boulenger, G.A. 1895. Description of a new characinoid fish of the genus *Parodon*. Ann. Mag. Nat. Hist. (Ser. 6), 16 (96): 480.
- Boulenger, G.A. 1902. Descriptions of new fishes and reptiles discovered by Dr. F. Silvestri in South America. Ann. Mag. Nat. Hist. (Ser. 7), 9 (52): 284-288.
- Breder, C.M., Jr. 1925. New loricariate, characin and poeciliid fishes from the Rio Chucunaque, Panama. Am. Mus. Novit. no. 180: 1-9.
- Britski, H.A. 1969. Lista dos tipos de peixes das coleções do Departamento de Zoologia da Secretaria da Agricultura de São Paulo. Pap. Avulsos Dep. Zool. (São Paulo), 22: 197-215.
- Britski, H.A. 1976. *Apareiodon pirassunungae* Campos, um sinônimo de *Parodon tortuosus* Eigenmann and Norris. Ciência e cultura, 28: 436-437.
- Campos, A.A. 1944. Primeira contribuição ao conhecimento da fauna ictiológica de Monte Alegre (Estado de São Paulo). Pap. Avulsos Dep. Zool. (São Paulo), 4(11): 169-176.
- Campos, A.A. 1945. Sobre os Caracídios do Rio Mogi-guaçu (Estado de São Paulo). Arq. Zool. (Sao Paulo) 4(11): 431-466.
- Cuvier, G. and A. Valenciennes. 1850. Histoire naturelle des poissons. Tome vingt-deuxième. Suite du livre vingt-deuxième. Suite de la famille des Salmonoïdes. xx + 532 + 91, pls. 634-650.
- Dahl, G. 1971. Los peces del norte de Colombia. Instituto de Desarrollo de los Recursos Naturales Renovables (INDERENA), Bogota. xvii + 391 p.
- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. 1916. On *Apareiodon*, a new genus of characid fishes. Ann. Carnegie Mus., 10 (1-2): 71-76, pls. 11-12.
- Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II.- The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. Univ. Kentucky. xv + 494 p., pls. 1-22.
- Eigenmann, C.H., A.W. Henn and C. Wilson. 1914. New fishes from western Colombia, Ecuador, and Peru. Indiana Univ. Studies, no. 19: 1-15.
- Eigenmann, C.H. and A.A. Norris. 1900. Sobre alguns peixes de S. Paulo, Brazil. Rev. Mus. Paulista, 4: 349-362.
- Eigenmann, C.H. and F. Ogle. 1907. An annotated list of characin fishes in the United States National Museum and the Museum of Indiana University, with descriptions of new species. Proc. U. S. Natl. Mus., 33 (1556): 1-36.
- Fowler, H.W. 1940. Zoological results of the second Bolivian expedition for the Academy of Natural Sciences of Philadelphia, 1936-1937. Part I.--The fishes. Proc. Acad. Nat. Sci. Philadelphia, 92: 43-103.
- Fowler, H.W. 1941. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. Proc. Acad. Nat. Sci. Philadelphia, 93: 123-199.
- Fowler, H.W. 1943. A collection of fresh-water fishes from Colombia, obtained chiefly by Brother Nicéforo Maria. Proc. Acad. Nat. Sci. Philadelphia, 95: 223-266.
- Fowler, H.W. 1945. Colombian zoological survey. Pt. I.--The freshwater fishes obtained in 1945. Proc. Acad. Nat. Sci. Philadelphia, 97: 93-135.
- Garavello, J.C. 1977. Descrição de *Apareiodon vittatus* sp. n. do Rio Iguazu e comentários sobre as espécies do gênero *Apareiodon* Eigenmann, 1916 (Ostariophysi, Parodontidae). Rev. Bras. Biol., 37 (2): 447-455.
- Géry, J. 1959. Contributions à l'étude des poissons Characoides. (No. 5) *Parodon guyanensis* n. sp. de Guyane Française, avec quelques considérations sur le groupe (Hemiodontinae). Bull. Mus. Natl. Hist. Nat. (Sér. 2), 31 (6): 481-490.
- Jesus, C.M. 1996. Contribuições aos estudos citogenéticos da família Parodontidae (Pisces, Characiformes). MSc Dissertation, Universidade Federal de São Carlos, Brazil. 160 p.
- Jorge, L.C. 1995. Estudos citogenéticos comparativos de algumas espécies de peixes da região de Corrientes-Argentina com as do alto Paraná. MSc Dissertation, Universidade Federal de São Carlos, Brazil. 133 p.
- Kner, R. 1859. Zur Familie der Characinen. III. Folge der Ichthyologischen Beiträge. Denkschr. Akad. Wiss. Wien, 17: 137-182, pls. 1-9.
- Kner, R. 1863. Eine Uebersicht der ichthyologischen Ausbeute des Herrn Professors Dr. Mor. Wagner in Central-Amerika. Sitzungsber. Koenigl. Bayer. Akad. Wiss. Muenchen, 2: 220-230.
- Kner, R. and F. Steindachner. 1864. Neue Gattungen und Arten von Fischen aus Central-Amerika, gesammelt von Prof. Moritz Wagner. Abh. Bayer. Akad. Wiss., 10: 1-61, pls. 1-6.
- Meek, S.E. and S.F. Hildebrand. 1913. New species of fishes from Panama. Field Mus. Nat. Hist. Publ. Zool. Ser., 10 (8): 77-91.
- Miquelarena, A.M. 1984. Estudio comparado del esqueleto caudal en peces characoideos de la República Argentina. III. Familias Serrasalmidae, Gasteropelecidae, Erythrinidae, Anostomidae, Hemiodidae, Curimatidae y Characidiidae. Limnobiós, 2 (8): 613-628.
- Miquelarena, A.M. 1986. Estudio de la dentición en peces characoideos de la República Argentina. Biología Acuática, no. 8: 1-60.
- Moreira-Filho, O. 1983. Estudos na família Parodontidae (Pisces, Cypriniformes) da bacia do rio Passa-Cinco, SP: aspectos citogenéticos e considerações correlatas. MSc Dissertation, Universidade Federal de São Carlos, Brazil. 212 p.
- Moreira-Filho, O., L.A.C. Bertollo and P.M. Galetti, Jr. 1993. Distribution of sex chromosome mechanisms in Neotropical fish and description of a ZZ/ZW system in *Parodon hilarii* (Parodontidae). Caryologia, 46 (2-3): 115-125.
- Myers, G.S. 1930. Fishes from the upper Rio Meta Basin, Colombia. Proc. Biol. Soc. Washington, 43: 65-71.
- Pavanelli, C.S. 1999. Revisão taxonômica da Família Parodontidae (Ostariophysi: Characiformes). PhD thesis, Universidade Federal de São Carlos, Brazil. i-xv + 1-332p.
- Posada, A. 1909. Los peces. Pp. 285-322. In: Estudios científicos del doctor Andres Posada con algunos otros escritos suyos sobre diversos temas. Medellin, Colombia.
- Reinhardt, J.T. 1866. Om trende, formeentligt ubeskrevne fisk af characinerne eller Karpelaxenes familie. Overs. Danske Vidensk. Selsk. Forhandl. Kjobenhavn, (for 1866): 49-68, pls. 1-2.
- Roberts T.R. 1974a. Dental polymorphism and systematics in *Saccodon*, a Neotropical genus of freshwater fishes (Parodontidae, Characoidei). J. Zoology, Proc. Zool. Soc. London, 173 (3): 303-321.
- Roberts, T.R. 1974b. Osteology and classification of the Neotropical characoid fishes of the families Hemiodontidae (including Anodontinae) and Parodontidae. Bull. Mus. Comp. Zool., 146 (9): 411-472, pl. 1.
- Sazima, I. 1980. Behavior of two Brazilian species on parodontid

Check List of the Freshwater Fishes of South and Central America

- fishes, *Apareiodon piracicabae* and *A. ibitiensis*. Copeia, 1980 (1): 166-169.
- Schultz, L.P. and C. Miles. 1943. Descriptions of a new genus and a new species of Parodontinae, characinid fishes from South America. J. Washington Acad. Sci., 33 (8): 251-255.
- Starnes, W.C. and I. Schindler. 1993. Comments on the genus *Apareiodon* Eigenmann (Characiformes: Parodontidae) with the description of a new species from the Gran Sabana region of eastern Venezuela. Copeia 1993 (3): 754-762.
- Steindachner, F. 1879a. Über einige neue und seltene Fisch-Arten aus den k. k. zoologischen Museum zu Wien, Stuttgart, und Warschau. Denkschr. Akad. Wiss. Wien, 41: 1-52, pls. 1-9.
- Steindachner, F. 1879b. Über einige neue und seltene Fischarten aus den zoologischen Museen zu Wien, Stuttgart und Warschau. Anz. Akad. Wiss. Wien, 16 (4): 29-34.
- Steindachner, F. 1879c. VII. Poissons d'espèces nouvelles du rares des Musées de Vienne, de Varsovie et de Stuttgart. Bull. Soc. Philomat. Paris, (Ser. 7), 3: 176-181.
- Thominot, A. 1882. Sur un *Saccodon* d'espèce nouvelle venant de l'Equateur. Bull. Soc. Philomat. Paris (Ser. 7), 6: 248-251.
- Travassos, H. 1951. Contribuição ao estudo da Subordem Characoidei Berg, 1940 – VII. Estudo de região opercular de três espécies de Parodontinae Eigenmann, 1910 (Actinopterygii-Cypriniformes) Boletim do Museu Nacional, Nova Série Zoologia, 103:1-17, pl. 1-7.
- Travassos, H. 1952a. Contribuição ao estudo da ordem Characoidei Berg, 1940 – VIII. Estudo de alguns ossos da região oromandibular de três espécies de Parodontinae Eigenmann, 1910 (Actinopterygii-Cypriniformes). Boletim do Museu Nacional, Nova série Zoologia, 108: 1-8, 4 pl.
- Travassos, H. 1952b. Notas ictiológicas. V. “*Apareiodon mogi-guaçuensis*” n. sp. (Actinopterygii, Cypriniformes, Characoidei). Rev. Bras. Biol., 12 (3): 313-316.
- Travassos, H. 1957. Sobre um novo “Parodontinae” do estado de Goiás, Brasil (Cypriniformes, Characoidei). Rev. Bras. Biol., 17 (1): 147-151.
- Wiley, M.L. and B.B. Collette. 1970. Breeding tubercles and contact organs in fishes: their occurrence, structure and significance. Bulletin of the American Museum of Natural History, 143 (3).

Family Curimatidae (Toothless characiforms)

Richard P. Vari

The family Curimatidae is distinguishable from all other Characiformes by the combination of the absence in adults of dentition in either jaw (a feature present elsewhere among characiforms only in *Anodus* of the family Hemiodontidae) and a series of internal synapomorphies in multiple body systems (see Vari, 1989a for a summary). The species of the Curimatidae are broadly distributed across southern Central America and much of tropical and temperate South America. Members of the family occur in the Trans-Andean Pacific Ocean drainages from southwestern Costa Rica (Bussing, 1998) to northwestern Peru (Vari, 1989d). Curimatids inhabit the Trans-Andean Caribbean versant drainages from the Atrato River of northwestern Colombia (Vari, 1991) to the western drainages of the Maracaibo Lake basin in northwestern Venezuela (Vari, 1984b). East of the Andean Cordilleras, curimatids occupy most river basins from the Orinoco River system to slightly south of Buenos Aires, Argentina, being most speciose in the Amazon and Orinoco basins, with less diverse assemblages of species inhabiting the coastal rivers of the Guianas, the São Francisco River basin, and various of the shorter rivers from northeastern Brazil to Uruguay (Vari, 1989).

Externally curimatids range from fusiform to deep bodied, slab-sided fishes (Vari, 1989a: figs. 1-2), but with most species of intermediate body form. Internally curimatids demonstrate numerous modifications of various body systems, most notably the gill arches (Vari, 1989a). Members of the family demonstrate a nearly ten fold range in standard lengths, with the largest known adult males of *Curimatopsis evelynae* achieving approximately 3.3 cm SL (Vari, 1982b: 26) and the largest reported specimens of *Curimata mivartii* being over 32.0 cm SL (Dahl, 1971).

Many curimatid species travel in large schools (Santos et al., 1984) that often constitute a major portion of the fish biomass in both riverine and lacustrine habitats. Curimatids have a number of modifications of the mouth, gill-arches, and digestive tract which allow them to efficiently utilize the flocculent organic matter, microdetritus, microvegetation, and filamentous algae that are common in those habitats across the Neotropics (Carvalho, 1984; Nomura and Hayashi, 1980; Nomura and Taveira, 1979). Some members of the family are known to engage in mass spawning migrations (Godoy, 1975).

The questions of the relationships of the Curimatidae to other characiforms and of the generic-level intrarelationships within the family were dealt with by Vari (1983, 1989a). The species level taxonomy, phylogeny, and biogeography of the Curimatidae has been examined in a series of revisionary studies (*Curimata* (Vari, 1989b; Vari and Reis, 1995); *Curimatella* (Vari, 1992a); *Curimatopsis* (Vari, 1982a, 1982b); *Cyphocharax* (Vari, 1992b; Vari and Blackledge, 1996) *Potamorhina* (Vari, 1984a); *Psectrogaster* (Vari, 1989c); *Pseudocurimata* (Vari, 1989d); and *Steindachnerina* (Vari, 1991, 1993; Vari and Vari, 1989)). These publications placed a number of species into synonymy, but also resulted in the description of numerous species new to science. Several as of yet undescribed species are known to researchers and it is expected that additional species await discovery.

In the course of their annual mass migrations various curimatid species are exploited in commercial and subsistence fisheries from Colombia (Dahl, 1971) through Venezuela (Mago-Leccia, 1970) into the Amazon (Goulding, 1981) and elsewhere in South America (Lowe-McConnell, 1975). Curimatids are also important as food items for large, commercially important, predatory fish species.

CURIMATA

Curimata Walbaum, 1792: 80. Type species: *Salmo (Curimata) marggravii* Walbaum, 1792. Type by monotypy. Gender: feminine.

Curimata Bosc, 1817: 9. Type species: *Salmo edentulus* Bloch, 1794. Gender: feminine. Revised by Vari (1989b) with species descriptions, geographical distributions, and phylogenetic analyses.

Curimatus Oken, 1817: 1183. Type species: *Salmo edentulus* Bloch, 1794. Type by subsequent designation. Gender: masculine.

Semitapicis Eigenmann & Eigenmann, 1889a: 417. Type species: *Charax planirostris* Gronow in Gray, 1854. Type by subsequent designation. Gender: masculine.

Peltapleura Fowler, 1906: 300. Type species: *Salmo cyprinoides* Linnaeus, 1766. Type by original designation. Gender: feminine.

Acuticurimata Fowler, 1941: 166. Type species: *Curimatus macrops* Eigenmann & Eigenmann, 1889. Type by original designation. Gender: feminine.

Allenina Fernández-Yépez, 1948: 39. Type species: *Curimata murieli* Allen, 1942. Type by original designation. Gender: feminine.

Bitricarinata Fernández-Yépez, 1948: 64. Type species: *Curimatus schomburgkii* Günther, 1864. Type by original designation. Gender: feminine.

Bondia Fernández-Yépez, 1948: 66. Type species: *Curimatus mivartii* Steindachner, 1879. Type by original designation. Gender: feminine. Preoccupied by *Bondia* Newman, 1856, in Lepidoptera, replaced by *Bondichthys* Whitley, 1953.

- Camposella* Fernández-Yépez, 1948: 60. Type species: *Curimatus simulatus* Eigenmann & Eigenmann, 1889. Type by original designation. Gender: feminine. Preoccupied by *Camposella* Cole, 1819, in Diptera, replaced by *Camposichthys* Whitley, 1953 (also preoccupied), and replaced by *Stupens* Whitley, 1954.
- Lambepiedra* Fernández-Yépez, 1948: 62. Type species: *Lambepiedra allenii* Fernández-Yépez, 1948. Type by original designation. Gender: feminine.
- Bondichthys* Whitley, 1953: 134. Type species: *Curimatus mivartii* Steindachner, 1879. Type by being a replacement name. Gender: masculine. Replacement for *Bondia* Fernández-Yépez, 1948.
- Camposichthys* Whitley, 1953: 134. Type species: *Curimatus simulatus* Eigenmann & Eigenmann, 1889. Type by being a replacement name. Gender: masculine. Replacement for *Camposella* Fernández-Yépez, 1948. *Camposichthys* itself preoccupied by *Camposichthys* Travassos, 1946, in fishes and replaced by *Stupens* Whitley, 1954.
- Stupens* Whitley, 1954: 30. Type species: *Curimatus simulatus* Eigenmann & Eigenmann, 1889. Type by being a replacement name. Gender: masculine. Replacement for *Camposichthys* Whitley, 1953.
- Curimata acutirostris* Vari & Reis, 1995**
Curimata acutirostris Vari & Reis, 1995: 298, fig. 1. Type locality: Marginal lagoons by Rio Araguaia near Luis Alves, Município de São Miguel do Araguaia, ca. 13°14'S, 50°53'W, Goiás, Brazil. Holotype: MCP 17396.
 Maximum length: 8.2 cm SL
 Distribution: South America: Upper Araguaia River basin.
 Countries: Brazil
- Curimata aspera* (Günther, 1868)**
Curimatus asper Günther, 1868: 478. Type locality: Huallaga and Xeberos [=Huallaga River and Jeberos, Peru]. Lectotype: BMNH 1867.6.13.83, designated by Vari (1989b: 52).
Curimatus simulatus Eigenmann & Eigenmann, 1889a: 430. Type locality: Tonantins, Fonteboa [=Tonantins, Fonte Boa, Brazil]. Lectotype: MCZ 20198, designated by Vari (1989b: 53).
 Maximum length: 21.2 cm SL
 Distribution: South America: Amazon River basin, in western Brazil and eastern Peru.
 Countries: Brazil, Ecuador, Peru
 Remarks and references: See Vari (1989b: 50) for detailed description.
 Common names: Chio chio (Peru)
- Curimata cerasina* Vari, 1984**
Curimata cerasina Vari, 1984b: 30, fig. 1. Type locality: Venezuela, Apure, flooded area along road from San Fernando de Apure to Arichuna, 15 km southeast of San Fernando de Apure, approx. 7°47'N, 67°23'W. Holotype: MBUCV V-14025.
 Maximum length: 16.7 cm SL
 Distribution: South America: Central and western portions of Orinoco River basin.
 Countries: Venezuela
 Remarks and references: See Vari (1989b: 54) for detailed description.
 Common names: Bocachica (Venezuela), Bocoehica (Venezuela)
- Curimata cisandina* (Allen, 1942)**
Psectrogaster cisandinus Allen, in Eigenmann & Allen, 1942: 290, pl. 14 (fig. 3). Type locality: Iquitos [=Iquitos, Loreto, Peru]. Holotype: USNM 167834.
Lambepiedra allenii Fernández-Yépez, 1948: 62, fig. 33. Type locality: Rio Cashyboya [=Lago Cashiboya], Peru. Holotype: CAS 57144.
 Maximum length: 12.2 cm SL
 Distribution: South America: Branco River, middle and upper portions of Amazon River basin in Brazil and Peru.
- Countries: Brazil, Peru
 Remarks and references: See Vari (1989b: 47) for detailed description.
 Common names: Julilla (Peru)
- Curimata cyprinoides* (Linnaeus, 1766)**
Salmo immaculatus Linnaeus, 1758: 312. Type locality: America.
 Holotype: NRM LP 76; name suppressed.
Salmo cyprinoides Linnaeus, 1766: 514. Type locality: Suriname. No types known.
Salmo edentulus Bloch, 1794: 97, pl. 380. Type locality: Suriname. Holotype: ZMB 3523.
Charax planirostris Gronow in Gray, 1854: 154. Type locality: Fluminibus Americis Meridionalis [=Rivers of South America]. No types known.
Curimatus schomburgkii Günther, 1864: 291. Type locality: British Guyana [=Guyana]. Lectotype: BMNH 1978.9.12.2, designated by Vari (1989b: 40).
Curimata copei Fowler, 1906: 301, fig. 7. Type locality: Surinam. Holotype: ANSP 8201.
 Maximum length: 21.3 cm SL
 Distribution: South America: Orinoco River delta, Atlantic drainages of the Guianas, lower Amazon and Tocantins rivers.
 Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela
 Remarks and references: See Vari (1989b: 37) for detailed description.
 Common names: Branquinha-baião (Brazil), Yaya grojé (French Guiana), Yaya gros-yeux (French Guiana), makafishi (French Guiana), Pohaké (French Guiana)
- Curimata incompta* Vari, 1984**
Curimata incompta Vari, 1984b: 34, fig. 4. Type locality: Venezuela, Apure, Río Meta near Puerto Páez, approx. 6°13'N, 67°28'W. Holotype: MBUCV V-5991.
 Maximum length: 11.2 cm SL
 Distribution: South America: Orinoco River basin.
 Countries: Venezuela
 Remarks and references: See Vari (1989b: 33) for detailed description.
- Curimata inornata* Vari, 1989**
Curimata inornata Vari, 1989b: 31, fig. 21. Type locality: Brazil, Pará, Rio Tapajós, Itaituba, edge of river channel (approx. 4°17'S, 55°59'W). Holotype: MZUSP 28648.
 Maximum length: 13.6 cm SL
 Distribution: South America: Middle and southern portions of Amazon River basin, Tocantins River.
 Countries: Brazil
 Remarks and references: See Vari (1989b: 54) for detailed description.
 Common names: Branquinha (Brazil)
- Curimata knerii* (Steindachner, 1876)**
Curimatus knerii Steindachner, 1876: 83. Type locality: Wahrscheinlich bei Tefé [=vicinity of Tefé, Amazonas, Brazil]. Holotype: NMW 68685.
 Maximum length: 17.7 cm SL
 Distribution: South America: Middle and upper Amazon River basin.
 Countries: Brazil, Peru
 Remarks and references: See Vari (1989b: 54) for detailed description.
 Common names: Yahuarachi (Peru)
- Curimata macrops* (Eigenmann & Eigenmann, 1889)**
Curimatus macrops Eigenmann & Eigenmann, 1889a: 429. Type locality: Rio Puty [=Poti River, at Teresina, Piauí, Brazil]. Lectotype: MCZ 20309, designated by Vari (1989b: 45).
 Maximum length: 17.6 cm SL
 Distribution: South America: Poti and Parnaíba rivers, northeast-

tern Brazil.
 Countries: Brazil
 Remarks and references: See Vari (1989b: 44) for detailed description.

***Curimata mivartii* (Steindachner, 1878)**

Curimatus mivartii Steindachner, 1878: 90. Type locality: Magdalena-Stromes [=Magdalena River, Colombia]. Lectotype: NMW 68759.1, designated by Vari (1989b: 47).

Maximum length: 24.6 cm SL

Distribution: South America: Magdalena, Cauca, San Jorge, and Sinú River basins in Colombia.

Countries: Colombia

Remarks and references: See Vari (1989b: 46) for detailed description.

Common names: Cachava (Colombia), Sardina (Colombia), Vizcana (Colombia)

***Curimata ocellata* (Eigenmann & Eigenmann, 1889)**

Curimatus ocellatus Eigenmann & Eigenmann, 1889a: 427. Type locality: Xingu [=Xingu River, Amazonas, Brazil]. Lectotype: MCZ 20339, designated by Vari (1989b: 25).

Curimatus semitaeniatus Steindachner, 1915: 18. Type locality: Moura nächst der Mündung des Rio Branco in den Rio Negro [=Moara, near mouth of Branco River in Negro River, Amazon system, Brazil]. Holotype: NMW missing.

Maximum length: 22.5 cm SL

Distribution: South America: Middle and lower Amazon River basin, Negro, and upper Orinoco River basins.

Countries: Brazil, Venezuela

Remarks and references: See Vari (1989b: 23) for detailed description.

***Curimata roseni* Vari, 1989**

Curimata roseni Vari, 1989b: 35, figs. 25-27. Type locality: Brazil, Roraima, Rio Branco, Cachoeira do Bem Querer, cataract pool (approx. 2°50'N, 60°43'W). Holotype: MZUSP 28651.

Maximum length: 14.4 cm SL

Distribution: South America: Amazon River basin, upper Orinoco River basin.

Countries: Bolivia, Brazil, Guyana, Venezuela

***Curimata vittata* (Kner, 1858)**

Curimatus vittatus Kner, 1858: 139, pl. 1 (fig. 1). Type locality: Río Guaporé und Negro [=Guaporé and Negro rivers]. Lectotype: NMW 68805.1, designated by Vari (1989b: 29).

Salmo roncadador Natterer in Kner, 1859: 141. Type locality: None.

Curimata murieli Allen in Eigenmann & Allen, 1942: 298, pl. 14 (fig. 1). Type locality: Contamana, Rio Ucayali [=Ucayali River, Contamana, Amazon system, Peru]. Holotype: CAS 57148.

Maximum length: 18.7 cm SL

Distribution: South America: Amazon, upper Orinoco, and Essequibo River basins.

Countries: Bolivia, Brazil, Colombia, Guyana, Peru, Venezuela

Remarks and references: See Vari (1989b: 54) for detailed description.

Common names: Roncadador (Peru), Yahuarachi (Peru)

CURIMATELLA

Curimatella Eigenmann & Eigenmann, 1889a: 415. Type species: *Curimatus lepidurus* Eigenmann & Eigenmann, 1889. Type by subsequent designation. Gender: feminine. Revised by Vari (1992a) with species descriptions, geographical distributions, and phylogenetic analyses.

Apolinarella Fernández-Yépez, 1948: 22. Type species: *Curimatus meyeri* Steindachner, 1882a. Type by original designation. Gender: feminine.

Lepipinna Fernández-Yépez, 1948: 26. Type species: *Anodus alburnus* Müller & Troschel, 1844. Type by original designation.

Gender: feminine.

Walbaunina Fernández-Yépez, 1948: 24. Type species: *Curimatus dorsalis* Eigenmann & Eigenmann, 1889. Type by original designation. Gender: feminine.

***Curimatella alburna* (Müller & Troschel, 1844)**

Anodus alburnus Müller & Troschel, 1844: 83. Type locality: Guiana [=Guyana]. Lectotype: ZMB 3527 (larger specimen), designated by Vari (1992a: 29).

Curimatus alburnus lineatus Eigenmann & Eigenmann, 1889a: 419. Type locality: Jutahy [=Jutaí River, tributary of Solimões River, Amazonas, Brazil]. Holotype: MCZ 20297.

Maximum length: 18.5 cm SL

Distribution: South America: Amazon and Tocantins River basins.

Countries: Bolivia, Brazil, Guyana, Peru

Remarks and references: See Vari (1992a: 25) for detailed description.

Common names: Llambina (Peru)

***Curimatella dorsalis* (Eigenmann & Eigenmann, 1889)**

Curimatus dorsalis Eigenmann & Eigenmann, 1889a: 420. Type locality: Coari, Manacapuru, Hyavary, Obidos [=Lago do Coari, Lago Grande de Manacapuru, Javari River, Obidos]. Lectotype: MCZ 20183, designated by Vari (1992a: 15).

Curimatus elegans paraguayensis Eigenmann & Kennedy, 1903: 510. Type locality: Estancia La Armonia, Arroyo Carumbey, Paraguay. Holotype: CAS 60583.

Curimatella alburnus australe Eigenmann & Kennedy, 1903: 510. Type locality: Asuncion, Paraguay. Holotype: CAS 60626.

Curimatus (Curimatella) alburnus caudimaculatus Pellegrin, 1909: 150. Type locality: Santarém, Brazil. Lectotype: MNHN 1909-57, designated by Vari (1992a: 17). Originally as *Curimatus (Curimatella) alburnus* var. *caudimaculatus*.

Curimatus bolivarensis Steindachner, 1910: 265. Type locality: Orinoco bei Ciudad Bolívar [=Orinoco River, near Ciudad Bolívar, Venezuela]. Lectotype: NMW 67037: 2, designated by Vari (1992a: 18).

Maximum length: 11.4 cm SL

Distribution: South America: Orinoco, Amazon, Tocantins, and Paraguay-lower Paraná River basins.

Countries: Argentina, Bolivia, Brazil, Paraguay, Peru, Venezuela

Remarks and references: See Vari (1992a: 11) for detailed description.

***Curimatella immaculata* (Fernández-Yépez, 1948)**

Lepipinna immaculata Fernández-Yépez, 1948: 27, fig. 9. Type locality: Obidos, Brazil. Holotype: CAS 60630.

Maximum length: 9.3 cm SL

Distribution: South America: Orinoco, Amazon, and Tocantins River basins and upper portion of Rupununi River basin of Essequibo River drainage.

Countries: Bolivia, Brazil, Colombia, Guyana, Peru, Venezuela

Remarks and references: See Vari (1992a: 31) for detailed description.

***Curimatella lepidura* (Eigenmann & Eigenmann, 1889)**

Curimatus lepidurus Eigenmann & Eigenmann, 1889b: 8. Type locality: Rio San Francisco below its falls (Brazil). Lectotype: MCZ 20292, designated by Vari (1992a: 9).

Maximum length: 11.3 cm SL

Distribution: South America: São Francisco River basin of eastern Brazil.

Countries: Brazil

Remarks and references: See Vari (1992a: 9) for detailed description.

Common names: Manjuba (Brazil)

***Curimatella meyeri* (Steindachner, 1882)**

Curimatus meyeri Steindachner, 1882a: 176. Type locality: Hual-laga [=Huallaga River, Peru]. Holotype: MTD F331.

Curimatus serpae Eigenmann & Eigenmann, 1889: 7. Type locality: Serpa [=Amazon River, Itacoatiara, Amazonas, Brazil]. Lectotype: MCZ 20320, designated by Vari (1992a: 23).

Curimata reticulata Allen, in Eigenmann & Allen, 1942: 295, pl. 14 (fig. 2). Type locality: Lago Cashiboya, Peru. Holotype: CAS 60628.

Maximum length: 15.6 cm SL

Distribution: South America: Central and upper Amazon River basin.

Countries: Bolivia, Brazil, Ecuador, Peru

Remarks and references: See Vari (1992a: 20) for detailed description.

Common names: Yahuarachi (Peru)

CURIMATOPSIS

Curimatopsis Steindachner, 1876: 81. Type species: *Curimatus (Curimatopsis) macrolepis* Steindachner, 1876. Type by monotypy. Gender: feminine. Revised by Vari (1982a, b) with species descriptions, geographical distributions, and phylogenetic analyses.

Curimatichthys Fernández-Yépez, 1948: 71. Type species: *Curimatopsis microlepis* Eigenmann & Eigenmann, 1889. Type by original designation. Gender: masculine.

***Curimatopsis crypticus* Vari, 1982**

Curimatopsis crypticus Vari, 1982a: 19, figs. 15-18. Type locality: Guyana, Rupununi District, stream 2 km east of Lake Amucu, approx. 3°43'N, 59°25'W. Holotype: USNM 226872.

Maximum length: 5 cm SL

Distribution: South America: Amazon River basin and coastal rivers of Guyana, Suriname, and French Guiana.

Countries: Brazil, French Guiana, Guyana, Suriname

Remarks and references: See Vari (1982a: 19) for detailed description.

Common names: Yaya (French Guiana)

***Curimatopsis evelynae* Géry, 1964**

Curimatopsis evelynae Géry, 1964: 47, figs. 13-14. Type locality: 200 miles east of Bogota, Colombia, in the upper Rio Meta drainage. Holotype: USNM 198644.

Maximum length: 4 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Brazil, Colombia

Remarks and references: See Vari (1982a: 23) for detailed description.

***Curimatopsis macrolepis* (Steindachner, 1876)**

Curimatus (Curimatopsis) macrolepis Steindachner, 1876: 81. Type locality: Amazonen Stromes Zunachst der Mündung des Rio Negro, Tabatinga, Manacapuru [=Amazon River near mouth of Negro River, Tabatinga and Lago de Manacapuru]. Lectotype: NMW 75992, designated by Vari (1982a: 15).

Curimatopsis macrocephalus Ahl, 1931: 207, fig. 1. Type locality: Amazonas. Holotype: ZMB 20818.

Maximum length: 6 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Bolivia, Brazil, Colombia, Ecuador, Peru, Venezuela

Remarks and references: See Vari (1982a: 13) for detailed description.

***Curimatopsis microlepis* Eigenmann & Eigenmann, 1889**

Curimatopsis microlepis Eigenmann & Eigenmann, 1889b: 7. Type locality: Jatuarana [=Jatuarana, Amazonas, Brazil]. Holotype: MCZ 20344.

Maximum length: 8.9 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil

Remarks and references: See Vari (1982a: 17) for detailed description.

***Curimatopsis myersi* Vari, 1982**

Curimatopsis myersi Vari, 1982b: 788, figs. 1-2. Type locality: Swamp, 3 km northwest of Lima, San Pedro Department, Paraguay (approx. 23°55'S, 56°29'W). Holotype: USNM 233602.

Maximum length: 3.7 cm SL

Distribution: South America: Paraguay River basin.

Countries: Brazil, Paraguay

Remarks and references: See Vari (1982b: 778) for detailed description.

CYPHOCHARAX

Cyphocharax Fowler, 1906: 297. Type species: *Curimatus spilurus* Günther, 1864. Type by original designation. Gender: masculine. Revised by Vari (1992b) with species descriptions and geographical distributions.

Xyrocharax Fowler, 1914: 633. Type species: *Curimatus stigmaturus* Fowler, 1914. Type by original designation. Gender: masculine.

Hemicurimata Myers, 1929: 620. Type species: *Curimata esperanzae* Myers, 1929. Type by original designation. Gender: feminine.

Curimatoides Fowler, 1940: 225. Type species: *Curimatoides ucayalensis* Fowler, 1940. Type by original designation. Gender: masculine.

***Cyphocharax abramoides* (Kner, 1859)**

Curimatus abramoides Kner, 1859: 142, pl. 2 (fig. 3). Type locality: Barra do Rio Negro (Brazil). Holotype: NMW 67905.

Maximum length: 21.3 cm SL

Distribution: South America: Negro and upper Orinoco River basins, and tributaries to lower Amazon River.

Countries: Brazil, Colombia, Venezuela

Remarks and references: See Vari (1992b: 17) for detailed description.

Common names: Branquinha (Brazil)

***Cyphocharax aspilos* Vari, 1992**

Cyphocharax aspilos Vari, 1992b: 61, figs. 41-42. Type locality: Venezuela, Zulia, Estación Centro Adiestramiento Don Bosco, Carrasguero. Holotype: MBUCV V-13286.

Maximum length: 18 cm SL

Distribution: South America: Tributaries to Lake Maracaibo.

Countries: Venezuela

Common names: Bocachico (Venezuela), Corito (Colombia), Viejita (Colombia)

***Cyphocharax festivus* Vari, 1992**

Cyphocharax festivus Vari, 1992b: 45, figs. 26-27. Type locality: Peru, Loreto, Caños entering Río Nanay, northeast of Iquitos, approx. 3°49'S, 73°11'W. Holotype: USNM 280426.

Maximum length: 6.3 cm SL

Distribution: South America: Amazon, Orinoco, and Essequibo River basins.

Countries: Brazil, Guyana, Peru, Venezuela

***Cyphocharax gangamon* Vari, 1992**

Cyphocharax gangamon Vari, 1992b: 96, figs. 72-73. Type locality: Brazil, Pará, Rio Tapajós, Lago da Santa Clara, Monte Cristo, approx. 4°04'S, 5°38'W. Holotype: MZUSP 22037.

Maximum length: 4.7 cm SL

Distribution: South America: Tapajós River basin.

Countries: Brazil

***Cyphocharax gilbert* (Quoy & Gaimard, 1824)**

Curimata gilbert Quoy & Gaimard, 1824: 219, pl. 48 (fig. 1). Type locality: Rio Macacu [=Macacu River, tributary of Bahia da Guanabara, Brazil]. Holotype: MNHN 5430.

Curimatus albulus Lütken, 1875a: 127. Type locality: Flumine Rio das Velhas et Rivulis Affluentibus [=Das Velhas River and tributaries Minas Gerais, Brazil]. Lectotype: ZMUC 52, designated by Vari (1992b: 91).

Pseudocurimata grandocule Fernández-Yépez, 1948: 47, fig. 23. Type locality: Río Doce, Espírito Santo, Brazil [=vicinity of Linhares and lago Juparaná, Espírito Santo, Brazil]. Holotype: CAS 20352.

Maximum length: 12.6 cm SL

Distribution: South America: Coastal drainages of eastern Brazil from Bahia to Rio de Janeiro and eastern São Paulo.

Countries: Brazil

Remarks and references: See Vari (1992b: 86) for detailed description.

***Cyphocharax gillii* (Eigenmann & Kennedy, 1903)**

Curimatus gillii Eigenmann & Kennedy, 1903: 510. Type locality: Arroyo Trementina, Paraguay. Holotype: CAS 39829.

Curimatella rehni Fowler, 1932: 343, fig. Type locality: Descalvados, Mato Grosso, Brazil. Holotype: ANSP 53721.

Maximum length: 8.8 cm SL

Distribution: South America: Paraguay River basin in Brazil and Paraguay.

Countries: Brazil, Paraguay

Remarks and references: See Vari (1992b: 109) for detailed description.

***Cyphocharax gouldingi* Vari, 1992**

Cyphocharax gouldingi Vari, 1992b: 107, figs. 81-82. Type locality: Brazil, Amapá, Rio Cupixi, along road to Serra Navio, mouth of rainforest stream, approx. 0°40'N, 51°40'W. Holotype: MZUSP 41762.

Maximum length: 8.7 cm SL

Distribution: South America: Rivers of Amapá, and Capim, Tocantins, and lower Xingu River basins in Pará, Brazil, Yasuni River, eastern Ecuador.

Countries: Brazil, Ecuador

***Cyphocharax helleri* (Steindachner, 1910)**

Curimatus helleri Steindachner, 1910: 266. Type locality: Oberen Surinam [=Upper Suriname River, Suriname]. Type missing.

Curimatus vandeli Puyo, 1943: 145, fig. 3. Type locality: Une petite crique de la région du haut Marouni [=small creek in region of upper Marouni River, French Guiana]. Holotype: apparently lost.

Curimatopsis (Hemicurimata) esperanzae pijpersi Géry, 1965: 123, pl. 2 (fig. 18). Type locality: "Vier Gebroeders Creek", Paru Savannah, Sipaliwini River basin, Suriname. Holotype: ZMA 104.283.

Maximum length: 9.6 cm SL

Distribution: South America: Cuyuni River basin of eastern Venezuela, Atlantic drainages of Guyana, Suriname, French Guiana, and Cupixi River of Amapá State.

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela

Remarks and references: See Vari (1992b: 32) for detailed description.

Common names: Branquinha (Brazil), Curimata (French Guiana), Yaya curimata (French Guiana)

***Cyphocharax laticlavus* Vari & Blackledge, 1996**

Cyphocharax laticlavus Vari & Blackledge, 1996: 109, fig. 1. Type locality: Ecuador, Provincia Napo, Río Yasuni basin, quebrada tributary to Río Jatuncocha (approx. 1 km upstream from Laguna Jatuncocha, 1°00'06"S, 75°31'36"W). Holotype: FMNH 101503.

Maximum length: 5.3 cm SL

Distribution: South America: Tributary to Jatuncocha Lagoon, Napo Province.

Countries: Ecuador

***Cyphocharax leucostictus* (Eigenmann & Eigenmann, 1889)**

Curimatus leucostictus Eigenmann & Eigenmann, 1889a: 425. Type locality: Rio Negro, Lago Alexo [=Brazil, Amazonas, Negro River, Lago do Aleixo]. Lectotype: MCZ 787, designated by Vari (1992b: 28).

Curimatus (Curimatella) xinguensis Steindachner, 1908: 167. Type locality: Rio Xingu, Brazil. Holotype: NMW 68817.

Maximum length: 10.5 cm SL

Distribution: South America: Amazon River basin and coastal drainages of Amapá State.

Countries: Brazil, Venezuela

Remarks and references: See Vari (1992b: 26) for detailed description.

***Cyphocharax magdalenae* (Steindachner, 1878)**

Curimatus magdalenae Steindachner, 1878: 90. Type locality: Magdalenaen-Stromes [Magdalena River, Colombia]. Lectotype: NMW 68873.1, designated by Vari (1992b: 58).

Pseudocurimata steindachneri Fernández-Yépez, 1948: 48, fig. 24. Type locality: Boca de Certegui, Hoya del Magdalena [=Colombia, Magdalena River, Truado]. Holotype: CAS 60623.

Maximum length: 15.1 cm SL

Distribution: South America: Magdalena and Atrato River basins, rivers of Pacific versant of Panama, and southwestern Costa Rica.

Countries: Colombia, Costa Rica, Panama

Remarks and references: See Vari (1992b: 56) for detailed description.

Common names: Campiniz (Colombia), Capani (Costa Rica), Madre de Bocochio (Colombia), Viejita (Colombia)

***Cyphocharax meniscaprorus* Vari, 1992**

Cyphocharax meniscaprorus Vari, 1992b: 105, fig. 79. Type locality: Venezuela, Bolívar, Río Aro, about 3 km downstream from bridge at Rt 19, about 85 km from Ciudad Bolívar (approx. 8°0'N, 64°15'W). Holotype: MBUCV V-20333.

Maximum length: 5.7 cm SL

Distribution: South America: Known only from the type locality, the Aro River of the Orinoco basin.

Countries: Venezuela

***Cyphocharax mestomyllon* Vari, 1992**

Cyphocharax mestomyllon Vari, 1992b: 77, fig. 54. Type locality: Brazil, Amazonas, Rio Negro basin, Rio Marauíá, Cachoeira de Bicho-Açu (approx. 0°20'S, 65°29'W). Holotype: MZUSP 41755.

Maximum length: 4.2 cm SL

Distribution: South America: Known only from the type locality, Cachoeira de Bicho-Açu along the Marauíá River, Negro River basin.

Countries: Brazil

***Cyphocharax microcephalus* (Eigenmann & Eigenmann, 1889)**

Curimatus microcephalus Eigenmann & Eigenmann, 1889a: 423. Type locality: Suriname. Lectotype: MCZ 785, designated by Vari (1992b: 56).

Maximum length: 16.9 cm SL

Distribution: South America: Atlantic drainages of Guyana, Suriname, and possibly French Guiana.

Countries: French Guiana (?), Guyana, Suriname

Remarks and references: See Vari (1992b: 54) for detailed description.

Cyphocharax modestus (Fernández-Yépez, 1948)

Curimantorbis modestus Fernández-Yépez, 1948: 43, fig. 21. Type locality: Isla Victoria, Sao Paulo, Brazil [=Brazil, São Paulo, Batalha River, tributary of Tietê River, near Bauru (Britski 1969: 201, 203)]. Holotype: CAS 20299.

Maximum length: 16.2 cm SL

Distribution: South America: Upper Paraná River basin and Paraguay River above Sete Quedas Falls.

Countries: Brazil, Paraguay

Remarks and references: See Vari (1992b: 82) for detailed description.

Common names: Saguiru (Brazil)

Cyphocharax multilineatus (Myers, 1927)

Curimatus multilineatus Myers, 1927: 109. Type locality: Brazil: Rio Negro, Bucury [=Bucuri]. Holotype: CAS 58605.

Maximum length: 10.9 cm SL

Distribution: South America: Upper Negro River in both Brazil and Venezuela and upper portions of Orinoco River in Venezuela.

Countries: Brazil, Venezuela

Remarks and references: See Vari (1992b: 38) for detailed description.

Cyphocharax nagelii (Steindachner, 1881)

Curimatus nagelii Steindachner, 1881a: 98. Type locality: Umgebung von Rio de Janeiro [=vicinity of Rio de Janeiro, Brazil; apparently erroneous (Vari, 1992b: 26)]. Holotype: NMW 68808.

Maximum length: 16.3 cm SL

Distribution: South America: Upper Paraná River basin.

Countries: Brazil

Remarks and references: See Vari (1992b: 23) for detailed description.

Cyphocharax nigripinnis Vari, 1992

Cyphocharax nigripinnis Vari, 1992b: 49, figs. 29-30. Type locality: Brazil, Roraima, Rio Branco, Praia do Xerui, approx. 1°00'S, 61°50'W. Holotype: MZUSP 42025.

Maximum length: 6.5 cm SL

Distribution: South America: Central and eastern portions of the Amazon River basin.

Countries: Brazil

Cyphocharax notatus (Steindachner, 1908)

Curimatus notatus Steindachner, 1908: 166. Type locality: Fischmarkt zu Pará [=Belém fish market, Pará, Brazil]. Holotype: NMW 75793.

Curimatus hermanni Ahl, 1931: 207. Type locality: Rio Capim (Pará, Brazil).

Maximum length: 12.3 cm SL

Distribution: South America: Tocantins, Amazon, and Capim River basins.

Countries: Bolivia, Brazil, Ecuador, Peru

Remarks and references: See Vari (1992b: 42) for detailed description.

Cyphocharax oenas Vari, 1992

Cyphocharax oenas Vari, 1992b: 121, fig. 93. Type locality: Venezuela, Territorio Federal Delta Amacuro, secondary caño off Caño Paloma, 92 nautical miles from sea buoy (8°28'00"N, 61°25'36"W). Holotype: MBUCV V-20336.

Maximum length: 4.8 cm SL

Distribution: South America: Central and eastern portions of the Orinoco River basin.

Countries: Venezuela

Cyphocharax pantostictos Vari & Barriga S., 1990

Cyphocharax pantostictos Vari & Barriga S., 1990: 551, fig. 1. Type locality: Ecuador, Napo, Laguna de Jatuncocha, 1°00'S,

75°29'W. Holotype: USNM 306594.

Maximum length: 9.8 cm SL

Distribution: South America: Western portions of Amazon River basin.

Countries: Ecuador, Peru

Remarks and references: See Vari (1992b: 30) for detailed description.

Cyphocharax platanus (Günther, 1880)

Curimatus platanus Günther, 1880: 12. Type locality: Río de la Plata, Argentina. Lectotype: BMNH 1878.5.16.59, designated by Vari (1992b: 23).

Maximum length: 13.4 cm SL

Distribution: South America: La Plata River basin other than for upper Paraná River above Sete Quedas Falls and upper Paraguay River.

Countries: Argentina, Brazil, Paraguay, Uruguay

Remarks and references: See Vari (1992b: 22) for detailed description.

Common names: Birú (Brazil)

Cyphocharax plumbeus (Eigenmann & Eigenmann, 1889)

Curimatus plumbeus Eigenmann & Eigenmann, 1889a: 425. Type locality: Lake Hyanuary [= Brazil, Amazonas, Paraná do Januari]. Lectotype: MCZ 31493, designated by Vari (1991b: 53).

Maximum length: 17.8 cm SL

Distribution: South America: Amazon and Tocantins River basins.

Countries: Bolivia, Brazil, Peru

Remarks and references: See Vari (1992b: 51) for detailed description.

Common names: Sabaru (Brazil)

Cyphocharax punctatus (Vari & Nijssen, 1986)

Curimata punctata Vari & Nijssen, 1986: 52, pl. 1 (figs. 1-4). Type locality: Suriname, Marowijne District, Marowijne River system, Litani River near Kawatop Village, 3°11'N, 54°12'W. Holotype: USNM 275000.

Maximum length: 4.3 cm SL

Distribution: South America: Apparently endemic to the Marowijne River basin.

Countries: French Guiana, Suriname

Remarks and references: See Vari (1992b: 63) for detailed description.

Cyphocharax saladensis (Meinken, 1933)

Curimatopsis saladensis Meinken, 1933: 71, fig. Type locality: Rio Salada und seine Nebenflüsse [=Salado River, affluent to Paraná River, Santa Fé region, Argentina]. Type missing.

Maximum length: 6.7 cm SL

Distribution: South America: Southern part of La Plata River basin and coastal drainages of Rio Grande do Sul and Santa Catarina States.

Countries: Argentina, Brazil, Paraguay

Remarks and references: See Vari (1992b: 71) for detailed description.

Common names: Birú (Brazil)

Cyphocharax santacatarinae (Fernández-Yépez, 1948)

Pseudocurimata santacatarinae Fernández-Yépez, 1948: 50, fig. 25. Type locality: Santa Catarina, Brazil [=Hansa, às margens do Rio Itajai, perto Blumenau, Estado de Santa Catarina; =Hansa, margin of Rio Itajai, near Blumenau, Estado de Santa Catarina, Brazil (Britski 1969: 203)]. Holotype: CAS 11581.

Curimata vari Gaye-Siessegger & Fricke, 1998: 3, fig. 1. Type locality: Rio Cubatao, 2 km above national hwy bridge, 27°41'30"S, 48°40'50"W, Santa Catarina, Brazil. Holotype: MCP 22105.

Maximum length: 20.1 cm SL

Distribution: South America: Coastal rivers of Paraná, Santa Catarina, and southern São Paulo States.

Countries: Brazil

Remarks and references: See Vari (1992b: 93) for detailed description.

Common names: Peixe-Duro (Brazil), Saguairú (Brazil), Saguaru (Brazil)

***Cyphocharax signatus* Vari, 1992**

Cyphocharax signatus Vari, 1992b: 67, fig. 47. Type locality: Brazil, Goiás, Rio Vermelho, where crossed by road from Aruanã to Britânia, pool along side of main channel. Holotype: MZUSP 41757.

Maximum length: 3.3 cm SL

Distribution: South America: Known only from the type locality, the Vermelho River, a tributary of the Araguaia River of the Tocantins River basin.

Countries: Brazil

***Cyphocharax spilotos* (Vari, 1987)**

Curimata spilota Vari, 1987: 603, fig. 1. Type locality: Brazil, Rio Grande do Sul, Rio Santa Maria, at bridge on highway BR-293 between Dom Pedrito and Livramento. Holotype: MZUSP 37133.

Curimata gnaca Azpelicueta & Braga, 1988: 118, fig. 1. Type locality: Pond of the Barrio Toba, a city district of Resistencia, Chaco Province, Argentina. Holotype: MLP 2-III-68-18.

Maximum length: 8.9 cm SL

Distribution: South America: Uruguay, lower Paraná, and Paraguay River basins.

Countries: Argentina, Brazil, Paraguay

Remarks and references: See Vari (1992b: 72) for detailed description.

***Cyphocharax spiluroopsis* (Eigenmann & Eigenmann, 1889)**

Curimatus spiluroopsis Eigenmann & Eigenmann, 1889a: 420. Type locality: Ica [=Iça River near Brazilian-Colombia border]. Lectotype: MCZ 20818, designated by Vari (1992b: 114).

Curimatus stigmaturus Fowler, 1914: 673. Type locality: Nauta, on the Marañon River, Peru. Holotype: ANSP 21424 (poor condition).

Curimata esperanzae Myers, 1929: 620. Type locality: Cachuela Esperanza, Río Beni, Bolivia. Lectotype: CAS 63049, designated by Vari (1992b: 120).

Curimatoides ucayalensis Fowler, 1940: 256, fig. 55. Type locality: Ucayali River basin, Contamana, Peru. Holotype: ANSP 68670.

Maximum length: 9 cm SL

Distribution: South America: Central and western portions of the Amazon River basin.

Countries: Bolivia, Brazil, Ecuador, Peru

Remarks and references: See Vari (1992b: 114) for detailed description

***Cyphocharax spilurus* (Günther, 1864)**

Curimatus spilurus Günther, 1864: 288. Type locality: Essequibo [=Essequibo River, Guyana]. Lectotype: BMNH 1864.1.21.70, designated by Vari (1992b: 101).

Curimatus surinamensis Steindachner, 1910: 267. Type locality: Oberen Surinam [=upper Suriname River, Suriname]. Type missing.

Maximum length: 10.4 cm SL

Distribution: South America: Cuyuni River in Guyana and eastern Venezuela; coastal rivers of the Guianas from the Essequibo River of Guyana to Mana River of French Guiana; upper Branco River in Brazil; possibly occurring in Orinoco and upper Negro rivers.

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela

Remarks and references: See Vari (1992b: 100) for detailed description.

Common names: Branquinha (Brazil), Coumarou (French Guiana), Courimata (French Guiana), Cuticuru (Guyana), Maka Fisi (Suriname)

***Cyphocharax stilbolepis* Vari, 1992**

Cyphocharax stilbolepis Vari, 1992b: 20, figs. 4-5. Type locality: Brazil, Pará, Rio Xingu, Belo Monte (approx. 3°10'S, 5°50'W).

Holotype: MZUSP 41759.

Maximum length: 10.8 cm SL

Distribution: South America: Tocantins and Xingu River basins.

Countries: Brazil

***Cyphocharax vanderi* (Britski, 1980)**

Curimata vanderi Britski, 1980: 327, fig. 1. Type locality: Lagoa marginal do Rio Corumbataí, São Paulo (Brazil). Holotype: MZUSP 4325.

Maximum length: 6.8 cm SL

Distribution: South America: Upper Paraná River basin.

Countries: Brazil

Remarks and references: See Vari (1992b: 65) for detailed description.

***Cyphocharax vexillapinnus* Vari, 1992**

Cyphocharax vexillapinnus Vari, 1992b: 39, figs. 20-22. Type locality: Peru, Loreto, Río Itaya, main river

channel and mouth of caños entering river, 10 km upstream of Belén (Iquitos) (approx. 3°51'S, 73°12'W). Holotype:

USNM 296394.

Maximum length: 6.3 cm SL

Distribution: South America: Middle and upper portions of the Amazon River basin.

Countries: Brazil, Ecuador, Peru

***Cyphocharax voga* (Hensel, 1870)**

Curimatus voga Hensel, 1870: 78. Type locality: Rio dos Sinos bei S Leopoldo [=Dos Sinos River at São Leopoldo, Brazil]. Lectotype: ZMB 7472, designated by Vari (1992b: 81).

Curimatopsis maculatus Ahl, 1934: 240. Type locality: Argentinien [=Argentina]. Holotype: ZMB 20818.

Maximum length: 19.6 cm SL

Distribution: South America: Coastal rivers of Rio Grande do Sul and southern Santa Catarina States; Uruguay; Buenos Aires region and the rivers draining into La Plata River estuary; lower Paraná and Paraguay River basin.

Countries: Argentina, Brazil, Paraguay, Uruguay

Remarks and references: See Vari (1992b: 70) for detailed description.

POTAMORHINA

Potamorhina Cope, 1878: 675. Type species: *Curimatus (Anodus) pristigaster* Steindachner, 1876. Type by monotypy. Gender: feminine. Revised by Vari (1984a), with species descriptions, geographical distribution, and phylogenetic analysis.

Gasterotomus Eigenmann, 1910: 422. Type species: *Anodus latior* Spix & Agassiz, 1829. Type by original designation. Gender: masculine.

Suprasinelepicthys Fernández-Yépez, 1948: 35. Type species: *Curimatus laticeps* Valenciennes, 1850. Type by original designation. Gender: masculine.

***Potamorhina altamazonica* (Cope, 1878)**

Curimatus altamazonicus Cope, 1878: 684. Type locality: Peruvian Amazon. Lectotype: ANSP 21118, designated by Fowler (1906: 305).

Maximum length: 27 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Introduced into northeastern Brazil.
 Countries: Bolivia, Brazil, Colombia, Peru, Venezuela
 Remarks and references: See Vari (1984a: 19) for detailed description.
 Common names: Branquinha cabeça lisa (Brazil), Yahuarachi (Peru)

***Potamorhina laticeps* (Valenciennes, 1850)**

Curimatus laticeps Valenciennes in Cuvier & Valenciennes, 1850: 21, pl. 634. Type locality: Eaux douces des environs de la grande lagune de Maracaïbo [=freshwaters around Maracaibo Lake, Venezuela]. Lectotype: MNHN A.9772, designated by Vari (1984a: 26).

Maximum length: 25 cm SL
 Distribution: South America: Maracaibo Lake basin.
 Countries: Colombia, Venezuela
 Remarks and references: See Vari (1984a: 23) for detailed description.
 Common names: Manamana (Colombia), Manamana (Venezuela)

***Potamorhina latior* (Spix & Agassiz, 1829)**

Anodus latior Spix & Agassiz, 1829: 62, pl. 41. Type locality: Brasiliae aequatorialis fluviis [=rivers of equatorial Brazil]. No types known.

Maximum length: 20.5 cm SL
 Distribution: South America: Amazon River basin.
 Countries: Bolivia, Brazil, Colombia, Peru
 Remarks and references: See Vari (1984a: 29) for detailed description.
 Common names: Branquinha comum (Brazil), Yahuarachi (Peru)

***Potamorhina pristigaster* (Steindachner, 1876)**

Curimatus (Anodus) pristigaster Steindachner, 1876: 73, pl. 6. Type locality: Mündung des Río Negro, Tefé [=mouth of Negro River and Tefé, Amazonas, Brazil]. Lectotype: NMW 66920, designated by Vari (1984a: 19).

Maximum length: 21.9 cm SL
 Distribution: South America: Amazon River basin.
 Countries: Brazil, Peru
 Remarks and references: See Vari (1984a: 17) for detailed description.
 Common names: Yahuarachi (Peru)

***Potamorhina squamoralevis* (Braga & Azpelicueta, 1983)**

Semítapiscis squamoralevis Braga & Azpelicueta, 1983: 140, figs. 1-2. Type locality: Río Paraná, Rosario (Santa Fe), Argentina. Holotype: MLP 29-V-40-52.

Maximum length: 23.4 cm SL
 Distribution: South America: Paraguay and Paraná River basins.
 Countries: Argentina, Brazil, Paraguay, Uruguay
 Remarks and references: See Vari (1984a: 26) for detailed description.

PSECTROGASTER

Psectrogaster Eigenmann & Eigenmann, 1889b: 7. Type species: *Psectrogaster rhomboides* Eigenmann & Eigenmann, 1889. Type by original designation. Gender: feminine. Revised by Vari (1989c), with species descriptions, geographical distribution, and phylogenetic analysis.

Hamatichthys Fernández-Yépez, 1948: 33. Type species: *Anodus ciliatus* Müller & Troschel, 1845. Type by original designation. Gender: masculine.

Pseudopsectrogaster Fernández-Yépez, 1948: 31. Type species: *Psectrogaster curviventris* Eigenmann & Kennedy, 1903. Type by original designation. Gender: feminine.

Semelcarinata Fernández-Yépez, 1948: 59. Type species: *Curimatus ignathus* Eigenmann & Eigenmann, 1889. Type by original designation. Gender: feminine.

***Psectrogaster amazonica* Eigenmann & Eigenmann, 1889**

Psectrogaster amazonica Eigenmann & Eigenmann, 1889a: 413. Type locality: Tefé, Ica, Tabatinga, Obidos, Fonteboa, Lago Alexo, Jutahy, Tonantins, Santarem, Hyavary, Curupira [=Tefe, Iça River, Tabatinga, Óbidos, Fonte Boa, Lago do Aliexo, Jutaf, Tonantins, Santarém, Javari River, and Lago Curupira, Brazil]. Lectotype: MCZ 20312, designated by Vari (1989c: 34).

Maximum length: 16.7 cm SL
 Distribution: South America: Tocantins and Amazon River basins.
 Countries: Brazil, Ecuador, Peru
 Remarks and references: See Vari (1989c: 31) for detailed description.
 Common names: Branquinha comun (Brazil), Cascudinha (Brazil), Chico-duro (Brazil), Chio chio (Peru)

***Psectrogaster ciliata* (Müller & Troschel, 1844)**

Anodus ciliatus Müller & Troschel, 1844: 84. Type locality: Guiana, aus dem see Amucu [=Lake Amucu, Guiana]. Holotype: ZMB 3828.

Maximum length: 12.9 cm SL
 Distribution: South America: Essequibo, Orinoco, and Branco River basins, central portion of Amazon River basin.
 Countries: Brazil, Colombia, Guyana, Venezuela
 Remarks and references: See Vari (1989c: 17) for detailed description.

***Psectrogaster curviventris* Eigenmann & Kennedy, 1903**

Psectrogaster curviventris Eigenmann & Kennedy, 1903: 509. Type locality: Asuncion, Río Paraguay, Paraguay. Holotype: CAS 57145.

Curimata pearsoni Myers, 1929: 621. Type locality: Cachuela Esperanza, Río Beni, Bolivia. Holotype: CAS 57147.

Psectrogaster rhomboides australis Risso & Sánchez, 1964: 7, pl. 1. Type locality: Laguna de los alrededores de Resistencia, Argentina. Holotype: Mus. Cienc. Nat. del Chaco 37/60.

Maximum length: 17.1 cm SL
 Distribution: South America: Paraguay and southern portions of Madeira River basins.
 Countries: Argentina, Bolivia, Brazil, Paraguay
 Remarks and references: See Vari (1989c: 27) for detailed description.
 Common names: Sabalina (Bolivia)

***Psectrogaster essequibensis* (Günther, 1864)**

Curimatus essequibensis Günther, 1864: 291. Type locality: Essequibo [=Essequibo River, Guyana]. Lectotype: BMNH 1864.1.21.61, designated by Vari (1989c: 15).

Maximum length: 16.9 cm SL
 Distribution: South America: Essequibo and Amazon River basins.
 Countries: Bolivia, Brazil, Guyana, Peru
 Remarks and references: See Vari (1989c: 13) for detailed description.

***Psectrogaster falcata* (Eigenmann & Eigenmann, 1889)**

Curimatus falcatus Eigenmann & Eigenmann, 1889a: 430. Type locality: Xingu, Gurupa [=Xingu River, Gurupa, Brazil]. Lectotype: MCZ 20340, designated by Vari (1989c: 13).

Maximum length: 16.8 cm SL
 Distribution: South America: Lower portions of Amazon River basin.
 Countries: Brazil
 Remarks and references: See Vari (1989c: 15) for detailed description.

***Psectrogaster rhomboides* Eigenmann & Eigenmann,**

1889

Psectrogaster rhomboides Eigenmann & Eigenmann, 1889b: 7. Type locality: Rio Putz, San Goncallo [Poti River at Teresina, Parnaíba River at Amarante, Brazil]. Lectotype: MCZ 20306, designated by Vari (1989c: 36).

Maximum length: 17.8 cm SL

Distribution: South America: Parnaíba and Jaguaribe River basins. Countries: Brazil

Remarks and references: See Vari (1989c: 34) for detailed description.

***Psectrogaster rutiloides* (Kner, 1858)**

Curimatus rutiloides Kner, 1858: 76. Type locality: Matogrosso, Barra do Rio Negro [=Mato Grosso and Manaus, Brazil]. Lectotype: NMW 75980.2, designated by Vari (1989c: 25,27).

Curimatus isognathus Eigenmann & Eigenmann, 1889a: 428. Type locality: Lago Alexo, Ica, Manacapuru, San Paulo [=Lago do Aleixo, Iça River, near Brazilian-Colombian border, Lago Grande de Manacapuru, Solimões River at San Paulo de Olivença, Brazil]. Lectotype: MCZ 20314, designated by Vari (1989c: 23).

Psectrogaster auratus Gill, 1896: 201. Type locality: Bolivia. Holotype: USNM 5878.

Maximum length: 14.3 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil, Colombia, Peru

Remarks and references: See Vari (1989c: 23) for detailed description.

Common names: Branquinha cascuda (Brazil), Chio chio (Peru)

***Psectrogaster saguiru* (Fowler, 1941)**

Curimata saguiru Fowler, 1941: 164, fig. 77. Type locality: Lago Papary [=Lago Papari], Rio Grande do Norte, Brazil. Holotype: ANSP 69461.

Maximum length: 16.4 cm SL

Distribution: South America: Northeastern Brazil.

Countries: Brazil

Remarks and references: See Vari (1989c: 21) for detailed description.

PSEUDOCURIMATA

Pseudocurimata Fernández-Yépez, 1948: 45. Type species: *Curimatus lineopunctatus* Boulenger, 1911. Type by original designation. Gender: feminine. Revised by Vari (1989d), with species descriptions, geographical distribution, and phylogenetic analysis.

***Pseudocurimata boehlkei* Vari, 1989**

Pseudocurimata boehlkei Vari, 1989d: 21, figs. 15-17. Type locality: Ecuador, Esmeraldas, Esteros La Bocana del Cupa 100 m below Puerto Cupa, Río Esmeraldas basin (0°26'N, 79°26'W). Holotype: USNM 287745.

Maximum length: 10.9 cm SL

Distribution: South America: Esmeraldas and Santiago River basins.

Countries: Ecuador

***Pseudocurimata boulengeri* (Eigenmann, 1907)**

Curimatus guentheri Boulenger, 1898: 4. Type locality: Río Vinces (Ecuador). Lectotype: BMNH 1898.11.42.50, designated by Vari (1989d: 17). Preoccupied by *Curimatus guentheri* Eigenmann & Eigenmann, 1889, and replaced by *Curimatus boulengeri* Eigenmann, 1907 (also *Curimatus boulengeri* Pellegrin, 1908).

Curimatus boulengeri Eigenmann, in Eigenmann & Ogle, 1907: 3. Type locality: Río Vinces (Ecuador). Replacement name for *Curimatus guentheri* Boulenger, 1898, preoccupied by *Curimatus guentheri* Eigenmann & Eigenmann, 1889.

Curimatus boulengeri Pellegrin, 1908: 343 (footnote). Type locali-

ty: Río Vinces (Ecuador). Replacement for *Curimatus guentheri* Boulenger, 1898, preoccupied by *Curimatus guentheri* Eigenmann & Eigenmann, 1889; replaced earlier with same name by Eigenmann in Eigenmann & Ogle (1907).

Maximum length: 14.6 cm SL

Distribution: South America: Rivers draining into the northern portion of the Gulf of Guayaquil.

Countries: Ecuador

Remarks and references: See Vari (1989d: 17) for detailed description.

***Pseudocurimata lineopunctata* (Boulenger, 1911)**

Curimatus lineopunctatus Boulenger, 1911: 213. Type locality: Novita, Río Tamana, Choco Department, 150-200 ft., southwestern Colombia. Lectotype: BMNH 1910.7.11.159, designated by Vari (1989d: 14).

Maximum length: 11.4 cm SL

Distribution: South America: San Juan, Dagua and Atrato rivers of Colombia and rivers of northeastern Esmeraldas Province in Ecuador.

Countries: Colombia, Ecuador

Remarks and references: See Vari (1989d: 11) for detailed description.

***Pseudocurimata patiae* (Eigenmann, 1914)**

Curimatus patiae Eigenmann in Eigenmann, Henn & Wilson, 1914: 12. Type locality: Barbacoas [=Telembi River, Barbacoas, Lower Patia River system, Colombia]. Holotype: FMNH 56554.

Maximum length: 12.5 cm SL

Distribution: South America: Patia River basin.

Countries: Colombia

Remarks and references: See Vari (1989d: 14) for detailed description.

***Pseudocurimata peruana* (Eigenmann, 1922)**

Curimatus peruanus Eigenmann, 1922: 104, pl. 18 (fig. 4). Type locality: Sullana, Peru [=Chira River at Sullana, Peru]. Holotype: CAS 41722.

Maximum length: 12.7 cm SL

Distribution: South America: Chira and Piura River basins.

Countries: Peru

Remarks and references: See Vari (1989d: 15) for detailed description.

***Pseudocurimata troschelii* (Günther, 1860)**

Anodus troschelii Günther, 1860: 418. Type locality: Western Andes of Ecuador. Lectotype: BMNH 1860.6.16.173, designated by Vari (1989d: 20).

Curimatus brevipes Eigenmann & Ogle, 1907: 3, fig. 1. Type locality: Peru? [locality uncertain, probably Pacific coast drainages, Vari (1989d: 20)]. Holotype: USNM 35333.

Curimatus aureus Pellegrin, 1908: 342. Type locality: Río Guayas (Ecuador) [=Ecuador]. Lectotype: MNHN A.9774, designated by Vari (1989d: 20).

Maximum length: 15.5 cm SL

Distribution: South America: Rivers draining into Gulf of Guayaquil, and Zarumilla and Tumbes rivers in northern Peru.

Countries: Ecuador, Peru

Remarks and references: See Vari (1989d: 18) for detailed description.

STEINDACHNERINA

Steindachnerina Fowler, 1906: 298. Type species: *Curimatus trachystethus* Cope, 1878. Type by original designation. Gender: feminine. Revised by Vari (1991) with species descriptions, geographical distribution, and phylogenetic analysis.

Cruxentina Fernández-Yépez, 1948: 52. Type species: *Curimata hypostoma hastata* Allen, 1942. Type by original designation. Gender: feminine.

Curimatorbis Fernández-Yépez, 1948: 42. Type species: *Curimata atratoensis* Eigenmann, 1912. Type by original designation. Gender: masculine.

Rivasella Fernández-Yépez, 1948: 56. Type species: *Curimatus melaniris* Fowler, 1940. Type by original designation. Gender: feminine.

***Steindachnerina amazonica* (Steindachner, 1911)**

Curimatus elegans amazonica Steindachner, 1911: 330. Type locality: Rio Tocantins (Amazonas, Brazil). Lectotype: NMW 66988, designated by Vari (1991: 82).

Maximum length: 9.9 cm SL

Distribution: South America: Tocantins River basin.

Countries: Brazil

Remarks and references: See Vari (1991: 80) for detailed description.

***Steindachnerina argentea* (Gill, 1858)**

Curimatus argenteus Gill, 1858: 422. Type locality: Western portion of the island of Trinidad, W.I. [=West Indies]. Lectotype: USNM 1114, designated by Vari (1991: 41).

Maximum length: 9.3 cm SL

Distribution: South America: Orinoco River basin, Caribbean versant rivers of Venezuela, Trinidad.

Countries: Colombia, Trinidad and Tobago, Venezuela

Remarks and references: See Vari (1991: 37) for detailed description.

Common names: Hump-backed sardine (Trinidad and Tobago), Silverfish (Trinidad and Tobago), Stout sardine (Trinidad and Tobago)

***Steindachnerina atratoensis* (Eigenmann, 1912)**

Curimatus atratoensis Eigenmann, 1912: 19. Type locality: Quibdo, Colombia. Holotype: FMNH 56024.

Maximum length: 8.3 cm SL

Distribution: South America: Atrato River basin.

Countries: Colombia

Remarks and references: See Vari (1991: 61) for detailed description.

***Steindachnerina bimaculata* (Steindachner, 1876)**

Curimatus bimaculatus Steindachner, 1876: 76. Type locality: Hyavary, Mündung des Rio Negro [=Javari River, tributary of Solimões River at Peru-Brazil border and mouth of Negro River]. Lectotype: MCZ 20232, designated by Vari (1991: 48).

Curimatus trachystethus Cope, 1878: 684. Type locality: Peruvian Amazon. Holotype: ANSP 21470.

Curimatus bimaculatus sialis Eigenmann & Eigenmann, 1889a: 422. Type locality: Manacapuru [=Lago Manacapuru, Brazil]. Lectotype: USNM 120401, designated by Vari (1991: 49).

Prochilodus pterostigma Fowler, 1913: 520, fig. 3. Type locality: Madeira River, about twenty 20 miles north of Porto Velho, Brazil. Holotype: ANSP 39187.

Curimatus semiornatus Steindachner, 1914: 262. Type locality: Mündung des Rio Negro [=mouth of Negro River, Brazil]. Lectotype: NMW 67102, designated by Vari (1991: 50).

Curimata melaniris Fowler, 1940: 253, fig. 54. Type locality: Ucayali River basin, Boca Chica, Peru. Holotype: ANSP 68669.

Maximum length: 13.3 cm SL

Distribution: South America: Amazon and lower Orinoco River basins.

Countries: Bolivia, Brazil, Colombia, Ecuador, Peru, Venezuela

Remarks and references: See Vari (1991: 46) for detailed description.

***Steindachnerina binotata* (Pearson, 1924)**

Curimatus binotatus Pearson, 1924: 28, pl. 9 (fig. 1). Type locality: Rurrenabaque (Bolivia). Holotype: CAS 60627.

Maximum length: 13.3 cm SL

Distribution: South America: Western portions of Amazon River

basin.

Countries: Bolivia, Peru

Remarks and references: See Vari (1991: 36) for detailed description.

***Steindachnerina biornata* (Braga & Azpelicueta, 1987)**

Curimata biornata Braga & Azpelicueta, 1987: 466, figs. 1-2. Type locality: Arroyo Juan Blanco, tributary of Río de la Plata, Municipality of Magdalena, Buenos Aires Province, Argentina (approx. 35°11'S, 57°24'W). Holotype: MLP 10-I-50-13.

Curimata stigmata Vari, 1987: 606, fig. 3. Type locality: Brazil, Rio Grande do Sul, Rio Jacuí, at bridge on the road between Santa Maria and Veracruz (approx. 29°41'S, 53°19'W). Holotype: MZUSP 37135.

Maximum length: 7.3 cm SL

Distribution: South America: Atlantic coastal drainages of Rio Grande do Sul State; Uruguay; Uruguay River in Santa Catarina State; and lower Paraná and Paraguay rivers.

Countries: Argentina, Brazil, Paraguay, Uruguay

Remarks and references: See Vari (1991: 51) for detailed description.

***Steindachnerina brevipinna* (Eigenmann & Eigenmann, 1889)**

Curimatus gilberti brevipinnis Eigenmann & Eigenmann, 1889a: 424. Type locality: Rosario (La Plata) [=Rosario, La Plata River system, Santa Fé, Argentina]. Holotype: MCZ 789.

Curimatus nitens Holmberg, 1891: 184. Type locality: República Argentina, Río Paraguay. No types known.

Curimatus nigrotaenia Boulenger, 1902: 285. Type locality: Rio Coxipo, Mato Grosso (Brazil). Lectotype: BMNH 1902.2.10.30, designated by Vari (1991: 100).

Maximum length: 10.9 cm SL

Distribution: South America: Paraguay, lower Paraná, and lower Uruguay River basins.

Countries: Argentina, Brazil, Paraguay, Uruguay

Remarks and references: See Vari (1991: 97) for detailed description.

***Steindachnerina conspersa* (Holmberg, 1891)**

Curimatus conspersus Holmberg, 1891: 185. Type locality: República Argentina, Río Paraguay, al pie de Formosa. No types known.

Maximum length: 12.8 cm SL

Distribution: South America: Paraguay River basin.

Countries: Argentina, Brazil, Paraguay, Uruguay

Remarks and references: See Vari (1991:42) for detailed description.

***Steindachnerina dobula* (Günther, 1868)**

Curimatus dobula Günther, 1868: 479. Type locality: Huallaga [=Huallaga River, Peru]. Lectotype: BMNH 1867.6.13.55, designated by Vari (1991: 69).

Curimatus nasus Steindachner, 1882b: 142. Type locality: Canelos, Ecuador. Lectotype: NMW 68900.1, designated by Vari (1991: 69).

Prochilodus stigmaturus Fowler, 1911: 494, fig. 1. Type locality: Affluent of the Chimbo River near Bucay, Province of Guayas, Ecuador [stated type locality erroneous, probably from eastern slope of Andes (Vari, 1991: 66)]. Holotype: ANSP 39104.

Curimata hypostoma hastata Allen, in Eigenmann & Allen, 1942: 297. Type locality: Río Pichis, Puerto Bermudez (Peru). Holotype: CAS 19881.

Curimata niceforoi Fowler, 1943: 224, figs. 1-3. Type locality: Florencia, Colombia [=Orteguasa River, Florencia, Caquetá Department, Colombia]. Holotype: ANSP 70490.

Maximum length: 16.3 cm SL

Distribution: South America: Western portions of the Amazon

River basin.

Countries: Bolivia, Brazil, Colombia, Ecuador, Peru

Remarks and references: See Vari (1991: 66) for detailed description.

***Steindachnerina elegans* (Steindachner, 1874)**

Curimatus elegans Steindachner, 1874: 529. Type locality: Rio Arassuahy, ein neben fluss des Jequitinhonha in der Provinz Minas Gerais [=Araçuaí River, tributary of Jequitinhonha River, Minas Gerais, Brazil]. Lectotype: NMW 67001.1, designated by Vari (1991: 95).

Curimatus elegans bahiensis Eigenmann & Eigenmann, 1889a: 421. Type locality: Bahia [=Salvador and environs, Bahia, Brazil]. Lectotype: MCZ 20325, designated by Vari (1991: 96).

Maximum length: 10.6 cm SL

Distribution: South America: Pardo and Jequitinhonha rivers in Bahia and Minas Gerais States, São Francisco River basin, and coastal rivers of Bahia State.

Countries: Brazil

Remarks and references: See Vari (1991: 92) for detailed description.

Common names: Biruba (Brazil)

***Steindachnerina fasciata* (Vari & Géry, 1985)**

Curimata fasciata Vari & Géry, 1985: 1030, fig. 1. Type locality: Rio Romari (or São Domingo) near Nova União, Municipality of Ouro Preto do Oeste, Território de Rondônia, 10°53'17"S, 62°33'35"W, Brazil. Holotype: MNRJ 11208.

Maximum length: 9.6 cm SL

Distribution: South America: Upper portions of the eastern drainages of the Madeira River basin.

Countries: Brazil

Remarks and references: See Vari (1991: 63) for detailed description.

***Steindachnerina gracilis* Vari & Vari, 1989**

Steindachnerina gracilis Vari & Vari, 1989: 474, figs. 1d, 5. Type locality: Brazil, Goiás, Rio Araguaia, Araunã, approx. 14°54'S, 51°05'W. Holotype: MZUSP 4847.

Maximum length: 7.3 cm SL

Distribution: South America: Tocantins River basin.

Countries: Brazil

Remarks and references: See Vari (1991: 55) for detailed description.

***Steindachnerina guentheri* (Eigenmann & Eigenmann, 1889)**

Curimatus guentheri Eigenmann & Eigenmann, 1889a: 423. Type locality: Tabatinga (Amazonas, Brazil). Holotype: MCZ 20245.

Curimatus morawhanna Eigenmann, 1912: 266, pl. 34 (fig. 3). Type locality: Morawhanna, British Guiana [=Guyana]. Holotype: FMNH 53650.

Curimatus issororoensis Eigenmann, 1912: 266, pl. 34 (fig. 4). Type locality: Issoror Rubber Plantation, British Guiana [=Guyana]. Holotype: FMNH 53647.

Curimatus metae Eigenmann, 1922: 230, pl. 17 (fig. 1). Type locality: Quebrada Cramalote, Villavicencio, Colombia. Holotype: FMNH 55143.

Curimata robustula Allen in Eigenmann & Allen, 1942: 298. Type locality: creek, Yurimaguas (Loreto, Peru). Lectotype: CAS 63052, designated by Vari (1991: 87).

Maximum length: 11.1 cm SL

Distribution: South America: Northeastern Guyana, Orinoco River basin, western Amazon River basin.

Countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Venezuela

Remarks and references: See Vari (1991: 83) for detailed description.

***Steindachnerina hypostoma* (Boulenger, 1887)**

Curimatus hypostoma Boulenger, 1887: 172. Type locality: Ucayali River [=Ucayali River, Peru]. Lectotype: BMNH 1881.5.13.105, designated by Vari & Vari (1989: 473).

Maximum length: 9.8 cm SL

Distribution: South America: Central and western portions of the Amazon River basin.

Countries: Bolivia, Brazil, Peru

Remarks and references: See Vari (1991: 53) for detailed description.

Common names: Chio-chio (Peru)

***Steindachnerina insculpta* (Fernández-Yépez, 1948)**

Cruxentina insculpta Fernández-Yépez, 1948: 53, figs. 27-28. Type locality: Rio Tatuhy, Sao Paulo, Brasil [=Tatuí River, Estado de São Paulo, Brazil]. Holotype: CAS 20312.

Maximum length: 10.6 cm SL

Distribution: South America: Upper Paraná River basin.

Countries: Brazil

Remarks and references: See Vari (1991: 71) for detailed description.

***Steindachnerina leucisca* (Günther, 1868)**

Curimatus leuciscus Günther, 1868b: 479. Type locality: Huallaga [=Huallaga River, Peru]. Lectotype: BMNH 1867.6.13.53.

Curimatus leuciscus boliviae Eigenmann & Ogle, 1907: 4. Type locality: Bolivia [=Mamoré River, Bolivia]. Holotype: USNM 44832.

Allenina pectinata Fernández-Yépez, 1948: 40, fig. 19. Type locality: Maracapuru, Brasil [=Lago Grande de Manacapuru, Brazil]. Holotype: CAS 57149.

Maximum length: 15.1 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil, Peru

Remarks and references: See Vari (1991: 32) for detailed description.

Common names: Julilla (Peru)

***Steindachnerina notonota* (Miranda Ribeiro, 1937)**

Curimatus notonotus Miranda Ribeiro, 1937: 55. Type locality: Rio Granjeiro, Ceará, Brazil. Lectotype: MNRJ 2611, designated by Vari (1991: 92).

Maximum length: 9.8 cm SL

Distribution: South America: Coastal rivers of northeastern Brazil.

Countries: Brazil

Remarks and references: See Vari (1991: 89) for detailed description.

Common names: Piabussú (Brazil), Saburú (Brazil)

***Steindachnerina planiventris* Vari & Vari, 1989**

Steindachnerina planiventris Vari & Vari, 1989: 479, figs. 1C, 11. Type locality: Brazil, Rondônia, Rio Machado, near mouth (approx. 8°03'S, 62°53'W). Holotype: MZUSP 38587.

Maximum length: 8.7 cm SL

Distribution: South America: Negro, Branco, and middle portions of Amazon River basins.

Countries: Bolivia, Brazil

Remarks and references: See Vari (1991: 59) for detailed description.

***Steindachnerina pupula* Vari, 1991**

Steindachnerina pupula Vari, 1991: 77, figs. 54-56. Type locality: Venezuela, Guarico, small caño draining into Río Orinoco, approximately 1 km upstream of mouth of Río Zuata. Holotype: MBUCV V-19300.

Maximum length: 9.9 cm SL

Distribution: South America: Orinoco River basin.

Countries: Colombia, Venezuela

***Steindachnerina quasimodoi* Vari & Vari, 1989**

Steindachnerina quasimodoi Vari & Vari, 1989: 476, figs. 6-7.
Type locality: Peru, Loreto, Río Javarí, near Petropolis. Holotype: USNM 293041.

Maximum length: 12.3 cm SL

Distribution: South America: Western portions of Amazon River basin.

Countries: Brazil, Peru

Remarks and references: See Vari (1991: 57) for detailed description.

***Steindachnerina varii* Géry, Planquette & Le Bail, 1991**

Steindachnerina varii Géry, Planquette & Le Bail, 1991: 32, pl. 8 (fig. 2). Type locality: Bassin du Maroni, Crique Awahakiki, French Guiana. Holotype: MHNG 2435.76.

Steindachnerina runa Vari, 1991: 75, figs. 50-53. Type locality: Suriname, Brokopondo, Morawijne or Gran Creek, 63 km S of Afobaka. Holotype: ZMA 120.501.

Maximum length: 9.4 cm SL

Distribution: South America: Coastal rivers of northeastern South America between the Suriname and Oyapock rivers.

Countries: Brazil, French Guiana, Suriname

References

- Ahl, E. 1931. Neue Süßwasserfische aus dem Stromgebiet des Amazonenstromes. Sitzungsber. Ges. Naturf. Freunde Berlin: 206-211.
- Ahl, E. 1934. Beschreibungen zweier neuer Süßwasserfische aus Südamerika. Sitzungsber. Ges. Naturf. Freunde Berlin 1934: 238-241.
- Azpelicueta, M.M. and L. Braga. 1988. A new species of *Curimata* (Characiformes, Curimatidae) from Paraná system, in Resistencia, Argentine. Stud. Neotrop. Fauna Environ., 23 (3): 117-122.
- Bloch, M.E. 1794. Naturgeschichte der ausländischen Fische, vol. 8. Berlin. iv + 174 p., pls. 361-396.
- Bloch, M.E. 1795-1797. Ichthyologie, ou Histoire naturelle, générale et particulière des poissons. Avec des figures enluminées dessinées d'après nature. In 12 parts. Berlin.
- Bosc, L.A.C. 1817. Nouveau dictionnaire d'histoire naturelle. 560 p. Paris.
- Boulenger, G.A. 1887. Descriptions of new South-American characinoid fishes. Ann. Mag. Nat. Hist. (Ser. 5), 19 (111): 172-174.
- Boulenger, G.A. 1898. Viaggio del Dr. Enrico Festa nell' Ecuador e regioni vicine. Poissons de l'Équateur. [Part I]. Boll. Mus. Zool. Anat. Comp. Torino, 13 (329): 1-13.
- Boulenger, G.A. 1902. Descriptions of new fishes and reptiles discovered by Dr. F. Silvestri in South America. Ann. Mag. Nat. Hist. (Ser. 7), 9 (52): 284-288.
- Boulenger, G.A. 1911. Descriptions of three new characinid fishes from south-western Colombia. Ann. Mag. Nat. Hist. (Ser. 8), 7 (38): 212-213.
- Braga, L. and M.M. Azpelicueta. 1983. *Semitapiscis squamoralensis* sp. nov. (Osteichthyes: Curimatidae), con consideraciones sobre el género. Stud. Neotrop. Fauna Environ., 18: 139-150.
- Braga, L. and M.M. Azpelicueta. 1987. *Curimata biornata*, a new curimatid fish (Characiformes, Curimatidae) from Argentine and southeastern Brazil. Rev. Suisse Zool., 94 (2): 465-473.
- Britski, H.A. 1969. Lista dos tipos de peixes das coleções do Departamento de Zoologia da Secretaria da Agricultura de São Paulo. Pap. Avulsos Dep. Zool. (São Paulo), 22 (19): 197-215.
- Britski, H.A. 1980. Sobre uma nova espécie de *Curimata* da Bacia do Paraná, no estado de São Paulo (Pisces, Curimatidae). Pap. Avulsos Dep. Zool. (São Paulo), 33 (23): 327-333.
- Bussing, W.A. 1998. Peces de las aguas continentales de Costa Rica; Freshwater Fishes of Costa Rica. 2nd Ed. Editorial de la Universidad de Costa Rica, San José. 468 p.
- Carvalho, F.M. 1984. Aspectos biológicos e ecofisiológicos de *Curimata (Potamorhina) pristigaster*, un Characoidei neotropico. Amazoniana, 8 (4): 525-539.
- Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. Proc. Am. Philos. Soc., 17 (101): 673-701.
- Cuvier, G. and A. Valenciennes. 1850. Histoire naturelle des poissons. Tome vingt-deuxième. Suite du livre vingt-deuxième. Suite de la famille des Salmonoïdes. Table générale de l'Histoire Naturelle des Poissons. Ch. Pitois, & V.^e Levrault, Paris & Strasbourg. xx + 1 + 532 + 91 p., pls. 634-650.
- Dahl, G. 1971. Los peces del norte de Colombia. Instituto de Desarrollo de los Recursos Naturales Renovables (INDERENA), Bogota. xvii + 391 p.
- Eigenmann, C.H. 1907. On a Collection of Fishes from Buenos Ayres. Proc. Washington Acad. Sci., 8: 449-458.
- Eigenmann, C.H. 1910. Catalogue of Freshwater Fishes of Tropical and South Temperate America. Report Princeton Univ. Exped. Patagonia, 1896-1899, 3 (4): 375-511.
- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. 1922. The fishes of western South America, Part I. The fresh-water fishes of northwestern South America, including Colombia, Panama, and the Pacific slopes of Ecuador and Peru, together with an appendix upon the fishes of the Rio Meta in Colombia. Mem. Carnegie Mus., 9 (1): 1-346, pls. 1-38.
- Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II.- The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. Univ. Kentucky. xv + 494 p., pls. 1-22.
- Eigenmann, C.H. and R.S. Eigenmann. 1889a. A revision of the edentulous genera of Curimatinae. Ann. N. Y. Acad. Sci., 4: 409-440.
- Eigenmann, C.H. and R.S. Eigenmann. 1889b. Preliminary description of new species and genera of Characinidae. West Amer. Sci., 6 (42): 7-8.
- Eigenmann, C.H., A.W. Henn and C. Wilson. 1914. New fishes from western Colombia, Ecuador, and Peru. Indiana Univ. Studies, no. 19: 1-15.
- Eigenmann, C.H. and C.H. Kennedy. 1903. On a collection of fishes from Paraguay, with a synopsis of the American genera of cichlids. Proc. Acad. Nat. Sci. Philadelphia, 55: 497-537.
- Eigenmann, C.H. and F. Ogle. 1907. An annotated list of characin fishes in the United States National Museum and the Museum of Indiana University, with descriptions of new species. Proc. U. S. Natl. Mus., 33 (1556): 1-36.
- Fernández-Yépez, A. 1948. Los curimatidos (peces fluviales de Sur América). Catalogo descriptivo con nuevas adiciones genericas y especificas. Bol. Taxon. Lab. Pesqueria Caiguire Caracas, no. 1: 1-79 + table + index.
- Fowler, H.W. 1906. Further knowledge of some heterognathus fishes. Part I. Proc. Acad. Nat. Sci. Philadelphia, 58: 293-351.
- Fowler, H.W. 1911. New fresh-water fishes from western Ecuador. Proc. Acad. Nat. Sci. Philadelphia, 63: 493-520.
- Fowler, H.W. 1913. Fishes from the Madeira River, Brazil. Proc. Acad. Nat. Sci. Philadelphia, 65: 517-579.
- Fowler, H.W. 1914. *Curimatus spilurus* Cope, a wrongly identified characin. Proc. Acad. Nat. Sci. Philadelphia, 65 [for 1913]: 673-675.
- Fowler, H.W. 1932. Zoological results of the Matto Grosso Expedition to Brazil in 1931,--I. Fresh water fishes. Proc. Acad. Nat. Sci. Philadelphia, 84: 343-377.
- Fowler, H.W. 1940. A collection of fishes obtained by Mr. William C. Morrow in the Ucayali River Basin, Peru. Proc. Acad.

Check List of the Freshwater Fishes of South and Central America

- Nat. Sci. Philadelphia, 91 [for 1939]: 219-289.
- Fowler, H.W. 1941. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. Proc. Acad. Nat. Sci. Philadelphia, 93: 123-199.
- Fowler, H.W. 1943. A collection of fresh-water fishes from Colombia, obtained chiefly by Brother Nicéforo Maria. Proc. Acad. Nat. Sci. Philadelphia, 95: 223-266.
- Gaye-Siesegger, J. & R. Fricke. 1998. *Curimata vari*, a new curimatid fish (Characiformes: Curimatidae) from Santa Catarina, Brazil. *Stuugarter Beitr. Naturk. Ser. A.*, no. 576: 1-8
- Géry, J. 1964. Preliminary description of seven new species and two new genera of characoid fishes from the Upper Rio Meta in Colombia. *Trop. Fish Hobbyist*, 13 (4): 25-32, 41-48.
- Géry, J. 1965. Notes on characoid fishes collected in Surinam by Mr. H. P. Pijpers, with descriptions of new forms. *Bijdr. Dierkd.*, 35: 101-126, pls. 1-2.
- Géry, J., P. Planquette and P.-Y. Le Bail. 1991. Faune characoïde (poissons ostariophysaires) de l'Oyapock, l'Approuague et la rivière de Kaw (Guyane Française). *Cybium*, 15 (1, suppl.): 1-69, pls. 1-20.
- Gill, T.N. 1858. Synopsis of the fresh water fishes of the western portion of the island of Trinidad, W. I. *Ann. Lyc. Nat. Hist. N. Y.*, 6 (10-13): 363-430.
- Gill, T.N. 1896. Notes on characinoid fishes with ctenoid scales, with a description of a new *Psectrogaster*. *Proc. U. S. Natl. Mus.*, 18 (1055): 199-203.
- Godoy, M.P. 1975. Suborden Characoidei, bacia do rio Mogi Guassu. In: *Peixes do Brasil*, vol. 3, pages 399-628. Ed. Franciscana, Piracicaba, Brazil.
- Goulding, M. 1981. Man and fisheries on an Amazon frontier. In: H.J. Dumont (ed.). *Developments in Hydrobiology*, vol. 4. W. Junk Publishers, The Hague. 137 p.
- Gray, J.E. 1854. Catalogue of fish collected and described by Laurence Theodore Gronow, now in the British Museum. London. vii + 196 p.
- Günther, A. 1860. Second list of cold-blooded vertebrata collected by Mr. Fraser in the Andes of western Ecuador. *Proc. Zool. Soc. London*, 1859 (pt 3): 402-420.
- Günther, A. 1864. Catalogue of the fishes in the British Museum, vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiidae in the collection of the British Museum. xxii + 455 p.
- Günther, A. 1868a. Descriptions of freshwater fishes from Surinam and Brazil. *Proc. Zool. Soc. London*, 1868 (pt 2): 229-247, pls. 20-22.
- Günther, A. 1868b. Diagnoses of some new freshwater fishes from Surinam and Brazil, in the collection of the British Museum. *Ann. Mag. Nat. Hist. (Ser. 4)*, 1 (6): 475-481.
- Günther, A. 1880. A contribution to the knowledge of the fish fauna of the Rio de la Plata. *Ann. Mag. Nat. Hist. (Ser. 5)*, 6 (31): 7-13, pl. 2.
- Hensel, R.F. 1870. Beiträge zur Kenntniss der Wirbelthiere Südbrasilens. (Fortsetzung). *Arch. Naturgeschichte*, 36 (1): 50-91.
- Holmberg, E.L. 1891. Sobre algunos peces nuevos ó poco conocidos de la República Argentina. *Rev. Argent. Hist. Nat. Buenos Aires*, 1: 180-193.
- Kner, R. 1858. Beiträge zur Familie der Characinen. *Sitzungsber. Akad. Wiss. Wien*, 30 (13): 75-80.
- Kner, R. 1859. Zur Familie der Characinen. III. Folge der Ichthyologischen Beiträge. *Denkschr. Akad. Wiss. Wien*, 17: 137-182, pls. 1-9.
- Linnaeus, C. 1758. *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Tomus I. Editio decima, reformata. Holmiae.* ii + 824 p.
- Linnaeus, C. 1766. *Systema naturae sive regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis.* 12th ed. Laurentii Salvii, Holmiae. 532 p.
- Lowe-McConnell, R.H. 1975. Fish communities in tropical freshwaters. Their distribution, ecology and evolution. Longman Inc., N. Y., 337 p.
- Lütken, C.F. 1875a. Characinae novae Brasiliae centralis a clarissimo J. Reinhardt in provincia Minas-Geraes circa oppidulum Lagoa Santa in lacu ejusdem nominis, flumine Rio das Velhas et rivulus affluentibus collectae, secundum caracteres essentialis brevis descriptae. *Overs. Danske Vidensk. Selsk. Forhandl. Kjobenhavn*, 1874 (3): 127-143.
- Lütken, C.F. 1875b. Velhas-Flodens Fiske. Et Bidrag til Brasiliens Ichthyologi; efter Professor J. Reinhardts Indsamlinger og Optegnelser. *K. Danske Vidensk. Selsk. Skr.*, Raekke 5, 12 (2): 121-253, + 2 unnum., + I-XXI, pls. 1-5.
- Mago-Leccia, F. 1970. Lista de los peces de Venezuela, incluyendo un estudio preliminar sobre la ictiogeografía del país. Caracas: Ministerio de Agricultura y Cria, Oficina Nacional de Pesca. Caracas. 283 p.
- Meinken, H. 1933. Ueber einige, in letzter Zeit eingeführte Fische II. *Blätt. Aquar. Terrarienkunde*, 44 (5): 71-73.
- Miranda Ribeiro, A. 1937. Sobre uma collecção de vertebrados do nordeste brasileiro. Primeira parte: Peixes e batrachios. *O Campo, Rio de Janeiro*, no. 1: 54-56.
- Müller, J. and F.H. Troschel. 1844. Synopsis generum et specierum familiae Characinorum. (Prodromus descriptionis novorum generum et specierum). *Arch. Naturgeschichte*, 10 (1): 81-99 + Zu pag. 99 (foldout).
- Müller, J. and F.H. Troschel. 1845. *Horae Ichthyologicae. Beschreibung und Abbildung neuer Fische. Die Familie der Characinen. Erstes und Zweites Heft.* Berlin. 40 p, 11 pls.
- Myers, G.S. 1927. Descriptions of new South American freshwater fishes collected by Dr. Carl Ternetz. *Bull. Mus. Comp. Zool.*, 68 (3): 107-135.
- Myers, G.S. 1929. On curimatid characin fishes having an incomplete lateral line, with a note on the peculiar sexual dimorphism of *Curimatopsis macrolepis*. *Ann. Mag. Nat. Hist. (Ser. 10)*, 3 (18): 618-621.
- Nomura, H. and C. Hayashi. 1980. Caracteres merísticos e biologia do Saguiru, *Curimatus gilberti* (Quoy and Gaimard, 1824) do rio Margado (Matão, São Paulo) (Osteichthyes, Curimatidae). *Rev. Bras. Biol.*, 40 (1): 165-176.
- Nomura, H. and A.C. Taveira. 1979. Biologia do Saguiru, *Curimatus elegans* Steindachner, 1874 do Mogi Guaçu, São Paulo (Osteichthyes, Curimatidae). *Rev. Bras. Biol.*, 39 (2): 331-339.
- Oken, L. 1817. Cuviers und Okens Zoologien neben einander gestellt. *Isis [Oken]*: 8 (144-148): col. 1145-1184 (incl. 1779-1782, sic 1179-1182).
- Pearson, N.E. 1924. The fishes of the eastern slope of the Andes. I. The fishes of the Rio Beni basin, Bolivia, collected by the Mulford expedition. *Indiana Univ. Studies*, 11 (64): 1-83, pls. 1-12.
- Pellegrin, J. 1908. Characínidos americanos nuevos de la collection du Muséum d'histoire naturelle. *Bull. Mus. Natl. Hist. Nat.*, 14 (7): 342-347.
- Pellegrin, J. 1909. Characínidos du Brésil, rapportés par M. Jobert. *Bull. Mus. Natl. Hist. Nat.*, 15 (4): 147-153.
- Puyo, J. 1943. Nouveaux poissons d'eau douce de la Guyane française. *Bull. Soc. Hist. Nat. Toulouse*, 78: 141-149.
- Quoy, J.R.C. and J.P. Gaimard. 1824-25. Description des Poissons. Chapter IX. In: L. de Freycinet, Voyage autour du Monde...exécuté sur les corvettes de L. M. "L'Uranie" et "La Physicienne," pendant les années 1817, 1818, 1819 et 1820. Paris. 192-401 [1-328 in 1824; 329-616 in 1825], Atlas pls. 43-65.
- Risso, F.J.J. and E.L. Sánchez. 1964. Una nueva subespecie de Curimatinae (Pisces -- Characiformes). *Not. Mus. Cienc. Nat. Chaco*, 1 (2): 6-10.
- Santos, G.M., M. Jégu and B. Merona. 1984. Catálogo de peixes comerciais do baixo rio Tocantins. Manaus, Brazil: Eletronorte.

Check List of the Freshwater Fishes of South and Central America

- 85 p.
- Spix, J.B. von, and L. Agassiz. 1829-31. *Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXVII-MDCCCXX jussu et auspiciis Maximiliani Josephi I.... colleget et pingendo curavit Dr J. B. de Spix. Monachii. Part 1: i-xvi + i-ii + 1-82, Pls. 1-48; part 2: 83-138, pls. 49-101.*
- Steindachner, F. 1874. *Die Süßwasserfische des südöstlichen Brasilien. Sitzungsber. Akad. Wiss. Wien, 70: 499-538, pls. 1-6.*
- Steindachner, F. 1876. *Ichthyologische Beiträge (V). Sitzungsber. Akad. Wiss. Wien, 74: 49-240, pls. 1-15.*
- Steindachner, F. 1878. *Zur Fischfauna des Magdalenen-Stromes. Anz. Akad. Wiss. Wien, 15 (12): 88-91.*
- Steindachner, F. 1879. *Zur Fisch-fauna des Magdalenen-Stromes. Denkschr. Akad. Wiss. Wien, 39: 19-78, pls. 1-15.*
- Steindachner, F. 1881. *Beiträge zur Kenntniss der Flussfische Südamerika's (III) und Ichthyologische Beiträge (XI). Anz. Akad. Wiss. Wien, 18 (11): 97-100.*
- Steindachner, F. 1882a. *Beiträge zur Kenntniss der Flussfische Südamerika's (IV). Anz. Akad. Wiss. Wien, 19 (19): 175-180.*
- Steindachner, F. 1882b. *Ichthyologische Beiträge (XII). Anz. Akad. Wiss. Wien, 19 (16): 142-143.*
- Steindachner, F. 1908. *Über zwei neue Siluroiden und zwei Curimatus -Arten, sowie über eine Varietät von Ancistrus vittalus aus dem Amazonasgebiete innerhalb Brasiliens. Anz. Akad. Wiss. Wien, 45 (11): 163-168.*
- Steindachner, F. 1910. *Über einige neue Characinenarten aus dem Orinoco und dem oberen Surinam. Anz. Akad. Wiss. Wien, 47 (17): 265-270.*
- Steindachner, F. 1911. *Über vier neue Siluroiden und Characinen aus dem Amazonasgebiete und von Ceará aus der Sammlung des Museums Göldi in Pará. Anz. Akad. Wiss. Wien, 48 (15): 324-331.*
- Steindachner, F. 1914. *Über eine neue brasilianische Curimatus - Art: Curimatus semiornatus n. sp. Anz. Akad. Wiss. Wien, 51 (12): 262-263.*
- Steindachner, F. 1915. *Beiträge zur Kenntniss der Flussfische Südamerikas. V. Denkschr. Akad. Wiss. Wien, 93: 15-106.*
- Vari, R.P. 1982a. *Systematics of the Neotropical characoid genus Curimatopsis (Pisces: Characoidei). Smithson. Contrib. Zool., no. 373: i-iii + 1-28.*
- Vari, R.P. 1982b. *Curimatopsis myersi, a new curimatid characiform fish (Pisces: Characiformes) from Paraguay. Proc. Biol. Soc. Washington, 95 (4): 788-792.*
- Vari, R.P. 1983. *Phylogenetic relationships of the families Curimatidae, Prochilodontidae, Anostomidae, and Chilodontidae (Pisces: Characiformes). Smithson. Contrib. Zool., no. 378: 1-60.*
- Vari, R.P. 1984a. *Systematics of the Neotropical characiform genus Potamorhina (Pisces: Characiformes). Smithson. Contrib. Zool., no. 400: 1-36.*
- Vari, R.P. 1984b. *Two new fish species of the genus Curimata (Pisces: Curimatidae) from Venezuela. Acta Biol. Venez., 11 (4): 27-43.*
- Vari, R.P. 1987. *Two new species of curimatid fishes (Ostariophysi: Characiformes) from Rio Grande do Sul, Brazil. Proc. Biol. Soc. Washington, 100 (3): 603-609.*
- Vari, R.P. 1989a. *A phylogenetic study of the Neotropical characiform family Curimatidae (Pisces: Ostariophysi). Smithson. Contrib. Zool., 471: 1-71.*
- Vari, R.P. 1989b. *Systematics of the Neotropical characiform genus Curimata Bosc (Pisces: Characiformes). Smithson. Contrib. Zool., no. 474: i-iii + 1-63.*
- Vari, R.P. 1989c. *Systematics of the Neotropical characiform genus Psectrogaster Eigenmann and Eigenmann (Pisces: Characiformes). Smithson. Contrib. Zool., no. 481: i-iii + 1-43.*
- Vari, R.P. 1989d. *Systematics of the Neotropical characiform genus Pseudocurimata Fernández-Yépez (Pisces: Ostariophysi). Smithson. Contrib. Zool., no. 490: i-iii + 1-26.*
- Vari, R.P. 1991. *Systematics of the Neotropical characiform genus Steindachnerina Fowler (Pisces, Ostariophysi). Smithson. Contrib. Zool., no. 507: 1-118.*
- Vari, R.P. 1992a. *Systematics of the Neotropical characiform genus Curimatella Eigenmann and Eigenmann (Pisces, Ostariophysi), with summary comments on the Curimatidae. Smithson. Contrib. Zool., no. 533: i-iii + 1-48.*
- Vari, R.P. 1992b. *Systematics of the Neotropical Characiform genus Cyphocharax Fowler (Pisces, Ostariophysi). Smithson. Contrib. Zool., no. 529: i-iv + 1-137.*
- Vari, R.P. 1993. *On the status of the nominal curimatid species Steindachnerina varii Géry et al., 1991, and S. runa Vari, 1991 (Ostariophysi, Characiformes). Copeia, 1993 (3): 894-896.*
- Vari, R.P. and R. Barriga S. 1990. *Cyphocharax pantostictos, a new species (Pisces: Ostariophysi: Characiformes: Curimatidae) from the western portions of the Amazon basin. Proc. Biol. Soc. Washington, 103 (3): 550-557.*
- Vari, R.P. and T.A. Blackledge. 1996. *New curimatid, Cyphocharax laticlavus (Ostariophysi, Characiformes), from Amazonian Ecuador, with a major range extension for C. gouldingi. Copeia, 1996 (1): 109-113.*
- Vari, R.P. and R.M.C. Castro. 1988. *Prochilodus stigmaturus Fowler, reassigned to the Curimatidae from the Prochilodontidae, with comments on other nominal curimatid and prochilodontid species treated by Fowler. Copeia, 1988 (3): 777-780.*
- Vari, R.P. and J. Géry. 1985. *A new curimatid fish (Characiformes: Curimatidae) from the Amazon Basin. Proc. Biol. Soc. Washington, 98 (4): 1030-1034.*
- Vari, R.P. and H. Nijssen. 1986. *Curimata punctata, a new uniquely pigmented species of curimatid from the Marowijne River Basin of Surinam and French Guiana (Pisces, Characiformes). Beaufortia, 36 (4): 51-56.*
- Vari, R.P. and R.E. Reis. 1995. *Curimata acutirostris, a new fish (Teleostei: Characiformes: Curimatidae) from the rio Araguaia, Brazil: Description and phylogenetic relationships. Ichthyol. Explor. Freshwaters, 6 (4): 297-304.*
- Vari, R.P. and A.W. Vari. 1989. *Systematics of the Steindachnerina hypostoma complex (Pisces, Ostariophysi, Curimatidae), with the description of three new species. Proc. Biol. Soc. Washington, 102 (2): 468-482.*
- Walbaum, J. 1792. *Petri artedi sueci genera Piscium; Ichthyologiae pars III: emendata et aucta. Grypeswaldiae. 732 p.*
- Walschaerts, L. 1987. *Catalogue des types de poissons recents de l'Institut Royal des Sciences naturelles de Belgique. Documents de Travail, no. 40: 1-67.*
- Whitley, G.P. 1953. *Studies in ichthyology. Rec. Austral. Mus., 23: 133-158.*
- Whitley, G.P. 1954. *New locality records for some Australian Fishes. Proc. Royal. Soc. New South Wales, 1952-1953: 23-30.*

Family Prochilodontidae (Flannel mouth characiforms)

Ricardo M. C. Castro and Richard P. Vari

Members of the family Prochilodontidae can be readily distinguished from other fishes, except as larvae, by their fleshy lips equipped with two series of numerous, relatively small, falciform or spatulate teeth, movably attached to the lips. Upon protraction these lips form an oral disk encircled by teeth. The two tooth rows in each jaw are variably separated from each other proximate to the symphysis, but converge towards the lateral margins of each jaw. Prochilodontids are moderate to large sized, robust fishes (reaching up to 74 cm TL in *Prochilodus lineatus*, Sverlij et al., 1993) with relatively large scales, fleshy to very fleshy lips (particularly in *Ichthyoelephas*). The dorsal fin is preceded by a procumbent spine which is either bifurcate (*Prochilodus* and *Semaprochilodus*) or pointed (*Ichthyoelephas*) anteriorly. The anal and caudal fins in *Semaprochilodus* species exhibit pronounced stripes across, other than for very large individuals. Although the three genera are readily distinguished externally, the external morphology of most species in each genus is relatively constant and many species can be difficult to tell apart.

Prochilodontids are limited to South America and occur to the west of the Andes in the Lago Maracaibo basin of Colombia and Venezuela, the Caribbean versant rivers of northwestern Colombia and the Pacific slope rivers of northwestern and southwestern Ecuador. East of the Andes, prochilodontids occur in the Orinoco, Amazon, Tocantins, La Plata River basins, the coastal rivers of the Guianas, the São Francisco River and the other coastal rivers of eastern Brazil, and the northern portions of the Laguna dos Patos basin of southern Brazil. Prochilodontids inhabit diverse habitats ranging from still ox-bow lakes, through flowing major rivers, to moderately rapid streams in piedmont regions and occur in black, clear, and white water.

All prochilodontids exploit detritus and aufwuchs (periphyton) on subaquatic surfaces (Araújo-Lima et al., 1986; Bowen, 1984; Bowen et al., 1984). The prevalence of these resources both in permanent fresh waters (Flecker, 1996) and the seasonally-flooded rain forest (Goulding et al., 1988) most probably accounts for the prominence of prochilodontids in Neotropical freshwaters (e.g., lower Paraná River basin where *Prochilodus lineatus* accounts for over 60% of total ichthyomass; Bonetto, 1975, 1994). As a consequence of their detritus feeding habits and large populations, prochilodontids play a significant role in energy flow within the aquatic systems which they inhabit (Jepsen et al., 1997; Winemiller, 1996) and are functionally dominant in some aquatic ecosystems (Flecker, 1996). Species of the Prochilodontidae undertake dramatic mass migrations associated with feeding and reproduction (Goulding, 1981; Ribeiro and Petrere, 1990), with some individuals traveling minimally nearly 1500 km between their mark and recapture (Sverlij et al., 1993) with daily movements of up to 43 km (de Godoy, 1975). Prochilodontids are famous for their ability to overcome obstacles encountered during migrations by strenuous swimming and dramatic leaps of several meters (Goulding, 1981; Patiño R., 1973).

The species-level taxonomy of the Prochilodontidae has long been pervaded by uncertainty (Mago-Leccia, 1972) as a consequence of various factors intrinsic (overall similarity of different species) and extrinsic (e.g., uninformative original descriptions and loss of type series) to the species. Mago-Leccia (1972) reviewed the prochilodontid species that occur in Venezuela. Subsequently, Castro (1988, 1993) described two previously undescribed species. The taxonomy of all species of the Prochilodontidae was evaluated in an unpublished thesis (Castro, 1990) and in an ongoing revisionary and phylogenetic analysis (Castro and Vari, in press.). The entries for the species in the following account are derived from the information in those two studies. Based on our results we expect that future research is unlikely to reveal many additional undescribed species in the family.

Members of all genera of the Prochilodontidae are very important in both commercial and subsistence fisheries across the range of the family. In the lower Negro River of Brazil, over 90 percent of the commercial catch consists of two *Semaprochilodus* species (Goulding et al., 1988) and prochilodontids are becoming progressively more important in the commercial fisheries of the central portion of the Amazon basin (Ribeiro and Petrere, 1990). Sverlij et al. (1993) report that *Prochilodus lineatus* constitutes 40% of the total fishery in the Paraná River, 86% of the fishery in the La Plata River, and 95% of the fishery in the Uruguay River. Other prochilodontid species are similarly important in the commercial and subsistence fisheries of Colombia (Dahl, 1971; Sánchez, M. et al., 2000), Venezuela (Espinosa and Gimenez, 1974; Novoa R. et al., 1982), and other countries (Welcomme, 1979). The importance of the Prochilodontidae in commercial and subsistence fisheries across the range of the family is also reflected in the numerous studies involving the induced spawning and captive rearing of members of the family (e.g., Antoniutti et al., 1995; Bustamente-Varón et al., 1997; and references therein).

ICHTHYOELEPHAS

Ichthyoelephas Posada, 1909: 300. Type species: *Ichthyoelephas patalo* Posada, 1909. Type by monotypy. Gender: masculine.

Ichthyoelephas humeralis (Günther, 1860)

Prochilodus humeralis Günther, 1860: 419. Type locality: Western Andes of Ecuador.

Maximum length: 24 cm SL

Distribution: South America: Guayas and Santiago River basins.

Countries: Ecuador

Remarks and references: See Böhlke (1958: 109-112) for description.

Common names: Bocachico (Ecuador), Bocochoico (Ecuador), Guavina (Ecuador), Ratón (Ecuador)

Ichthyoelephas longirostris (Steindachner, 1879)

Prochilodus longirostris Steindachner, 1879c: 195. Type locality: Cauca [= Cauca River, Colombia].

Ichthyoelephas patalo Posada, 1909: 300, 2 text-figs. on 301. Type locality: Colombia, Samana [= Samana River]. No types known.

Maximum length: 80 cm TL

Distribution: South America: Cauca-Magdalena River basin.

Countries: Colombia

Remarks and references: Species definition and distribution based on personal observation and examination of types.

Common names: Besote (Colombia), Besugo (Colombia), Getudo (Colombia), Hocicón (Colombia), Jetón (Colombia), Moreno (Colombia), Pataló (Colombia)

PROCHILODUS

Prochilodus Agassiz, in Spix & Agassiz, 1829: 62. Type species: *Prochilodus argenteus* Agassiz, 1829. Type by subsequent designation. Gender: masculine.

Pacu Cuvier, 1829: 309. Type species: *Prochilodus argenteus* Agassiz, 1829. Type by subsequent designation (Eigenmann 1910: 424). Gender: masculine.

Pacu Agassiz in Spix & Agassiz, 1829: 62. Type species: *Pacu argenteus* Agassiz, 1829. Gender: masculine.

Paca Valenciennes, 1836: pl. 8 (fig. 3). Type species: *Paca lineatus* Valenciennes, 1836. Type by monotypy. Gender: masculine. Misspelling of *Pacu* Agassiz, 1829.

Chilomyzon Fowler, 1906: 309. Type species: *Prochilodus steindachneri* Fowler, 1906. Type by original designation. Gender: masculine.

Prochilodus argenteus Agassiz, 1829

Prochilodus argenteus Agassiz in Spix & Agassiz, 1829: 63, pl. 38. Type locality: S. Francisci [=São Francisco River, Brazil].

Maximum length: 44 cm SL

Distribution: South America: Originally endemic to São Francisco River basin, but introduced into various rivers of northeastern Brazil.

Countries: Brazil

Remarks and references: Species definition and distribution based on personal observation and examination of types.

Common names: Curimatá-pacú (Brazil), Curimatã-pacu (Brazil)

Prochilodus brevis Steindachner, 1875

Prochilodus brevis Steindachner, 1875: 536, pl. 6. Type locality: Flüsse im der Umgebung von Bahia [=Rivers in the vicinity of Bahia, Brazil].

Prochilodus cearaensis Steindachner, 1911: 329. Type locality: Flüsschen bei Ipú im Staate Ceará [=River in Ipú, Ceará, Brazil].

Maximum length: 27 cm SL

Distribution: South America: Small to mid-sized coastal rivers of northeastern Brazil.

Countries: Brazil

Remarks and references: Species definition, synonymy, and distribution based on personal observation and examination of types.

based on personal observation and examination of types.

Common names: Curimatá-comun (Brazil)

Prochilodus britskii Castro, 1993

Prochilodus britskii Castro, 1993: 58, fig. 1. Type locality: Brazil, Mato Grosso, Rio Apiacá (tributary of Rio Arinos, Rio Tapajós basin) N of city of Juará, upriver from a fall (~10°36'S, 58°04'W). Holotype: MZUSP 41519.

Maximum length: 23.8 cm SL

Distribution: South America: Apiacá River basin in Mato Grosso State.

Countries: Brazil

Prochilodus costatus Valenciennes, 1850

Prochilodus costatus Valenciennes, in Cuvier & Valenciennes, 1850: 79. Type locality: Rio San-Francisco du Brésil [= São Francisco River, Brazil]. Holotype: MNHN A.8636 (dry).

Prochilodus affinis Lütken, 1875a: 128. Type locality: Rio das Velhas et rivulis affluentibus [= das Velhas River and tributaries, Minas Gerais, Brazil].

Maximum length: 42 cm SL

Distribution: South America: Originally endemic to São Francisco River basin, but reported to have been introduced into Jequitinhonha River.

Countries: Brazil

Remarks and references: Species definition, synonymy, and distribution based on personal observation and examination of types.

Common names: Curimatá-piao (Brazil), Curimatã-piao (Brazil)

Prochilodus hartii Steindachner, 1875

Prochilodus hartii Steindachner, 1875: 533, pl. 5. Type locality: Rio Jequitinhonha, Rio pardo und Rio Parahyba [= Jequitinhonha, Pardo, and Paraíba do Sul rivers, Brazil]. Syntypes: NMW 56646-56648.

Maximum length: 34 cm SL

Distribution: South America: Pardo and Jequitinhonha River basins.

Countries: Brazil

Remarks and references: Species definition, synonymy, and distribution based on personal observation and examination of types.

Common names: Curimatã (Brazil), Grumecha (Brazil), Gruxema (Brazil), Papa-terra (Brazil)

Prochilodus lacustris Steindachner, 1907

Prochilodus lacustris Steindachner, 1907: 152. Type locality: See von Parnagua und der nahegelegenen Lagoa da Missão; Lagoas bei Sa. Filomena und am Rio Medondo einem Nebenflusse des Parnahyba [=lagoa de Parnaguá, lagoa da Missão, Santa Filomena, and Medonho River, tributary to Paraíba River, Piauí, Brazil].

Maximum length: 32 cm SL

Distribution: South America: Paraíba and Mearim River basins.

Countries: Brazil

Remarks and references: Species definition, synonymy, and distribution based on personal observation and examination of types.

Common names: Curimatã (Brazil)

Prochilodus lineatus (Valenciennes, 1836)

Paca lineatus Valenciennes in Cuvier and Valenciennes, 1836: pl. 8 (fig. 3). Type locality: Rivière la Plata à Buenos-Ayres [=Argentina, La Plata River, at Buenos Aires; designated by Valenciennes (1850: 84)]. No types known.

Prochilodus scrofa Steindachner, 1881: 129, pl. 6 (fig. 2). Type locality: Umgebung von Rio Janeiro, vielleicht aus dem Rio Parahyba [=vicinity of Rio de Janeiro, perhaps from Paraíba do Sul River, Rio de Janeiro, Brazil]. Syntype: NMW 56702.

Prochilodus platensis Holmberg, 1891: 186. Type locality: Río de la Plata, Buenos Aires, Argentina. Types: unknown.

Salmo novemradiatus Larrañaga, 1923: 387. Type locality: Uruguay.

Maximum length: 74 cm TL

Distribution: South America: Paraná-Paraguay and Paraíba do Sul River basins.

Countries: Argentina, Brazil, Paraguay, Uruguay

Remarks and references: Species definition, synonymy, and distribution based on personal observation and examination of types.

Common names: Corimbatá (Brazil), Curimba (Brazil), Curimbatá (Brazil), Grumatã (Brazil), Sábalo (Argentina, Bolivia, Paraguay, Uruguay)

***Prochilodus magdalenae* Steindachner, 1879**

Prochilodus asper magdalenae Steindachner, 1879a: 78, pl. 12 (fig. 1). Type locality: Magdalenaen-Stromes [= Magdalena River, Colombia]. Syntypes: NMW 56627, NMW 56624, NMW 56625, NMW 56628. Cited as *Prochilodus asper* on page 51 in text. Originally as *Prochilodus asper* var. *magdalenae*.

Prochilodus beani Eigenmann in Eigenmann & Ogle, 1907: 5, fig. 2. Type locality: Truando [=Truandó (Choco, Colombia)]. Holotype: USNM 1662.

Prochilodus steindachneri Eigenmann, 1922: 115. Type locality: Cauca near Cáceres [=Colombia, Antioquia, Cauca River, close to Cáceres]. Holotype: NMW 68274. Preoccupied by *Prochilodus steindachneri* Fowler, 1906, replaced by *Prochilodus eigenmanni* Ahl, 1937.

Prochilodus eigenmanni Ahl, 1937: 136. Type locality: Colombia, Antioquia, Río Cauca near Cáceres. Holotype: NMW 68274. Replacement name for *Prochilodus steindachneri* Eigenmann, 1922, preoccupied by *Prochilodus steindachneri* Fowler, 1906.

Maximum length: 30 cm SL

Distribution: South America: Atrato, Sinú, and Cauca-Magdalena River basins.

Countries: Colombia

Remarks and references: Species definition, synonymy, and distribution based on personal observation and examination of types.

Common names: Bocachico (Colombia)

***Prochilodus mariae* Eigenmann, 1922**

Prochilodus mariae Eigenmann, 1922: 231, pl. 20 (fig. 2). Type locality: Barrigón, Río Meta [= Meta River, Barrigón, Colombia]. Holotype: CAS 15150 [ex IU 15150].

Maximum length: 37 cm SL

Distribution: South America: Orinoco River basin.

Countries: Colombia, Venezuela

Remarks and references: See Mago-Leccia (1978: 48) for redescription of the species.

Common names: Coporo de los Llanos (Venezuela)

***Prochilodus nigricans* Agassiz, 1829**

Prochilodus nigricans Agassiz, in Spix & Agassiz, 1829: 64, pl. 39. Type locality: Brasiliae mediae fluviis [=Rivers of Central Brazil]. No types known.

Prochilodus ortonianus Cope, 1878: 685. Type locality: Nauta, Peru [=Nauta, Loreto, Peru]. Holotype: ANSP 21267.

Prochilodus cephalotes Cope, 1878: 686. Type locality: Peruvian Amazon. Restricted by Fowler (1950: 217) to Nauta, Amazonas peruano [=Nauta, Loreto, Peru]. Holotype: ANSP 21211.

Prochilodus caudifasciatus Starks, 1906: 773, fig. 5. Type locality: Río Perené at Perené, Peru. Holotype: USNM 53473.

Curimatus tigris Fowler, 1913: 518, fig. 2. Type locality: Tributaries of the Madeira River near Porto Velho, Brazil. Holotype: ANSP 39156. Based on young of *Prochilodus* (Vari & Castro, 1988: 779).

Prochilodus beni Pearson, 1924: 29, pl. 9 (fig. 2). Type locality: Cachuela Esperanza, Río Beni basin, Bolivia. Holotype: CAS 58881 [ex IU 17288].

Prochilodus labeo Loubens, Lauzanne & Géry, 1991: 231, fig. 8. Type locality: Villa Tunari, rio Chaparé, bassin du Mamoré, Bolivia. Holotype: MNHN 1989-120.

Maximum length: 37 cm TL

Distribution: South America: Amazon and Tocantins River basins.

Countries: Bolivia, Brazil, Colombia, Ecuador, Peru

Remarks and references: Species definition, synonymy, and distribution based on personal observation and examination of types.

Common names: Boquichico (Peru), Corimatá (Brazil), Curimatá (Brazil), Grumatã (Brazil)

***Prochilodus reticulatus* Valenciennes, 1850**

Prochilodus reticulatus Valenciennes in Cuvier & Valenciennes, 1850: 92. Type locality: lagune de Maracaïbo [=Lago Maracaibo, Venezuela]. Syntypes: MNHN A. 8637-8640.

Prochilodus asper Lütken, 1875b: 226. Type locality: Caraccas [=Caracas, Venezuela]. Type locality questioned by Mago-Leccia (1967: 250; 1972: 54) and apparently erroneous.

Maximum length: 28 cm SL

Distribution: South America: Lake Maracaibo basin.

Countries: Colombia, Venezuela

Remarks and references: See Mago-Leccia (1972: 53) for redescription of species.

Common names: Bocachico (Colombia), Bocochico del Maracaibo (Venezuela)

***Prochilodus rubrotaeniatus* Jardine & Schomburgk, 1841**

Prochilodus rubrotaeniatus Jardine & Schomburgk in Schomburgk, 1841: 258, pl. 28. Type locality: Rios Branco and Negro as in the Essequibo and its tributaries [=Branco, Negro, and Essequibo rivers]. No types known.

Prochilodus maripicru Eigenmann, 1912: 271, pl. 35 (fig. 2). Type locality: Maripicru Creek, a branch of the Ireng (River), British Guiana [=Guyana]. Holotype: FMNH 53597 [ex CM 2066].

Maximum length: 32 cm SL

Distribution: South America: Branco and Marauíó River basins in Brazil; Caroni River basin of Venezuela, and coastal rivers of the Guianas.

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela

Remarks and references: Species definition, synonymy, and distribution based on personal observation and examination of types.

Common names: Alumasse (Suriname), Bocachica de Guianas (Venezuela), Boquichico (Peru), Colmata (French Guiana), Coulitata (French Guiana), Courimata (French Guiana), Curimatá (Brazil), Koonoomatta (Suriname)

***Prochilodus vimboides* Kner, 1859**

Prochilodus vimboides Kner, 1859: 148, pl. 2 [not 3] (fig. 4). Type locality: Ypanema, Brazil [=Ipanema (Varnhagen) São Paulo, Brazil]. Syntypes: NMW 79464-79466.

Salmo corimbata Natterer in Kner, 1859: 146; name in text. Type locality: Ypanema [= Ipanema, São Paulo, Brazil]. No types.

Prochilodus oligolepis Günther, 1864: 295. Type locality: Brazil [=Ipanema, São Paulo, Brazil]. Syntypes: NMW 56693-56695

Prochilodus steindachneri Fowler, 1906: 309, fig. 11. Type locality: Parahyba, Brazil [= Paraíba do Sul River, Brazil]. Holotype: ANSP 8207.

Maximum length: 33 cm SL

Distribution: South America: Coastal rivers of Brazil between Jequitinhonha River in S northwards to Paraíba River, E portions of upper Paraná River and São Francisco River basin.

Countries: Brazil

Remarks and references: Species definition, synonymy, and distribution based on personal observation and examination of types.

Common names: Corimbatá-de-lagoa (Brazil), Curimbatá (Brazil), Grumecha (Brazil), Grumexa (Brazil)

SEMAPROCHILODUS

Semaprochilodus Fowler, 1941: 171. Type species: *Prochilodus squamilentus* Fowler, 1941. Type by original designation. Gender: masculine. Type species cited as *Semaprochilodus squamilen-*

tis in species description on following page.

***Semaprochilodus brama* (Valenciennes, 1850)**

Prochilodus brama Valenciennes, in Cuvier & Valenciennes, 1850: 82. Type locality: l'Amazone [= Amazon River]. Holotype: MNHN A.1066 (dry).

Semaprochilodus squamilentus Fowler, 1941: 172, fig. 83. Type locality: Rio Parnahyba, Therezina, Piauí, eastern Brazil [=Terezina, Parnaíba River, Piauí, Brazil; locality apparently erroneous]. Holotype: ANSP 69480.

Maximum length: 28 cm SL

Distribution: South America: Tocantins and Xingu River basins.

Countries: Brazil

Remarks and references: Species definition, synonymy, and distribution based on personal observation and examination of types.

Common names: Jaraqui (Brazil)

***Semaprochilodus insignis* (Jardine & Schomburgk, 1841)**

Prochilodus insignis Jardine & Schomburgk in Schomburgk, 1841: 261, pl. 30. Type locality: Rio Branco [Roraima, Brazil]. Types unknown.

Prochilodus amazonensis Fowler, 1906: 316, fig. 15. Type locality: Lower Amazon. Holotype: ANSP 21350.

Prochilodus theraponura Fowler, 1906: 313, fig. 14. Type locality: Ambyiacu River Equador [= Ambiyacu River, Peru]. Holotype: ANSP 8033.

Maximum length: 27 cm TL

Distribution: South America: Central and western portions of the Amazon basin and tributary rivers.

Countries: Brazil, Colombia, Ecuador, Guyana, Peru

Remarks and references: Species definition, synonymy, and distribution based on personal observation and examination of types.

Common names: Jaraqui (Brazil), Jaraqui escama grossa (Brazil), Jaraqui-da-escama-grossa (Brazil), Yahuarachi (Peru)

***Semaprochilodus kneri* (Pellegrin, 1909)**

Prochilodus kneri Pellegrin, 1909: 155. Type locality: Orénoque [= Orinoco River, Venezuela]. Syntypes: MNHN 1887-708, 1887-709.

Maximum length: 28 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Remarks and references: See Mago-Leccia (1972: 11) for redescription.

Common names: Bocoichico del Orinoco (Venezuela)

***Semaprochilodus laticeps* (Steindachner, 1879)**

Prochilodus laticeps Steindachner, 1879: 150. Type locality: Orinoco bei Ciudad Bolívar [= Orinoco River at Ciudad Bolívar, Venezuela]. Holotype: NMW missing.

Maximum length: 44 cm SL

Distribution: South America: Orinoco River basin.

Countries: Colombia, Venezuela

Remarks and references: See Mago-Leccia (1972: 64) for redescription.

Common names: Sapuara del Orinoco (Venezuela), Zapoara (Venezuela)

***Semaprochilodus taeniurus* (Valenciennes, 1817)**

Curimatus taeniurus Valenciennes, in Humboldt & Valenciennes, 1817: 166. Type locality: l'Amérique Equinoxiale [=Equatorial America]. Holotype: MNHN A.8641.

Maximum length: 24 cm SL

Distribution: South America: Central portions of Amazon basin and tributary rivers.

Countries: Brazil

Remarks and references: Species definition, synonymy, and distribution based on personal observation and examination of types.

Common names: Jaraqui (Brazil), Jaraqui escama fina (Brazil)

***Semaprochilodus varii* Castro, 1988**

Semaprochilodus varii Castro, 1988: 504, fig. 1. Type locality: Surinam, Marowijne District, Marowijne River about 25 km south of Albina. Holotype: ZMA 106.222.

Maximum length: 28 cm SL

Distribution: South America: Marowijne (=Maroni) River basin.

Countries: French Guiana, Suriname

Common names: Colmata (French Guiana), Coullilata (French Guiana), Courimata (French Guiana)

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Prochilodus binotatus Jardine, in Schomburgk, 1841: 260, pl. 29. Type locality: Rio Branco. Nomen dubium - apparently a composite.

Prochilodus dobulinus Valenciennes, in Cuvier & Valenciennes, 1850: 81. Type locality: l'Amazone. Type missing, nomen dubium.

References

- Ahl, E. 1937. Zwei neue Fischnamen innerhalb der südamerikanischen Familie Anostomidae. Sitzungsber. Ges. Naturf. Freunde Berlin: 136.
- Antoniutti, D., M. Narahara and E. Romagosa. 1995. Reprodução induzida e custo operacional de produção de alevinos de curimatá *Prochilodus scrofa* (Steindachner, 1881). Bol. Instit. Pesca, São Paulo, Brazil, 22 (1): 41-47.
- Araújo-Lima, C.A.R.M., B.R. Forsberg, R. Victoria and L. Martinielli. 1986. Energy sources for detritivorous fishes in the Amazon. Science, 234: 1256-1258.
- Böhlke, J.E. 1958. Studies on fishes of the family Characidae, no. 14: A report of several extensive recent collections from Ecuador. Proc. Acad. Nat. Sci. Philadelphia, 110: 1-121.
- Bonetto, A.A. 1975. Hydrologic Regime of the Paraná river and its influence on ecosystems. Pp. 175-197. In: A.D. Hasler, editor, Coupling of land and water systems (Ecological Studies, volume 10). New York: Springer-Verlag.
- Bonetto, A.A. 1994. Austral rivers of South America. Pp. 425-472. In: R. Margalef, editor, Limnology Now: a paradigm of planetary problems. Elsevier Science B.V.
- Bowen, S.H. 1984. Detritivory in Neotropical fish communities. Pp. 59-66. In: T.M. Zaret, Evolutionary ecology of Neotropical fresh water fishes. The Hague: W. Junk Publishers.
- Bowen, S.H., A.A. Bonetto and M.O. Ahlgren. 1984. Microorganisms and detritus in the diet of a typical Neotropical riverine detritivore, *Prochilodus platensis* (Pisces, Prochilodontidae). Limnol. Oceanog., 29 (5): 1120-1122.
- Bustamante-Varón, L.F., L.G. Quitero-Pinto and N. Martínez-Rueda. 1997. Desarrollo larval del coporo *Prochilodus mariae* (Eigenmann, 1922) (Pisces: Characiformes: Prochilodontidae), en estanques abonados y con el uso de un suplemento alimenticio. Bol. Cient. Instit. Nac. Pesca Desarrollo Rural, 5: 27-51.
- Castro, R.M.C. 1988. *Semaprochilodus varii*, a new species of prochilodontid fish (Ostariophysi: Characiformes) from the Marowijne River, Surinam. Proc. Biol. Soc. Washington, 101 (3): 503-508.
- Castro, R.M.C. 1990. Revisao taxonômica da familia Prochilodontidae (Ostariophysi: Characiformes). Ph.D. thesis. Universidade de Sao Paulo, Sao Paulo. 347 p.
- Castro, R.M.C. 1993. *Prochilodus britskii*, a new species of prochilodontid fish (Ostariophysi: Characiformes), from the rio Apicá, rio Tapajós system, Mato Grosso, Brazil. Proc. Biol. Soc. Washington, 106 (1): 57-62.
- Castro, R.M.C. and R.P. Vari. In press. Detritivores of the South American fish family Prochilodontidae (Teleostei: Ostariophysi: Characiformes): A phylogenetic and revisionary study. Smithsonian Contributions to Zoology.

Check List of the Freshwater Fishes of South and Central America

- Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. Proc. Am. Philos. Soc., 17 (101): 673-701.
- Cuvier, G. and A. Valenciennes. 1850. Histoire naturelle des poissons. Tome vingt-deuxième. Suite du livre vingt-deuxième. Suite de la famille des Salmonoïdes. Table générale de l'Histoire Naturelle des Poissons. Ch. Pitois, & V.^e Levrault, Paris & Strasbourg. xx + 1 + 532 + 91 p., pls. 634-650.
- Dahl, G. 1971. Los peces del norte de Colombia. Instituto de Desarrollo de los Recursos Naturales Renovables (INDERENA), Bogota. Xvii + 391 p.
- Eigenmann, C.H. 1910. Catalogue of freshwater fishes of tropical and South temperate America. Rep. Princeton Univ. Expedi. Patagonia, 1896-1899, 3 (4): 375-511.
- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. 1922. The fishes of western South America, Part I. The fresh-water fishes of northwestern South America, including Colombia, Panama, and the Pacific slopes of Ecuador and Peru, together with an appendix upon the fishes of the Rio Meta in Colombia. Mem. Carnegie Mus., 9 (1): 1-346, pls. 1-38.
- Eigenmann, C.H. and F. Ogle. 1907. An annotated list of characin fishes in the United States National Museum and the Museum of Indiana University, with descriptions of new species. Proc. U. S. Natl. Mus., 33 (1556): 1-36.
- Espinosa, V. de, and C.B. Gimenez. 1974. Estudio sobre la biología y pesca del bocachico *Prochilodus reticulatus* (Valenciennes) en el Lago de Maracaibo. Inf. Téc. Of. Nac. Pesca Caracas, no. 63: 1-32.
- Flecker, A.S. 1996. Ecosystem engineering by a dominant detritivore in a diverse tropical stream. Ecology, 77(6): 1845-1854.
- Fowler, H.W. 1906. Further knowledge of some heterognathus fishes. Part I. Proc. Acad. Nat. Sci. Philadelphia, 58: 293-351.
- Fowler, H.W. 1913. Fishes from the Madeira River, Brazil. Proc. Acad. Nat. Sci. Philadelphia, 65: 517-579.
- Fowler, H.W. 1941. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. Proc. Acad. Nat. Sci. Philadelphia, 93: 123-199.
- Godoy, M.P. 1975. Peixes do Brasil. Subordem Characoidei. Bacia do Rio Mogi Guassu. Vol. II. Ed. Franciscana, Piracicaba.
- Goulding, M. 1981. Man and fisheries on an Amazon frontier. In: H.J. Dumont (ed.). Developments in Hydrobiology, vol. 4. The Hague: W. Junk Publishers. 137 p.
- Goulding, M., M. Leal Carvalho and E.G. Ferreira. 1988. Rio Negro, rich life in poor water. Amazonian diversity and food-chain ecology as seen through fish communities. SPB Academic Publishing, The Hague. 200 p.
- Günther, A. 1860. Second list of cold-blooded vertebrata collected by Mr. Fraser in the Andes of western Ecuador. Proc. Zool. Soc. London, 1859 (3): 402-420.
- Günther, A. 1864. Catalogue of the fishes in the British Museum, vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiatidae in the collection of the British Museum. Trustees, London. xxii + 455 p.
- Holmberg, E.L. 1891. Sobre algunos peces nuevos ó poco conocidos de la República Argentina. Rev. Argent. Hist. Nat. Buenos Aires, 1: 180-193.
- Humboldt, F.H.A. von, and A. Valenciennes. 1821. Recherches sur les poissons fluviatiles de l'Amérique Équinoxiale, Pp. 145-216, pls. 45-52. In: Voyage de Humboldt et Bonpland, Deuxième partie. Observations de Zoologie et d'Anatomie comparée. Paris.
- Jepsen, D.B., K.O. Winemiller and D.C. Taphorn. 1997. Temporal patterns of resource partitioning among *Cichla* species in a Venezuelan blackwater river. J. Fish Biol., 51(6): 1085-1108.
- Kner, R. 1859. Zur Familie der Characinen. III. Folge der Ichthyologischen Beiträge. Denkschr. Akad. Wiss. Wien, 17: 137-182, pls. 1-9.
- Larrañaga, D.A. 1923. Escritos de Don Dámaso Antonio Larrañaga. Los Publica el Instituto Histórico y Geográfico del Uruguay. Edición Nacional. 512 p.
- Loubens, G., L. Lauzanne and J. Géry. 1991. Contribution à la systématique des *Prochilodus* boliviens (Pisces, Characiformes, Prochilodidae). Rev. Hydrobiol. Trop., 24 (3): 217-239.
- Lütken, C.F. 1875a. Characinae novae Brasiliae centralis a clarissimo J. Reinhardt in provincia Minas-Geraes circa oppidulum Lagoa Santa in lacu ejusdem nominis, flumine Rio das Velhas et rivulis affluentibus collectae, secundum caracteres essentialia breviter descriptae. Overs. Danske Vidensk. Selsk. Forhandl Kjobenhavn, 1874 (3): 127-143.
- Lütken, C.F. 1875b. Ichthyographische bidrage. III. Nogle nye eller mindre fuldstændigt kjendte, mellem- eller sydamerikanske Karpelax (Characiner). Vidensk. Medd. Naturh. Foren. København, 1874: 220-240.
- Lütken, C.F. 1875c. Velhas-Flodens Fiske. Et Bidrag til Brasiliens Ichthyologi; efter Professor J. Reinhardts Indsamlinger og Optegnelser. K. Danske Vidensk. Selsk. Skr., Raekke 5, 12 (2): 121-253, + 2 unnum., + I-XXI, pls. 1-5.
- Mago-Leccia, F. 1972. Consideraciones sobre la sistemática de la familia Prochilodontidae (Osteichthys, Cypriniformes) con una sinopsis de las especies de Venezuela. Acta Biol. Venez., 8 (1): 35-96.
- Novoa, D.F., F. Cervigón and F. Ramos. 1982. Catalogo de los recursos pesqueros del Delta del Orinoco, Pp. 263-386. In: D.F. Novoa (ed.) Los recursos pesqueros del Río Orinoco y su explotación, corporacion Venezolana de Guyana, Editorial Arte, Caracas.
- Patiño, R.A. 1973. Cultivo experimental de peces en estanques. Céspedesia, 2(5): 75-125.
- Pearson, N.E. 1924. The fishes of the eastern slope of the Andes. I. The fishes of the Rio Beni basin, Bolivia, collected by the Mulford expedition. Indiana Univ. Studies, 11 (64): 1-83, pls. 1-12.
- Pellegrin, J. 1909. Sur le *Prochilodus insignis* Schomburgk. Bull. Mus. Natl. Hist. Nat., 15: 153-156.
- Posada, A. 1909. Los peces. Pp. 285-322. In: Estudios científicos del doctor Andres Posada con algunos otros escritos suyos sobre diversos temas. Medellin, Colombia. 432 p.
- Ribeiro, M.C.L.B. and M. Petrere, Jr. 1990. Fisheries ecology and management of the Jaraqui (*Semaprochilodus taeniurus*, *S. insignis*) in Central Amazonia. Regul. Rivers: Res. Manage., 5: 195-215.
- Sánchez, M., V. León and W. Reyes. 2000. Evaluación de la pesca de especies nativas en al alto río Magdalena, Departamento del Huila (Colombia). Actualid. Biol., 22 (73): 215-223.
- Schomburgk, R.H. 1841. The Natural history of fishes of Guiana.-- Part I. In: W. Jardine (ed.), The Naturalists' Library. Vol. 3. W. H. Lizars, Edinburgh. 263 p., 30 pls.
- Spix, J.B. von and L. Agassiz. 1829-31. Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXXVII-MDCCCXX jussu et auspiciis Maximiliani Josephi I.... colleget et pingendo curavit Dr J. B. de Spix.... Monachii. Part 1: i-xvi + i-ii + 1-82, Pls. 1-48; part 2: 83-138, pls. 49-101.
- Starks, E.C. 1906. On a collection of fishes made by P. O. Simons in Ecuador and Peru. Proc. U. S. Natl. Mus., 30 (1468): 761-800, pls. 65-66.
- Steindachner, F. 1875. Die Süßwasserfische des südöstlichen Brasilien. Sitzungsber. Akad. Wiss. Wien, 70: 499-538, pls. 1-6.
- Steindachner, F. 1879a. Beiträge zur Kenntniss der Flussfische Südamerika's. Denkschr. Akad. Wiss. Wien, 41: 151-179, pls. 1-4.
- Steindachner, F. 1879b. Beiträge zur Kenntniss der Süßwasserfische Südamerikas. Anz. Akad. Wiss. Wien, 16 (15): 149-152.
- Steindachner, F. 1879c. Ichthyologische Beiträge (VIII). Anz.

Check List of the Freshwater Fishes of South and Central America

- Akad. Wiss. Wien, 16 (18): 194-195.
- Steindachner, F. 1879d. Ichthyologische Beiträge (VIII). Sitzungsber. Akad. Wiss. Wien, 80: 119-191, pls. 1-3.
- Steindachner, F. 1879e. Zur Fisch-fauna des Magdalenen-Stromes. Denkschr. Akad. Wiss. Wien, 39: 19-78, pls. 1-15.
- Steindachner, F. 1880. Zur Fisch-Fauna des Cauca und der Flüsse bei Guayaquil. Denkschr. Akad. Wiss. Wien, 42: 55-104, pls. 1-9.
- Steindachner, F. 1881. Beiträge zur Kenntniss der Flussfische Südamerika's. II. Denkschr. Akad. Wiss. Wien, 43: 103-146, pls. 1-7.
- Steindachner, F. 1907. Über zwei neue Arten von Süßwasserfischen aus dem Stromgebiete des Parnahyba. Anz. Akad. Wiss. Wien, 44 (10): 152-155.
- Steindachner, F. 1911. Über vier neue Siluroiden und Characinen aus dem Amazonasgebiete und von Ceará aus der Sammlung des Museums Göldi in Pará. Anz. Akad. Wiss. Wien, 48 (15): 324-331.
- Sverlij, S., A. Ros and G. Orti. 1993. Sinopsis de los datos biológicos y pesqueros del Sabalo *Prochilodus lineatus* (Valenciennes, 1847). FAO Sinopsis sobre la Pesca, 154: 1-64.
- Valenciennes, A. 1836. Poissons [plates]. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivia, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Paris, Bertrand et Levraut.
- Valenciennes, A. 1847. Poissons. Catalogue des principales espèces de poissons, rapportées de l'Amérique méridionale, 1-11. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivia, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Vol. 5 (pt. 2). Paris, Bertrand et Levraut.
- Vari, R.P. and R.M.C. Castro. 1988. *Prochilodus stigmaturus* Fowler, reassigned to the Curimatidae from the Prochilodontidae, with comments on other nominal curimatid and prochilodontid species treated by Fowler. Copeia, 1988 (3): 777-780.
- Welcomme, R.L. 1979. Fisheries ecology of floodplain rivers. Longman Inc., New York. 317 p.
- Winemiller, K.O. 1996. Factors driving spatial and temporal variation in aquatic floodplain food webs, Pp. 298-312. In: F.A. Polis and K.O. Winemiller (eds.). Food Webs: Integration of patterns and dynamics. Chapman and Hall, New York.

Family Anostomidae (Headstanders)

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The Anostomidae are distinguishable from all other Characiformes by the presence of a unique series of only three or four teeth, or a combination of both, in each premaxillary or dentary, disposed as steps of a stair. The maxilla is small and excluded from the gape. The mouth is small, distant from the anterior orbital rim, and may be terminal, subinferior or almost superior. The circumorbital series is complete and with a supraorbital bone. The mouth is terminal or sub-inferior in the genera *Abramites*, *Leporinus*, *Schizodon*, *Leporellus*, *Rhythiodus*, and *Laemolyta*, and elevated, almost superior, in the genera *Gnathodolus*, *Synaptolaemus*, *Sartor*, *Anostomus*, *Anostomoides*, and *Pseudanos*. The body is entirely covered with large scales, with the perforated lateral series varying from 32-34 to 42-44 scales, and the circumpeduncular scales in 12 to 16 series. The position of the mouth in the genera *Leporinus*, *Schizodon*, and *Laemolyta* is variable with age (Garavello, 1979), ranging from the terminal position to sub-inferior in *Leporinus* or sub-terminal in *Schizodon* and *Laemolyta*, depending of the grow differentiation of premaxillary or dentary bones. Upper and lower pharyngeal dentition is enlarged, with two or more cusps on all pharyngeal teeth. The branchial opening is small, with the membranes firmly joined to isthmus. An adipose-fin is always present. Other internal osteological characters were reported in Winterbotton (1980) and Vari (1983). The genera of this family were reviewed by Myers (1950) and with exception of the genus *Pseudanos*, described by Winterbotton (1980), the generic division of Myers (1950) remained almost intact to the present.

Species of the family Anostomidae are broadly distributed, from southern Central America to tropical and sub-temperate regions of South America. No species of this family is cited from the Trans-Andean Pacific drainages. The anostomids occupy large river basins and their tributaries, including the Magdalena and Atrato rivers in Colombia, the Orinoco River and Maracaibo Lake system in Venezuela, to inner drainages of Brazil from the Amazon to south of Buenos Aires in Argentina. Fishes of genus *Leporinus*, for example, are known from Trinidad (Boeseman, 1960) to La Plata River in Argentina (Ringuelet, Arámburu & Alonso de Arámburu, 1967). The Anostomidae are most diverse in the Amazon, Orinoco, Paraguay, Paraná rivers and their tributaries, and with fewer species in isolated coastal rivers of the Guianas, the São Francisco basin, and remaining short coastal rivers from northeastern Brazil to Uruguay. The anostomids are all fusiform fishes, including species varying from 10 cm (small species from upper tributaries of Orinoco and Amazon system) to 80 cm SL (large species from the main tributaries of the Paraná River and Pantanal of Mato Grosso), and a large number of species of intermediate body size, from mostly of South American river basins.

Many anostomid species are known by their habit of feeding in an inclined position (Gery, 1977; Santos & Rosa, 1998) and they constitute a significant portion of the fish biomass in the diverse aquatic habitats. By their variable position of mouth and extended digestive tract, they are efficient in utilizing sponges, detritus, insects, and vegetal items like seeds, leaves, and filamentous algae (Santos & Rosa, 1998), all common in the forest habitats of Neotropical region. Some large members of the genera *Leporinus* and *Schizodon* are known to undergo spawning migrations in the Paraná-Paraguay system (Godoy, 1975) and in the Amazon and Orinoco basins (Goulding, 1981). Because of their annual migrations, these species are exploited in commercial and subsistence fisheries as an important food item for people in South America.

The generic relationships within the family Anostomidae and with other Characiformes was partially examined by Vari (1983). A revisionary study of *Anostomus*, *Gnathodolus*, *Sartor*, *Synaptolaemus*, and *Pseudanos* was presented by Winterbotton (1980). The species level taxonomy and geographic distribution of the genera *Leporinus* and *Schizodon* has been examined in a series of articles published by Britski (1976, 1997), Garavello (1988, 1989, 1990, 1994, 2000), Garavello & Santos (1981, 1992), Garavello & Britski (1987, 1988, 1990) and Britski & Garavello (1978, 1980, 1993). Taxonomic revisions of *Laemolyta*, *Leporellus*, and *Schizodon* are in progress. As for other Neotropical characiform families, the Anostomidae deserve more study because their relationships are not understood and an uncertain number of undescribed species are expected to be discovered with the continuing research.

ABRAMITES

Abramites Fowler, 1906: 331. Type species: *Leporinus hypselonotus* Günther, 1868b. Type by original designation. Gender: masculine.

***Abramites eques* (Steindachner, 1878)**

Leporinus eques Steindachner, 1878: 90. Type locality: Río Mag-

dalena, Colombia.

Maximum length: 15 cm SL

Distribution: South America: Magdalena River basin.

Countries: Colombia

Common names: Bonito (Colombia), Totumito (Colombia)

***Abramites hypselonotus* (Günther, 1868)**

Leporinus hypselonotus Günther, 1868b: 480. Type locality: Xebe-

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ros, Upper Amazon, Peru. Lectotype: BMNH 1867.6.13.40, designated by Vari & Williams (1987: 97).

Leporinus solaris Holmberg, 1891: 187. Type locality: Misiones, Río Alto Paraná, Argentina. No types known.

Abramites ternetzi Norman, 1926: 93. Type locality: Mato Grosso, se. Brazil.

Abramites microcephalus Norman, 1926: 92. Type locality: Near the mouth of the Amazon River, Brazil. Holotype: BMNH 1926.3.2.571.

Leporinus nigripinnis Meinken, 1935: 193, fig. 1. Type locality: Río Paraná, near Corrientes, Argentina.

Maximum length: 14 cm TL

Distribution: South America: Orinoco, Amazon, Paraguay, and lower Paraná River basins.

Countries: Argentina, Bolivia, Brazil, Colombia, Ecuador, Guyana, Paraguay, Peru, Venezuela

Common names: Jikii (Argentina), Picúo (Venezuela), San Pedrito (Peru)

ANOSTOMOIDES

Anostomoides Pellegrin, 1909: 346. Type species: *Anostomoides atrianalis* Pellegrin, 1909. Type by monotypy. Gender: masculine.

***Anostomoides atrianalis* Pellegrin, 1908**

Anostomoides atrianalis Pellegrin, 1908: 346. Type locality: Orénoque [Venezuela].

Distribution: South America: Orinoco River basin.

Countries: Venezuela

***Anostomoides laticeps* (Eigenmann, 1912)**

Schizodontopsis laticeps Eigenmann, 1912: 299, pl. 41 (fig. 4). Type locality: Crab Falls, Río Essequibo, Guyana. Holotype: FMNH 53359.

Distribution: South America: Essequibo, Orinoco, and Solimões River basins.

Countries: Brazil, Guyana, Venezuela

Common names: Araçu (Brazil), Piau (Brazil)

ANOSTOMUS

Anostomus Scopoli, 1777: 451. Type species: *Salmo anostomus* Linnaeus, 1758. Gender: masculine.

Anostomus Cuvier, 1816: 165. Type species: *Salmo anostomus* Linnaeus, 1758. Type by monotypy. Gender: masculine.

Mormyrinchus Swainson, 1839: 186, 291. Type species: *Mormyrinchus gronovii* Swainson, 1839. Type by monotypy. Gender: masculine.

Histiadromus Gistel, 1848: VIII. Type species: *Salmo anostomus* Linnaeus, 1758. Type by being a replacement name. Gender: masculine.

Pithecocharax Fowler, 1906: 319. Type species: *Salmo anostomus* Linnaeus, 1758. Type by being a replacement name. Gender: masculine.

***Anostomus anostomus* (Linnaeus, 1758)**

Salmo anostomus Linnaeus, 1758: 312. Type locality: South America. Holotype: ZMUC 89.

Mormyrinchus gronoveii Swainson, 1839: 291. Type locality: South America [Suriname].

Anostomus salmoneus Gronow in Gray, 1854: 153. Type locality: South America. No types known.

Maximum length: 16 cm TL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Brazil, Guyana, Peru

Common names: Anostomo (Brazil), Lisa (Peru)

***Anostomus brevior* Géry, 1961**

Anostomus brevior Géry, 1961: 499, fig. 1. Type locality: Río

Camopi, bassin du Oyapok, French Guiana. Holotype: MNHN 1901-405.

Maximum length: 12 cm SL

Distribution: South America: Oyapock River basin.

Countries: French Guiana

***Anostomus intermedius* Winterbottom, 1980**

Anostomus intermedius Winterbottom, 1980: 14, fig. 11. Type locality: Below the cataracts near Suya-Missu or Paranajuba, Río Xingu superior, Amazon basin, Brazil. Holotype: SMF 10651.

Distribution: South America: Xingu River Basin.

Countries: Brazil

***Anostomus longus* Géry, 1961**

Anostomus anostomus longus Géry, 1961: 502, fig. 1. Type locality: Río Nucuray, Peruvian Amazon, near its trib. to Río Marañon, vicinity of Concordia. Holotype: MHNG 2197.04.

Distribution: South America: Upper Amazon, recorded from Nucuray River, Peruvian Amazon, near its tributary to Marañon River, vicinity of Concordia.

Countries: Peru

***Anostomus plicatus* Eigenmann, 1912**

Anostomus plicatus Eigenmann, 1912: 296, pl. 41 (fig. 3). Type locality: Crab Falls, Río Essequibo Basin. Holotype: FMNH 53393.

Maximum length: 9.5 cm SL

Distribution: South America: Essequibo River Basin.

Countries: Guyana, Suriname

***Anostomus spiloclistron* Winterbottom, 1974**

Anostomus spiloclistron Winterbottom, 1974: 154, figs. 1, 5a-b, 6. Type locality: Río Fallawatra, at rapids, 5 km SSW of Stondansie Falls, Río Nickerie basin. Holotype: ZMA 112685.

Maximum length: 16 cm TL

Distribution: South America: Nickerie River Basin.

Countries: Suriname

***Anostomus ternetzi* Fernández-Yépez, 1949**

Anostomus ternetzi Fernández-Yépez, 1949: 293, fig. Type locality: Palital, Estado Guárico, Venezuela. Holotype: MHNLS 427.

Maximum length: 12 cm TL

Distribution: South America: Orinoco, Araguaia, and Amazon River basins; coastal rivers of Guianas.

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela

Common names: Anostomo (Brazil)

GNATHODOLUS

Gnathodolus Myers, 1927: 108. Type species: *Gnathodolus bidens* Myers, 1927. Type by original designation. Gender: masculine.

***Gnathodolus bidens* Myers, 1927**

Gnathodolus bidens Myers, 1927: 108. Type locality: Chemoni, Río Casiquiare, Venezuela. Holotype: CAS 20087.

Distribution: South America: Orinoco and Casiquiare rivers.

Countries: Venezuela

LAEMOLYTA

Laemolyta Cope, 1872: 258. Type species: *Schizodon taeniatus* Kner, 1859. Type by monotypy. Gender: feminine.

Schizodontopsis Garman, 1890: 16, 18. Type species: *Schizodontopsis proximus* Garman, 1890. Type by subsequent designation by Jordan (1920: 451). Gender: feminine.

***Laemolyta fasciata* Pearson 1924**

Laemolyta fasciata Pearson, 1924: 29, pl. 10 (fig. 1). Type locality: Lagoons, Lake Rogoagua, Amazon system, Bolivia. Syn-types: CAS 61846.

Anostomus pearsoni Ahl, 1937: 136. Replacement name for *Lae-*

molyta fasciata Pearson, 1924, secondarily preoccupied by *Anostomus fasciatus* (Spix and Agassiz, 1829) when both were in *Anostomus*.

Distribution: South America: Amazon River basin.

Countries: Bolivia

***Laemolyta fernandesi* Myers, 1950**

Laemolyta fernandesi Myers, 1950: 197. Type locality: Río Orinoco superior, Venezuela. Holotype: SU 16126.

Maximum length: 15.26 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

***Laemolyta garmani* (Borodin, 1931)**

Anostomus garmani Borodin, 1931: 47, pl. 4 (fig. 1). Type locality: Lake Saracá at Silves, Amazonas, Brazil. Holotype: MCZ 19370.

Maximum length: 21.4 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

Common names: Lisa (Peru)

***Laemolyta macra* Géry, 1974**

Laemolyta garmani macra Géry, 1974: 153, fig. 2. Type locality: Vicinity of Concordia, Río Nucuray, tributary of Río Marañon, Peru. Holotype: MHNG 2197.38.

Maximum length: 7.1 cm SL

Distribution: South America: Marañón River basin.

Countries: Peru

Remarks and references: Possible synonym of *Laemolyta garmani*.

***Laemolyta nitens* (Garman, 1890)**

Anostomus varius nitens Garman, 1890: 20. Type locality: Iça, Río Amazonas.

Distribution: South America: Amazon River basin.

Countries: Brazil

Remarks and references: Possible synonym of *Laemolyta proxima*.

***Laemolyta orinocensis* (Steindachner, 1879)**

Anostomus orinocensis Steindachner, 1879: 154. Type locality: Bolivar, Venezuela. Syntypes: NMW 62595, 62820.

Maximum length: 16.6 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

***Laemolyta petiti* Géry, 1964**

Laemolyta petiti Géry, 1964: 464, pl. 4b. Type locality: Ilha do Bananal, Río Araguaia supérieur, Brazil. Holotype: MHNG 2229.01.

Maximum length: 21.2 cm SL

Distribution: South America: Araguaia River basin.

Countries: Brazil

***Laemolyta proxima* (Garman, 1890)**

Anostomus proximus Garman, 1890: 19. Type locality: Villa Bella and Ueranduba, Brazil. Syntypes: MCZ 19331, 19339, 19379, 809, 19335, 19340, 19341, 19348, 19378, 19532. USNM: 120398, 120242.

Maximum length: 24.9 cm SL

Distribution: South America: Guaporé River basin.

Countries: Brazil

Common names: Aracú-caneta (Brazil)

***Laemolyta taeniata* (Kner, 1859)**

Schizodon taeniatus Kner, 1859: 159. Type locality: Rio Guapore, Manaus, Mato Grosso, Brazil. Syntypes: NMW 56988, ?58851, 62875, 81379.

Maximum length: 28.8 cm SL

Distribution: South America: Central Amazon basin at Negro River and Orinoco River basin.

Countries: Brazil, Peru, Venezuela

Common names: Aracú-caneta (Brazil), Lisa (Peru), Mije (Venezuela), Piau-vara (Brazil)

***Laemolyta varia* (Garman, 1890)**

Anostomus varius Garman, 1890: 19. Type locality: Gurupa; Jose Fernandez; Lake Hyanuary; Manaus; Obydos; Porto do Moz; and Rio Negro, Brazil. Syntypes: MCZ 809, 19335, 19340-41, 19348, 19374, 19378, 19532; USNM 120398, 120242.

Distribution: South America: Negro and Amazon River basin.

Countries: Brazil

Remarks and references: Possible synonym of *Laemolyta proxima*.

LEPORELLUS

Leporellus Lütken, 1875a: 129. Type species: *Leporinus pictus* Kner, 1859. Type by monotypy. Gender: masculine.

Leporinodus Eigenmann, 1922: 116. Type species: *Leporinodus retropinnis* Eigenmann, 1922. Type by original designation. Gender: masculine.

***Leporellus pictus* (Kner, 1858)**

Leporinus pictus Kner, 1858: 79. Type locality: Irisanga [= Orissanga], São Paulo State, Brazil. Syntype: NMW 81315.

Leporellus cartledgei Fowler, 1941: 177, fig. 89. Type locality: Penedo, Rio São Francisco, Pernambuco, Brazil. Holotype: ANSP 69522.

Distribution: South America: Paraná and São Francisco River basins.

Countries: Brazil

Remarks and references: Possible synonym of *Leporellus vittatus*.

***Leporellus retropinnis* (Eigenmann, 1922)**

Leporinodus retropinnis Eigenmann, 1922: 116. Type locality: Rio Piracicaba, Brazil. Holotype: FMNH 55174.

Distribution: South America: Paraná River basin.

Countries: Brazil

Remarks and references: Possible synonym of *Leporellus vittatus*.

***Leporellus vittatus* (Valenciennes, 1850)**

Leporinus vittatus Valenciennes in Cuvier & Valenciennes, 1850: 33. Type locality: Amazon River, Brazil. Holotype: MNHN A.9802.

Salmo cagoara Natterer, in Kner, 1859: 172. Type locality: Irisanga (= Orissanga), Brazil.

Leporinus maculifrons Lütken, 1875b: 204. Type locality:

Leporinodus sexdentatus Eigenmann, 1922: 117. Type locality: Cauca near Cáceres, Brazil. No types found.

Leporellus timbore Eigenmann, 1922: 117. Type locality: Rio das Velhas, MG, Brazil. Holotype: ?CM 3876.

Maximum length: 24.5 cm SL

Distribution: South America: Amazon, Paraná-Paraguay and São Francisco River basins.

Countries: Brazil, Paraguay, Peru

Common names: Lisa (Peru)

Species inquirenda

Salmo timbure Natterer, in Kner, 1859: 171. Type locality: Irisanga (= Orissanga), Brazil.

LEPORINUS

Leporinus Agassiz, in Spix & Agassiz, 1829: 58, 65. Type species: *Leporinus novemfasciatus* Spix & Agassiz, 1829. Type by monotypy. Gender: masculine.

Myocharax Fowler, 1914: 239. Type species: *Leporinus desmotes* Fowler, 1914. Type by original designation. Gender: masculine.

Hypomasticus Borodin, 1929: 272. Type species: *Leporinus mormyrops* Steindachner, 1876. Type by original designation. Gender: masculine.

Leporinops Géry, 1960: 308. Type species: *Leporinus moralesi*

- Fowler, 1942. Type by original designation. Gender: masculine. Countries: Brazil
- Leporinus affinis* Günther, 1864**
Leporinus affinis Günther, 1864: 308. Type locality: Rio Capim [Pará, Brazil]. Syntypes: BMNH 1849.11.8.52-53. Maximum length: 25 cm TL
 Distribution: South America: Amazon River basin
 Countries: Brazil, Colombia, Venezuela
 Common names: Araçu flamengo (Brazil), Araçu pinima (Brazil), Piau-flamengo (Brazil)
- Leporinus agassizi* Steindachner, 1876**
Leporinus agassizii Steindachner, 1876: 107, pl. 9 (fig. 4). Type locality: Amazon Flüsse, Tabatinga und Teffe, Iça, Brazil. Syntypes: NMW 68416-17.
Leporinus semivittatus Boulenger, 1895: 449. Type locality: Manaus, Rio Negro, Brazil. Holotype: BMNH 1893.4.24.39.
 Distribution: South America: Amazon River basin.
 Countries: Brazil, Venezuela
 Common names: Aracú (Brazil)
- Leporinus aguapeiensis* Campos, 1945**
Leporinus aguapeiensis Campos, 1945: 154, fig. Type locality: Rio Aguapeí, Estado de São Paulo, Brazil. Holotype: MZUSP 3040.
 Maximum length: 18.8 cm SL
 Distribution: South America: Paraná River basin.
 Countries: Brazil
 Remarks and references: Possibly a synonym of *Leporinus obtusidens* (Garavello, 1979).
 Common names: Piaussú (Brazil)
- Leporinus alternus* Eigenmann, 1912**
Leporinus alternus Eigenmann, 1912: 307. Type locality: Tukeit, Guyana. Holotype: FMNH 53361.
 Distribution: South America: Coastal rivers of the Guianas and the upper Amazon River basin.
 Countries: Brazil, Guyana, Venezuela
- Leporinus amae* Godoy, 1980**
Leporinus amae Godoy, 1980: 23, fig. 14. Type locality: Rio Apuaê, Brazil. Holotype: Mus. Hist. Nat. Pirassununga.
 Distribution: South America: Uruguay River basin.
 Countries: Brazil
 Common names: Perna-de-moça (Brazil)
- Leporinus amblyrhynchus* Garavello & Britski, 1987**
Leporinus amblyrhynchus Garavello & Britski, 1987: 154, fig. 1a. Type locality: Rio Tietê, Itu, Sao Paulo, Brazil. Holotype: MZUSP 14411.
 Maximum length: 19.6 cm SL
 Distribution: South America: Paraná River basin.
 Countries: Brazil
 Common names: Chimbore (Brazil)
- Leporinus arcus* Eigenmann, 1912**
Leporinus arcus Eigenmann, 1912: 300, pl. 42 (fig. 3). Type locality: Tukeit, Guyana. Holotype: FMNH 53366.
 Maximum length: 40 cm TL
 Distribution: South America: Coastal rivers of Guianas, Venezuela, and upper Amazon River basin.
 Countries: French Guiana, Guyana, Suriname, Venezuela
- Leporinus aripuanaensis* Garavello & Santos, 1992**
Leporinus aripuanaensis Garavello & Santos, 1992: 112, fig. 1B. Type locality: Igarapé do Aeroporto, tributary of Rio Aripuanã, Humboldt, Aripuanã, Mato Grosso State, Brazil. Holotype: MZUSP 14495.
 Maximum length: 9.3 cm SL
 Distribution: South America: Aripuanã River basin.
- Leporinus badueli* Puyo, 1948**
Leporinus badueli Puyo, 1948: 81, fig. 2. Type locality: Montagne Baduel et Île de Cayenne, Guyane Française. Holotype: ?
 Maximum length: 105 mm SL
 Distribution: South America: Coastal rivers in French Guiana
 Countries: French Guiana
- Leporinus bahiensis* Steindachner, 1875**
Leporinus bahiensis Steindachner, 1875: 231, pl. 2 (fig. 2). Type locality: Bahia, Brazil. Syntypes: not found at NMW.
 Distribution: South America: Bahia State.
 Countries: Brazil
- Leporinus bistriatus* Britski, 1997**
Leporinus bistriatus Britski, 1997: 28, fig. 1. Type locality: Igarapé Águas Claras, rio Itacaiúnas, Caldeirão, Serra dos Carajás, PA, Brazil. Holotype: MZUSP 31477.
 Maximum length: 110.5 mm SL.
 Distribution: South America: Tocantins River basin
 Countries: Brazil
- Leporinus bimaculatus* Castelnau, 1855**
Leporinus bimaculatus Castelnau, 1855: 58, pl. 29 (fig. 1). Type locality: Rio Vermelho, Goiás; San João das Duas Barras, Tocantins, Brazil. Syntypes: MNHN A.8620, ?A.9797.
 Distribution: South America: Tocantins River basin.
 Countries: Brazil
- Leporinus bleheri* Géry, 1999**
Leporinus bleheri Géry, 1999: 108, fig. 5. Type locality: Bolívia, Rio Verde, tributary of the Iténez (Guaporé), at the border with Brazil, ca 30 km from mouth, below cataract, 14°8'S; 60°30'W. Holotype MHNG 2599.60.
 Maximum length: 14.2 cm SL
 Distribution: South America: Iténez-Guaporé River basin.
 Countries: Bolivia, Brazil
- Leporinus boehlkei* Garavello, 1988**
Leporinus boehlkei Garavello, 1988: 144, fig. 1A. Type locality: Stream into Lago Mozambique, Río Meta system, Colombia, ca. 3°58'N, 73°04'W. Holotype: ANSP 136487.
 Maximum length: 15.8 cm SL
 Distribution: South America: Meta River basin
 Countries: Colombia
- Leporinus brunneus* Myers, 1950**
Leporinus brunneus Myers, 1950: 195. Type locality: Rio Negro at Cachoeira Camanaos, Amazonas, Brazil.
 Holotype: SU 16125.
 Maximum length: 25.6 cm SL
 Distribution: South America: Orinoco and Negro River basins.
 Countries: Brazil, Venezuela
- Leporinus conirostris* Steindachner, 1875**
Leporinus conirostris Steindachner, 1875: 233, pl. 4. Type locality: Rio Paraiba, auf Mendez, Juiz de Fora und Palmeira; Rio Doce; Rio Mucuri; Flüsse Paraiba do Sul, Brazil. Syntypes: MCZ 20371-73, 20407, 20411-13, 25690, 31599; MNHN 1913-131; NMW 68199, 68395-97, 68399-400, 68693-98; USNM 120275; ZMUC 970.
 Distribution: South America: Paraiba do Sul River basin.
 Countries: Brazil
- Leporinus copelandii* Steindachner, 1875**
Leporinus copelandii Steindachner, 1875: 236, pl. 5. Type locality: Rio Parahyba und nebenflüssen auf Mendez; Juiz de Fora; Rio Doce; Rio São Matheos; Rio Jequitinhonha; Rio Quenda auf Santa Cruz. Syntypes: MCZ 19773, 19775, 20359, 20408-410,

20420, 20460, 20490-91; MNHN 1913-134; NMW 68379-87, 68391-94, 69592; ZMUC 969.

Distribution: South America: Paraíba do Sul and Doce River basins.

Countries: Brazil

Common names: Piava-vermelha (Brazil)

***Leporinus crassilabris* Borodin, 1929**

Leporinus crassilabris Borodin, 1929: 274, pl. 4. Type locality: Rio Jequitinhonha, Brazil. Holotype: MCZ 20423.

Leporinus crassilabris breviceps Borodin 1929: 275. Type locality: Brazil. Holotype: MCZ 20419.

Distribution: South America: Jequitinhonha River basin.

Countries: Brazil

Remarks and references: A synonym of *Leporinus elongatus* according to Géry, Mahnert & Dlouhy (1987: 396).

***Leporinus cylindriciformis* Borodin, 1929**

Leporinus cylindriciformis Borodin, 1929: 288, pl. 10. Type locality: Porto de Moz, Brazil. Holotype: MCZ 20430.

Distribution: South America: Lower Amazon River basin.

Countries: Brazil

***Leporinus desmotes* Fowler, 1914**

Leporinus desmotes Fowler, 1914: 239, fig. 5. Type locality: Río Rupununi, Guiana, ca. 2°-3°N, 50°20'W. Holotype: ANSP 39324.

Maximum length: 18 cm TL

Distribution: South America: Rupununi River basin.

Countries: Guyana, Suriname

***Leporinus despaxi* Puyo, 1943**

Leporinus despaxi Puyo, 1943: 141, fig. 1. Type locality: Marge gauche of Rio Maroni supérieure, Guianne Francaise.

Maximum length: 16 cm TL

Distribution: South America: Coastal rivers of French Guiana, from Maroni to Oyapock River.

Countries: Brazil, French Guiana

Common names: Piau (Brazil)

***Leporinus ecuadorensis* Eigenmann & Henn, 1916**

Leporinus ecuadorensis Eigenmann & Henn, 1916: 88. Type locality: Río Barranca Alta, near Naranjito, west of Ecuador. Holotype: CAS 18396.

Maximum length: 25 cm TL

Distribution: South America: Barranca Alta River basin.

Countries: Ecuador

Common names: Ratón (Ecuador)

***Leporinus elongatus* Valenciennes, 1850**

Leporinus elongatus Valenciennes in Cuvier & Valenciennes, 1850: 37. Type locality: Rio São Francisco et La Plata, Brazil. Syntypes: MNHN A.8624 (Brazil), MNHN A.9800 (Argentina).

Distribution: South America: Paraná, La Plata, and São Francisco River basins.

Countries: Argentina, Brazil

Common names: Boga (Argentina), Piapara (Brazil)

***Leporinus falcipinnis* Mahnert, Géry & Muller, 1997**

Leporinus falcipinnis Mahnert, Géry & Muller, 1997: 838, fig. 1. Type locality: Rio Arapiuns, 1 hour by boat downstream of mouth of rio Aruá, small fazenda at right shore, lower Tapajós basin, Pará, Brazil, 2°04'S, 55°38'W. Holotype: MZUSP 51827.

Distribution: South America: Lower Tapajós River basin.

Countries: Brazil

***Leporinus fasciatus* (Bloch, 1794)**

Salmo fasciatus Bloch, 1794: 96, pl. 379. Type locality: Unknown locality [Suriname]. Holotype: ZMB 3543.

Leporinus novemfasciatus Spix & Agassiz, 1829: 65, pl. 37. Type

locality: Rivers of equatorial Brazil. No types known.

Leporinus fasciatus altipinnis Borodin 1929: 280, pl. 8. Type locality: Jaturana, e. Brazil. Syntypes: MCZ 20487.

Maximum length: 30 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil, French Guiana, Peru, Suriname

Remarks and references: Introduced in Oceania and Hawaii.

Common names: Aracú-flamengo (Brazil), Kalanalé (French Guiana), Kouana (French Guiana), Kwachimanman (French Guiana), Kwasimama (French Guiana), Leporinus à bandes (French Guiana), Leporinus de franjas (Peru), Leporinus listado (Peru), Lisa (Peru), Roujé (French Guiana), Wana (French Guiana)

***Leporinus acutidens* (Valenciennes, 1836)**

Curimatus acutidens Valenciennes, 1836: pl. 8 (fig. 1). Type locality: South America. No types known.

Maximum length: 33 cm TL

Distribution: South America: Amazon River basin and Guiana rivers.

Countries: Brazil, French Guiana

Remarks and references: Possible synonym of *Leporinus friderici*.

Common names: Piava de três pintas (Brazil)

***Leporinus friderici* (Bloch, 1794)**

Salmo friderici Bloch, 1794: 94, pl. 378. Type locality: Suriname. Holotype: ZMB 3552.

Maximum length: 40 cm SL

Distribution: South America: Suriname and Amazonia River basin.

Countries: Brazil, French Guiana, Guyana, Suriname, Trinidad and Tobago

Common names: Araçu cabeça gorda (Brazil), Kamenourou (French Guiana), Kaunali (French Guiana), Piau cabeça-gorda (Brazil), Taanali (French Guiana), Walakou (French Guiana), Warakoe (French Guiana, Suriname), Weti wakou (French Guiana)

***Leporinus garmani* Borodin, 1929**

Leporinus garmani Borodin, 1929: 272, pl. 3. Type locality: Arassuahy, Brazil. Holotype: MCZ 20420.

Distribution: South America: Jequitinhonha River basin.

Countries: Brazil

***Leporinus gomesi* Garavello & Santos, 1990**

Leporinus gomesi Garavello, 1990: 165, fig. 1. Type locality: Rio Aripuanã above the Cachoeira de Dardanelos, Humboldt, Aripuanã, Mato Grosso State, Brazil. Holotype: MZUSP 14436.

Maximum length: 16 cm SL

Distribution: South America: Aripuanã River basin.

Countries: Brazil

Remarks and references: Name first published as a *nomem nudum* in Garavello & Santos (1981: 181).

***Leporinus gossei* Géry, Planquette & Le Bail, 1991**

Leporinus gossei Géry, Planquette & Le Bail, 1991: 15, pl. 3 (fig. 2). Type locality: Crique Balaté, bassin du bas Maroni. Holotype: IRSNB 797.

Maximum length: 25 cm SL

Distribution: South America: Maroni River basin.

Countries: French Guiana, Suriname

Common names: Carpe (French Guiana), Karp-tanponnen (French Guiana)

***Leporinus granti* Eigenmann, 1912**

Leporinus granti Eigenmann, 1912: 307, pl. 43 (fig. 3). Type locality: Maripicru Creek, Guyana. Holotype: FMNH 53383.

Leporinus badueli Puyo, 1948: 81, fig. 2. Type locality: Crique a la proximité du Montagne Baduel et crique a la rive gauche du Rio Mana, Guianne Francaise.

Maximum length: 20 cm TL

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Distribution: South America: Mana River basin.

Countries: French Guiana, Guyana

Common names: Carpe crique (French Guiana), Carpe rouge (French Guiana), Karp-rouj (French Guiana), Karp-tanponnen (French Guiana)

***Leporinus holostictus* Cope, 1878**

Leporinus holostictus Cope, 1878: 690. Type locality: Peruvian Amazon. Lectotype: ANSP 21467, designated by Fowler (1906: 330).

Distribution: South America: Peruvian Amazon River basin.

Countries: Peru

Common names: Lisa (Peru)

***Leporinus jamesi* Garman, 1929**

Leporinus jamesi Garman in Borodin, 1929: 281, pl. 9. Type locality: Manacapuru, Brazil. Holotype: ?MCZ 20439.

Distribution: South America: Amazon River basin.

Countries: Brazil

***Leporinus jatuncochi* Ovchynnyk, 1971**

Leporinus jatuncochi Ovchynnyk, 1971: 100, figs. 8-9. Type locality: Lake Jatun Cocha, ca. 1°00'S, 75°27'W, Provincia del Rio Napo, Ecuador. Holotype: MSUM 5868.

Distribution: South America: Napo River basin.

Countries: Ecuador

Remarks and references: Possibly synonym of *Leporinus desmotes* (Garavello, 1979).

***Leporinus julii* Santos, Jégu & Lima, 1996**

Leporinus julii Santos, Jégu & Lima, 1996: 273, fig. 4. Type locality: Rio Xingu, cachoeira Kaituka, Amazonas, Brazil. Holotype: INPA 10987.

Maximum length: 170 mm SL

Distribution: South America: Xingu River basin.

Countries: Brazil

***Leporinus klausewitzii* Géry, 1960**

Leporinus klausewitzii Géry, 1960: 279, pl. 40 (fig. 2). Type locality: Mundurucú, Rio Manacapuru, Amazon basin, near Manaus, Brazil. Holotype: SMF 5090.

Distribution: South America: Central Amazon River basin.

Countries: Brazil

***Leporinus lacustris* Campos, 1945**

Leporinus lacustris Campos, 1945: 155, fig. Type locality: Pirassununga, Estado de São Paulo, Brazil. Holotype: MZUSP 3458.

Maximum length: 11.1 cm SL

Distribution: South America: Paraná River basin.

Countries: Brazil

Common names: Piava de lagoa (Brazil)

***Leporinus latofasciatus* Steindachner, 1910**

Leporinus latofasciatus Steindachner, 1910: 268. Type locality: Orinoco Flüsse, Venezuela. Holotype: NMW 68187.

Distribution: South America: Orinoco River basin.

Countries: Venezuela

***Leporinus lebaili* Géry & Planquette, 1983**

Leporinus lebaili Géry & Planquette, 1983: 66, fig. 1, 2, 5a. Type locality: Río Maroni, Laissé-Dédé Falls, French Guiana. Holotype: MHNG 2152.48.

Distribution: South America: Maroni River basin.

Countries: French Guiana, Suriname

Common names: Karp-blé (French Guiana), Karp-tanponnen (French Guiana)

***Leporinus leschenaulti* Valenciennes, 1850**

Leporinus leschenaulti Valenciennes in Cuvier & Valenciennes, 1850: 30, pl. 635. Type locality: La Mana, Guianne Francaise.

Holotype: MNHN 1694.

Leporinus parae Eigenmann, in Eigenmann & Ogle, 1908: 8, fig. 3. Type locality: Pará, Brazil. Holotype: USNM 34613.

Distribution: South America: Coastal rivers in French Guiana and northern Brazil

Countries: Brazil, French Guiana

***Leporinus macrocephalus* Garavello & Britski, 1988**

Leporinus macrocephalus Garavello & Britski, 1988: 68, fig. 1a.

Type locality: Rio Cuiabá, Barão de Melgaço, Mato Grosso, Brazil. Holotype: MZUSP 36586.

Maximum length: 40 cm SL

Distribution: South America: Paraguay River basin.

Countries: Brazil

Common names: Piaussu (Brazil)

***Leporinus maculatus* Müller & Troschel, 1844**

Leporinus maculatus Müller & Troschel, 1844: 86. Type locality: Guiana.

Leporinus marcgravii Lütken, 1875a: 130. Type locality: Rio das Velhas und nebenflüssen, Brazil. Syntypes: USNM 44951; ZMB 9191; ZMUC 151, 155-156.

Maximum length: 18 cm TL

Distribution: South America: Coastal rivers of the Guianas and São Francisco River basin.

Countries: Brazil, French Guiana, Guyana, Suriname

Common names: Araçu pinima (Brazil), Karp (French Guiana)

***Leporinus marcgravii* Lütken, 1875**

Leporinus marcgravii Lütken, 1875b: 130. Type locality: Rio das Velhas und nebenflüssen, Brazil. Syntypes: USNM 44951; ZMB 9191; ZMUC 151, 155-156.

Distribution: South America: São Francisco River basin.

Countries: Brazil

***Leporinus megalepis* Günther, 1863**

Leporinus megalepis Günther, 1863: 443. Type locality: Río Essequibo, Guiana. Syntypes: BMNH 1864.1.21.43-45.

Maximum length: 6.8 cm SL

Distribution: South America: Essequibo River basin.

Countries: Guyana

***Leporinus melanopleura* Günther, 1864**

Leporinus melanopleura Günther, 1864: 310. Type locality: Rio Cipó, Bahia, Brazil. Syntypes: BMNH 1863.3.27.6-7, BMNH uncat.

Distribution: South America: Cipó River basin in Bahia State.

Countries: Brazil

***Leporinus melanostictus* Norman, 1926**

Leporinus melanostictus Norman, 1926: 94. Type locality: Río Approuague and Río Oyapock, French Guiana. Syntypes: BMNH 1926.3.2.566-567, BMNH 1926.3.2.568-569.

Maximum length: 28 cm SL

Distribution: South America: Approuague and Oyapock River basins.

Countries: Brazil, French Guiana

Common names: Araçu (Brazil), Carpe rouge (French Guiana), Karp-rouje (French Guiana)

***Leporinus microphthalmus* Garavello, 1989**

Leporinus microphthalmus Garavello, 1989: 498, fig. 1. Type locality: Rio Araguari, salto de Nova Ponte, Nova Ponte, Estado de Minas Gerais, Brazil. Holotype: MZUSP 38535.

Maximum length: 11.8 cm SL

Distribution: South America: Paraná River basin.

Countries: Brazil

***Leporinus moralesi* Fowler, 1942**

Leporinus muelleri Steindachner, 1876: 105, pl. 9 (fig. 5). Type

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- locality: Rio Amazonas, Tabatinga; Jose Fernandez; Rio Iça; Lago Alexo, Brazil. Syntypes: NMW 68348, NMW 77721, NMW 90680. Preoccupied by *Leporinus muelleri* Günther, 1859, replaced by *Leporinus moralesi* Fowler, 1942.
- Leporinus moralesi* Fowler, 1942: 18, fig. 42. Type locality: Rio Amazonas, Tabatinga, Jose Fernandes, Rio Iça, Lago Alexo, Brazil. Syntypes: NMW 68348, NMW 77721, NMW 90680.
- Maximum length: 30 cm TL
- Distribution: South America: Amazon River basin.
- Countries: Brazil, Peru
- Common names: Lisa (Peru)
- Leporinus mormyrops* Steindachner, 1875**
- Leporinus mormyrops* Steindachner, 1875: 240, pl. 6. Type locality: Rio Paraíba and Rio Piabanha, Brazil.
- Distribution: South America: Paraíba do Sul, Piabanha, and Doce River basins.
- Countries: Brazil
- Leporinus multifasciatus* Cope, 1878**
- Leporinus multifasciatus* Cope, 1878: 690. Type locality: Peruvian Amazon. Lectotype: ANSP 21448.
- Distribution: South America: Amazon River basin.
- Countries: Peru
- Common names: Lisa (Peru)
- Leporinus muyscorum* Steindachner, 1901**
- Leporinus muyscorum* Steindachner, 1901: 206. Type locality: Río Lebrija und Río Magdalena flüssen aus Santander, Colombia. Holotype: whereabouts unknown.
- Distribution: South America: Magdalena and Atrato River basins.
- Countries: Colombia
- Leporinus nattereri* Steindachner, 1876**
- Leporinus nattereri* Steindachner, 1876: 114, pl. 12 (fig. 1). Type locality: Rio Negro mouth; Tefé; Lago do Aleixo, Brazil. Syntypes: MCZ 20384 (Teffe); NMW 68344-46.
- Distribution: South America: Negro River, Aleixo Lake, Central Amazon basin.
- Countries: Brazil
- Leporinus niceforoi* Fowler, 1943**
- Leporinus niceforoi* Fowler, 1943: 227, fig. 9. Type locality: Río Ortegusa, Florencia, Caquetá Dept., Colombia. Holotype: ANSP 70491.
- Distribution: South America: Ortegusa River basin.
- Countries: Colombia
- Leporinus nigrotaeniatus* (Jardine, 1841)**
- Chalceus nigrotaeniatus* Jardine in Schomburgk, 1841: 213, pl. 13 (fig. 2). Type locality: Pedrero, Rio Negro.
- Leporinus margaritaceus* Günther, 1864: 309. Type locality: Guyana. Holotype: BMNH uncat.
- Maximum length: 40 cm TL
- Distribution: South America: Negro River basin and Guyana coastal drainages.
- Countries: Brazil, Guyana
- Leporinus nijsseni* Garavella, 1990**
- Leporinus nijsseni* Garavella, 1990: 163, fig. 1. Type locality: About 27 km south of Village Dam, Sara Creek, Brokopondo dist., Suriname. Holotype: ZMA 107562.
- Maximum length: 17 cm TL
- Distribution: South America: Saramacca creek and Suriname River basins.
- Countries: Brazil, French Guiana, Suriname
- Common names: Karp-rouj (French Guiana), Karp-tanponnen (French Guiana)
- Leporinus obtusidens* (Valenciennes, 1836)**
- Curimatus obtusidens* Valenciennes, 1836: no p., pl. 8 (fig. 2). Type locality: Buenos Aires, Argentina. Holotype: MNHN 1693.
- Maximum length: 40 cm SL
- Distribution: South America: Paraná, La Plata, and São Francisco River basins.
- Countries: Argentina, Brazil, Paraguay, Uruguay
- Common names: Boga (Argentina), Piapara (Brazil)
- Leporinus octofasciatus* Steindachner, 1915**
- Leporinus octofasciatus* Steindachner, 1915: 28, pl. 3 (figs. 1-2). Type locality: Joinville, Santa Catarina, Brazil. Syntypes: NMW.
- Maximum length: 23.5 cm SL
- Distribution: South America: Cubatão River (northern) in Santa Catarina State and upper Paraná River basin.
- Countries: Brazil
- Remarks and references: Redescription in Britski & Garavella (1978: 237-250).
- Common names: Ferreirinha (Brazil)
- Leporinus octomaculatus* Britski & Garavella, 1993**
- Leporinus octomaculatus* Britski & Garavella, 1993: 33, figs. 3-4. Type locality: Headwaters of Rio Arinos, Rio Tapajós basin, Mato Grosso, Brazil. Holotype: MZUSP 44794.
- Maximum length: 6.9 cm SL
- Distribution: South America: Arinos River basin in Tapajós River drainage.
- Countries: Brazil
- Leporinus ortomaculatus* Garavella, 2000**
- Leporinus ortomaculatus* Garavella, 2000: 196. Type locality: Rio Surumu, Roraima, Brazil. Holotype: MZUSP 5160.
- Distribution: South America: Negro and Orinoco River basins.
- Countries: Brazil, Venezuela
- Leporinus pachycheilus* Britski, 1976**
- Leporinus pachycheilus* Britski, 1976: 87, fig. 1. Type locality: Rio Aripuanã, Mato Grosso State, Brazil. Holotype: MZUSP 13074.
- Maximum length: 15.7 cm SL
- Distribution: South America: Aripuanã River basin.
- Countries: Brazil
- Leporinus pachyurus* Valenciennes, 1850**
- Leporinus pachyurus* Valenciennes, in Cuvier & Valenciennes, 1850: 36. Type locality: Amazonas. Holotype: Distribution: South America: Amazon River basin.
- Countries: Brazil
- Remarks and references:** Possible synonym of *Leporinus trifasciatus* (Britski & Garavella, 1988).
- Leporinus parae* Eigenmann, 1908**
- Leporinus parae* Eigenmann, in Eigenmann & Ogle, 1908: 8, fig. 3. Type locality: Pará, Brazil. Holotype: USNM 34613.
- Distribution: South America: River basins of Pará State, lower Amazon.
- Countries: Brazil
- Leporinus paralternus* Fowler, 1914**
- Leporinus paralternus* Fowler, 1914: 237, fig. 4. Type locality: Río Rupununi, Guiana, 2°-3°N, 50°20'W. Holotype: ANSP 39320.
- Distribution: South America: Guyana and Suriname rivers and upper Amazon River basin.
- Countries: Brazil, Guyana
- Leporinus paranensis* Garavella & Britski, 1987**
- Leporinus paranensis* Garavella & Britski, 1987: 156, fig. 1b. Type locality: Marimbondó, Rio Grande, São Paulo, Brazil. Holotype: MZUSP 14453.
- Maximum length: 16 cm SL
- Distribution: South America: Paraná River basin.

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Countries: Brazil

***Leporinus pearsoni* Fowler, 1940**

Leporinus pearsoni Fowler, 1940b: 84, figs. 44-45. Type locality: Boca Chapare, Río Chimore, Cochabamba, Bolivia. Holotype: ANSP 69069.

Distribution: South America: Chimore River, Cochabamba.

Countries: Bolivia, Ecuador

Common names: Septimo (Ecuador)

***Leporinus pellegrinii* Steindachner, 1910**

Leporinus pellegrinii Steindachner, 1910: 269. Type locality: Suriname. Syntypes: NMW 68174, 72624.

Maximum length: 12 cm TL

Distribution: South America: Coastal rivers of Guianas and upper Amazon River basin.

Countries: Brazil, French Guiana, Guyana, Suriname

***Leporinus piau* Fowler, 1941**

Leporinus piau Fowler, 1941: 176, fig. 87. Type locality: Rio Salgado, Icó, Ceará, Brazil. Holotype: ANSP 69502.

Distribution: South America: Salgado River, Ceará State.

Countries: Brazil

Common names: Piau (Brazil)

***Leporinus pitingai* Santos & Jegu, 1996**

Leporinus pitingai Santos & Jegu, 1996: 168, fig. 31. Type locality: Rio Pitinga, cachoeira 40 Ilhas, abaixo UHE Pitinga, Amazonas, Brazil. Holotype: INPA 10126.

Maximum length: 315 mm SL

Distribution: South America: Pitinga River, Amazonas State.

Countries: Brazil

***Leporinus punctatus* Garavello, 2000**

Leporinus punctatus Garavello, 2000: 194, fig. 1a. Type locality: Small caño tributary to Rio do Mato, Orinoco river system, 7°8'N, 65°10'W. Holotype: ANSP 174805.

Distribution: South America: Orinoco River basin.

Countries: Venezuela

***Leporinus reinhardti* Lütken, 1875**

Leporinus reinhardti Lütken, 1875b: 129. Type locality: Rio das Velhas, Minas Gerais, Brazil. Syntypes: MNHN 9590; NMW 68196; ZMB 9189; ZMUC 123, 126, 128, 131.

Maximum length: 17 cm SL

Distribution: South America: São Francisco River basin.

Countries: Brazil

***Leporinus reticulatus* Britski & Garavello, 1993**

Leporinus reticulatus Britski & Garavello, 1993: 30, figs. 1-2. Type locality: Headwaters of the Rio Arinos, Rio Tapajós basin, Mato Grosso, Brazil, 14°25'S, 55°50'W. Holotype: MZUSP 44781.

Maximum length: 7.3 cm SL

Distribution: South America: Arinos and Tapajós River basins.

Countries: Brazil

***Leporinus sexstriatus* Britski & Garavello, 1980**

Leporinus sexstriatus Britski & Garavello, 1980: 254, figs. 1-2. Type locality: Rio Papagaio, acima de Utariti, Mato Grosso, Brazil. Holotype: MZUSP 9232.

Maximum length: 8 cm SL

Distribution: South America: Papagaio and Tapajós River basins.

Countries: Brazil

***Leporinus silvestrii* Boulenger, 1902**

Leporinus silvestrii Boulenger, 1902: 284. Type locality: Rio Coxipó, Mato Grosso, Brazil. Syntypes: BMNH 1902.2.10.32; MSNG 14866.

Distribution: South America: Upper Paraguay River basin.

Countries: Brazil

Remarks and references: Possibly a synonym of *Leporinus obtusidens*.

***Leporinus spilopleura* Norman, 1926**

Leporinus spilopleura Norman, 1926: 24. Type locality: Oyapock River, French Guiana. Paratype BMNH 564532.

Distribution: South America: Oyapock River basin.

Countries: Brazil, French Guiana.

***Leporinus steindachneri* Eigenmann, 1907**

Leporinus affinis Steindachner, 1875: 228, pl. 3. Type locality: Rio Arassuahy, tributary of Rio Jequitinhonha, Minas Geraes, Brazil. Holotype: NMW 68405.

Leporinus steindachneri Eigenmann, in Eigenmann & Ogle, 1907: 9. Type locality: Arassuahy, trib. of Rio Jequitinhonha in Minas Geraes, Brazil. Replacement name for *Leporinus affinis* Steindachner, 1875, preoccupied by *Leporinus affinis* Günther, 1864.

Distribution: South America: Jequitinhonha River basin.

Countries: Brazil

***Leporinus steyermarki* Inger, 1956**

Leporinus steyermarki Inger, 1956: 431, fig. 93. Type locality: Río Abácapa, west side of Chimantá-tepui, Venezuela, elev. 1300 ft. Holotype: FMNH 45701.

Maximum length: 30 cm TL

Distribution: South America: Abácapa River basin.

Countries: Venezuela

***Leporinus striatus* Kner, 1858**

Leporinus striatus Kner, 1858: 79. Type locality: Irisanga and Caicara, Mato Grosso, Brazil. Syntypes: NMW 68048.

Salmo tiririca Natterer in Kner, 1859: 172. Type locality: Irisanga (= Orissanga) and Caicara, Mato Grosso, Brazil.

Maximum length: 25 cm TL

Distribution: South America: Orissanga, Paraná, and Paraguay River basins.

Countries: Bolivia, Brazil, Paraguay

Common names: Canivete (Brazil)

***Leporinus subniger* Fowler, 1943**

Leporinus subniger Fowler, 1943: 228, figs. 10-12. Type locality: Río Ortegusa, Florencia, Departamento Caquetá, Colombia. Holotype: ANSP 70493.

Distribution: South America: Ortegusa River basin.

Countries: Colombia

***Leporinus taeniatus* Lütken, 1875**

Leporinus taeniatus Lütken, 1875b: 129. Type locality: Rio das Velhas, Minas Gerais, Brazil. Syntypes: MNHN 9591; ZMB 9190; ZMUC 132-133, 139, 143, 150.

Distribution: South America: Das Velhas and São Francisco River basins.

Countries: Brazil

***Leporinus taeniofasciatus* Britski, 1997**

Leporinus taeniofasciatus Britski, 1997: 32, fig.3. Type locality: Rio Maranhão, na altura da Cachoeira do Machadinho, divisa dos municípios de Barro Alto e Niquelândia, Goiás State, Brazil. Holotype: MZUSP 51073

Maximum length: 129 mm SL

Distribution: South America: Tocantins River basin.

Countries: Brazil

***Leporinus thayeri* Borodin, 1929**

Leporinus thayeri Borodin 1929: 273, pl. 2. Type locality: Rio Paraiba, Brazil. Holotype: MCZ 20364.

Distribution: South America: Paraiba do Sul and Jequitinhonha River basins.

Countries: Brazil

***Leporinus tigrinus* Borodin, 1929**

Leporinus fasciatus tigrinus Borodin, 1929: 280. Type locality: Goiás, Brazil. Syntypes: MCZ 20446.
Distribution: South America: Tocantins River basin.
Countries: Brazil

***Leporinus trifasciatus* Steindachner, 1876**

Leporinus trifasciatus Steindachner, 1876: 112. Type locality: Rio Amazonas, Tefé, Amazonas, Brazil. Holotype: NMW.
Distribution: South America: Amazon River basin.
Countries: Brazil
Common names: Araçu cabeça gorda (Brazil)

***Leporinus trimaculatus* Garavello & Santos, 1992**

Leporinus trimaculatus Garavello & Santos, 1992: 111, fig. 1a.
Type locality: Rio Aripuanã, Humboldt, Aripuanã, Mato Grosso State, Amazonia, Brazil. Holotype: MZUSP 14459.
Maximum length: 23.2 cm SL
Distribution: South America: Aripuanã River basin.
Countries: Brazil

***Leporinus uatumaensis* Santos & Jegu, 1996**

Leporinus uatumaensis Santos & Jegu, 1996: 164, fig. 20. Type locality: Rio Uatumã, Cachoeira do Miriti, abaixo da cachoeira Balbina, Amazonas, Brazil. Holotype INPA 10087.
Maximum length: 102 mm SL
Distribution: South America: Uatumã River basin.
Countries: Brazil

***Leporinus wolfei* Fowler, 1940**

Leporinus wolfei Fowler, 1940a: 261, fig. 58. Type locality: Boca Chica, Río Ucayali basin, Peru. Holotype: ANSP 68674.
Maximum length: 30 cm TL
Distribution: South America: Ucayali and Amazon River basins.
Countries: Peru
Remarks and references: Possible synonym of *Leporinus trifasciatus* Steindachner, 1876.
Common names: Lisa (Peru)

***Leporinus yophorus* Eigenmann, 1922**

Leporinus y-ophorus Eigenmann, 1922: 233, pl. 20 (fig. 4). Type locality: Barrigón, Río Meta, Orinoco System, Colombia. Holotype: CAS 61680.
Distribution: South America: Meta and Orinoco River basins.
Countries: Colombia, Venezuela

Species inquirendae

Salmo biribiri Natterer in Kner, 1859: 170. Type locality: Manaus, Brazil; Rio Branco, South America.
Salmo boops Larrañaga, 1923: 377. Type locality: Uruguay.
Salmo undecimradiatus Larrañaga, 1923: 387. Type locality: Uruguay.

PSEUDANOS

Pseudanos Winterbottom, 1980: 24. Type species: *Schizodon trimaculatus* Kner, 1859. Type by original designation. Gender: masculine.

***Pseudanos gracilis* (Kner, 1858)**

Schizodon gracilis Kner, 1859: 160, pl. 5. Type locality: Rio Guaporé, Amazon system, Brazil.
Maximum length: 18 cm TL
Distribution: South America: Guaporé, Negro, and Orinoco River basins.
Countries: Brazil, Venezuela

***Pseudanos irinae* Winterbottom, 1980**

Pseudanos irinae Winterbottom, 1980: 27, figs. 7c, 21, 45b. Type locality: Río Orinoco at bifurcation with Río Casiquiare, Laja

Tama Tama, Venezuela. Holotype: SU 58809.
Distribution: South America: Orinoco River basin.
Countries: Venezuela

***Pseudanos trimaculatus* (Kner, 1858)**

Schizodon trimaculatus Kner, 1858: 78. Type locality: Brazil.
Syntype: NMW 62692.
Maximum length: 12 cm TL
Distribution: South America: Amazon River basin.
Countries: Brazil, Guyana, Peru
Common names: Lisa (Peru)

RHYTIODUS

Rhytiodus Kner, 1858: 78. Type species: *Rhytiodus microlepis* Kner, 1858. Type by subsequent designation. Gender: masculine.
Garmanina Fowler, 1906: 326. Type species: *Rhytiodus argenteofuscus* Kner, 1859. Type by original designation. Gender: feminine.

***Rhytiodus argenteofuscus* Kner, 1858**

Rhytiodus argenteofuscus Kner, 1858: 79. Type locality: Rio Negro, Brazil.
Schizodon sagittarius Cope, 1878: 689. Type locality: Peruvian Amazon. Holotype: ANSP 21474.
Rhytiodus argenteofuscus unifasciatus Steindachner, 1915: 24. Type locality: Rio Negro, Brazil. Holotype: NMW.
Distribution: South America: Amazon River basin.
Countries: Brazil, Peru
Common names: Araçu (Brazil), Lisa (Peru), Pau de negro (Brazil), Pau de vaqueiro (Brazil)

***Rhytiodus elongatus* (Steindachner, 1908)**

Anostomus elongatus Steindachner, 1908: 62. Type locality: Rio Puris, Brazil. Holotype: NMW 62612.
Distribution: South America: Purus River basin.
Countries: Brazil

***Rhytiodus lauzannei* Géry, 1987**

Rhytiodus lauzannei Géry, 1987: 367, figs. 1-2, 4 (upper). Type locality: Flood zone of Río Tijamuchi, near Trinidad, Río Mamoré basin, Bolivia. Holotype: MNHN 1987-1063.
Distribution: South America: Tijamuchi and Mamoré River basins.
Countries: Bolivia

***Rhytiodus microlepis* Kner, 1858**

Rhytiodus microlepis Kner, 1858: 79. Type locality: Manaus, Brazil.
Distribution: South America: Amazon River basin.
Countries: Brazil, Peru
Common names: Lisa (Peru)

SARTOR

Sartor Myers & Carvalho, 1959: 148. Type species: *Sartor respectus* Myers & Carvalho, 1959. Type by original designation. Gender: masculine.

***Sartor elongatus* Santos & Jégu, 1987**

Sartor elongatus Santos & Jégu, 1987: 183, fig. 1. Type locality: Rio Trombetas, Cachoeira Porteira, foz do rio Mapuera, Pará, Brazil, 1°06'S, 57°00'W. Holotype: INPA 1167.
Maximum length: 7.6 cm SL
Distribution: South America: Trombetas and Mapuera River basins.
Countries: Brazil

***Sartor respectus* Myers & Carvalho, 1959**

Sartor respectus Myers & Carvalho, 1959: 149, figs. 1-3. Type locality: Rio Kuluene (Culuene) at Jacaré at junction with Rio Tamitatoala, ca. 12°S, Mato Grosso, Brazil. Holotype: MNRJ.

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Distribution: South America: Upper Xingu River basin.

Countries: Brazil

***Sartor tucuruense* Santos & Jégu, 1987**

Sartor tucuruense Santos & Jégu, 1987: 184, fig. 3. Type locality: Rio Tocantins, Tucuruí, Pará, Brazil, 3°45'S, 49°12'W. Holotype: INPA 1165.

Maximum length: 11 cm SL

Distribution: South America: Tocantins River basin.

Countries: Brazil

SCHIZODON

Schizodon Spix & Agassiz, 1829: 58. Type species: *Schizodon fasciatus* Spix & Agassiz, 1829. Type by monotypy. Gender: masculine.

Lahilliella Eigenmann & Kennedy, in Eigenmann, 1903: 144. Type species: *Schizodon nasutus* Kner, 1859. Type by original designation. Gender: feminine.

***Schizodon altoparanae* Garavello & Britski, 1990**

Schizodon altoparanae Garavello & Britski, 1990: 158, fig. 1A. Type locality: Rio Paraná, em frente a Jupia, MT, Brazil. Holotype: MZUSP 41102.

Maximum length: 23 cm SL

Distribution: South America: Paraná River basin.

Countries: Brazil

***Schizodon australis* Garavello, 1994**

Schizodon australis Garavello, 1994: 182, fig. 1a. Type locality: Rio Uruguai, Porto de Santo Izidro, Município de São Nicolau, Rio Grande do Sul, Brazil. Holotype: MCP 12931.

Maximum length: 33.4 cm SL

Distribution: South America: Uruguay River basin.

Countries: Brazil

***Schizodon borellii* (Boulenger, 1900)**

Anostomus borellii Boulenger, 1900: 2. Type locality: Carandazinho [Carandazinho] near Corumbá, Rio Paraguay, Mato Grosso, Brazil. Holotype: BMNH.

Distribution: South America: Paraguay River basin.

Countries: Brazil

***Schizodon corti* Schultz, 1944**

Schizodon fasciatum corti Schultz, 1944: 269, fig. 30. Type locality: Río Palmar near Totuma, about 100 km southwest of Maracaibo, Venezuela. Holotype: USNM 121300.

Maximum length: 40 cm SL

Distribution: South America: Rivers draining into Lake Maracaibo.

Countries: Venezuela

***Schizodon dissimilis* (Garman, 1890)**

Anostomus dissimilis Garman, 1890: 22. Type locality: Rio Puty [Poti], Brazil. Syntypes: MCZ 19381, 19382, 19383, 19384; USNM 120238. Paratype MCZ examined. Valid as *Schizodon dissimilis* as cited by Eigenmann (1910: 425).

Distribution: South America: Poti River basin in Piauí State.

Countries: Brazil

***Schizodon fasciatus* Spix & Agassiz, 1829**

Schizodon fasciatus Spix & Agassiz, 1829: 66, pl. 36. Type locality: Rivers of Brazil.

Piabuca schizodon Valenciennes, in Cuvier & Valenciennes, 1850: 112. Type locality: Amazon, l'Essequibo, Surinam, Maracaibo. Syntypes: ? [Syntype from Maracaibo Lake is *Schizodon corti* (Vari & Raredon, 1991: 13)].

Maximum length: 40 cm TL

Distribution: South America: Upper Amazon River and French Guiana coastal basins.

Countries: Bolivia, Brazil, French Guiana, Peru, Venezuela

Common names: Acurupintado (Brazil), Karp-jonn (French Guiana), Karp-réyé (French Guiana), Lisa (Peru)

***Schizodon intermedius* Garavello & Britski, 1990**

Schizodon intermedius Garavello & Britski, 1990: 159, fig. 1B. Type locality: Ribeirão afluente do Rio Itaqueri, trib do Rio Piracicaba, Aguas de São Pedro, SP, Brazil. Holotype: MZUSP 41123.

Maximum length: 28.7 cm SL

Distribution: South America: Upper Paraná River basin.

Countries: Brazil

***Schizodon isognathus* Kner, 1858**

Schizodon isognathus Kner, 1858: 78. Type locality: Rio Cuiabá, Brazil.

Distribution: South America: Paraguay River basin.

Countries: Brazil

***Schizodon jacuiensis* Bergman, 1988**

Schizodon jacuiensis Bergmann, 1988: 15, fig. 1. Type locality: Rio Guafba, Ilha Balceira, Porto Alegre, s. Brazil. Holotype: MCP 5889.

Maximum length: 25 cm SL

Distribution: South America: Laguna dos Patos drainage.

Countries: Brazil

Common names: Voga (Brazil)

***Schizodon knerii* (Steindachner, 1875)**

Anostomus knerii Steindachner, 1875: 211, pl. 1. Type locality: Rio São Francisco, Brazil. Lectotype: NMW 26840: 2.

Distribution: South America: São Francisco River basin.

Countries: Brazil

***Schizodon nasutus* Kner, 1858**

Schizodon nasutus Kner, 1858: 78. Type locality: Irisanga (=Orissanga), Estado de São Paulo, Brazil.

Distribution: South America: Paraná, Paraguay, and Uruguay River basins.

Countries: Brazil

Common names: Taguara (Brazil)

***Schizodon platae* (Garman, 1890)**

Anostomus platae Garman, 1890: 23. Type locality: Rosario, La Plata system, Argentina. Holotype: MCZ 833.

Distribution: South America: La Plata River basin.

Countries: Argentina

Common names: Voga (Brazil)

***Schizodon rostratus* (Borodin, 1931)**

Anostomus rostratus Borodin, 1931: 50, pl. 4 (fig. 2). Type locality: Rio Puty at Teresina, Brazil. Holotype: MCZ 19380.

Distribution: South America: Parnaíba River basin.

Countries: Brazil

***Schizodon vittatus* (Valenciennes, 1850)**

Piabuca vittata Valenciennes in Cuvier & Valenciennes, 1850: 115. Type locality: Rio Araguay (=Araguaia), Brazil. Holotype: MNHN A.1067.

Distribution: South America: Amazon and Araguaia River basins.

Countries: Brazil

Common names: Araçu comum (Brazil), Araçu pororoca (Brazil)

Species inquirenda

Leporinus platycephalus Meinken, 1935: 196, fig. 3. Type locality: Río Paraná, near Corrientes, Argentina. Syntypes: (several) whereabouts unknown. Possibly a synonym of *Schizodon borellii* (Boulenger, 1900).

SYNAPTOLAEMUS

Synaptolaemus Myers & Fernández-Yépez, in Myers, 1950: 190. Type species: *Synaptolaemus cingulatus* Myers & Fernández-Yépez, 1950. Type by original designation. Gender: masculine.

***Synaptolaemus cingulatus* Myers & Fernández-Yépez, 1950**

Synaptolaemus cingulatus Myers & Fernández-Yépez in Myers, 1950: 190. Type locality: Laja Supira, Alto Río Orinoco, Venezuela. Holotype: SU 16122.

Distribution: South America: Upper Orinoco River, Casiquiare, and upper Xingu River basin.

Countries: Brazil, Venezuela

SPECIES INQUIRENDA

Pithecocharax ucayalensis Fowler, 1906: 320, fig. 16. Type locality: Río Ucayali or Peruvian Amazon, Peru. Holotype: ANSP 21997. Possible synonym of a *Leporinus* species.

References

- Ahl, E. 1937. Zwei neue Fischnamen innerhalb der südamerikanischen Familie Anostomidae. Sitzungsber. Ges. Naturf. Freunde Berlin: 136.
- Berg, C. 1897. Contribuciones al conocimiento de los peces Sudamericanos, especialmente de los de la República Argentina. An. Mus. Nac. Hist. Nat. Buenos Aires, 5: 263-302.
- Bergmann, L.A.C. 1988. *Schizodon jacuiensis* sp. n., um novo anostomídeo do sul do Brasil e redescricao de *S. kneri* (Steindachner, 1875) e *S. platae* (Garman, 1890) (Pisces, Characiformes, Anostomidae). Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre, 1 (1-5): 13-28.
- Bloch, M.E. 1794. Naturgeschichte der ausländischen Fische, vol. 8. Berlin. iv + 174 p., pls. 361-396.
- Bloch, M.E. 1795-1797. Ichthyologie, ou Histoire naturelle, générale et particulière des poissons. Avec des figures enluminées dessinées d'après nature. In 12 parts. Berlin.
- Boeseman, M. 1960. The Freshwater Fishes of the Island of Trinidad: Addenda, errata, et corrigenda. Studies on the Fauna of Curaçao and Other Caribbean Islands, no. 82: 52-75.
- Borodin, N.A. 1929. Notes on some species and subspecies of the genus *Leporinus* Spix. Mem. Mus. Comp. Zool., 50 (3): 269-290, pls. 1-17.
- Borodin, N.A. 1931. On the genus *Anostomus* (Family Characiniidae). Bull. Mus. Comp. Zool., 72 (2): 37-52, pls. 1-4.
- Boulenger, G.A. 1895. Descriptions of two new South-American characinoid fishes. Ann. Mag. Nat. Hist. (Ser. 6), 15 (89): 449.
- Boulenger, G.A. 1900. Viaggio del Dr. A. Borelli nel Matto Grosso e nel Paraguay. III. Liste des poissons recueillis à Urucum et à Carandasiñho, près de Corumbà. Boll. Mus. Zool. Anat. Comp. Torino, 15 (370): 1-4.
- Boulenger, G.A. 1902. Descriptions of new fishes and reptiles discovered by Dr. F. Silvestri in South America. Ann. Mag. Nat. Hist. (Ser. 7), 9 (52): 284-288.
- Britski, H.A. 1969. Lista dos tipos de peixes das coleções do Departamento de Zoologia da Secretaria da Agricultura de São Paulo. Pap. Avulsos Zool., São Paulo, 22 (19): 197-215.
- Britski, H.A. 1976. Sobre uma nova espécie *Leporinus* da Amazônia. Acta Amazonica, 6 (4, Supl.): 87-89.
- Britski, H.A. 1997. Descrição de duas espécies novas de *Leporinus* dos rios Araguaia e Tocantins, e comentários sobre as demais espécies do gênero assinaladas na bacia (Ostariophysi, Characiformes, Anostomidae). Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre, 10: 27-43.
- Britski, H.A. and J.C. Garavello. 1978. Sobre *Leporinus octofasciatus* Steindachner da bacia do Paraná (Pisces, Anostomidae). Pap. Avulsos Zool. Sao Paulo, 31(13): 237-250.
- Britski, H.A. and J.C. Garavello. 1980. Sobre uma nova espécie de *Leporinus* da bacia amazônica (Pisces, Anostomidae) com considerações sobre *L. striatus* Kner, 1859, e espécies afins. Pap. Avulsos Dep. Zool., São Paulo, 33 (15): 253-262.
- Britski, H.A. and J.C. Garavello. 1993. Descrição de duas espécies novas de *Leporinus* da bacia do Tapajós (Pisces, Characiformes). Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre, 6: 29-40.
- Campos, A.A. 1945. Contribuição ao estudo das espécies Brasileiras do gênero *Leporinus*. Pap. Avulsos Dep. Zool., São Paulo, 5 (16): 141-158.
- Castelnau, F.L. 1855. Poissons. xii + 112 p., 50 pls. In: Animaux nouveaux ou rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847. Chez P. Bertrand, Paris.
- Chernoff, B., A. Machado-Allison and W.G. Saul. 1991. Morphology, variation and biogeography of *Leporinus brunneus* (Pisces: Characiformes: Anostomidae). Ichthyol. Explor. Freshwaters, 1 (4): 295-306.
- Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. Proc. Am. Philos. Soc., 17 (101): 673-701.
- Cuvier, G. and A. Valenciennes. 1850. Histoire naturelle des poissons. Tome vingt-deuxième. Suite du livre vingt-deuxième. Suite de la famille des Salmonoides. Table générale de l'Histoire Naturelle des Poissons. Ch. Pitois, & V.^c Levrault, Paris & Strasbourg. xx + 1 + 532 +91 p., pls. 634-650.
- Devincenzi, G.J. 1925. El primer ensayo sobre Ictiología del Uruguay. La clase "Peces" de la zoología de don Dámaso A. Larrañaga. An. Mus. Nac. Hist. Nat. Montevideo (Ser. 2), 6: 295-323.
- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. 1922. The fishes of western South America, Part I. The fresh-water fishes of northwestern South America, including Colombia, Panama, and the Pacific slopes of Ecuador and Peru, together with an appendix upon the fishes of the Río Meta in Colombia. Mem. Carnegie Mus., 9 (1): 1-346, pls. 1-38.
- Eigenmann, C.H. and A.W. Henn. 1916. Description of three new species of characid fishes. Ann. Carnegie Mus., 10 (1/2): 87-90, pl. 17.
- Eigenmann, C.H. and F. Ogle. 1907. An annotated list of characin fishes in the United States National Museum and the Museum of Indiana University, with descriptions of new species. Proc. U. S. Natl. Mus., 33 (1556): 1-36.
- Fernández-Yépez, A. 1949. *Anostomus ternetzi* nuevo anostomido de Sur America colectado en Palital, Estado Guarico, Venezuela. Bol. Soc. Venez. Cien. Nat., 11 (74): 293-295.
- Fowler, H.W. 1906. Further knowledge of some heterognathus fishes. Part I. Proc. Acad. Nat. Sci. Philadelphia, 58: 293-351.
- Fowler, H.W. 1914. Fishes from the Rupununi River, British Guiana. Proc. Acad. Nat. Sci. Philadelphia, 66: 229-284.
- Fowler, H.W. 1940a. A collection of fishes obtained by Mr. William C. Morrow in the Ucayali River Basin, Peru. Proc. Acad. Nat. Sci. Philadelphia, 91 [for 1939]: 219-289.
- Fowler, H.W. 1940b. Zoological results of the second Bolivian expedition for the Academy of Natural Sciences of Philadelphia, 1936-1937. Part I.--The fishes. Proc. Acad. Nat. Sci. Philadelphia, 92: 43-103.
- Fowler, H.W. 1941. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. Proc. Acad. Nat. Sci. Philadelphia, 93: 123-199.
- Fowler, H.W. 1942. Los peces del Peru. Bol. Mus. Hist. Nat., San Marcos, 6 (21): 206-222.
- Fowler, H.W. 1943. A collection of fresh-water fishes from Co-

Check List of the Freshwater Fishes of South and Central America

- lombia, obtained chiefly by Brother Nicéforo Maria. Proc. Acad. Nat. Sci. Philadelphia, 95: 223-266.
- Fowler, H.W. 1945. Los Peces del Peru. Catálogo sistemático de los peces que habitan en aguas peruanas. Museo de Historia Natural "Javier Prado" Universidad Nacional Mayor de San Marcos, Lima, Peru. 298 p.
- Garavello, J.C., 1979. Revisão Taxonômica do gênero *Leporinus* Spix, 1829. PhD Thesis for the Instituto de Biociências da Universidade de São Paulo, v + 451 pgs., pls. & figs.
- Garavello, J.C. 1988. A new species of the genus *Leporinus* Spix from the Rio Meta, Colombia, South America (Pisces, Ostariophysi, Anostomidae). Proc. Acad. Nat. Sci. Philadelphia, 140 (2): 143-149.
- Garavello, J.C. 1989. *Leporinus microphthalmus* sp. n. da bacia do rio Raranaíba, alto Paraná (Pisces, Anostomidae). Rev. Bras. Biol., 49 (2): 497-501.
- Garavello, J.C. 1990. A new species of the anostomid genus *Leporinus* Spix from Suriname, with redescrptions of two related species (Pisces, Characiformes, Anostomidae). Bull. Zool. Mus. Univ. Amsterdam, 12 (11): 161-170.
- Garavello, J.C. 1994. Descrição de uma nova espécie do gênero *Schizodon* Agassiz da bacia do rio Uruguai, Brasil (Ostariophysi, Anostomidae). Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre, 7: 167-178.
- Garavello, J.C. 2000. Two new species of *Leporinus* Spix with a review of the blotched species of the Orinoco and redescription of *Leporinus muyscorum* Steindachner (Characiformes, Anostomidae). Proc. Acad. Nat. Sci. Philadelphia, 150:193-201.
- Garavello, J.C. and H.A. Britski. 1987. Duas novas espécies do gênero *Leporinus* Spix, 1829, da bacia do alto Paraná (Teleostei, Anostomidae). Comun. Mus. Ciênc. PUCRS, no. 44: 153-165.
- Garavello, J.C. and H.A. Britski. 1988. *Leporinus macrocephalus* sp. n. da bacia do Rio Paraguai (Ostariophysi, Anostomidae). Naturalia (São Paulo), 13: 67-74.
- Garavello, J.C. and H.A. Britski. 1990. Duas novas espécies do gênero *Schizodon* Agassiz da bacia do alto Paraná, Brasil, América do Sul (Ostariophysi, Anostomidae). Naturalia (Rio Claro), 15: 153-170.
- Garavello, J.C. and G.M. Santos. 1981. Duas espécies novas do gênero *Leporinus* Spix, 1829 da bacia do rio Ariuanã, Estado do Mato Grosso (Pisces, Anostomidae). Anais do III Encontro de Zoologia do Nordeste, Recife. 188.
- Garavello, J.C. and G.M. Santos. 1992. *Leporinus trimaculatus*, a new species from Amazonia, Brazil, and redescription of the sympatric *Leporinus aripuanaensis* (Pisces, Characiformes, Anostomidae). Bull. Zool. Mus. Univ. Amsterdam, 13 (12): 109-117.
- Garman, S. 1890. On the species of the genus *Anostomus*. Bull. Essex Inst., 22 (1-3): 15-23.
- Géry, J. 1960. Contributions to the study of the characoid fishes, No. 9. Some South-American characoid fishes in the Senckenberg Museum, with the description of a new *Leporinus*. Senckenb. Biol., 41 (5/6): 273-288, pls. 40-41.
- Géry, J. 1961. Contributions à l'étude des poissons Characoides (no. 14). Révision de la super-espèce *Anostomus anostomus* (L.) et description de formes nouvelles: *A. brevior* et *A. anostomus longus* (Erythrinidae, Anostominae). Bull. Mus. Natl. Hist. Nat. (Sér. 2), 32 (6, for 1960): 498-505.
- Géry, J. 1964. Poissons characoïdes nouveaux ou non signalés de l'Ilha do Bananal, Brésil. Vie Milieu Suppl., no. 17: 447-471, pls. 1-4.
- Géry, J. 1974. Notes sur quelques Anostomidae (Pisces, Characoidei) du Bassin Amazonien. Vie Milieu (Ser. C) Biol. Terr., 23 (1): 143-175, pl. 1.
- Géry, J. 1977. Characoids of the world. T.F.H. Publications, Inc., N.J. 672 p.
- Géry, J. 1987. Description d'une nouvelle espèce de poisson anostomidé (Ostariophysi, Characoidei) du rio Mamoré, Bolivie: *Rhytioidus lauzannei* sp. n. Cybium, 11 (4): 365-373.
- Géry, J. 1999. A new anostomid species, *Leporinus bleheri*, n. sp. from the Rio Guaporé-Iténez basin, with comments on some related species (Teleostei: Ostariophysi: Characiformes). Aqua, Journal of Ichthyology and Aquatic Biology, 3 (3): 105-112.
- Géry, J., V. Mahnert and C. Dlouhy, 1987. Poisson chacoïdes non Characidae du Paraguay (Pisces, Ostariophysi.). Rev. Suisse Zool., 94 (2): 357-464.
- Géry, J. and P. Planquette. 1983. Une nouvelle espèce de *Leporinus* (poissons characoïdes, anostomidés) de la Guyane et du Surinam: *Leporinus lebailli* n. sp. Rev. Fr. Aquariol., 10 (3): 65-70.
- Géry, J., P. Planquette and P.-Y. Le Bail. 1991. Faune characoïde (poissons ostariophysaires) de l'Oyapock, l'Approuague et la rivière de Kaw (Guyane Française). Cybium, 15 (1, suppl.): 1-69, pls. 1-20.
- Godoy, M.P. 1975. Peixes do Brasil: Subordem Characoidei: Bacia do rio Mogi-Guassu. Editora Franciscana. Piracicaba, São Paulo. In 4 volumes.
- Godoy, M.P. 1980. Poluição -- peixes e pesca. Reconhecimento preliminar com descrição de duas espécie novas de peixes. Relatório Técnico Eletrosul. 45 p.
- Goulding, M. 1981. Man and fisheries on an Amazonian frontier. W. Junk Publishers, The Hague. 137 p.
- Gray, J.E. 1854. Catalogue of fish collected and described by Laurence Theodore Gronow, now in the British Museum. London. vii + 196 p.
- Gronow, L.T. 1763. Zoophylacii Gronoviani fasciculus primus exhibens animalia quadrupeda, amphibia atque pisces, quae in museo suo adservat, rite examinavit, systematice disposuit, descriptis atque iconibus illustravit Laur. Theod. Gronovius, J.U.D.... Lugduni Batavorum. 136 p., 14 pls.
- Günther, A. 1863. On new species of fishes from the Essequibo. Ann. Mag. Nat. Hist. (Ser. 3), 12 (72): 441-443.
- Günther, A. 1864. Catalogue of the fishes in the British Museum, vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiidae in the collection of the British Museum. Trustees, London. xxii + 455.
- Günther, A. 1868a. Descriptions of freshwater fishes from Surinam and Brazil. Proc. Zool. Soc. London, 1868 (2): 229-247, pls. 20-22.
- Günther, A. 1868b. Diagnoses of some new freshwater fishes from Surinam and Brazil, in the collection of the British Museum. Ann. Mag. Nat. Hist. (Ser. 4), 1 (6): 475-481.
- Holmberg, E.L. 1891. Sobre algunos peces nuevos ó poco conocidos de la República Argentina. Rev. Argent. Hist. Nat. Buenos Aires, 1: 180-193.
- Inger, R.F. 1956. Notes on a collection of fishes from southeastern Venezuela. Fieldiana Zool., 34 (37): 425-440.
- Kner, R. 1858. Beiträge zur Familie der Characinen. Sitzungsber. Akad. Wiss. Wien, 30 (13): 75-80.
- Kner, R. 1859. Zur Familie der Characinen. III. Folge der Ichthyologischen Beiträge. Denkschr. Akad. Wiss. Wien, 17: 137-182, pls. 1-9.
- Kottelat, M. 1984. Catalogue des types du Musée d'Historie Naturelle de Neuchâtel. I. Pisces. Bull. Soc. Neuchâteloise Sci. Nat., 107: 143-153.
- Larrañaga, D.A. 1923. Escritos de Don Dámaso Antonio Larrañaga. Los Publica el Instituto Histórico y Geográfico del Uruguay. Edición Nacional. 512 p.
- Linnaeus, C. 1758. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Editio decima, reformata. Tomus I. Holmiae. ii + 824 p.
- Lütken, C.F. 1875a. Characinae novae Brasiliae centralis a clarissimo J. Reinhardt in provincia Minas-Geraes circa oppidulum Lagoa Santa in lacu ejusdem nominis, flumine Rio das Velhas et rivulus affluentibus collectae, secundum caracteres essen-

Check List of the Freshwater Fishes of South and Central America

- tiales breviter descriptae. Overs. Danske Vidensk. Selsk. Forhandl Kjobenhavn, 1874 (3): 127-143.
- Lütken, C.F. 1875b. Velhas-Flodens Fiske. Et Bidrag til Brasiliens Ichthyologi; efter Professor J. Reinhardts Indsamlinger og Optegnelser. K. Danske Vidensk. Selsk. Skr., Raekke 5, 12 (2): 121-253, + 2 unnum., + I-XXI, pls. 1-5.
- Mahnert, V., J. Géry and S. Muller. 1997. *Leporinus falcipinnis* n.sp., a new species from the lower rio Tapajos basin, Para, Brazil (Pisces, Characiformes, Anostomidae). Rev. Suisse Zool., 104 (4): 837-844.
- Malabarba, L.R. 1989. Histórico sistemático e lista comentada das espécies de peixes de água doce do sistema da Laguna dos Patos, Rio Grande do Sul, Brasil. Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre, 2 (8): 107-179.
- Meinken, H. 1935. Beiträge zur Fischfauna des Mittleren Paraná. I. Blätt. Aquar. Terrarienkunde, 46 (9): 193-196.
- Meuschen, F.C. 1778. Museum Gronovianum. Sive, Index rerum naturalium, tam mammalium, amphibiorum, piscium, insectorum, ... Lugundi Batavorum, T. Haak, J. Meerburg.
- Müller, J. and F.H. Troschel. 1844. Synopsis generum et specierum familiae Characinarum. (Prodromus descriptionis novorum generum et specierum). Arch. Naturgeschichte, 10 (1): 81-99 + Zu pag. 99 (foldout).
- Myers, G.S. 1927. Descriptions of new South American freshwater fishes collected by Dr. Carl Ternetz. Bull. Mus. Comp. Zool., 68 (3): 107-135.
- Myers, G.S. 1950. Studies on South American fresh-water fishes. II. The genera of anostomine characids. Stanford Ichthyol. Bull., 3 (4): 184-198.
- Myers, G.S. and A.L. Carvalho. 1959. A remarkable new genus of anostomin characid fishes from the Upper Rio Xingú in central Brazil. Copeia, 1959 (2): 148-152.
- Norman, J.R. 1926. Descriptions of nine new freshwater fishes from French Guiana and Brazil. Ann. Mag. Nat. Hist. (Ser. 9), 18 (103): 91-97.
- Ovchynnyk, M.M. 1971. Unrecorded and new species of fishes from fresh waters of Ecuador. Zool. Anz., 187: 82-122.
- Pearson, N.E. 1924. The fishes of the eastern slope of the Andes. I. The fishes of the Rio Beni basin, Bolivia, collected by the Mulford expedition. Indiana Univ. Studies, 11 (64): 1-83, pls. 1-12.
- Pellegrin, J. 1908. Characínidés américains nouveaux de la collection du Muséum d'histoire naturelle. Bull. Mus. Natl. Hist. Nat., 14 (7): 342-347.
- Puyo, J. 1943. Nouveaux poissons d'eau douce de la Guyane française. Bull. Soc. Hist. Nat. Toulouse, 78: 141-149.
- Puyo, J. 1948. Deux poissons de la Guyane. Bull. Soc. Hist. Nat. Toulouse, 83 (1-2): 78-82.
- Ringuelet, R.A., R.H. Arámburu and A. Alonso de Arámburu. 1967. Los Peces Argentinos de Agua Dulce. Comisión de Investigación Científica. Provincia de Buenos Aires. x + 602 p.
- Santos, G.M. and M. Jégu. 1987. Novas ocorrências de *Gnathodus bidens*, *Synaptolaemus cingulatus* e descrição de duas espécies novas de *Sartor* (Characiformes, Anostomidae). Amazoniana, 10 (2): 181-196.
- Santos, G.M. and M. Jégu. 1989. Inventário taxonômico e redescrção das espécies de anostomídeos (Characiformes, Anostomidae) do baixo rio Tocantins, PA, Brasil. Acta Amazonica, 19 (único): 159-213.
- Santos, G.M. and M. Jégu. 1996. Inventário taxonômico dos anostomídeos (Pisces, Anostomidae) da bacia do rio Uatumã, AM, Brasil, com descrição de duas espécies novas. Acta Amazonica, 26 (3): 151-184.
- Santos, G.M., M. Jégu and A.C. Lima. 1996. Novas ocorrências de *Leporinus pachycheilus* Britsky, 1976, e descrição de uma espécie nova do mesmo grupo na Amazônia Brasileira (Osteichthyes, Anostomidae). Acta Amazonica, 26 (4): 265-280.
- Santos, G.M. and P.S. Rosa. 1998. Alimentação de *Anostomus ternetzi* e *Synaptolaemus cingulatus*, duas espécies de peixes amazônicos com boca superior. Rev. Brasil. Biol., 58 (2): 255-262.
- Schomburgk, R.H. 1841. The Natural history of fishes of Guiana.-- Part I. In: W. Jardine (ed.), The Naturalists' Library. Vol. 3. W. H. Lizars, Edinburgh. 263 p., 30 pls.
- Schultz, L.P. 1944. The fishes of the family Characínidae from Venezuela, with descriptions of seventeen new forms. Proc. U. S. Natl. Mus., 95 (3181): 235-367.
- Spix, J.B. von, and L. Agassiz. 1829-31. Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXXVII-MDCCCXXX jussu et auspiciis Maximiliani Josephi I.... colleget et pingendo curavit Dr J. B. de Spix.... Monachii. Part 1: i-xvi + i-ii + 1-82, Pls. 1-48,; part 2: 83-138, pls. 49-101.
- Steindachner, F. 1875. Die Süßwasserfische des südöstlichen Brasilien (II). Sitzungsber. Akad. Wiss. Wien, 71: 211-245, pls. 1-6.
- Steindachner, F. 1876. Ichthyologische Beiträge (V). Sitzungsber. Akad. Wiss. Wien, 74: 49-240, pls. 1-15.
- Steindachner, F. 1878. Zur Fischfauna des Magdalenen-Stromes. Anz. Akad. Wiss. Wien, 15 (12): 88-91.
- Steindachner, F. 1879. Beiträge zur Kenntniss der Flussfische Südamerikas. Denkschr. Akad. Wiss. Wien, 41: 151-179, pls. 1-4.
- Steindachner, F. 1900. Erstattungen eines vorläufigen Berichtes über einige von Ihrer königlichen Hoheit Frau Prinzessin Therese von Bayern während einer Reise nach Südamerika 1898 gesammelte neue Fischarten. Anz. Akad. Wiss. Wien, 37 (18): 206-208.
- Steindachner, F. 1902. Herpetologische und ichthyologische Ergebnisse einer Reise nach Südamerika, mit einer Einleitung von Therese Prinzessin von Bayern. Denkschr. Akad. Wiss. Wien, 72: 89-148, pls. 1-6.
- Steindachner, F. 1908. Über drei neue Characinen und drei Siluriden aus dem Stromgebiete des Amazonas innerhalb Brasilien. Anz. Akad. Wiss. Wien, 45 (6): 61-69.
- Steindachner, F. 1910. Über einige neue Characinenarten aus dem Orinoco und dem oberen Surinam. Anz. Akad. Wiss. Wien, 47 (17): 265-270.
- Steindachner, F. 1915. Beiträge zur Kenntniss der Flussfische Südamerikas. V. Denkschr. Akad. Wiss. Wien, 93: 15-106.
- Steindachner, F. 1917. Beiträge zur Kenntnis der Flussfische Südamerikas V. Denkschr. Akad. Wiss. Wien, 93: 15-106, pls. 1-13.
- Swainson, W. 1839. The natural history and classification of fishes, amphibians, & reptiles, or monocardian animals. London. vi + 448 p.
- Taphorn, D.C. 1992. The Characiform fishes of the Apure River drainage, Venezuela. Biollania Edición Especial, no. 4. Monografías Científicas del Museo de Ciencias Naturales, UNELLEZ, Guanara, Estado Portuguesa, Venezuela. 537 p.
- Tortonese, E. 1961. Catalogo del tipi de pesci del Museo Civico di Storia Naturale di Genova. (Parte I). Ann. Mus. Civ. Stor. Nat. 'Giacomo Doria', 72: 179-191.
- Valenciennes, A. 1836. Poissons [plates]. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Paris, Bertrand et Levrault.
- Valenciennes, A. 1847. Poissons. Catalogue des principales espèces de poissons, rapportées de l'Amérique méridionale, 1-11. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Vol. 5 (pt. 2). Paris, Bertrand et Levrault.
- Vari, R.P. and S.J. Raredon. 1991. The genus *Schizodon* (Teleostei: Ostariophysii: Anostomidae) in Venezuela, a reappraisal. Proc. Biol. Soc. Washington, 104 (1): 12-22.

Check List of the Freshwater Fishes of South and Central America

- Vari, R.P. and A.M. Williams. 1987. Headstanders of the Neotropical anostomid genus *Abramites* (Pisces: Characiformes: Anostomidae). Proc. Biol. Soc. Washington, 100 (1): 89-103.
- Winterbottom, R. 1974. A new species of anostomid characoid fish, *Anostomus spilochistron*, from the Nickerie River system of western Surinam (Pisces, Cypriniformes, Anostomidae). Beaufortia, 21 (283): 153-163.
- Winterbottom, R. 1980. Systematics, osteology and phylogenetic relationships of fishes of the ostariophysan subfamily Anostominae (Characoidei, Anostomidae). R. Ont. Mus. Life Sci. Contrib., no. 123: 1-112.

Family Chilodontidae (Headstanders)

Richard P. Vari and Sandra J. Raredon

A single series of relatively small teeth movably attached to the lips of the upper jaw and, in most species, to the lower jaw together with a sixth lateral-line scale distinctly smaller than the other scales in that series serve to separate the Chilodontidae from other members of the Characiformes. The Chilodontidae are also distinguished within the Characiformes by a series of derived features in a number of body systems discussed by Vari (1983) and Vari et al. (1995). *Chilodus* was revised by Isbrücker and Nijssen (1988) and Vari and Ortega (1997) and *Caenotropus* by Vari et al. (1995). Phylogenetic relationships within *Caenotropus* and the phylogenetic biogeography of the Chilodontidae were discussed by Vari et al. (1995).

Chilodontids are broadly distributed east of the Andean Cordilleras in both the Orinoco and Amazon River basins, the series of independent rivers draining the Atlantic slope of the Guianas, and the Paraíba River basin of northeastern Brazil. Chilodontids have been collected in a diversity of water types. Some species (e.g., *Caenotropus mestomormatus*, *C. maculosus*) apparently live solely in black waters (Vari et al., 1995; Vari and Ortega, 1997) whereas others (*Chilodus frittillus*, Vari and Ortega, 1997) occur in black, white, and clear waters. *Caenotropus labyrinthicus* feeds on autochthonous invertebrates, detritus, and freshwater sponges and reproduces in May (Goulding et al., 1988; Vari et al., 1995; Ferreira et al., 1988).

Recent reviews of components of the Chilodontidae by Isbrücker and Nijssen (1988), Vari et al. (1995), and Vari and Ortega (1997) each described one new species, for a total of seven in the family, but it is not expected that many more species await discovery.

Species of *Chilodus* are exported from various locations for the aquarium trade in which they are known as headstanders.

CAENOTROPUS

Microodus Kner, 1858: 77. Type species: *Microodus labyrinthicus* Kner, 1858. Type by monotypy. Gender: masculine. Preoccupied by *Microodus* Nees, 1812, in Hymenoptera and *Microodus* Emmons, 1857, in fossil fishes.

Caenotropus Günther, 1864: 297. Type species: *Microodus labyrinthicus* Kner, 1858. Type by being a replacement name. Gender: masculine. Replacement for *Microodus* Kner, 1858. Revised by Vari et al. (1995) with species descriptions, geographic distribution and phylogenetic analysis.

Tylobronchus Eigenmann, 1912: 271. Type species: *Tylobronchus maculosus* Eigenmann, 1912. Type by monotypy. Gender: masculine.

Caenotropus labyrinthicus (Kner, 1858)

Microodus labyrinthicus Kner, 1858: 77. Type locality: Rio branco und Barra do Rio negro [=Branco River and mouth of Negro River, Brazil]. Lectotype: NMW 69289.1, designated by Vari et al. (1995: 24).

Chilodus labyrinthicus rupununi Fowler, 1914: 230, fig. 2. Type locality: Rupununi River, British Guiana [=Guyana], North Latitude 2° to 3° and West Longitude 50°20'. Holotype: ANSP 39316 [not 39306].

Maximum length: 15.2 cm SL

Distribution: South America: Amazon, Orinoco, and upper portions of Rupununi River, Suriname and Saramacca rivers, and Paraíba River in Piauí State.

Countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, Venezuela

Remarks and references: See Vari et al. (1995: 21) for redescription.

Common names: Cabeça dura (Brazil), Cabeza pa'bajo (Venezuela), Casca grossa (Brazil), Cochúo (Venezuela)

ela), Casca grossa (Brazil), Cochúo (Venezuela)

Caenotropus maculosus (Eigenmann, 1912)

Tylobronchus maculosus Eigenmann, 1912: 272, pl. 35 (fig. 3).

Type locality: British Guiana [=Guyana] Creek below Potaro Landing. Holotype: FMNH 53449 [ex CM 1923].

Maximum length: 10.8 cm SL

Distribution: South America: Cuyuni River basin of eastern Venezuela, Essequibo and Cuyuni rivers of Guyana, Corantijn River of Suriname and Guyana, and Marowijne-Maroni River of Suriname and French Guiana.

Countries: French Guiana, Guyana, Suriname, Venezuela

Remarks and references: See Vari et al. (1995: 17) for redescription.

Common names: Koulou (French Guiana), Pilawili (French Guiana), Tête en bas rayé (French Guiana), Yaya (French Guiana)

Caenotropus mestomormatos Vari, Castro & Raredon, 1995

Caenotropus mestomormatos Vari, Castro & Raredon, 1995: 14, figs. 9-10. Type locality: Venezuela, Amazonas, Río Orinoco basin Río Iguapo, (tributary of Río Orinoco), ~ 1 hr above its mouth (3°09'N, 65°28'W). Holotype: MBUCV V-21750.

Maximum length: 16.3 cm SL

Distribution: South America: Upper portions of the Orinoco River and the upper portions of the Negro River basin.

Countries: Brazil, Venezuela

CHILODUS

Chilodus Müller & Troschel, 1844: 85. Type species: *Chilodus punctatus* Müller & Troschel, 1844. Type by monotypy. Gender:

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masculine. Revised by Isbrücker & Nijssen (1988) and Vari & Ortega (1997). Phylogenetic definition by Vari et al. (1995: 11).

***Chilodus fritillus* Vari & Ortega, 1997**

Chilodus fritillus Vari & Ortega, 1997: 72, fig. 1. Type locality: Peru, Madre de Dios, Provincia Tambopata, Santuario Nacional Pampas del Heath Río Palma Real, oxbow lagoon, near Puesto de Control Enahuipa (12°45'S, 69°03'W) 192 m elevation. Holotype: MUSM 7223.

Maximum length: 7.3 cm SL

Distribution: South America: Palma Real River and vicinity of Puerto Maldonado.

Countries: Peru

***Chilodus gracilis* Isbrücker & Nijssen, 1988**

Chilodus gracilis Isbrücker & Nijssen, 1988: 54, fig. 5. Type locality: Brazil. Est. Amazonas, right bank tributary to Rio Uaupés at Trovão (about 20 kilometers upstream of mouth of Rio Uaupés). Holotype: IRSNB 760.

Maximum length: 6.4 cm SL

Distribution: South America: Central portions of Amazon River basin.

Countries: Brazil

***Chilodus punctatus* Müller & Troschel, 1844**

Chilodus punctatus Müller & Troschel, 1844: 85. Type locality: Iacu Amucu Guianae [=Lake Amuku, Guyana]. Lectotype: ZMB 23599, designated by Isbrücker & Nijssen (1988: 48).

Maximum length: 7.9 cm SL

Distribution: South America: Amazon River basin, Apeú River, Pará State, Guyana, Suriname, and western Orinoco River basin.

Countries: Brazil, Colombia, Ecuador, Guyana, Peru, Suriname

Remarks and references: Redescription by Isbrücker & Nijssen (1988).

Common names: Mojara (Peru)

***Chilodus zunevei* Puyo, 1946**

Chilodus zunevei Puyo, 1946: 183, fig. 1. Type locality: Région des plateaux des Guyanes située dans le territoire de l'Inini à environ trois cent cinquante kilomètres à vol d'oiseau de l'Ile de Cayenne, sur les conforts de Monts Tumuc-Humac; ils furent recueillis dans une crique inconnue qui se déverse dans l'Itany [=plateau region of French Guiana situated in the territory of the Inini approximately three hundred and fifty kilometers as the bird flies from Ile de Cayenne, on the slopes of Monts Tumuc-Humac; they were collected in an unnamed creek which empties into the Itany]. Type unknown.

Maximum length: 7.7 cm SL

Distribution: South America: French Guiana, Sinnamary, Approuague, and Oyapock River basins.

Countries: French Guiana

Remarks and references: Redescription by Isbrücker & Nijssen (1988).

Common names: Atiknowaik (French Guiana), Koulou (French

Guiana), Pilawili (French Guiana), Tête en bas (French Guiana), Yaya (French Guiana)

References

- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.
- Ferreira, E. G.M. Santos and M. Jégu. 1988. Aspectos ecológicos da ictiofauna do rio Mucujá, na área da ilha Paredno, Roraima, Brasil. Amazoniana, 10(3): 339-352.
- Fowler, H.W. 1914. Fishes from the Rupununi River, British Guiana. Proc. Acad. Nat. Sci. Philadelphia, 66: 229-284.
- Géry, J., P. Planquette and P.-Y. Le Bail. 1991. Faune characoïde (poissons ostariophysaires) de l'Oyapock, l'Approuague et la rivière de Kaw (Guyane Française). Cybium, 15 (1, suppl.): 1-69, pls. 1-20.
- Goulding, M., M.L. Carvalho and E.G. Ferreira. 1988. Rio Negro, rich life in poor water. Amazonian diversity and foodchain ecology as seen through fish communities. SPB Academic Publishing, The Hague. 200 p.
- Isbrücker, I.J.H. and H. Nijssen. 1988. Review of the South American characiform fish genus *Chilodus*, with description of a new species, *C. gracilis* (Pisces, Characiformes, Chilodontidae). Beaufortia, 38 (3): 47-56.
- Kner, R. 1858. Beiträge zur Familie der Characinen. Sitzungsber. Akad. Wiss. Wien, 30 (13): 75-80.
- Kner, R. 1859. Zur Familie der Characinen. III. Folge der Ichthyologischen Beiträge. Denkschr. Akad. Wiss. Wien, 17: 137-182, pls. 1-9.
- Müller, J. and F.H. Troschel. 1844. Synopsis generum et specierum familiae Characinarum. (Prodromus descriptionis novorum generum et specierum). Arch. Naturgeschichte, 10 (1): 81-99 + Zu pag. 99 (foldout).
- Puyo, J. 1946. *Chilodus zunevei* poisson d'eau douce de la Guyane française. Bull. Soc. Hist. Nat. Toulouse, 80 [for 1945]: 183-185.
- Vari, R.P. 1983. Phylogenetic relationships of the families Curimatidae, Prochilodontidae, Anostomidae, and Chilodontidae (Pisces: Characiformes). Smithson. Contrib. Zool., no. 577: 1-32.
- Vari, R.P. R.M.C. Castro and S.J. Raredon. 1995. The Neotropical fish family Chilodontidae (Teleostei: Characiformes): A phylogenetic study and a revision of *Caenotropus* Günther. Smithson. Contrib. Zool., no. 577: i-iii + 1-32.
- Vari, R.P. and H. Ortega. 1997. A new *Chilodus* species from southeastern Peru (Ostariophysi: Characiformes: Chilodontidae): description, phylogenetic discussion, and comments on the distribution of other chilodontids. Ichthyol. Explor. Freshwaters, 8 (1): 71-80.

Family Crenuchidae (South American darters)

Paulo A. Buckup

The Crenuchidae are relatively small (usually less than 10 cm SL) fishes. Crenuchids are diagnosed by the presence of paired foramina located in the frontal bones, posterodorsally to the orbits (Buckup, 1998a). These foramina are more easily recognizable in the three members of the subfamily Crenuchinae, where they are relatively large and associated with a distinct depression in the frontals which is located immediately in front of the foramina. These foramina, however, are very small in members of the Characidiinae, which encompass the majority of crenuchids. In these species the foramina usually can only be seen through careful examination of a cleared and stained specimen. Fortunately, most characidiine fishes can be easily recognized by their general external appearance. They are easily distinguished from most other characiform fishes, such as the ubiquitous Characidae, by the low number of anal-fin rays (fewer than 14 rays). However, the reduced number of anal-fin rays is a primitive feature present in various families of characiform fishes. These families usually can be distinguished by their specialized dentition. The Characidiinae have conic or tricuspid teeth on both jaws. In the upper jaw they are organized in a single row. In the lower jaw they usually form two rows (the inner one may be absent in some species).

The current composition of the family has been established relatively recently (Buckup, 1998a). Traditionally, the Crenuchidae used to include only three species belonging to the genera *Crenuchus* and *Poecilocharax*. The remainder of the species were included in the family Characidae, as Incertae Sedis taxa, or aligned with various other groups of characiform fishes, such as nannostomines, hemiodontids, and erythrinids (see history in Buckup, 1998a). Currently, *Crenuchus* and *Poecilocharax* are included in the subfamily Crenuchinae, and the other species are assigned to the Characidiinae. Monophyly of the Characidiinae was demonstrated by Buckup (1993a), based on 13 characters. Relationships among species of *Characidium* have been cladistically studied by Buckup (1993c).

Crenuchids are present in most freshwater drainages in tropical and subtropical areas of the Neotropical Region located between eastern Panama (*Characidium marshi*) and La Plata, Argentina (*Characidium rachovii*; Ringuélet et al., 1978). However, most of the taxic diversity of the family is situated in river drainages surrounding the Guiana Shield (including the Orinoco basin and the northern tributaries of the Amazon basin). All genera, except *Characidium*, are restricted to these northern basins. *Characidium*, on the other hand, is a widespread and species-rich taxon.

Most species of Crenuchidae are inhabitants of fast flowing small streams, where they hover around pebbles, rock and vegetation. Some occur in rapids and small waterfalls, where they are often found adhering to the substrate or clinging to aquatic plants such as *Podostemaceae*. Some species have been reported to cling to vertical walls (Buckup et al., 2000). Other species, such as *Characidium rachovii*, live in slow flowing lowland waters. A number of species are miniature species (*sensu* Weitzman & Vari, 1988), reaching maturity below 25 mm SL (Buckup, 1993c). Chromosome studies of four species of *Characidium* indicate that these fishes have a modal diploid number of $2n=50$ (Miyazawa & Galetti Jr., 1994).

Except for the genus *Characidium*, most species of Crenuchidae are relatively well known. The three species of Crenuchinae may be identified with reference to summaries presented by Géry (1965, 1970). No undescribed species of Crenuchinae has been reported in more than three decades, suggesting that species diversity of this subfamily is now entirely known. The diversity of the Characidiinae was reviewed by Buckup (1993b). Except for *Characidium*, most species and genera of Characidiinae may be identified by consulting that revision and a few subsequent descriptions of new taxa (Costa & Vicente, 1994; Presswell et al., 2000; Zarske, 1997). The genus *Characidium*, however, is still poorly known, including several still undescribed taxa. Buckup (1993b) presented a comprehensive list of known species of *Characidium* including new synonyms, and a few species have been described more recently (Buckup and Reis, 1997; Buckup and Hahn, 2000). Several additional species are currently being described and a great increase in the number of known species is expected over the next few years. Currently, only specimens captured near known type localities may be securely identified, and most identifications require consultation of original descriptions.

Species of Crenuchidae have no value as food or sport fish. The fish are often called “piaba” in a general category with more common small characids. Sometimes names such as “canivete” (jackknife) are mentioned in connection with species of *Characidium*, but this is likely a misnomer resulting from confusion with similar looking species of Parodontidae. Some species are well known in the aquarium trade, especially the crenuchines, but their presence in pet shops is irregular. Most characidiins that appear in the trade are usually shipped as incidental catch. Several species have restricted distributions in hillside streams and freshwater lakes. Human interference in these environments have wiped out some populations of Cha-

racidiinae in southeastern Brazil, resulting in their being listing as endangered species (Buckup, 1998b; Buckup et al., 2000; Mazzoni *et al.*, 2000). Major threats to the survival of Crenuchidae include water diversion for human consumption, habitat disruption (caused mostly by deforestation, sand mining, and sewage discharges), fish-farming, and introduction of non-native species.

SPECIES INCERTAE SEDIS IN CRENUCHIDAE

***Microcharacidium geryi* Zarske, 1997**

Microcharacidium geryi Zarske, 1997: 163, figs. 5-7. Type locality: Quebrada Manatai bei der Hazienda der Familie Ramirez an der Strasse Campoverde - Nueva Requena. Holotype: MTD F17355.

Maximum length: 2.4 cm SL

Distribution: South America: Ucayali River basin.

Countries: Peru

AMMOCRYPTOCHARAX

Ammocryptocharax Weitzman & Kanazawa, 1976: 326. Type species: *Ammocryptocharax elegans* Weitzman & Kanazawa, 1976. Type by original designation. Gender: masculine.

***Ammocryptocharax elegans* Weitzman & Kanazawa, 1976**

Ammocryptocharax elegans Weitzman & Kanazawa, 1976: 331, fig. 1. Type locality: Caño Muco, ca. 15 km west of Puerto Guitán, Río Vichada basin, State of Meta, Colombia. Holotype: USNM 210692.

Maximum length: 3.25 cm SL

Distribution: South America: Amazon River basin; upper Orinoco River basin.

Countries: Bolivia, Brazil, Colombia, Venezuela

***Ammocryptocharax lateralis* (Eigenmann, 1909)**

Characidium laterale Eigenmann, 1909: 36. Type locality: Amatuk, Guyana. Holotype: FMNH 72627.

Maximum length: 2.83 cm SL

Distribution: South America: Potaro and Mazaruni River basins.

Countries: Guyana

***Ammocryptocharax minutus* Buckup, 1993**

Ammocryptocharax minutus Buckup, 1993b: 109, fig. 4. Type locality: Rio Urubaxi, beach near confluence with Rio Negro, Estado do Amazonas, Brazil, 0°35'S, 64°45'W. Holotype: MZUSP 43671.

Maximum length: 2 cm SL

Distribution: South America: Upper Orinoco River basin; Amazon River basin, upper Negro River basin.

Countries: Brazil, Venezuela

***Ammocryptocharax vintonae* (Eigenmann, 1909)**

Characidium vintoni Eigenmann, 1909: 36. Type locality: Shrimp Creek, Guyana. Holotype: FMNH 52756.

Maximum length: 5.7 cm SL

Distribution: South America: Potaro River; Mazaruni River; Uia-aren River (tributary of Caroni River, Orinoco basin).

Countries: Guyana, Venezuela

CHARACIDIUM

Characidium Reinhardt, 1867: 55. Type species: *Characidium fasciatum* Reinhardt, 1867. Type by monotypy. Gender: neuter.

Chorimycerus Cope, 1894: 67. Type species: *Chorimycerus tenuis* Cope, 1894. Type by monotypy. Gender: masculine.

Nanognathus Boulenger, 1895: 2. Type species: *Nanognathus borellii* Boulenger, 1895. Type by monotypy. Gender: masculine.

Poecilosomatops Fowler, 1906: 323. Type species: *Characidium etheostoma* Cope, 1872. Type by original designation. Gender:

masculine.

Jobertina Pellegrin, 1909: 151. Type species: *Characidium (Jobertina) interruptum* Pellegrin, 1909. Type by monotypy. Gender: feminine. Proposed as a subgenus of *Characidium*.

Microcharax Eigenmann, 1909: 35. Type species: *Nannostomus lateralis* Boulenger, 1895. Type by original designation. Gender: masculine.

***Characidium alipioi* Travassos, 1955**

Characidium alipioi Travassos, 1955: 613, pl. 1 (fig. 6). Type locality: Ilha dos Pombos, Rio Paraíba, Estado do Rio, Brazil. Holotype: MNRJ 5550.

Maximum length: 5.15 cm SL

Distribution: South America: Paraíba do Sul River basin.

Countries: Brazil

***Characidium bahiense* Almeida, 1971**

Characidium (Jobertina) bahiensis Almeida, 1971: 112, fig. 1. Type locality: Arembepe, Bahia, Brazil. Holotype: MZUSP 8940.

Maximum length: 2.3 cm SL

Distribution: South America: Bahia State.

Countries: Brazil

Remarks and references: Name emended by Buckup (1993:101).

***Characidium bimaculatum* Fowler, 1941**

Characidium bimaculatum Fowler, 1941: 179, fig. 90. Type locality: Fortaleza, Ceará [Brazil]. Holotype: ANSP 69523.

Maximum length: 3.2 cm SL

Distribution: South America: Coastal streams of northeastern Brazil.

Countries: Brazil

***Characidium boeavistae* Steindachner, 1915**

Characidium fasciatum boavistae Steindachner, 1915: 30, pl. 3 (fig. 4). Type locality: Rio Branco, Rio Miang [Brazil]. Syntypes: NMW 62431, NMW 62432, NMW 62427.

Characidium voladorita Schultz, 1944: 280, fig. 32. Type locality: 4 km above Motatán in the Río Motatán, Maracaibo basin, Venezuela. Holotype: USNM 121407.

Maximum length: 5.27 cm SL

Distribution: South America: Tributaries of Lake Maracaibo; Orinoco River basin; northern tributaries of the Amazon basin.

Countries: Brazil, Venezuela

***Characidium boehlkei* Géry, 1972**

Characidium boehlkei Géry, 1972: 79, pl. 7 (fig. 1). Type locality: río Cururay, basin du río Napo basin [Ecuador]. Holotype: ZMH 1624.

Maximum length: 6.99 cm SL

Distribution: South America: Napo River basin.

Countries: Ecuador

***Characidium bolivianum* Pearson, 1924**

Characidium bolivianum Pearson, 1924: 31, pl. 9 (fig. 3). Type locality: Popoi River, Upper Río Beni system, Bolivia. Syntypes: CAS-IU 17301 (currently CAS 60253, UMMZ 66488, USNM 117553).

Maximum length: 5.34 cm SL

Distribution: South America: Upper Madeira River basin.

Countries: Bolivia

***Characidium borellii* (Boulenger, 1895)**

Nanognathus borellii Boulenger, 1895: 3. Type locality: S. Pablo,

prov. Tucuman, Argentina. Holotype: MZUT 1045.
 Maximum length: 6.55 cm SL
 Distribution: South America: Andean tributaries of Paraná River basin in northwestern Argentina.
 Countries: Argentina

***Characidium brevirostre* Pellegrin, 1908**

Characidium brevirostre Pellegrin, 1908: 345. Type locality: Nord du Brésil (Ancien Contesté franco-brésilien). Holotype: MNHN 1898-51.

Maximum length: 3.27 cm SL
 Distribution: South America: Coastal streams in Amapá State.
 Countries: Brazil

***Characidium caucanum* Eigenmann, 1912**

Characidium caucanum Eigenmann, 1912: 25. Type locality: Cali [Colombia]. Holotype: FMNH 56057.

Distribution: South America: Cuca River basin.
 Countries: Colombia

***Characidium chupa* Schultz, 1944**

Characidium chupa chupa Schultz, 1944: 283, fig. 33. Type locality: Río Chama at Estanques, Estado de Mérida, Venezuela. Holotype: USNM 121417.

Maximum length: 7.95 cm SL
 Distribution: South America: Lake Maracaibo basin; Orinoco River basin.
 Countries: Venezuela

***Characidium crandellii* Steindachner, 1915**

Characidium crandellii Steindachner, 1915: 32. Type locality: Miang flusse, einem Zufussesedes Cotingo, der, mit dem Tacutúve-reinig, oberhalb Boa Vista in den Rio Branco mündet [Brazil]. Syntypes: NMW 62673, 69260.

Maximum length: 6.44 cm SL
 Distribution: South America: Amazon River basin.
 Countries: Brazil

***Characidium declivirostre* Steindachner, 1915**

Characidium declivirostre Steindachner, 1915: 31. Type locality: Río Coquenán, einem Zuflusse des Río Caroni in Venezuela. Syntypes: NMW 62442.

Maximum length: 7.97 cm SL
 Distribution: South America: Orinoco River basin; Amazon River basin.
 Countries: Brazil, Venezuela

***Characidium etzeli* Zarske & Géry, 2001**

Characidium etzeli Zarske & Géry, 2001: 237, fig.6. Type locality: 4 km von Bella Vista (etwa 50 km nordöstlich Encarnación in Richtung Rio Parana), Paraguay. Holotype: MTD F 22650.

Maximum length: 5.59 cm SL
 Distribution: South America: Paraná River basin in Paraguay.
 Countries: Paraguay

***Characidium etheostoma* Cope, 1872**

Characidium etheostoma Cope, 1872: 259, pls. 13 (fig. 3). Type locality: Río Ambyiacu, Peru. Lectotype: ANSP 8152.

Maximum length: 3.58 cm SL
 Distribution: South America: Amazon River basin.
 Countries: Brazil, Peru
 Common names: Mojarita (Peru)

***Characidium fasciatum* Reinhardt, 1866**

Characidium fasciatum Reinhardt, 1866: 56, pl. 2 (fig. 1). Type locality: "Soumidouro Baekken" near Lagoa Santa, Minas, Gerais, Brazil]. Lectotype: ZMUC P241103, designated by Buckup (1992:1066) through application of Art. 74b on Nielsen's (1974) inference of holotype; Buckup refers some paralectotypes to other species.

Maximum length: 6.74 cm SL
 Distribution: South America: Das Velhas River in São Francisco River drainage, Paranaíba, Grande and Tietê rivers in upper Paraná River drainage.
 Countries: Brazil

***Characidium gomesi* Travassos, 1956**

Characidium gomesi Travassos, 1956: 3, fig. 1. Type locality: Córrego da Lazica, Ouro Fino, Minas Gerais, Bacia de Mogi-Guaçu [Brazil]. Holotype: MNRJ 8584.

Maximum length: 6.49 cm SL
 Distribution: South America: Grande, Tietê and Paranapanema rivers in upper Paraná River drainage.
 Countries: Brazil

***Characidium grajahuensis* Travassos, 1944**

Characidium grajahuensis Travassos, 1944: 2, pl. 1 (figs. 1-2). Type locality: riachu que abastece a caixa de água do Grajaú, Rio de Janeiro, Distrito Federal Brasil. Holotype: MNRJ 3855.

Maximum length: 8.81 cm
 Distribution: South America: Coastal streams between Guanabara Bay and Mangaratiba, Rio de Janeiro State.
 Countries: Brazil

***Characidium hasemani* Steindachner, 1915**

Characidium hasemani Steindachner, 1915: 201. Type locality: Rio Surumú at Serra do Mello [Brazil] and Rio Rupununi [Guyana]. Syntypes: NMW 69253, NMW 69254.

Characidium surumuense Steindachner, 1915: 202. Type locality: Rio Surumú, einem Neben flusse des Rio Branco bei Serra do Mello [Brazil]. Syntypes: Unaccounted for, but probably NMW 69253 labelled as syntypes of *C. hasemani*.

Maximum length: 6.76 cm SL
 Distribution: South America: Northern tributaries of Amazon River basin.
 Countries: Brazil

***Characidium heinianum* Zarske & Géry, 2001**

Characidium heinianum Zarske & Géry, 2001: 231, fig. 1. Type locality: Bolivien, Departamento Beni, Rio Ipurupuru, Nebenfluss des Rio Mamoré, umweit der Kreuzung des Flusses an der Strasse nach San Ramon, etwa 73 km nördlich Trinidad (14°12'53.8" S, 64°56'26.8" W). Holotypes: MTD F 24825.

Maximum length: 2.10 cm SL
 Distribution: South America: Upper Mamoré River basin.
 Countries: Bolivia

***Characidium interruptum* Pellegrin, 1909**

Characidium (Jobertina) interruptum Pellegrin, 1909: 151. Type locality: Serra d'Estrello [Brazil]. Holotype: MNHN 1909-309.

Characidium (Jobertina) dubia Travassos, 1952: 8, pl. 1 (fig. 2). Type locality: Estrada Velha de Petrópolis, Baixada Fluminense, Estado do Rio de Janeiro, Brazil. Holotype: MNRJ 5542.

Maximum length: 5.28 cm SL
 Distribution: South America: Coastal lowland streams of southeastern Brazil.
 Countries: Brazil

***Characidium japyhybense* Travassos, 1949**

Characidium japyhybense Travassos, 1949b: 229, figs. 1-4. Type locality: Japyhyba [Japuiba], Angra dos Reis, Estado do Rio de Janeiro, Brazil. Holotype: MNRJ 5194.

Maximum length: 5.54 cm SL
 Distribution: South America: Coastal streams of southeastern Brazil from Ilha Grande Bay to Ribeira de Iguape River basin.
 Countries: Brazil

***Characidium lagsantense* Travassos, 1947**

Characidium lagsantense Travassos, 1947: 23, pl. 6 (fig. 32). Type locality: Lagoa Santa, Estado de Minas Gerais, Brasil. Ho-

lotype: MNRJ 4582.

Maximum length: 4.13 cm SL

Distribution: South America: Das Velhas River basin in São Francisco River drainage.

Countries: Brazil

***Characidium lanei* Travassos, 1967**

Characidium lanei Travassos, 1967: 45, fig. 2. Type locality: Fazenda Poço Grande, Juquiá, São Paulo, Brazil. Holotype: MNRJ 6185.

Maximum length: 4.092 cm SL

Distribution: South America: Coastal basins of southeastern Brazil in Paraná State and Ribeira de Iguape River basin.

Countries: Brazil

***Characidium laterale* (Boulenger, 1895)**

Nannostomus lateralis Boulenger, 1895: 2. Type locality: Colonia Risso [Paraguay]. Syntypes: MZUT 2565

Distribution: South America: Paraná River basin in Paraguay.

Countries: Paraguay

***Characidium lauroi* Travassos, 1949**

Characidium lauroi Travassos, 1949a: 87, fig. 2. Type locality: Rio das Pedras, Fazenda Penedo, Agulhas Negras (Rezende), Estado do Rio de Janeiro, Brasil. Holotype: MNRJ 5529.

Maximum length: 7.12 cm SL

Distribution: South America: Middle and upper Paraíba do Sul River basin.

Countries: Brazil

***Characidium marshi* Breder, 1925**

Characidium marshi Breder, 1925: 5, fig. 5. Type locality: Río Sucubti, Darien, Panama. Holotype: AMNH 8405.

Maximum length: 4.4 cm SL

Distribution: Central America: Tuira River basin.

Countries: Panama

***Characidium occidentale* Buckup & Reis, 1997**

Characidium occidentale Buckup & Reis, 1997: 532, fig. 1A. Type locality: Arroio Canoín, approximately 28°07'S, 55°13'W, on road between Pirapó and São Nicolau mun. São Nicolau, Rio Grande do Sul, Brazil. Holotype: MCP 17585.

Maximum length: 4.83 cm SL

Distribution: South America: Left bank tributaries of middle Uruguay River basin.

Countries: Brazil

***Characidium oiticicai* Travassos, 1967**

Characidium oiticicai Travassos, 1967: 47, fig. 1. Type locality: Paranaipacaba, São Paulo, Brazil. Holotype: MNRJ 9480.

Maximum length: 6.75 cm SL

Distribution: South America: Upper Tietê and Ribeira de Iguape River basins.

Countries: Brazil

***Characidium orientale* Buckup & Reis, 1997**

Characidium orientale Buckup & Reis, 1997: 535, fig. 1B. Type locality: Arroio Chasqueiro on road (BR116) between Pelotas and Arroio Grande, mun. Arroio Grande, Rio Grande do sul, Brazil, approximately 32°09'S, 53°03'W. Holotype: MCP 16847.

Maximum length: 5.43 cm SL

Distribution: South America: Coastal basins of southern Brazil at western tributaries of Laguna do Patos basin.

Countries: Brazil

***Characidium pellucidum* Eigenmann, 1909**

Characidium pellucidum Eigenmann, 1909: 39. Type locality: Gluck Island, Guyana. Holotype: FMNH 52764.

Maximum length: 3.4 cm SL

Distribution: South America: Essequibo and Maroni River basins.

Countries: French Guiana, Guyana, Suriname

***Characidium phoxocephalum* Eigenmann, 1912**

Characidium phoxocephalum Eigenmann, 1912: 26. Type locality: Paila, Colombia. Holotype: FMNH 56061.

Maximum length: 6.8 cm TL

Distribution: South America: Cauca River basin.

Countries: Colombia

***Characidium pteroides* Eigenmann, 1909**

Characidium pteroides Eigenmann, 1909: 40. Type locality: Konawaruk [Guyana]. Holotype: FMNH 53548.

Maximum length: 2.11 cm SL

Distribution: South America: Essequibo River basin.

Countries: Guyana

***Characidium pterostictum* Gomes, 1947**

Characidium pterostictum Gomes, 1947: 18, pl. 1 (fig. 3). Type locality: Rio Maquiné, a tributary to Lagôa dos Quadros, Conceição do Arroio County, Rio Grande do Sul, Brazil. Holotype: UMMZ 143289.

Maximum length: 7.41 cm SL

Distribution: South America: Coastal basins from Ribeira de Iguape River basin Uruguay; Uruguay River basin.

Countries: Brazil

***Characidium purpuratum* Steindachner, 1882**

Characidium purpuratum Steindachner, 1882a: 142. Type locality: Canelos, Ecuador. Syntypes: NMW 69264. Species later described in more detail in Steindachner (1882b:78).

Maximum length: 5.3307 cm SL

Distribution: South America: Amazon River basin at Andean tributaries to the margin of the Amazon River.

Countries: Ecuador

***Characidium rachovii* Regan, 1913**

Characidium (Jobertina) rachovii Regan, 1913: 231. Type locality: Paranagua, Brazil [but probably Vila da Quinta, Município de Rio Grande, Brazil, 32°05'S, 52°17'W (see Buckup and Malabarba, 1990)]. Syntype: BMNH 1913.1.1.15.

Characidium (Jobertina) theageri Travassos, 1952: 22, pls. 1, 3 (fig. 9). Type locality: Paissandu, Uruguay. Holotype: MNRJ 4661.

Maximum length: 4.32 cm SL

Distribution: South America: Lower Paraná River basin; Uruguay River basin; coastal drainages from Rio Grande do Sul State to La Plata River.

Countries: Argentina, Brazil

***Characidium roesseli* Géry, 1965**

Characidium roesseli Géry, 1965: 201, pl. 18 (fig. 16). Type locality: Igarapé Prêto, collatéral de l'Amazone supérieure près de Belem, à environ 60 km en aval de Leticia [Amazonas, Brazil]. Holotype: SMF 7213.

Maximum length: 3.06 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Brazil

***Characidium sanctjohanni* Dahl, 1960**

Characidium sanctjohanni Dahl, 1960: 477, fig. on p. 478. Type locality: Noanamá, Río San Juan [Colombia].

Maximum length: 4.65 cm SL

Distribution: South America: San Juan River basin.

Countries: Colombia

***Characidium schindleri* Zarske & Géry, 2001**

Characidium schindleri Zarske & Géry, 2001: 234, fig.4. Type locality: Bolivien, linker Nebenfluss zum Palmar, km 114. Holotype: MTD F 29470.

Maximum length: 6.68 cm SL

Distribution: South America: Bolivia (?).

Countries: Bolivia

***Characidium schubarti* Travassos, 1955**

Characidium schubarti Travassos, 1955: 365, fig. 1. Type locality: Córrego entre Murtinhos e Jaguariaíva, Paraná [Brazil]. Holotype: MNRJ 8853.

Maximum length: 51.3 cm SL

Distribution: South America: Paranapanema basin in upper Paraná River drainage and Ribeira de Iguape River basin.

Countries: Brazil

***Characidium serrano* Buckup & Reis, 1997**

Characidium serrano Buckup & Reis, 1997: 541, fig. 4a. Type locality: Rio Jacutinga on road (BR283) between Seara and Concórdia, mun. Concórdia, state of Santa Catarina, Brazil, (approximately 27°10'S, 52°09'W). Holotype: MCP 12488.

Maximum length: 5.4 cm SL

Distribution: South America: Upper Uruguay River basin.

Countries: Brazil

***Characidium steindachneri* Cope, 1878**

Characidium steindachneri Cope, 1878: 688. Type locality: Peru. Holotype: ANSP 21428.

Characidium catenatum Eigenmann, 1909: 40. Type locality: Warraputa, Guyana. Holotype: FMNH 52761.

Characidium ladigesi Géry, 1972: 77, pl. 6 (figs. 1-2). Type locality: Río Villano, Ecuador. Holotype: ZMH 1864.

Maximum length: 4.12 cm SL

Distribution: South America: Amazon and Orinoco River basins; freshwater basins of Guyana.

Countries: Brazil, Colombia, Ecuador, Guyana, Peru

Common names: Mojarita (Peru)

***Characidium stigmatosum* Melo & Buckup, 2002**

Characidium stigmatosum Melo & Buckup, 2002: 988, fig. 1. Type locality: small stream ("riacho") tributary of córrego Ave Maria, near Santo Antônio farm headquarters, 14 km north of Cavalcante, mun. Cavalcante, Goiás (47°30'W, 13°47'S; inferred by authors), Brazil. Holotype: MZUSP 40804.

Maximum length: 4.25 cm SL

Distribution: South America: Paraná River basin in upper Tocantins River drainage.

Countries: Brazil

***Characidium tenue* (Cope, 1894)**

Chorimycteris tenuis Cope, 1894: 67. Type locality: Upper waters of the Jacuhy River in the Brazilian State of Rio Grande do Sul, Brazil. Holotype: ANSP 21576.

Maximum length: 5.6 cm SL

Distribution: South America: Uruguay River basin; Laguna dos Patos basin.

Countries: Brazil

***Characidium timbuiense* Travassos, 1946**

Characidium timbuiensis Travassos, 1946: 1, pl. 1 (figs. 1-2). Type locality: Córrego Valsungana, tributário of Rio Timbuí, próximo a Santa Tereza, Município de Santa Tereza, Estado do Espírito Santo, Brasil, 785 m de altitude. Holotype: MNRJ 4285.

Maximum length: 5.583 cm SL

Distribution: South America: Timbuí River basin in Espírito Santo State.

Countries: Brazil

***Characidium vestigipinne* Buckup & Hahn, 2000**

Characidium vestigipinne Buckup & Hahn, 2000: 151, fig. 1. Type locality: Headwaters of rio Caraguatá, ca. 28°09'S, 52°18'W, ca. 200 m from RS-135 hwy, at Fazenda Dückel, Coxilla, Rio Grande do Sul, Brazil. Holotype: MCP 20317.

Maximum length: 5.1 cm SL

Distribution: South America: Known only from the type locality in the headwaters of Caraguatá River, upper Uruguay River drainage.

Countries: Brazil

***Characidium vidali* Travassos, 1967**

Characidium vidali Travassos, 1967: 49, fig. 4. Type locality: Rio Soberbo, Barreira (Parque Nacional da Serra dos Orgãos), elev. 400 m, distrito de Magé, Rio de Janeiro [Brazil]. Holotype: MNRJ 9757.

Maximum length: 6.4 cm SL

Distribution: South America: Northeastern tributaries of Guanabara Bay in Rio de Janeiro State.

Countries: Brazil

***Characidium zebra* Eigenmann, 1909**

Characidium zebra Eigenmann, 1909: 38. Type locality: Maripicru [Creek], a branch of the Ireng, Guyana. Holotype: FMNH 53547.

Characidium fasciadorsale Fowler, 1914: 233, fig. 3. Type locality: Rupununi River, British Guiana [Guyana], Coordinate incorrectly listed as 2°-3°N, 50°20'W by Fowler (1914: 229). Holotype: ANSP 39317.

Maximum length: 4.9 cm SL

Distribution: South America: Amazon and Essequibo River basins; coastal basins of Guiana Shield.

Countries: Brazil, French Guiana, Guyana, Suriname

Remarks and references: Several morphologically similar populations from Colombia to Uruguay may be referable to this species. This species used to be incorreccted listed as *Characidium fasciatum* (see discussion in Buckup, 1992: 1071).

Species inquirenda

Leporinus macrolepidotus Peters, 1868: 455. Type locality: Rio de Janeiro [Brazil]. Holotype: ZMB 6774. This species is a *Characidium* but it is not possible to assign it to any known species.

CRENUCHUS

Crenuchus Günther, 1863: 443. Type species: *Crenuchus spilurus* Günther, 1863. Type by monotypy. Gender: masculine.

***Crenuchus spilurus* Günther, 1863**

Crenuchus spilurus Günther, 1863: 443. Type locality: Essequibo [Guyana]. Holotype: BMNH 1864.1.21.92.

Maximum length: 5.7 cm TL

Distribution: South America: Orinoco and Amazon River basin, coastal rivers in the Guianas.

Countries: Brazil, Colombia, French Guiana, Guyana, Peru, Suriname, Venezuela

Common names: Yaya (French Guiana)

ELACHOCHARAX

Elachocharax Myers, 1927: 114. Type species: *Elachocharax pulcher* Myers, 1927. Type by original designation. Gender: masculine.

Geisleria Géry, 1971: 154. Type species: *Geisleria junki* Géry, 1971. Type by original designation. Gender: feminine.

***Elachocharax geryi* Weitzman & Kanazawa, 1978**

Elachocharax geryi Weitzman & Kanazawa, 1978: 173, fig. 9. Type locality: Lago Paricatuba, Rio Negro, Amazonas [Brazil] 3°07'S, 60°30'W. Holotype: MZUSP 13249.

Maximum length: 1.9 cm SL

Distribution: South America: Upper Orinoco and Negro River basins.

Countries: Brazil, Colombia, Venezuela

***Elachocharax junki* (Géry, 1971)**

Geisleria junki Géry, 1971: 154, fig. 2. Type locality: rio Novo,

affluent du rio Jamari à environ 45 km à l'est de Porto Velho sur le rio Madeira, Territorio Guaporé, Brésil, 8°46'S, 63°30'W. Holotype: MHNG 2229.7.

Maximum length: 2.31 cm SL

Distribution: South America: Madeira and Negro River basins.

Countries: Brazil

***Elachocharax mitopterus* Weitzman, 1986**

Elachocharax mitopterus Weitzman, 1986: 740, fig. 1. Type locality: Caño Chola, where crossed by road from San Carlos do Río Negro to Solano, about 1°58'N, 67°00'W, Departamento Río Negro, Territorio Federal Amazonas, Venezuela. Holotype: MBUCV-V-15270.

Maximum length: 1.39 cm SL

Distribution: South America: Negro and Casiquiare River basins.

Countries: Brazil, Venezuela

***Elachocharax pulcher* Myers, 1927**

Elachocharax pulcher Myers, 1927: 115. Type locality: Caño de Quiribana, near Caicara [Venezuela]. Holotype: CAS 44250.

Maximum length: 2.21 cm SL

Distribution: South America: Amazon and upper Orinoco River basins.

Countries: Brazil, Peru, Venezuela

GERYICHTHYS

Geryichthys Zarske, 1997: 158. Type species: *Geryichthys sterbai* Zarske, 1997. Type by original designation. Gender: masculine.

***Geryichthys sterbai* Zarske, 1997**

Geryichthys sterbai Zarske, 1997: 159, fig. 1. Type locality: Peru, Departamento Loreto, Río Huacamayo, nahe Aguaytia (etwa 09°00 S, 75°29'W). Holotype: MTD F17561.

Maximum length: 3 cm SL

Distribution: South America: Upper Amazon River basin at region of Iquitos and Ucayali River drainage.

Countries: Peru

KLAUSEWITZIA

Klausewitzia Géry, 1965: 199. Type species: *Klausewitzia ritae* Géry, 1965. Type by original designation. Gender: feminine.

***Klausewitzia ritae* Géry, 1965**

Klausewitzia ritae Géry 1965: 199, pl. 18 (fig. 17). Type locality: Igarapé Prêto, collatéral de l'Amazone supérieur près de Belem, à environ 60 km en aral de Leticia [Amazonas, Brazil]. Holotype: SMF 7201 (incorrectly listed as SMF 7202 in Backup 1993:102).

Maximum length: 2.5 cm SL

Distribution: South America: Upper Amazon River basin at border area between Brazil and Peru.

Countries: Brazil, Peru

LEPTOCHARACIDIUM

Leptocharacidium Backup, 1993b: 103. Type species: *Leptocharacidium omspilus* Backup, 1993. Type by original designation. Gender: neuter.

***Leptocharacidium omspilus* Backup, 1993**

Leptocharacidium omspilus Backup, 1993b: 103, fig. 2. Type locality: mouth of left bank tributary ('white river') of Río Marwinuma (= Río Baria), 5 km upstream of Neblina base camp (66°10'W, 0°55'N, 120 m elevation), Departamento Río Negro Territorio Federal del Amazonas, Venezuela. Holotype: AMNH 98287.

Maximum length: 6.96 cm SL

Distribution: South America: Negro and upper Orinoco River basins.

Countries: Venezuela

MELANOCHARACIDIUM

Melanocharacidium Backup, 1993b: 113. Type species: *Characidium blennioides* Eigenmann, 1909. Type by original designation. Gender: neuter.

***Melanocharacidium auroradiatum* Costa & Vicente, 1994**

Melanocharacidium auroradiatum Costa & Vicente, 1994: 68, fig. 1. Type locality: Brésil: Estado de Goiás, un petit affluent du rio Verde, bassin du rio Araguaia, 1 km S de São Miguel do Araguaia, 13°22'S, 50°15'W. Holotype: MNRJ 12444.

Maximum length: 4.33 cm SL

Distribution: South America: Araguaia River basin.

Countries: Brazil

***Melanocharacidium blennioides* (Eigenmann, 1909)**

Characidium blennioides Eigenmann, 1909: 37. Type locality: Erukin, tributary of the Potaro above Kangaruma [Mazaruni-Potaro Dist., Guyana]. Holotype: FMNH 71043.

Maximum length: 4 cm SL

Distribution: South America: Essequibo River basin, coastal streams of northern South America from Guyana to French Guiana.

Countries: French Guiana, Guyana, Suriname, Venezuela

Common names: Yaya (French Guiana)

***Melanocharacidium compressus* Backup, 1993**

Melanocharacidium compressus Backup, 1993b: 114, fig. 5. Type locality: backwater of Río Orinoco, 66°28'W, 3°04'N, circa 1/2 hour upstream from Isla Temblador, Territorio Federal del Amazonas, Venezuela. Holotype: ANSP 161666.

Maximum length: 3.06 cm SL

Distribution: South America: Upper Orinoco River basin, between Puerto Ayacucho and Casiquiare River.

Countries: Venezuela

***Melanocharacidium depressum* Backup, 1993**

Melanocharacidium depressum Backup, 1993b: 117, fig. 7. Type locality: cachoeira Morena Rio Uatumã, ca. 59°30'W, 2°10'S, Estado do Amazonas, Brazil. Holotype: INPA 1738.

Maximum length: 3.4 cm TL

Distribution: South America: Uatumã, Negro and upper Orinoco River basins.

Countries: Brazil, Venezuela

***Melanocharacidium dispilomma* Backup, 1993**

Melanocharacidium dispilomma Backup, 1993b: 120, fig. 8. Type locality: Cachoeira Morena [approximately 59°30'W, 2°10'S], Rio Uatumã, Estado do Amazonas, Brazil. Holotype: INPA 6628.

Maximum length: 5 cm TL

Distribution: South America: Amazon and Orinoco River basins; Essequibo River basin; coastal streams of northern South America from Guyana to French Guiana.

Countries: Brazil, French Guiana, Guyana (inferred), Suriname, Venezuela

***Melanocharacidium melanopteron* Backup, 1993**

Melanocharacidium melanopteron Backup, 1993b: 125, fig. 10. Type locality: Río Caroni, below Guri dam, ca. 63°W, 7°50'N, Estado Bolivar, Venezuela. Holotype: MCNG 26957.

Maximum length: 7.19 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

***Melanocharacidium pectorale* Backup, 1993**

Melanocharacidium pectorale Backup, 1993b: 130, fig. 13. Type locality: Cachoeira Morena [approximately 59°30'W, 2°10'S], Rio Uatumã, Estado do Amazonas, Brazil. Holotype: INPA

6629.

Maximum length: 4.36 cm TL

Distribution: South America: Amazon and Orinoco River basin.

Countries: Brazil, Venezuela

Melanocharacidium rex (Böhlke, 1958)

Characidium rex Böhlke, 1958: 92, pl. 5 (fig. 7). Type locality: Chicherota region, not far from the mouth of Río Bobonaza, Ecuador. Holotype: ANSP 75949.

Maximum length: 9.85 cm SL

Distribution: South America: Tigre and Pastaza River basins in upper Amazon drainage.

Countries: Ecuador

MICROCHARACIDIUM

Microcharacidium Buckup, 1993b: 137. Type species: *Jobertina eleotrioides* Géry, 1960. Type by original designation. Gender: neuter.

Microcharacidium eleotrioides (Géry, 1960)

Jobertina eleotrioides Géry, 1960: 4. photo p. 6. Type locality: Little brook between "St. Patawa" and "St. Grand Bacou", Middle-Mana, French Guiana, (between 53°W-54°W and 4-5° N). Holotype: MNHG 2201.13.

Maximum length: 2.1 cm SL

Distribution: South America: Coastal stream of northern South America in Suriname and French Guiana.

Countries: French Guiana, Suriname

Microcharacidium gnomus Buckup, 1993

Microcharacidium gnomus Buckup, 1993b: 137, fig. 16. Type locality: Small stream (Río Orinoco drainage), 67°36'W, 5°58'S, between Río Paraíba [=Pacia?] Grande and Puerto Ayacucho, ca. 25 km from Puerto Ayacucho, Departamento Ature, Territorio Federal del Amazonas, Amazonas, Venezuela. Holotype: MBUCV V-21790.

Maximum length: 2.2 cm SL

Distribution: South America: Negro River basin above Barcelos; Orinoco River basin above La Urbana.

Countries: Brazil, Venezuela

ODONTOCHARACIDIUM

Odontocharacidium Buckup, 1993b: 136. Type species: *Klausewitzia aphanes* Weitzman & Kanazawa, 1977. Type by original designation. Gender: neuter.

Odontocharacidium aphanes (Weitzman & Kanazawa, 1977)

Klausewitzia aphanes Weitzman & Kanazawa, 1977: 151, figs. 1-6. Type locality: Rio Negro, State of Amazonas, Brazil. Holotype: MZUSP 12978.

Maximum length: 1.65 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Colombia, Peru, Venezuela

POECILOCHARAX

Poecilocharax Eigenmann, 1909: 34. Type species: *Poecilocharax bovalii* Eigenmann, 1909. Type by monotypy. Gender: masculine.

Poecilocharax bovalii Eigenmann, 1909

Poecilocharax bovalii Eigenmann, 1909: 34. Type locality: Creek at Savannah Landing, Guyana. Holotype: FMNH 53544.

Maximum length: 4.7 cm TL

Distribution: South America: Kaieteur Falls on the Potaro River.

Countries: Guyana

Poecilocharax weitzmani Géry, 1965

Poecilocharax weitzmani Géry, 1965: 207, pl. 18 (fig. 19); figs. 10-11. Type locality: Igarapé Prêto, collateral de l'Amazone supérieur près de Belem, a environ 60 km en aval de Leticia [Amazonas, Brazil]. Holotype: SMF 7332.

Maximum length: 4 cm TL

Distribution: South America: Upper Solimões, upper Negro and upper Orinoco River basins.

Countries: Brazil, Colombia, Peru, Venezuela

SKIOTOCHARAX

Skiocharax Preswell, Weitzman & Bergquist, 2000: 178. Type species: *Skiocharax meizon* Presswell, Weitzman & Bergquist, 2000. Gender: masculine.

Skiocharax meizon Presswell, Weitzman & Bergquist, 2000

Skiocharax meizon Presswell, Weitzman & Bergquist, 2000: 185-188, figs. 1-2. Type locality: Guyana: tributary of the Mazaruni River, upstream of Aruwai Falls; approximately 6°18'47"N 60°35'41"W. Holotype: UG uncat.

Maximum length: 3.21 cm SL

Distribution: South America: Mazaruni and Berbice River basins.

Countries: Guyana

References

Almeida, V.G. 1971. Descrição de uma nova espécie do gênero *Characidium* (Pisces, Characidae). Pap. Avulsos Dep. Zool., São Paulo, 25 (14): 111-119.

Böhlke, J.E. 1958. Studies on fishes on the family Characidae.-- No. 14. A report on several extensive recent collections from Ecuador. Proc. Acad. Nat. Sci. Philadelphia, 110: 1-121, pls. 1-7.

Boulenger, G.A. 1895. Viaggio del dottor Alfredo Borelli nella Repubblica Argentina e nel Paraguay. XII. Poissons. Boll. Mus. Zool. Anat. Comp. Torino, 10 (196): 1-3.

Breder, C.M., Jr. 1925. New loricariate, characin and poeciliid fishes from the Rio Chucunaque, Panama. Am. Mus. Novit., no. 180: 1-9.

Buckup, P.A. 1992. Redescription of *Characidium fasciatum*, type species of the Characidiinae (Teleostei, Characiformes). Copeia, 1992 (4): 1066-1073.

Buckup, P.A. 1993a. Phylogenetic interrelationships and reductive evolution in Neotropical characidiin fishes (Characiformes, Ostariophysi). Cladistics, 9: 305-341.

Buckup, P.A. 1993b. Review of the characidiin fishes (Teleostei: Characiformes), with descriptions of four new genera and ten new species. Ichthyol. Explor. Freshwaters, 4 (2): 97-154.

Buckup, P.A. 1993c. The monophyly of the Characidiinae, a Neotropical groups of characiform fishes (Teleostei: Ostariophysi). Zool. J. Linnean Soc., 108: 225-245.

Buckup, P.A. 1998a. *Characidium lagosantense* Travassos, 1947. Pp. 483-485 In: A.B.M. Machado, G.A.B. Fonseca, R.B. Machado, L.M.S. Aguiar, and L.V. Lins. Livro vermelho das espécies ameaçadas de extinção da fauna de Minas Gerais. Fundação Biodiversitas, Belo Horizonte. 605p.

Buckup, P.A. 1998b. Relationships of the Characidiinae and phylogeny of characiform fishes (Teleostei: Ostariophysi). Pp.123-144 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). Phylogeny and classification of Neotropical fishes. Edipucrs, Porto Alegre.

Buckup, P.A. and L. Hahn. 2000. A new species of Characidiinae (Teleostei, Characiformes) from southern Brazil. Copeia, 2000 (1): 150-155.

Buckup, P.A. and L.R. Malabarba. 1990. Sobre as localidades-tipo de *Characidium rachovii* e *Corydoras macropterus* (Teleostei: Ostariophysi). Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto

Check List of the Freshwater Fishes of South and Central America

- Alegre, 3 (4): 103-109.
- Buckup, P.A., G.W. Nunan, U.L. Gomes, W.J.E. Costa and O.B.F. Gadig. 2000. Peixes. pp 52-60. In: Especies ameacadas de extinção no município do Rio de Janeiro: fauna e flora. Secretaria Municipal do Meio Ambiente. Rio de Janeiro. 65 p.
- Buckup, P.A. and R.E. Reis. 1997. Characidiin genus *Characidium* (Teleostei, Characiformes) in southern Brazil, with description of three new species. *Copeia*, 1997 (3): 531-548.
- Buckup, P.A., C. Zamprogno, F. Vieira and R.L. Teixeira. 2000. Waterfall climbing in *Characidium* (Crenuchidae: Characidiinae) from eastern Brazil. *Ichthyological Exploration of Freshwaters*, 11(3): 273-278.
- Cope, E.D. 1872. On the fishes of the Ambyiacu River. *Proc. Acad. Nat. Sci. Philadelphia*, 23: 250-294, pls.
- Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. *Proc. Am. Philos. Soc.*, 17 (101): 673-701.
- Cope, E.D. 1894. On three new genera of Characinae. *Am. Nat.*, 28 (325): 67.
- Costa, W.J.E.M. and E.O. Vicente. 1994. Une nouvelle espèce du genre *Melanocharacidium* (Characiformes: Crenuchidae) du bassin du rio Araguaia, Brésil central. *Rev. Fr. Aquariol.*, 20 (3, for 1993): 67-70.
- Dahl, G. 1960. New fresh-water fishes from western Colombia. *Caldasia*, 8 (39): 451-484.
- Eigenmann, C.H. 1909. Reports on the expedition to British Guiana of the Indiana University and the Carnegie Museum, 1908. Report no. 1. Some new genera and species of fishes from British Guiana. *Ann. Carnegie Mus.*, 6 (1): 4-54.
- Eigenmann, C.H. 1912. Some results from an ichthyological reconnaissance of Colombia, South America. Part I. *Indiana Univ. Studies*, no. 16 [sic, No. 8]: 1-27.
- Fowler, H.W. 1906. Further knowledge of some heterognathus fishes. Part I. *Proc. Acad. Nat. Sci. Philadelphia*, 58: 293-351.
- Fowler, H.W. 1914. Fishes from the Rupununi River, British Guiana. *Proc. Acad. Nat. Sci. Philadelphia*, 66: 229-284.
- Fowler, H.W. 1941. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. *Proc. Acad. Nat. Sci. Philadelphia*, 93: 123-199.
- Géry, J. 1960. *Jobertina eleodrioides* [sic] n. sp. (Characidiinae) from French Guiana with considerations about the genus and redescription of the type-species. *Contributions to the study of the Characoid fishes (Ostariophysi) III. Opusc. Zool.*, no. 47: 1-10.
- Géry, J. 1965. Poissons characoïdes sud-américains du Senckenberg Muséum, II. Characidae et Crenuchidae de l'Igarapé Prêto (Haute Amazonie). [Fin]. *Senckenb. Biol.*, 46 (3): 195-218, pls. 18, 18a.
- Géry, J. 1970. Les Crenuchidae. *Aquarama*, 4 (9): 14-19.
- Géry, J. 1971. Une sous-famille nouvelle de poissons Characoides Sud-Américains: les Geisleriinae. *Vie Milieu (Ser. C)*, 22 (1): 153-166.
- Géry, J. 1972. Contribution à l'étude des poissons characoïdes de l'Équateur. Avec une révision du genre *Pseudochalceus* et la description d'un nouveau genre endémique du Rio Cauca en Colombie. *Acta Humboldt. (Ser. Geol. Palaeontol. Biol.)*, no. 2: 1-110, pls. 1-8.
- Géry, J., P. Planquette and P.-Y. Le Bail. 1991. Faune characoïde (poissons ostariophysaires) de l'Oyapock, l'Approuague et la rivière de Kaw (Guyane Française). *Cybiurn*, 15 (1, suppl.): 1-69, pls. 1-20.
- Gomes, A.L. 1947. A small collection of fishes from Rio Grande do Sul, Brazil. *Misc. Publ. Mus. Zool. Univ. Michigan*, no. 67: 1-39, pls. 1-3.
- Günther, A. 1863. On new species of fishes from the Essequibo. *Ann. Mag. Nat. Hist. (Ser. 3)*, 12 (72): 441-443.
- Malabarba, L.R. 1989. Histórico sistemático e lista comentada das espécies de peixes de água doce do sistema da Laguna dos Patos, Rio Grande do Sul, Brasil. *Comun. Mus. Ciênc. PUCRS*, Sér. Zool. Porto Alegre, 2 (8): 107-179.
- Mazzoni, R., C.R.S.F. Bizerril, P.A. Buckup, M. Caetano, O. Filho, C.A. Figueiredo, N.A. Menezes, G.W. Nunan and K. Tanizaki-Fonseca. 2000. Peixes. In: Bergallo, H.G., Rocha, C.F.D., Alves, M.A.S., Van Sluys, M. (Orgs.) A fauna ameaçada de extinção do Estado do Rio de Janeiro. Eduerj, Rio de Janeiro. 166p.
- Melo, M.R.S. and P.A. Buckup. 2002. *Characidium stigmatosum* (Characiformes: Crenuchidae): a new species of characidiin fish from central Brazil. *Copeia*, 2002 (4):988-993.
- Miyazawa, C.S. and P.M. Galetti, Jr. 1994. First cytogenetical studies in *Characidium* species (Pisces: Characiformes, Characidiinae). *Cytologia*, 59:73-79.
- Myers, G.S. 1927. Descriptions of new South American freshwater fishes collected by Dr. Carl Ternetz. *Bull. Mus. Comp. Zool.*, 68 (3): 107-135.
- Nielsen, J.G. 1974. Fish types in the Zoological Museum of Copenhagen. 115 p.
- Pearson, N.E. 1924. The fishes of the eastern slope of the Andes. I. The fishes of the Rio Beni basin, Bolivia, collected by the Mulford expedition. *Indiana Univ. Studies*, 11 (64): 1-83, pls. 1-12.
- Pellegrin, J. 1908. Characínidos americanos nuevos de la collection du Muséum d'histoire naturelle. *Bull. Mus. Natl. Hist. Nat.*, 14 (7): 342-347.
- Pellegrin, J. 1909. Characínidos du Brésil, rapportés par M. Jobert. *Bull. Mus. Natl. Hist. Nat.*, 15 (4): 147-153.
- Peters, W.C.H. 1868. Über eine neue Nagergattung, *Chiropodomys penicillatus*, so wie über einige neue oder weniger bekannte Amphibien und Fische. *Monatsb. Akad. Wiss. Berlin*, 1868: 448-460, pl. 2.
- Presswell, B., S.H. Weitzman and T. Bergquist. 2000. *Skiothocharax meizon*, a new genus and species of fish from Guyana with a discussion of its relationships (Characiformes: Crenuchidae). *Ichthyol. Explor. Freshwaters*, 11 (2):175-192.
- Regan, C.T. 1913. Descriptions of two new fishes from Paranagua, Brazil, presented to the British Museum by Herr A. Rachow. *Ann. Mag. Nat. Hist. (Ser. 8)*, 11 (62): 231-232.
- Reinhardt, J.T. 1867. Om trende, formeentligt ubeskrevne fisk af characinernes eller Karpelaxenes familie. *Overs. Danske Vidensk. Selsk. Forhandl. Kjobenhavn*, 1866: 49-68, pls. 1-2.
- Ringuelet, R.A., A.M. Miquelarena and R.C. Menni. 1978. Presencia en los alrededores de La Plata de *Characidium (Jobertina) rachowi* y de *Hyphessobrycon meridionalis* sp. nov. (Osteichthyes, Tetragonopteridae). *Limnobiós*, 1 (7): 242-257.
- Schultz, L.P. 1944. The fishes of the family Characinae from Venezuela, with descriptions of seventeen new forms. *Proc. U. S. Natl. Mus.*, 95 (3181): 235-367.
- Steindachner, F. 1882a. Ichthyologische Beiträge (XII). *Anz. Akad. Wiss. Wien*, 19 (16): 142-143.
- Steindachner, F. 1882b. Ichthyologische Beiträge (XII). *Sitzungsber. Akad. Wiss. Wien*, 86: 61-82, pls. 1-5.
- Steindachner, F. 1915a. Beiträge zur Kenntnis der Flussfische Südamerikas V. *Anz. Akad. Wiss. Wien*, 52 (18): 217-219.
- Steindachner, F. 1915b. Beiträge zur Kenntniss der Flussfische Südamerikas. V. *Denkschr. Akad. Wiss. Wien*, 93: 15-106.
- Steindachner, F. 1915c. Vorläufigen Bericht über einige neue Süßwasserfische aus Südamerika. *Anz. Akad. Wiss. Wien*, 52 (17): 199-202.
- Steindachner, F. 1917. Beiträge zur Kenntnis der Flussfische Südamerikas V. *Denkschr. Akad. Wiss. Wien*, 93: 15-106, pls. 1-13.
- Tortonese, E. 1940. Elenco dei tipi esistenti nella collezione ittiologica del R. Museo di Torino. *Boll. Mus. Zool. Anat. Comp. Torino (Ser. 3)*, 48 (111): 133-144.
- Tortonese, E. 1961. Catalogo dei tipi de pesci del Museo Civico di Storia Naturale di Genova. (Parte I). *Ann. Mus. Civ. Stor. Nat. 'Giacomo Doria'*, 72: 179-191.
- Travassos, H. 1944. Contribuições ao estudo da família Characidae Gill, 1899 I. *Characidium grajahuensis* n. sp. *Bol. Mus. Nac.*

Check List of the Freshwater Fishes of South and Central America

- Zool. (Brasil), no. 30: 1-10, pls. 1-6.
- Travassos, H. 1946. Contribuição ao estudo da família Characidae Gill, 1893. II. *Characidium timbuiensis* n. sp. (Classe Actinopterygii--Ordem Ostareophysii). Summa Brasil. Biol., 1 (5): 1-50, figs. 1-23.
- Travassos, H. 1947. Contribuição ao estudo da família Characidae Gill, 1893. V. Redescricao do genótipo de *Characidium Reinhardt*, 1866, com uma análise da literatura e descricao de *Characidium lagosantensis* n. sp. Summa Brasil. Biol., 1 (14): 1-59, pls. 1-9.
- Travassos, H. 1949a. Notas ictiológicas. I. *Characidium lauroi* n. sp. (Actinopterygii, Ostareophysii). Rev. Bras. Biol., 9 (1): 87-92.
- Travassos, H. 1949b. Notas ictiológicas. II. *Characidium japuhybensis* n. sp. (Actinopterygii, Ostariophysii). Rev. Bras. Biol., 9 (2): 229-233.
- Travassos, H. 1952. Contribuição ao estudo da subordem Characoidei Berg, 1940. IX - Sobre o subgênero *Jobertina* Pellegrin, 1909, com uma nova subfamília (Actinopterygii, Cypriniformes). Bol. Mus. Nac. Rio de Janeiro, Zool., no. 109: 1-45, pls. 1-9.
- Travassos, H. 1955a. Contribuição ao estudo de família Characidae Agassiz, 1844 - VI. *Characidium alipioi* n. sp. Arq. Mus. Nac. Rio de Janeiro, 42: 613-618, pl. 1.
- Travassos, H. 1955b. Sobre um novo peixe do Estado do Paraná (Actinopterygii - Cypriniformes - Characoidei). An. Acad. Bras. Cienc., 27 (3): 365-371.
- Travassos, H. 1956. Ictiofauna de Pirassununga. II. Sobre Characidiinae H. Travassos, 1952 (Cypriniformes - Characoidei). Bol. Mus. Nac. Rio de Janeiro, Zool. (N. S.), no. 135: 1-14.
- Travassos, H. 1967. Três novas espécies do gênero *Characidium* Reinhardt, 1866 (Actinopterygii, Characoidei). Pap. Avulsos Zool., São Paulo, 20 (4): 45-53.
- Weitzman, S.H. 1986. A new species of *Elachocharax* (Teleostei: Characidae) from the Rio Negro region of Venezuela and Brazil. Proc. Biol. Soc. Washington, 99 (4): 739-747.
- Weitzman, S.H. and R.H. Kanazawa. 1976. *Ammocryptocharax elegans*, a new genus and species of riffle-inhabiting characoid fish (Teleostei: Characidae) from South America. Proc. Biol. Soc. Washington, 89 (26): 325-346.
- Weitzman, S.H. and R.H. Kanazawa. 1977. A new species of pygmy characoid fish from the Rio Negro and Rio Amazonas, South America (Teleostei: Characidae). Proc. Biol. Soc. Washington, 90 (1): 149-160.
- Weitzman, S.H. and R.H. Kanazawa. 1978. The South American fish genus *Elachocharax* Myers with a description of a new species (Teleostei: Characidae). Proc. Biol. Soc. Washington, 91 (1): 158-183.
- Weitzman, S.H. and R.P. Vari. 1988. Miniaturization in South American freshwater fishes; an overview and discussion. Proc. Biol. Soc. Washington, 101: 444-465.
- Wilkins, H. 1977. Die Typen der Ichthyologischen Sammlung des Zoologischen Instituts und Zoologischen Museums der Universität Hamburg (ZMH). Mitt. Hamb. Zool. Mus. Inst., 74: 155-163.
- Zarske, A. 1997. *Geryichthys sterbai* gen. et spec. nov. and *Microcharacidium geryi* spec. nov.: Beschreibung einer neuen Gattung und zweier neuer Arten von Bodensalmlern aus dem Einzugsgebiet des Rio Ucayali in Peru (Teleostei: Ostariophysii: Characiformes: Characidae). Zool. Abhand. Staat. Mus. Tierk. Dresden, 49 (2): 157-172.
- Zarske, A. & J. Géry, 2001. Beschreibung von drei neuen Arten der Gattung *Characidium* Reinhardt, 1866, aus Bolivien und Paraguay (Teleostei: Characiformes: Characidiidae). Zool. Abhand. Staat. Mus. Tierk. Dresden, 51 (16): 229-246.

Family Hemiodontidae (Hemiodontids)

Francisco Langeani

Hemiodontids are swift swimmers with a fusiform and streamlined body. Their adult size ranges from 7 to about 30 cm of standard length. An adipose, well-developed eyelid, a suprapectoral sulcus, and 9 to 11 branched pelvic-fin rays are some of the synapomorphies uniting all the species within the Hemiodontidae (Langeani, 1998). Most of its members can be distinguished from other Characiformes by the possession of a round, midlateral, body spot on the vertical through the posterior portion of the dorsal-fin base, and a longitudinal stripe on the lower lobe of the caudal fin.

Twenty eight species are recognized in the family, distributed among the Anodontinae, with *Anodus* (2 spp, and one new species from Amazon basin currently being described) and *Micromischodus* (1 sp), the Hemiodontinae with *Hemiodus* (18 spp, and 5 new species from Amazon and São Francisco River basins currently under description), and the Bivibranchiini, with *Argonectes* (2 spp) and *Bivibranchia* (5 spp). Species occur in most rivers and basins of northern South America, such as Amazon, Orinoco, Tocantins, Guyana, Surinam, French Guiana, some smaller independent drainages (Amapá, Araguari, Itaipucu, Mearim, and Parnaíba rivers), and also to the south in the Paraná-Paraguay basin.

Hemiodontids are pelagic, feeding on sand, detritus, mud, filamentous algae, higher plants, larvae of chironomid (Diptera), corixid (Heteroptera) and Ephemeroptera, and fish droppings, like *Argonectes*, *Bivibranchia*, *Hemiodus* and *Micromischodus* (Menezes & Silva, 1949; Roberts, 1971; Knöppel, 1972), while *Anodus* feeds on plankton, by filtering water with aid of very elongate, slender and numerous gill-rakers (Roberts, 1972). *Argonectes* and *Bivibranchia* are the only characiform fishes having protractile upper jaws (especially pronounced in *Bivibranchia*) and *Bivibranchia* also has apomorphies in the roof of the mouth, gill arches and gill chamber, used to sort food particles taken with sand (Eigenmann, 1912; Roberts, 1971; Vari, 1985). They form small or large schools (Roberts, 1971, 1974; Vari, 1985), and most inhabit open waters in lakes and large rivers (Roberts, 1972 and 1974; Britski, Silimon & Lopes, 1999), while others live in much smaller environments, like ribeirões and igarapés (Myers, 1927; Roberts, 1971; Langeani, 1999). Some *Hemiodus* species, called cruzeiros-do-sul, are enjoyed by aquarists, and some *Anodus*, *Argonectes* and *Hemiodus*, among those species that attain the largest sizes, are used as food (Santos et al., 1984).

Species living in the main channels of Amazon basin have been well studied; undescribed species from some headwater streams, however, have been found in museum collections, and more are likely to be uncovered in the future with new collections being made on those areas.

Information given below is mainly based on some phylogenetic and revisionary works in progress; synonymies are based on personal observation and examination of types. In order to avoid confusion about species recognition some lectotypes are designated here.

ANODUS

Anodus Cuvier, 1829: 309, footnote. Type species: *Anodus elongatus* Agassiz, 1829. Type by subsequent designation. Gender: masculine. Phylogenetic definition and synonymy in Langeani (1998: 157). Langeani (op.cit.) listed the type species as designated by Cope (1878: 683); that is incorrect, because author was apparently referring to *Anodus* Spix (=Agassiz) not to *Anodus* Cuvier and, as stated by Eschmeyer (1998: 1839), the type was designated by Kottelat (1988: 78).

Anodus Agassiz, in Spix & Agassiz, 1829: 57, 60. Type species: *Anodus elongatus* Agassiz, 1829. Type by subsequent designation. Gender: masculine.

Elopomorphus Gill, 1878: 167. Type species: *Elopomorphus jordani* Gill, 1878. Type by monotypy. Gender: masculine.

Eigenmannina Fowler, 1906: 307. Type species: *Anodus melanopogon* Cope, 1878. Type by original designation. Gender: feminine.

***Anodus elongatus* Agassiz, 1829**

Anodus elongatus Agassiz, in Spix & Agassiz, 1829: 61, pl. 40.

Type locality: Brazil. No types known.

Anodus melanopogon Cope, 1878: 682. Type locality: Nauta, Peru.

Lectotype: ANSP 21227.

Anodus steatops Cope, 1878: 683. Type locality: Pebas, Peru.

Lectotype: ANSP 21498.

Elopomorphus jordani Gill, 1878b: 168. Type locality: Río Marmoré, Amazon system, Bolivia. Holotype: USNM 5926.

Maximum length: 30.3 cm SL

Distribution: South America: Amazon River basin: Japurá, Trombetas, Purus, Jutai, Solimoes, Amazon, and Ucayali River basins. Countries: Brazil, Peru

Remarks and references: See Cope (1878: 682 and 683), under *A. melanopogon* and *A. steatops* for description; synonymy above based on personal observation and examination of types.

Common names: Charuto (Brazil), Cubiu orana (Brazil), Julilla (Peru), Orana (Brazil), Ubarana (Brazil)

***Anodus orinocensis* (Steindachner, 1887)**

Elopomorphus orinocensis Steindachner, 1887a: 231. Type locality: Río Orinoco. Lectotype: NMW 72619-1, by present designation.

Maximum length: 27.5 cm SL

Distribution: South America: Orinoco, Amazon, and Tocantins River basin.

Countries: Brazil, Venezuela

Remarks and references: See Steindachner (1887b: 66, pl. 2, figs. 2-2a) for a detailed description and figures; valid based on personal observation and examination of types.

Common names: Ubarana (Brazil)

ARGONECTES

Argonectes Böhlke & Myers, 1956: 2. Type species: *Argonectes scapularis* Böhlke & Myers, 1956.

Type by original designation. Gender: masculine. Phylogenetic definition and synonymy in Langeani (1998: 158); species descriptions and geographical distribution in Langeani (1999).

***Argonectes longiceps* (Kner, 1858)**

Hemiodus longiceps Kner, 1858: 77. Type locality: Rio Içanno [Içana River, Brazil]. Lectotype: NMW 68643.

Argonectes scapularis Böhlke & Myers, 1956: 2, fig. 1. Type locality: Mouth of Caño Massaua [Massagua], Río Orinoco, Venezuela. Holotype: SU 46382.

Maximum length: 24.5 cm SL

Distribution: South America: Amazon River at Japurá, Orinoco, Maroni, Negro, Trombetas, Tapajós, and Canumã River basins.

Countries: Brazil, French Guiana, Suriname

Remarks and references: See Langeani (1999a) for diagnoses, figure, distribution and comparison with *Argonectes robertsi*.

Common names: Jatuarana (Brazil), O-Oií-Apotira (Brazil)

***Argonectes robertsi* Langeani, 1999**

Argonectes robertsi Langeani, 1999a: 173, fig. 1a. Type locality: lago Dumbá Grande, Barra do Graças, Rio Araguaia. Holotype: MZUSP 21528.

Maximum length: 28.8 cm SL

Distribution: South America: Tapajós, Xingu, Tocantins, and Capim River basins.

Countries: Brazil

Remarks and references: Correct publication date is 1999 not 1998 as printed.

Common names: Jatuarana (Brazil)

BIVIBRANCHIA

Bivibranchia Eigenmann, 1912: 258. Type species: *Bivibranchia protractila* Eigenmann, 1912. Type by monotypy. Gender: feminine. Phylogenetic definition and synonymy in Langeani (1998: 158).

Atomaster Eigenmann & Myers, 1927: 565. Type species: *Atomaster velox* Eigenmann & Myers, 1927. Type by monotypy. Gender: masculine.

***Bivibranchia bimaculata* Vari, 1985**

Bivibranchia bimaculata Vari, 1985: 517, fig. 3. Type locality: Rocky pool in the center of Corantijn R. at "Camp Hydro", Nickerie District, Suriname, ca. 3°42'N, 57°58'W. Holotype: USNM 225974.

Maximum length: 12.9 cm SL

Distribution: South America: Corantijn, Suriname, and Maroni River basins.

Countries: French Guiana, Guyana, Suriname

Common names: Matoucrabe (French Guiana)

***Bivibranchia fowleri* (Steindachner, 1908)**

Hemiodus fowleri Steindachner, 1908b: 131. Type locality: Ama-

zonas. Holotype: NMW 68600.

Bivibranchia protractila Eigenmann, 1912: 259, pl. 33 (fig. 1-5). Type locality: Bartica sand bank, Guyana. Holotype: FMNH 53576.

Maximum length: 14.4 cm SL

Distribution: South America: Negro, Tocantins, Xingu, Tapajós, Madeira, Essequibo, and Orinoco River basins.

Countries: Brazil, Guyana, Venezuela

Remarks and references: See Eigenmann (1912: 259) for description; synonymy above is based on personal observation and examination of types.

***Bivibranchia notata* Vari & Goulding, 1985**

Bivibranchia notata Vari & Goulding, 1985: 1055, fig. 1. Type locality: Beach at Alter do Chão, Rio Tapajós, ca. 2°31'S, 54°57'W, Pará, Brazil. Holotype: MZUSP 28657.

Maximum length: 7.2 cm SL

Distribution: South America: Tapajós and Tocantins River basins.

Countries: Brazil

***Bivibranchia simulata* Géry, Planquette & Le Bail, 1991**

Bivibranchia simulata Géry, Planquette & Le Bail, 1991: 23, pl. 7 (fig. 1). Type locality: Panacupelu, Saut Moutouci, Wilapaleya, Oyapoque river, French Guiana. Holotype: MNHN 1981.0545.

Bivibranchia simulata surinamensis Géry, Planquette & Le Bail, 1991: 27. Type locality: Affluent de droite de la Nickerie Rivier, env. de ½ heure au-dessous de Blanche Marie Falls, Surinam. Holotype: RMNH.

Maximum length: 13.5 cm SL

Distribution: South America: Coppename, Nickerie, Suriname, and Oyapock River basins.

Countries: Brazil, French Guiana

Remarks and references: Synonymy above is based on personal observation and examination of types.

Common names: Matoucrabe (French Guiana)

***Bivibranchia velox* (Eigenmann & Myers, 1927)**

Atomaster velox Eigenmann & Myers, 1927: 565. Type locality: Riberão, Porto Nacional, Tocantins, Goyas. Holotype: CAS 39430.

Maximum length: 15.2 cm SL

Distribution: South America: Xingu and Tocantins River basins.

Countries: Brazil

HEMIODUS

Hemiodus Müller, 1842a: 206. Type species: *Hemiodus crenidens* Müller, 1842a. Type by monotypy. Gender: masculine. Phylogenetic definition and synonymy in Langeani (1998: 157); comments on evolution of color pattern and tooth shape in Langeani (1999: 721).

Anisitsia Eigenmann & Kennedy, in Eigenmann, 1903: 144. Type species: *Anodus notatus* Jardine, 1841. Type by original designation. Gender: feminine.

Hemiodopsis Fowler, 1906: 318. Type species: *Hemiodus microlepis* Kner, 1859. Type by original designation. Gender: feminine.

Pterohemiodus Fowler, 1940: 257. Type species: *Pterohemiodus atranalis* Fowler, 1940. Type by original designation. Gender: masculine.

***Hemiodus amazonum* (Humboldt, 1821)**

Curimatus amazonum Humboldt, in Humboldt & Valenciennes, 1821: 165, pl. 45 (fig. 2). Type locality: Rio Maranon, Cachoeira de Rentema, provincia de Saint-Jean de Bracamoros, Peru. No types known.

Prochilodus humboldti Valenciennes, in Cuvier & Valenciennes, 1850: 90. Type locality: "Maragnon, vis-à-vis de la cataracte de Rentema, dans la province de Saint Jean de Braeamoros".

Maximum length: 16.2 cm SL

Distribution: South America: Marañón and Ucayali River basins; Essequibo River basin.
 Countries: Guyana, Peru
 Common names: Julilla (Peru)

***Hemiodus argenteus* Pellegrin, 1908**

Hemiodus argenteus Pellegrin, 1908: 344. Type locality: Orenoque. Lectotype: MNHM 1887.770, by present designation.

Hemiodopsis ocellata Vari, 1982: 188, fig. 1. Type locality: Main stream of Dalbana Creek, approximately 150 m upstream of its junction with the Kabalebo river, Nickerie District, Surinam, ca. 4°47'N, 57°29'W. Holotype: USNM 221175.

Maximum length: 23.7 cm SL

Distribution: South America: Orinoco River basin; Japurá, Jutai, Negro, Tapajós, and Uatumã River basins; Rupununi, Corantijn, Itapecuru, and Mearim River basins.

Countries: Brazil, Guyana, Suriname, Venezuela

Remarks and references: See Vari (1982: 188) for a detailed description; synonymy above is based on personal observation and examination of types.

Common names: Charuto (Brazil), Flexeira (Brazil), Jatuarana (Brazil), Orana (Brazil)

***Hemiodus atranalis* (Fowler, 1940)**

Pterohemiodus atranalis Fowler, 1940: 258, fig. 57. Type locality: Contamana, Ucayali R. basin, Peru. Holotype: ANSP 68671.

Pterohemiodus luelingi Géry, 1962: 332, pl. 1. Type locality: Quisto Cocha, petit lac en bordure du Rio Itaya, affluent de la rive gauche de l'Amazonie peruvienne à environ 15 km à l'ouest d'Iquitos (Perou). Holotype: MKI/59-60/QC/12.

Maximum length: 9.2 cm SL

Distribution: South America: Essequibo, Negro, Trombetas, Madeira, Tefé, Solimões, and Amazon River basins.

Countries: Brazil, Guyana, Peru

Remarks and references: Synonymy above based on personal observation and examination of types.

Common names: Cruzeiro-do-sul (Brazil), Julilla (Peru)

***Hemiodus goeldii* Steindachner, 1908**

Hemiodus goeldii Steindachner, 1908a: 61. Type locality: wahrscheinlich aus dem Xingu stammend. Holotype: NMW 68642.

Maximum length: 16 cm SL

Distribution: South America: Amapá River basin.

Countries: Brazil

Remarks and references: Based on personal observation, this species is from Amapá River, a small coastal river at Amapá State, and does not occur in Xingu River, as in the original description.

***Hemiodus gracilis* Günther, 1864**

Hemiodus gracilis Günther, 1864: 299. Type locality: River Cupai [Brazil]. Lectotype: BMNH 1853.319.54, by present designation.

Maximum length: 16.3 cm SL

Distribution: South America: Negro, Tapajós, Madeira, Solimões, Amazon, and Orinoco River basins.

Countries: Brazil, Venezuela

Common names: Cruzeiro-do-sul (Brazil), Julilla (Peru)

***Hemiodus huraulti* (Géry, 1964)**

Hemiodopsis huraulti Géry, 1964: 69, fig. 2. Type locality: Upper part of the Maroni River, at about the Litani Falls, French Guiana. Holotype: MHNG 2151.14.

Maximum length: 11.4 cm SL

Distribution: South America: Maroni and Mana River basins.

Countries: French Guiana, Suriname

Common names: Karp-jonn (French Guiana), Parasi-so (French Guiana)

***Hemiodus immaculatus* Kner, 1858**

Hemiodus immaculatus Kner, 1858: 78. Type locality: Barra do

Rio Negro. Holotype: NMW 68641.

Maximum length: 24.7 cm SL

Distribution: South America: Japurá, Negro, Preto da Eva, Trombetas, Tapajós, Canumã, Jutai, and Orinoco River basins.

Countries: Brazil, Venezuela

Common names: Charuto (Brazil), Flexeira (Brazil), Jatuarana (Brazil), Orana (Brazil), Voador (Brazil)

***Hemiodus microlepis* Kner, 1858**

Hemiodus microlepis Kner, 1858: 77. Type locality: Rio Guapore in Mato Grosso und Barra do Rio Negro. Lectotype: NMW 79472, by present designation.

Maximum length: 23.9 cm SL

Distribution: South America: Madeira, Tocantins, and Orinoco River basins.

Countries: Brazil, Venezuela

Common names: Charuto (Brazil), Flexeira (Brazil), Jatuarana (Brazil), Orana (Brazil)

***Hemiodus orthonops* Eigenmann & Kennedy, 1903**

Hemiodus orthonops Eigenmann & Kennedy, 1903: 511. Type locality: Arroyo Trementina, Paraguay. Holotype: CAS 61476.

Maximum length: 25 cm SL

Distribution: South America: Paraguay and Paraná River basins.

Countries: Brazil, Paraguay

Remarks and references: See Britski; Silimon & Lopes (1999: 71) for a diagnosis.

Common names: Bananinha (Brazil), Piau-banana (Brazil), Piava-banana (Brazil)

***Hemiodus parnaguae* Eigenmann & Henn, 1916**

Hemiodus parnaguae Eigenmann & Henn, 1916: 87, pl. 17. Type locality: Lagoa de Parnagua, Brazil. Holotype: FMNH 56886.

Hemiodus rodolphoi Fowler, 1941: 174, fig. 84-85. Type locality: Rio Parnahyba, Therezina, Piahy. Holotype: ANSP 69483.

Maximum length: 14.6 cm SL

Distribution: South America: Parnaíba River basin.

Countries: Brazil

Remarks and references: Synonymy above based on personal observation and examination of types.

Common names: Avoador (Brazil), Doirado (Brazil), Voador (Brazil)

***Hemiodus quadrimaculatus* Pellegrin, 1908**

Hemiodus quadrimaculatus Pellegrin, 1908: 344. Type locality: Rivière Camopi (Guyane française). Lectotype: MNHN 1901-394.

Maximum length: 13.1 cm SL

Distribution: South America: Negro, Trombetas, Araguari, Nickerie, Coppename, and Oyapock River basins.

Countries: Brazil, French Guiana, Guyana, Suriname

Remarks and references: See Géry (1964: 13, 72 and 74) for redescription, key and comparison with other species.

Common names: Couachi mama (French Guiana), Karp-jonn (French Guiana), Parasi-so (French Guiana), Parassi saut (French Guiana), Rouget (French Guiana)

***Hemiodus semitaeniatus* Kner, 1858**

Hemiodus semitaeniatus Kner, 1858: 77. Type locality: Rio Guaporé. Lectotype: NMW 69489, by present designation.

Maximum length: 16 cm SL

Distribution: South America: Tapajós, Madeira, Capim, Essequibo, Orinoco, and Paraná River basins.

Countries: Brazil, Guyana, Paraguay, Venezuela

Common names: Bananinha (Brazil), Peixe-banana (Brazil), Piau-banana (Brazil)

***Hemiodus sterni* (Géry, 1964)**

Hemiodopsis sterni Géry, 1964: 70, fig. 3. Type locality: Amazon system, Alto Rio Juruena, not far from the road Cuiaba-Porto

Velho, Mato Grosso, Brazil. Holotype: USNM 194377.
Maximum length: 7.9 cm SL
Distribution: South America: Upper Juruena River basin, in Tapajós River drainage.
Countries: Brazil

***Hemiodus ternetzi* Myers, 1927**

Hemiodus ternetzi Myers, 1927: 110. Type locality: Brazil: Jausinho Brook, into the Tocantins, Goyaz. Holotype: CAS 61480 [IU 17691].
Maximum length: 7.6 cm SL
Distribution: South America: Tocantins River basin.
Countries: Brazil
Remarks and references: See Langeani (1999: 719 and Tab. 1) for some diagnostic characters and comparison with other species.

***Hemiodus thayeria* Böhlke, 1955**

Hemiodus thayeria Böhlke, 1955: 8, fig. 21. Type locality: sandbank in the Rio Negro on the Brazil-Colombia border, at approximately 1°12'N, 66°51'W. Holotype: SU 48146.
Maximum length: 8.9 cm SL
Distribution: South America: Solimões, Negro, and Orinoco River basins.
Countries: Brazil, Colombia, Venezuela
Remarks and references: See Langeani (1999: 719 and Tab. 1) for some diagnostic characters and comparison with other species.

***Hemiodus tocantinensis* Langeani, 1999**

Hemiodus tocantinensis Langeani, 1999b: 719, fig. 1. Type locality: Tributary stream of ribeirão Lajeado, below "cuesta," rio Araguaia, Alto Araguaia, Mato Grosso. Holotype: MZUSP 52628.
Maximum length: 9.7 cm SL
Distribution: South America: Araguaia and Tocantins River basins.
Countries: Brazil

***Hemiodus unimaculatus* (Bloch, 1794)**

Salmo unimaculatus Bloch, 1794: 105, pl. 381 (fig. 3). Type locality: Brazil; Suriname. No types known.
Anodus notatus Schomburgk, 1841: 218, pl. 15. Type locality: sandbank on the Rio Negro, South America.
Hemiodus crenidens Müller, 1842b: 324. Type locality: Brazil. No types known.
Hemiodus microcephalus Günther, 1864: 298. Type locality: River Capim [Capim], Brazil. Lectotype: BMNH 1849.11.8.39.
Hemiodus kappleri Günther, 1868b: 479. Type locality: Surinam. Lectotype: BMNH 1866.9.10.29.
Maximum length: 21.5 cm SL
Distribution: South America: Amazon, Tocantins, Capim, Suriname, Camopi, and Oyapock River basins.
Countries: Brazil, French Guiana, Guyana, Peru, Suriname
Remarks and references: See Géry, Planquette & Le Bail (1991: 22, pl. 6, fig. 1) and Santos et al. (1984: 30) for descriptions and figures; synonymy above is based on personal observation
Common names: Charuto (Brazil), Jatuarana (Brazil), Orana (Brazil), Pacu-banana (Brazil), Parizien (French Guiana), Peixe-rei (Brazil), Poson-bannann (French Guiana), Ubari (Brazil)

***Hemiodus vorderwinkleri* (Géry, 1964)**

Hemiodopsis vorderwinkleri Géry, 1964: 14, fig. 1. Type locality: Upper Amazon on the Brazilian-Colombian boundaries surrounding Leticia. Holotype: MHNG 2151.20.
Maximum length: 7.1 cm SL
Distribution: South America: Xingu, Solimões, and Potaro River basins.
Countries: Brazil, Colombia, Guyana

MICROMISCHODUS

Micromischodus Roberts, 1971: 4. Type species: *Micromischodus sugillatus* Roberts, 1971. Type by original designation. Gender: masculine. Phylogenetic definition in Langeani (1998: 157).

***Micromischodus sugillatus* Roberts, 1971**

Micromischodus sugillatus Roberts, 1971: 5, fig. 1. Type locality: Igarapé Tarumãzinho, 15 km northwest of Manaus, on the left bank of the Rio Negro, Estado do Amazonas, Brazil. Holotype: MZUSP 6773.
Maximum length: 17 cm SL
Distribution: South America: Amazon, Madeira, Negro, and Solimões River basins.
Countries: Brazil

References

Bloch, M.E. 1794. Naturgeschichte der ausländischen Fische, vol. 8. Berlin. iv + 174 p., pls. 361-396.
Böhlke, J.E. 1955. Studies on fishes of the family Characidae.-- No. 10. Notes on the coloration of the species of *Hemiodus*, *Pterohemiodus* and *Anisitsia*, with the description of a new *Hemiodus* from the Rio Negro at the Brazil-Colombia border. Not. Nat. (Philadelphia), no. 278: 1-15.
Böhlke, J.E. and G.S. Myers. 1956. Studies on fishes of the family Characidae.-- No. 11. A new genus and species of hemiodontins from the Rio Orinoco in Venezuela. Not. Nat. (Philadelphia), no. 286: 1-6.
Britski, H.A., K.Z.S. Silimon and B.S. Lopes. 1999. Peixes do Pantanal: Manual de Identificação. Embrapa, Brasília, 184 p.
Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. Proc. Am. Philos. Soc., 17 (101): 673-701.
Eigenmann, C.H. 1903. New genera of South American freshwater fishes, and new names for old genera. Smithsonian Misc. Collect. (Quarterly), 45: 144-148.
Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus. 5 (1): i-xxii + 1-578, pls. 1-103.
Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II.- The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. Univ. Kentucky. xv + 494 p., pls. 1-22.
Eigenmann, C.H. and A.W. Henn. 1916. Description of three new species of characid fishes. Ann. Carnegie Mus., 10 (1/2): 87-90, pl. 17.
Eigenmann, C.H. and C.H. Kennedy. 1903. On a collection of fishes from Paraguay, with a synopsis of the American genera of cichlids. Proc. Acad. Nat. Sci. Philadelphia, 55: 497-537.
Eigenmann, C.H. and G.S. Myers. 1927. A new genus of Brazilian characin fishes allied to *Bivibranchia*. Proc. Natl. Acad. Sci., 13 (8): 565-566.
Eigenmann, C.H. and F. Ogle. 1907. An annotated list of characin fishes in the United States National Museum and the Museum of Indiana University, with descriptions of new species. Proc. U. S. Natl. Mus., 33 (1556): 1-36.
Fowler, H.W. 1906. Further knowledge of some heterognathus fishes. Part I. Proc. Acad. Nat. Sci. Philadelphia, 58: 293-351.
Fowler, H.W. 1940. A collection of fishes obtained by Mr. William C. Morrow in the Ucayali River Basin, Peru. Proc. Acad. Nat. Sci. Philadelphia, 91 [for 1939]: 219-289.
Fowler, H.W. 1941. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. Proc. Acad. Nat. Sci. Philadelphia, 93: 123-199.
Géry, J. 1962. *Pterohemiodus luelingi* sp. nov., un curieux poisson characoïde à nageoire dorsale filamenteuse, avec une clé des genres d'Hemiodontinae (Ostariophysii-Erythrinidae). Bonner

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- Zool. Beitr., 12 (3/4): 332-342.
- Géry, J. 1964. New species of hemiodin characoid fishes forming the *Hemiodopsis quadrimaculatus* - group. Trop. Fish Hobbyist, 13 (3): 11-15, 69-74.
- Géry, J., P. Planquette and P.-Y. Le Bail. 1991. Faune characoïde (poissons ostariophysaires) de l'Oyapock, l'Approuague et la rivière de Kaw (Guyane Française). Cybium, 15 (1, suppl.): 1-69, pls. 1-20.
- Gill, T.N. 1878a. On a remarkable new generic type of characins. Ann. Mag. Nat. Hist. (Ser. 5), 2 (7): 112.
- Gill, T.N. 1878b. On a remarkable new generic type of characins. Field & Forest, March/April: 167-168.
- Günther, A. 1864. Catalogue of the fishes in the British Museum, vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomatidae in the collection of the British Museum. Trustees, London. xxii + 455 p.
- Günther, A. 1868a. Descriptions of freshwater fishes from Surinam and Brazil. Proc. Zool. Soc. London, 1868 (2): 229-247, pls. 20-22.
- Günther, A. 1868b. Diagnoses of some new freshwater fishes from Surinam and Brazil, in the collection of the British Museum. Ann. Mag. Nat. Hist. (Ser. 4), 1 (6): 475-481.
- Humboldt, F.H.A. von, and A. Valenciennes. 1821. Recherches sur les poissons fluviatiles de l'Amérique Équinoxiale, Pp. 145-216, pls. 45-52. In: Voyage de Humboldt et Bonpland, Deuxième partie. Observations de Zoologie et d'Anatomie comparée. Paris.
- Kner, R. 1858. Beiträge zur Familie der Characinen. Sitzungsber. Akad. Wiss. Wien, 30 (13): 75-80.
- Kner, R. 1859. Zur Familie der Characinen. III. Folge der Ichthyologischen Beiträge. Denkschr. Akad. Wiss. Wien, 17: 137-182, pls. 1-9.
- Knöppel, H.A. 1972. Zur nahrung tropischer süßwasserfische aus Südamerika- einige aus-gewählte arten der Anostomidae, Curimatidae, Hemiodidae und Characidae (Pisces, Characoidei) Amazoniana, 3(3): 231-246.
- Langeani, F. 1998. Phylogenetic study of the Hemiodotidae (Ostariophysi, Characiformes). Pp. 145-160 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). Phylogeny and Classification of Neotropical Fishes. EDIPUCRS, Porto Alegre.
- Langeani, F. 1999a. *Argonectes robertsi* n. sp., a new Bivibranchiinae (Pisces, Characiformes, Hemiodontidae) from the rivers Tapajos, Xingu, Tocantins and Capim, Amazon river drainage, Naturalia, São Paulo, 23: 171-182.
- Langeani, F. 1999b. New species of *Hemiodus* (Ostariophysi, Characiformes, Hemiodontidae) from the Rio Tocantins, Brazil, with comments on color patterns and tooth shapes within the species and genus. Copeia, 1999 (3): 718-722.
- Menezes, R.S., & S.L.O. Silva. 1949. Alimentação do Voador, *Hemiodus parnaguae* Eigenmann & Henn, da bacia do rio Paranaíba, Piauí (Actinopterygii, Characidae, Hemiodontinae). Revista Brasileira de Biologia, 9 (2): 241-245.
- Müller, J.W. 1842a. Über die Schwimmblase der Fische, mit Bezug auf einige neue Fischgattungen. Khonigl. Akad. Wiss. Berlin, 1842: 202-210.
- Müller, J.W. 1842b. Beobachtungen über die Schwimmblase der Fische, mit Bezug auf einige neue Fischgattungen. Arch. Anat. (Müller), 1842: 307-329.
- Myers, G.S. 1927. Descriptions of new South American freshwater fishes collected by Dr. Carl Ternetz. Bull. Mus. Comp. Zool., 68 (3): 107-135.
- Pellegrin, J. 1908. Characinidés américains nouveaux de la collection du Muséum d'histoire naturelle. Bull. Mus. Natl. Hist. Nat., 14 (7): 342-347.
- Roberts, T.R. 1971. *Micromischodus sugillatus*, a new hemiodontid characin fish from Brazil, and its relationship to the Chilodontidae. Breviora No. 367: 1-25.
- Roberts, T.R. 1972. Ecology of fishes in the Amazon and Congo basins. Bulletin of the Museum of Comparative Zoology, 143 (2): 117-147.
- Santos, G.M., M. Jégu and B. Merona. 1984. Catálogo de peixes comerciais do baixo rio Tocantins. Eletronorte, Manaus. 85 p.
- Schomburgk, R.H. 1841. The Natural history of fishes of Guiana.-- Part I. In: Jardine, W. (ed.), The Naturalists' Library. Vol. 3. W. H. Lizars, Edinburgh. 263 p., pls. 1-30.
- Steindachner, F. 1887a. Ichthyologische Beiträge (XIV). Anz. Akad. Wiss. Wien, 24 (19): 230-231.
- Steindachner, F. 1887b. Ichthyologische Beiträge (XIV). Sitzungsber. Akad. Wiss. Wien, 96: 56-68, pls. 1-4.
- Steindachner, F. 1908a. Über drei neue Characinen und drei Siluroiden aus dem Stromgebiete des Amazonas innerhalb Brasilien. Anz. Akad. Wiss. Wien, 45 (6): 61-69.
- Steindachner, F. 1908b. Über eine neue *Hemiodus* -Art aus dem Stromgebiete des Amazonas, *Hemiodus fowleri*. Anz. Akad. Wiss. Wien, 45 (10): 131-132.
- Vari, R.P. 1982. *Hemiodopsis ocellata*, a new hemiodontid characoid fish (Pisces: Characoidea) from western Surinam. Proc. Biol. Soc. Washington, 95 (1): 188-193.
- Vari, R.P. 1985. A new species of *Bivibranchia* (Pisces: Characiformes) from Surinam, with comments on the genus. Proc. Biol. Soc. Washington, 98 (2): 511-522.
- Vari, R.P. and M. Goulding. 1985. A new species of *Bivibranchia* (Pisces: Characiformes) from the Amazon River basin. Proc. Biol. Soc. Washington, 98 (4): 1054-1061.

Family Gasteropelecidae (Freshwater hatchetfishes)

Stanley H. Weitzman and Lisa Palmer

Fishes of the family Gasteropelecidae have the following characteristics: Frontal bone longitudinally corrugated, bearing a strong longitudinal ridge. Posttemporal and supracleithrum are fused into a single bone. The pelvic fins and associated bones are minute. They have an enlarged, strongly convex muscular pectoral girdle region, consisting of greatly expanded coracoids fused to a single fan-shaped and corrugated median bone. Their lateral line extends ventroposteriorly to approach the anterior termination of the anal fin, or they have 0 to 2 or 3 scales behind head and one or a very few scales on tail-fin base. Dorsal fin has 10 to 17 rays. Anal fin has 22 to 44 rays. An adipose fin is present in the larger species, but absent in the smaller species. All are capable of jumping relatively long or high distances by use of their modified, elongate pectoral fin rays and heavily-muscled, enlarged pectoral girdle. See Wiest (1995) and Weitzman & Palmer (1996) for discussions of their jumping abilities.

Freshwater hatchetfish are found in Panama and all countries of South America except Chile. The family consists of three genera and nine species, ranging in standard length from 21.5 - 68 mm. Central America contains only one species, *Gasteropelecus maculatus*. South America contains species in three genera: *Carnegiella*, *Gasteropelecus*, and *Thoracocharax*.

The species of the genera *Gasteropelecus* and *Thoracocharax* occur in open waters of larger rivers and streams and lakes, whereas species of *Carnegiella* occur in small creeks and streams (personal observations).

Morphology and function of some of the smaller members of this family have been well studied (Weitzman, 1954 and Wiest, 1995), but the larger species, especially in *Thoracocharax*, have not been subject to such investigations. Most species probably have been described; however species problems associated with comparisons of population samples from different localities may reveal some new species.

Members of this family are commercially collected for the aquarium trade.

CARNEGIELLA

Carnegiella Eigenmann, 1909: 13. Type species: *Gasteropelecus strigatus* Günther, 1864. Type by original designation. Gender: feminine.

***Carnegiella marthae* Myers, 1927**

Carnegiella marthae Myers, 1927: 119. Type locality: Caño de Quiribana, near Caicara, Venezuela. Holotype: CAS 20082.

Maximum length: 2.81 cm SL

Distribution: South America: Negro and upper Orinoco River basins.

Countries: Brazil, Venezuela

Remarks and references: See Weitzman (1960) for distribution.

Common names: Black-winged hatchetfish (USA), Schwarzschwinger-Beilbauchfisch (Germany)

***Carnegiella myersi* Fernández-Yépez, 1950**

Carnegiella myersi Fernández-Yépez, 1950: 175, fig. 3, 3a-d. Type locality: Creek near Yurimaguas, Peru. Holotype: SU 16120.

Maximum length: 2.15 cm SL

Distribution: South America: Amazon River basin.

Countries: Peru

Remarks and references: See Weitzman (1960) for distribution.

Common names: Dwarf hatchetfish (USA), Glas beilbauchfisch (Germany), Glass hatchetfish (USA), Pechito (Peru)

***Carnegiella schereri* Fernández-Yépez, 1950**

Carnegiella schereri Fernández-Yépez, 1950: 178, fig. 5, 5a-d. Type locality: Caño del Chanco at Pebas, Peru. Holotype: SU

36491.

Maximum length: 2.6 cm SL

Distribution: South America: Amazon River basin in Peru and Brazil.

Countries: Brazil, Peru

Remarks and references: See Weitzman (1960) for distribution.

Common names: Pechito (Peru), Scherer's hatchetfish (USA)

***Carnegiella strigata* (Günther, 1864)**

Gasteropelecus strigatus Günther, 1864: 343. Type locality: "Hab. ___ ?", but restricted to Manaus, Brazil by Hoedeman (1952: 5). Lectotype: BMNH 1969.10.29.1-2 (32 mm SL), designated by Fraser-Brunner (1950: 966).

Gasteropelecus fasciatus Garman, 1890: 9. Type locality: Lake Saraca, Cudajas, Manacapouru, Tabatinga [Brazil]. Lectotype: MCZ 21289a from Tabatinga, designated by Fernández-Yépez (1950: 180).

Carnegiella strigata vesca Fraser-Brunner, 1950: 966, fig. 3 A. Type locality: British Guiana. Holotype: BMNH 1934.9.12.289.

Carnegiella strigata surinamensis Hoedeman, 1952: 15. Type locality: Swamp about 50 km south of Paramaribo, Suriname. Holotype: ZMA 100316a.

Carnegiella strigata marowini Hoedeman, 1952: 14. Type locality: Marowini River System, Suriname. Holotype: RMNH 19341.

Maximum length: 3.5 cm SL

Distribution: South America: Lower, middle and upper Amazon River basin; south of Amazon; Caqueta River in Colombia.

Countries: Brazil, Colombia, Guyana, Peru, Suriname

Remarks and references: See Weitzman (1954), Weitzman (1960), Gery (1973), Gery (1977), and Weitzman and Weitzman (1982)

for distribution.

Common names: Gabel-Bellbauchfisch (Germany), Marbled hatchetfish (USA), Marmorierter Beilbauchfisch (Germany), Pechito (Peru), Poson rach (French Guiana), Yaya gro tjò (French Guiana), Yaya rach (French Guiana)

GASTEROPELECUS

Gasteropelecus Scopoli, 1777: 458. Type species: *Clupea sternicla* Linnaeus, 1758. Gender: masculine.

Gasteropelecys Agassiz, 1846: 159. Type species: *Clupea sternicla* Linnaeus, 1758. Type by being a replacement name. Gender: masculine.

Pterodiscus Eigenmann, 1909: 12. Type species: *Pterodiscus levis* Eigenmann, 1909. Type by original designation. Gender: masculine.

***Gasteropelecus levis* (Eigenmann, 1909)**

Pterodiscus levis Eigenmann, 1909: 12. Type locality: Para [Pará, Brazil]. Holotype: USNM 034454.

Maximum length: 3.53 cm SL

Distribution: South America: Lower Amazon River basin.

Countries: Brazil

Remarks and references: See Weitzman (1960) for distribution.

Common names: Silber beilbauchfisch (Germany), Silver hatchetfish (USA)

***Gasteropelecus maculatus* Steindachner, 1879**

Gasteropelecus maculatus Steindachner, 1879: 168. Type locality: Mamoni-Flusse bei Chepo [Panama]. Syntypes: (several) NMW.

Thoracocharax brevis Eigenmann, 1912: 25. Type locality: Raspadura [Colombia]. Holotype: FMNH 56055 [ex CM 4846].

Thoracocharax magdalenae Eigenmann, 1912: 25. Type locality: Girardot [Colombia]. Holotype: FMNH 56056.

Maximum length: 6.4 cm SL

Distribution: Central and South America: Eastern Panama through western Colombia.

Countries: Colombia, Panama

Common names: Gefleckter Beilbauchfisch (Germany), Spotted hatchetfish (USA)

***Gasteropelecus sternicla* (Linnaeus, 1758)**

Clupea sternicla Linnaeus, 1758: 319. Type locality: Surinam. Restricted to Paramaribo, Surinam by Hoedeman (1952). Syntypes: BMNH 1853.11.12.211 [Gronovius coll.] (1, skin).

Salmo gasteropelecus Pallas, 1770: 50. Type locality: Surinam. No types known.

Gasteropelecus argenteus La Cèpède, 1803: 476, 477. Type locality: Surinam.

Gasteropelecus coronatus Allen, in Eigenmann & Allen, 1942: 267, pl. 14 (fig. 4). Type locality: Brook, Río Itaya near Iquitos [Peru]. Holotype: CAS 20671.

Gasteropelecus sternicla morae Hoedeman, 1952: 11. Type locality: Mora Passage, Br. Guiana. Holotype: ZMA 100341.

Gasteropelecus sternicla marowini Hoedeman, 1952: 10. Type locality: Marowini basin, Suriname. Holotype: RMNH 19339.

Maximum length: 3.77 cm SL

Distribution: South America: Peruvian Amazon, middle Amazon, Guianas and Venezuela.

Countries: French Guiana, Guyana, Peru, Venezuela

Remarks and references: See Weitzman (1960) for distribution.

Common names: Pechito (Peru), Poson rach (French Guiana), Silber beilbauchfisch (Germany), Silver hatchet fish (Trinidad and Tobago), Silver hatchetfish (USA), Yaya gro tjò (French Guiana), Yaya hache (French Guiana), Yaya rach (French Guiana)

THORACOCHARAX

Thoracocharax Fowler, 1906: 452. Type species: *Gasteropelecus*

stellatus Kner, 1860. Type by original designation. Gender: masculine.

***Thoracocharax securis* De Filippi, 1853**

Gasteropelecus securis De Filippi, 1853: 165. Type locality: Rio Napo [Peru]. No types known.

Gasteropelecus pectorosus Garman, 1890: 9. Type locality: Cudajas, Lago Alexo, Obidos, Tabatinga, Manacapouru [Brazil]. Syntypes: MCZ 21281 (1), 21283 (orig. 7, now 4) + 21284 (3), 21294 (1), 21297 (2), 21302 (1); USNM 120412 [ex MCZ 21283] (2).

Maximum length: 6.8 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

Remarks and references: See Weitzman (1960) for distribution.

Common names: Platin beilbauchfisch (Germany), Platinum hatchfish (USA), Silver hatchfish (USA)

***Thoracocharax stellatus* (Kner, 1858)**

Gasteropelecus stellatus Kner, 1858: 163. Type locality: Rio Cujaba [Cuiaba River, Brazil]. Syntypes: NMW 77722 (3).

Maximum length: 6.7 cm SL

Distribution: South America: Paraná, Amazon, and Orinoco River basins.

Countries: Argentina, Bolivia, Brazil, Colombia, Ecuador, Paraguay, Peru, Venezuela

Remarks and references: See Weitzman (1960) for distribution.

Common names: Pechito (Peru, Uruguay), Platin beilbauchfisch (Germany), Platinum hatchetfish (USA), Silver hatchetfish (USA)

References

- Agassiz, L. 1846. Nomenclatoris Zoologici. Index universalis, continens nomina systematica classium, ordinum, familiarum et generum animalium omnium, tam viventium quam fossilium, secundum ordinem alphabeticum unicum disposita, ... Soloduri. viii + 393 p.
- De Filippi, F. 1853. Nouvelles espèces de poissons. Rev. Mag. Zool. (Ser. 2), 5: 164-171.
- Eigenmann, C.H. 1909. Reports on the expedition to British Guiana of the Indiana University and the Carnegie Museum, 1908. Report no. 1. Some new genera and species of fishes from British Guiana. Ann. Carnegie Mus., 6 (1): 4-54.
- Eigenmann, C.H. 1912. Some results from an ichthyological reconnaissance of Colombia, South America. Part I. Indiana Univ. Studies, no. 16 [sic no. 8]: 1-27.
- Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II.- The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. Univ. Kentucky. xv + 494 p., pls. 1-22.
- Fernández-Yépez, A. 1950. A revision of the South American characid fishes of the genus *Carnegiella*. Stanford Ichthyol. Bull., 3 (4): 169-181.
- Fowler, H.W. 1906. Further knowledge of some heterognathous fishes, pt. II. Proc. Acad. Nat. Sci. Philadelphia, 58: 431-483.
- Fowler, H.W. 1950. Os peixes de agua doce do Brazil. Arquivos de Zoologia do Estado de Sao Paulo, 6: 350-353.
- Fraser-Brunner, A. 1950. A revision of the fishes of the family Gasteropelecidae. Ann. Mag. Nat. Hist. (Ser. 12), 3 (35): 959-970.
- Garman, S. 1890. On species of *Gasteropelecus*. Bull. Essex Inst., 22 (1-3): 8-10.
- Géry, J. 1973. Sur la nomenclature et les types de livrés de *Carnegiella strigata* (Günther). Aquarema, 7(21): 16-19.
- Géry, J. 1977. Characoids of the world. T.F.H. Publications, Inc., Neptune City, N.J. 672 p.
- Gronow, L.T. 1777. Museum Ichthyologicum. 2: 1-46 Logduni.

Check List of the Freshwater Fishes of South and Central America

- Günther, A. 1864. Catalogue of the fishes in the British Museum, vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiatidae in the collection of the British Museum. Trustees, London. xxii + 455 p.
- Hoedeman, J.J. 1952. Notes on the ichthyology of Surinam (Dutch Guiana). 2. The Surinam representatives of *Gasteropelecus* and *Carnegiella*, with remarks on the tribe Gasteropelecidi. Beaufortia, no. 20: 1-16.
- Kner, R. 1858. Zur Familie der Characinen. Sitzungsber. Akad. Wiss. Wien, 32 (22): 163-168.
- Kner, R. 1860. Zur Familie der Characinen. III. Folge Der Ichthyologischen Beiträge. Denkschr. Akad. Wiss. Wien, 18: 9-62, pls. 1-8.
- La Cepède, B.G.E. 1803. Histoire naturelle des poissons, vol. 5. lxxviii + 803 p. + index, pls. 1-21.
- Linnaeus, C. 1758. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Editio decima, reformata. Tomus I. Holmiae. ii + 824 p.
- Myers, G.S. 1927. Descriptions of new South American freshwater fishes collected by Dr. Carl Ternetz. Bull. Mus. Comp. Zool., 68 (3): 107-135.
- Pallas, P.S. 1770. Spicilegia Zoologica quibus novae imprimis et obscurae animalium species iconibus, descriptionibus atque commentariis illustrantur. Berolini, Gottl. August. Lange. 56 p., pls. 1-5.
- Scopoli, G.A. 1777. Introductio ad historiam naturalem, sistens genera lapidum, plantarum et animalium hactenus detecta, characteribus essentialibus donata, in tribus divisa, subinde ad leges naturae. Prague. x + 506 p.
- Steindachner, F. 1879. Beiträge zur Kenntniss der Flussfische Südamerika's. Denkschr. Akad. Wiss. Wien, 41: 151-179, pls. 1-4.
- Weitzman, S.H. 1954. The osteology and relationships of the South American characoid fishes of the subfamily Gasteropelecinae. Stanford Ichthyol. Bull., 4(1): 213-263.
- Weitzman, S.H. 1960. Further notes on the relationships and classification of the South American characid fishes of the subfamily Gasteropelecinae. Stanford Ichthyol. Bull., 7 (4): 217-239.
- Weitzman, S.H. and L. Palmer. 1996. Do freshwater hatchetfishes really fly? Tropical Fish Hobbyist, 45(1): 195-206.
- Weitzman, S.H. and M. Weitzman. 1982. Biogeography and Evolutionary diversification in Neotropical freshwater fishes with comments on the refuge theory. Pp. 403-422. In: G.T. Prance (ed.) Biological diversification in the tropics. Columbia University Press. xvi + 714 p.
- Wiest, F.C. 1995. The specialized locomotory apparatus of the freshwater hatchetfish family Gasteropelecidae. Journal of Zoology, London, 1995 (236): 571-592.

Family Characidae (Characins, tetras)

Because of the extremely large size of the family Characidae and its highly heterogeneous nature, species are grouped by subfamilies with separate authorship. Only those subfamilies for which evidence of monophyly exists were retained, leaving a large portion of the characid diversity listed under *Incertae Sedis* genera. Again, given the enormous diversity and variation among these genera, several specialists served as revisers in a multi-authored effort to clear up the situation of the *Incertae Sedis* genera. These authors are listed in order of the number of species they revised.

SPECIES INCERTAE SEDIS IN CHARACIDAE

***Cheirodon jaguaribensis* Fowler, 1941**

Cheirodon jaguaribensis Fowler, 1941: 180, fig. 91. Type locality: Rio Jaguaribe, Russas, Ceará [Brazil]. Holotype: ANSP 69530
Maximum length: 3.8 cm SL
Distribution: South America: Jaguaribe River basin in northeastern Brazil.
Countries: Brazil
Remarks and references: This is a valid species, but not a *Cheirodon* or a *Cheirodontinae* (Malabarba, pers. comm).
Common names: Piabinha (Brazil)

***Cheirodon luelingi* Géry, 1964**

Cheirodon luelingi Géry, 1964a: 19, fig. 16. Type locality: petit ruisseau faisant communiquer le <<Zapote Cocha>> avec le <<Caño Yarina>>, em bordure du Rio Pacaya, affluent du canal de Puinahua (bras du bas Rio Ucayali) [Peru]. Holotype: not searched.
Maximum length: 1.76 cm SL
Distribution: South America: Upper Amazon River basin.
Countries: Peru

***Cheirodon macropterus* Fowler, 1941**

Cheirodon macropterus Fowler, 1941: 182, fig. 92. Type locality: Rio Jaguaribe, Russas, Ceará [Brazil]. Holotype: ANSP 69531.
Maximum length: 3.7 cm SL
Distribution: South America: Jaguaribe River basin in northeastern Brazil.
Countries: Brazil
Remarks and references: This is a valid species, but not a *Cheirodon* or a *Cheirodontinae* (Malabarba, pers. comm).

***Cheirodon ortegai* Vari & Géry, 1980**

Cheirodon ortegai Vari & Géry, 1980: 75, fig. 1. Type-locality: Woodland pool connected with the Río Ucayali at Cocha Lobo, 5 km downriver from Masisea, District of Masisea, Province Coronel Portillo, Department of Loreto, Peru (approx. Lat. 8°35'S, Long. 74°22'W). Holotype: AMNH 35950.
Maximum length: 3.43 cm SL
Distribution: South America: Ucayali River basin.
Countries: Peru
Remarks and references: This is a valid species, but not a *Cheirodon* or a *Cheirodontinae* (Malabarba, pers. comm).

***Cheirodon stenodon* Eigenmann, 1915**

Cheirodon stenodon Eigenmann, 1915: 82, pl. 14 (fig. 2). Type locality: Bebedouro, near Rio Grande and Rio Paraná [Brazil]. Holotype: FMNH 57865 (ex CM 6848a).

Maximum length: 3.3 cm SL

Distribution: South America: Paraná River basin.

Countries: Brazil

Remarks and references: This is a valid species, but not a *Cheirodon* or a *Cheirodontinae* (Malabarba, 1998).

***Deuterodon parahybae* Eigenmann, 1908**

Deuterodon parahybae Eigenmann, 1908: 99. Type locality: Itapemirim [rio Itapemirim, Espírito Santo, Brazil]. Syntypes: MCZ 20933 [syntypes number indicated later in Eigenmann 1927: 349].
Maximum length: 3.9 cm SL
Distribution: South America: Itapemirim River basin.
Countries: Brazil

***Deuterodon pedri* Eigenmann, 1908**

Deuterodon pedri Eigenmann, 1908: 98. Type locality: Rio San Antonio, Santa Anna de Ferros [Minas Gerais, Brazil]. Syntypes: MCZ 21081 [type locality and syntypes number indicated later in Eigenmann 1927: 348].
Maximum length: 7.8 cm SL
Distribution: South America: Santo Antônio River basin in upper Doce River drainage.
Countries: Brazil

***Deuterodon potaroensis* Eigenmann, 1909**

Deuterodon potaroensis Eigenmann, 1909a: 27. Type locality: Amatuk Cataract, Potaro River [Guyana]. Holotype: FMNH 52967 [ex CM 1053].
Maximum length: 6 cm SL
Distribution: South America: Potaro River basin.
Countries: Guyana

***Macropsobrycon xinguensis* Géry, 1973**

Macropsobrycon xinguensis Géry, 1973: 106, figs. 15-17. Type locality: rio Suia Missu (rio Xingù basin), about 12°40'S and 52°7'W, Brazil. Holotype: BMNH 1972.11.15.5.
Maximum length: 3.1 cm SL
Distribution: South America: Xingu River basin.
Countries: Brazil
Remarks and references: This is a valid species, but not a *Macropsobrycon* or a *Cheirodontinae* (Malabarba, 1998).
Common names: Piabinha (Brazil)

References

- Eigenmann, C.H. 1908. Preliminary descriptions of new genera and species of tetragonopterid characins. (Zoological Results of the Thayer Brazilian expedition.). Bull. Mus. Comp. Zool., 52 (6): 91-106.
Eigenmann, C.H. 1909a. Reports on the expedition to British

Check List of the Freshwater Fishes of South and Central America

- Guiana of the Indiana University and the Carnegie Museum, 1908. Report no. 1. Some new genera and species of fishes from British Guiana. Ann. Carnegie Mus., 6 (1): 4-54.
- Eigenmann, C.H. 1915. The Cheirodontinae, a subfamily of minute characid fishes of South America. Mem. Carnegie Mus., 7 (1): 1-99, pls. 1-17.
- Eigenmann, C.H. 1927. The American Characidae. Mem. Mus. Comp. Zool., 43 (4): 311-428, 24 pls.
- Fowler, H.W. 1941. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. Proc. Acad. Nat. Sci. Philadelphia, 93: 123-199.
- Géry, J. 1964a. Poissons characoïdes de l'Amazonie péruvienne. Beitr. Neotrop. Fauna, 4 (1): 1-44.
- Géry, J. 1973. New and little-known Aphyoditeina (Pisces, Characoidei) from the Amazon Basin. Stud. Neotrop. Fauna, 8: 81-137.
- Malabarba, L.R. 1998. Monophyly of the Cheirodontinae, Characters and major clades (Ostariophysi: Characidae). Pp. 193-234 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.), Phylogeny and classification of Neotropical fishes. Edipucrs, Porto Alegre.
- Vari, R.P. and J. Géry. 1980. *Cheirodon ortegai*, a new markedly sexually dimorphic Cheirodontine (Pisces: Characoidea) from the Río Ucayali of Peru. Proc. Biol. Soc. Washington, 93: 75-82.

Genera Incertae Sedis in Characidae

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Characid genera listed below as Incertae Sedis constitute a largely heterogeneous assemblage of small to large-sized fishes. Most of these genera had been included in the subfamily Tetragonopterinae (see Géry, 1977). However, considering the lack of evidence that this subfamily constitutes a monophyletic assemblage (e.g., Weitzman & Fink, 1983; Weitzman & Malabarba, 1998), this classification was not adopted here. Instead, we preferred to emphasize the fact that interrelationships among the Characidae are poorly known, and only consider subfamilies for which some evidence of monophyly is available.

Eighty eight genera are listed as Incertae Sedis here, including 620 species. Among these, 64% or 399 species, are assigned to the speciose, taxonomically poorly known, and possibly not monophyletic genera of Characidae, *Hyphessobrycon* (97 species), *Astyanax* (86 species), *Moenkhausia* (58 species), *Bryconamericus* (51 species), and *Hemigrammus* (43 species), or to *Creagrutus* (64 species), a group recently revised and for which the taxonomic situation is now clear (Vari & Harold, 2001). In addition, more than 53% or 47 genera included as Incertae Sedis are monotypic and 26% or 23 genera contain only two or three species.

These mostly small fishes are abundant in rivers and other aquatic habitats throughout the Neotropical region and many have use as food or pets in the aquarium trade. Also is listed *Salminus*, the large dourados from the La Plata, São Francisco, Magdalena, and the periphery of Amazon/Orinoco basins. These predatory, ichthyophagous fishes are one of the main targets of the professional and amateur fishing in South America and are among the largest Neotropical characiforms. The bizarre lepidophagous *Roebioxodon geryi*, the herring-like *Triporthesus*, and the neon tetras of the genus *Paracheirodon* are also listed below as Incertae Sedis genera within the Characidae.

Authors to the species below are as follows: Carla S. Pavanelli (*Bryconacidnus*, *Carlasthanax*, *Genycharax*, *Gymnocharacinus*, *Gymnotichthys*, *Hasemania*, *Markiana*, *Nematobrycon*, *Oxybrycon*, *Parapristella*, *Parecbasis*, *Phenagoniates*, *Probolodus*, *Psalidodon*, *Schultzites*, *Xenagoniates*), Carlos A. S. Lucena (*Bryconexodon*, *Exodon*, *Serrabrycon*), Carlos A. S. Lucena & Paulo H. F. Lucinda (*Gnathoplax*, *Roebioxodon*), Flávio C. T. Lima (*Astyanacinus*, *Axelrodia*, *Chalceus*, *Coptobrycon*, *Engraulisoma*, *Inpaichthys*, *Lignobrycon*, *Petitella*, *Piabarchus*, *Rachoviscus*, *Salminus*, *Stygichthys*), Flávio C. T. Lima & Cristiano Moreira (*Thayeria*), Flávio C. T. Lima & Luiz R. Malabarba (*Hyphessobrycon*), Flávio C. T. Lima & Osvaldo T. Oyakawa (*Hemigrammus*), Francisco Langeani (*Bryconella*, *Microgenys*), José F. Pezzi da Silva (*Bryconamericus*, *Ceratobranchia*, *Knodus*), Luiz R. Malabarba (*Aphyocharacidium*, *Aphyodite*, *Atopomesus*, *Aulixidens*, *Boehlkea*, *Brittanichthys*, *Caiapobrycon*, *Grundulus*, *Hypobrycon*, *Leptagoniates*, *Leptobrycon*, *Microchemobrycon*, *Mixobrycon*, *Monotocheirodon*, *Odontostoechus*, *Othonocheirodon*, *Paracheirodon*, *Prionobrama*, *Pristella*, *Rhinobrycon*, *Rhinopetitia*, *Thrissobrycon*, *Tyttobrycon*), Maria Cláudia S. L. Malabarba & Flávio C. T. Lima (*Triporthesus*), Naércio A. Menezes (*Bramocharax*, *Nematocharax*, *Oligosarcus*), Osvaldo T. Oyakawa (*Hemibrycon*), Paulo A. Buckup (*Astyanax*, *Bryconops*, *Jupiaba*, *Oligobrycon*), Ricardo Benine (*Bario*, *Gymnocorymbus*, *Moenkhausia*), Ricardo Benine & Lilian Cassati (*Ctenobrycon*, *Psellogrammus*), Richard P. Vari & Antony Harold (*Creagrutus*, *Piabina*), Roberto E. Reis (*Attonitus*, *Paragoniates*, *Scissor*, *Stichonodon*, *Tucanoichthys*), Vinicius A. Bertaco (*Hollandichthys*, *Pseudochalceus*), Zilda Margarete S. Lucena & Carlos A. S. Lucena (*Deuterodon*).

APHYOCHARACIDIUM

Aphyocharacidium Géry, 1960b: 24. Type species: *Odontostilbe melandetus* Eigenmann, 1912. Type by original designation.
Gender: neuter. See comments on relationships in Malabarba (1998: 232).

***Aphyocharacidium bolivianum* Géry, 1973**

Aphyocharacidium bolivianum Géry, 1973: 101, fig. 12. Type

locality: brook between upper rios Chaparé and Chimoré (or Ichilo), Tributaries of the rio Mamoré into rio Madeira), east of Todos Santos, Central Bolivia, approximately 16°47'S, 65°W. Holotype: Museum A. Koenig, uncat.

Maximum length: 2.75 cm SL

Distribution: South America: Mamoré River basin.

Countries: Bolivia

***Aphyocharacidium melandetum* (Eigenmann, 1912)**

Odontostilbe melandetus Eigenmann, 1912b: 312, pl. 44, fig. 3.
Type locality: Guyana. Holotype: CM 1878 (missing from FMNH).

Maximum length: 3.5 cm

Distribution: South America: Essequibo River basin.

Countries: Guyana

APHYODITE

Aphyodite Eigenmann, 1912b: 314. Type species: *Aphyodite grammica* Eigenmann, 1912b. Type by original designation. Gender: feminine. See comments on relationships in Malabarba (1998: 230).

***Aphyodite grammica* Eigenmann, 1912**

Aphyodite grammica Eigenmann, 1912b: 314, pl. 44 (fig. 5). Type locality: Konawaruk [Guyana]. Holotype: FMNH 53408.

Maximum length: 3.2 cm

Distribution: South America: Essequibo River basin.

Countries: Guyana

ASTYANACINUS

Astyanacinus Eigenmann, 1907: 769. Type species: *Tetragonopterus moorii* Boulenger, 1892. Type by original designation. Gender: masculine. See Géry (1977: 415, 418).

***Astyanacinus goyanensis* Miranda Ribeiro, 1944**

Astyanacinus goyanensis Miranda Ribeiro, 1944: 1, fig. Type locality: Rio do Couro, Veadeiros, estado de Goias [Tocantins River basin, Brazil]. Holotype: MNRJ 4129.

Maximum length: 9 cm SL

Distribution: South America: Upper Tocantins River basin.

Countries: Brazil

***Astyanacinus moorii* (Boulenger, 1892)**

Tetragonopterus moorii Boulenger, 1892: 11, pl. 2 (fig. 1). Type locality: Chapala plateau [=Chapada dos Guimarães, upper Paraguay River basin, Mato Grosso, Brazil]. Syntypes: BMNH 1892.4.29.50-51 (2).

Maximum length: 7.5 cm SL

Distribution: South America: Upper Paraguay River basin.

Countries: Brazil

***Astyanacinus multidentis* Pearson, 1924**

Astyanacinus multidentis Pearson, 1924: 41, pl. 9 (fig. 4). Type locality: Rio Colorado, lower Bopi [Bolivia]. Syntypes: CAS 38955 (ex IU 17323) (16); ? MCZ 20826 (1), ? MCZ 21064 (1), ? MCZ 89559 (27), ? UMMZ 66510 (6).

Maximum length: 14 cm TL

Distribution: South America: Upper Madeira River basin.

Countries: Bolivia

ASTYANAX

Astyanax Baird & Girard, 1854: 26. Type species: *Astyanax argentatus* Baird & Girard, 1854. Type by monotypy. Gender: masculine.

Poecilurichthys Gill, 1858: 414, 417. Type species: *Poecilurichthys brevoortii* Gill, 1858. Type by subsequent designation by Eigenmann (1910: 432). Gender: masculine.

Zygogaster Eigenmann, 1913: 22. Type species: *Zygogaster filiferus* Eigenmann, 1913. Type by original designation. Gender: feminine.

Aequidens Steindachner, 1915a: 34. Type species: *Tetragonopterus (Aequidens) fasslii* Steindachner, 1915. Type by monotypy. Gender: masculine. Preoccupied by *Aequidens* Eigenmann & Bray, 1894, in fishes, replaced by *Evenichthys* Whitley, 1935.

Bertoniolus Fowler, 1918: 141. Type species: *Bertoniolus paraguayensis* Fowler, 1918. Type by original designation. Gender:

masculine.

Evenichthys Whitley, 1935: 250. Type species: *Tetragonopterus fasslii* Steindachner, 1915. Type by being a replacement name. Gender: masculine. Replacement for *Aequidens* Steindachner, 1915, preoccupied by *Aequidens* Eigenmann & Bray, 1894.

Anoptichthys Hubbs & Innes, 1936: 3. Type species: *Anoptichthys jordani* Hubbs & Innes, 1936. Type by original designation. Gender: masculine.

***Astyanax abramis* (Jenyns, 1842)**

Tetragonopterus abramis Jenyns, 1842: 123, pl. 23 (figs. 1, 1a). Type locality: Río Paraná, up to Rozario [Argentina]. No types known.

Maximum length: 5 cm TL

Distribution: South America: La Plata basin; upper Amazon and upper Meta River basins.

Countries: Argentina, Brazil, Peru

***Astyanax alburnus* (Hensel, 1870)**

Tetragonopterus alburnus Hensel, 1870: 85. Type locality: Rio Cadea [Rio Grande do Sul, Brazil]. Holotype: ZMB 7477.

Astyanax hasemani Eigenmann, in Eigenmann, Henn & Wilson, 1914: 10. Type locality: Porto Alegre [Brazil]. Holotype: FMNH 56659 [ex CM 5476].

Distribution: South America: Laguna dos Patos basin.

Countries: Brazil

***Astyanax altiparanae* Garutti & Britski, 2000**

Astyanax altiparanae Garutti & Britski, 2000: 67, fig. 1. Type locality: rio Grande, represa de Volta Grande, Miguelópolis, SP, Brasil (aproximadamente 20°10'S-48°03'W). Holotype: MZUSP 18592.

Distribution: South America: Upper Paraná River basin.

Countries: Brazil

***Astyanax angustifrons* (Regan, 1908)**

Tetragonopterus angustifrons Regan, 1908b: 172, pl. 26 (fig. 5). Type locality: Mexico. Syntypes: (3) BMNH 1857.7.31.9 (1).

Distribution: North America: Mexico (?).

Countries: Mexico

***Astyanax anterior* Eigenmann, 1908**

Astyanax anterior Eigenmann, 1908: 95. Type locality: Tabatinga [Amazonas, Brazil]. Lectotype: MCZ 89556 [ex MCZ 20768a], designated by Eigenmann (1921: 247).

Distribution: South America: Upper Amazon basin.

Countries: Brazil

***Astyanax argyrimarginatus* Garutti, 1999**

Astyanax argyrimarginatus Garutti, 1999: 586, fig. 1. Type locality: Aragarças, Córrego Jaraguá, bacia do Rio Araguaia, GO (aproximadamente 15°55'S-52°15'W). Holotype: MZUSP 18592.

Distribution: South America: Amazon River basin.

Countries: Brazil

***Astyanax armandoi* Lozano-Vilano & Contreras-Balderas, 1990**

Astyanax armandoi Lozano-Vilano & Contreras-Balderas, 1990: 97, figs. 2 (top), 3a. Type locality: Penjamo, near palenque, Chiapas, Mexico. Holotype: UANL 6380.

Distribution: North America: Chiapas, Mexico (?).

Countries: Mexico

***Astyanax asuncionensis* Géry, 1972**

Astyanax (Poecilurichthys) bimaculatus paraguayensis Eigenmann, 1921: 256, pls. 62 (fig. 5), 92 (fig. 1). Type locality: Rio Paraguay and upper Rio Tocantins. Syntypes: (179) CAS 38987-96 and 38999 [ex IU 10005-10010, 10239, 10241-43, 10293] (44), 38997 [IU 10244] (1), 38998 [ex IU 10247] (1), 39000 [ex

- IU 11083] (1); FMNH 54643-49 [ex CM 3280-3286] (8, 9, 5, 2, 10, 1, 2); + CM 3274 and 3287 missing.
- Astyanax bimaculatus asuncionensis* Géry, 1972b: 3. Type locality: Rio Paraguay and Upper Rio Tocantins. Syntypes: (179) CAS 38987-96 and 38999 [ex IU 10005-10010, 10239, 10241-43, 10293] (44), 38997 [IU 10244] (1), 38998 [ex IU 10247] (1), 39000 [ex IU 11083] (1); FMNH 54643-49 [ex CM 3280-3286] (8, 9, 5, 2, 10, 1, 2); + CM 3274 and 3287 missing.
- Distribution: South America: Paraguay and lower Paraná River basin.
- Countries: Paraguay
- Astyanax atratoensis* Eigenmann, 1907**
- Astyanax atratoensis* Eigenmann in Eigenmann & Ogle, 1907: 28, fig. 5. Type locality: Truando, Colombia. Holotype: USNM 1659 (missing).
- Distribution: South America: Atrato River basin.
- Countries: Colombia
- Astyanax bimaculatus* (Linnaeus, 1758)**
- Salmo bimaculatus* Linnaeus, 1758: 311. Type locality: America Meridionali. Syntypes: BMNH 1853.11.12.34 (1), NRM 7236 (2).
- Tetragonopterus maculatus* Müller & Troschel, 1845: 14, pl. 3 (fig. 4). Type locality: Brasilia, Guiana et Surinam. Syntypes: MSNG 9226 [ex ZMB] (2).
- ?*Tetragonopterus gronovii* Valenciennes, in Cuvier & Valenciennes, 1850: 143. Type locality: Surinam; rivières de La Guyane. Syntypes: MNHN 4402 (1), 4414 (1), A.9810 (1), A.9812 (2). Provisional synonym.
- ?*Tetragonopterus linnaei* Valenciennes, in Cuvier & Valenciennes, 1850: 142. Type locality: Cayenne [French Guiana]. Holotype: MNHN A.9809. Provisional synonym.
- ?*Tetragonopterus wappi* Valenciennes, in Cuvier & Valenciennes, 1850: 153. Type locality: Not listed in original description [Essequibo River, Guyana]. Holotype: MNHN 2636. Provisional synonym.
- ?*Tetragonopterus vittatus* Castelnau, 1855: 66, pl. 33 (fig. 3). Type locality: Bahia [Brazil]. Provisional synonym.
- ?*Poecilurichthys brevoortii* Gill, 1858: 417. Type locality: [Island of] Trinidad. Syntypes: USNM 1113 (2). Provisional synonym.
- Tetragonopterus bartlettii* Günther, 1866: 30. Type locality: Upper Amazons. Syntypes: BMNH 1866.2.15.17-18 (2).
- ?*Tetragonopterus orientalis* Cope, 1870: 559. Type locality: Pará [Brazil]. Provisional synonym.
- ?*Tetragonopterus bahiensis* Steindachner, 1877: 571. Type locality: Bahia, Brazil. Syntypes: NMW 57251-52 (2, 1). Provisional synonym.
- Astyanax bimaculatus borealis* Eigenmann, 1908: 96. Type locality: Rio Magdalena and Cauca. Syntypes: 9 specimens, missing.
- Astyanax bimaculatus novae* Eigenmann, 1911b: 175, pl. 7 (fig. 2). Type locality: Rio Sapon, Prazeres, Bahia [Brazil]. Lectotype: FMNH 54641 [ex CM 3278, figured type].
- Astyanax rupununi* Fowler, 1914: 242, fig. 6. Type locality: Rupununi River, British Guiana, 2°-3°N, 50°20'W. Holotype: ANSP 39228 [or 39328].
- Astyanax bimaculatus incaicus* Tortonese, 1942: 62, pl. 3. Type locality: Rio Zamora, Ecuador. Holotype: MZUT 3560.
- Maximum length: 15 cm TL
- Distribution: South America: Panama to the Amazon basin.
- Countries: Brazil, Colombia, Ecuador, French Guiana, Guyana, Panama, Peru, Suriname, Trinidad and Tobago, Venezuela
- Astyanax bourgeti* Eigenmann, 1908**
- Astyanax bourgeti* Eigenmann, 1908: 95. Type locality: Tabatinga [Amazonas, Brazil]. Holotype: MCZ 89557 [ex MCZ 20768b].
- Distribution: South America: Upper Amazon basin.
- Countries: Brazil
- Astyanax brachypterygium* Bertaco & Malabarba, 2001**
- Astyanax brachypterygium* Bertaco & Malabarba, 2001: 228, fig. 9. Type locality: Brazil: Rio Grande do Sul: Bom Jesus, arroio Água Branca (28°36'S 50°24'W). Holotype: MCP 26094.
- Maximum length: 5.83 cm TL
- Distribution: South America: Upper Uruguay and Jacuí River basins.
- Countries: Brazil
- Astyanax brevihinus* Eigenmann, 1908**
- Astyanax brevihinus* Eigenmann, 1908: 96. Type locality: Rio Jequitinhonha [Brazil]. Holotype: MCZ 20905.
- Maximum length: 10 cm TL
- Distribution: South America: Jequitinhonha River basin.
- Countries: Brazil
- Astyanax caucanus* (Steindachner, 1879)**
- Tetragonopterus caucanus* Steindachner, 1879: 189. Type locality: Río Cauca, Colombia. Syntypes: ?NMW 57372-76 (2, 3, 2, 2, 2); ZMUC 993 (1).
- Distribution: South America: Cauca River basin
- Countries: Colombia
- Astyanax chaparae* Fowler, 1943**
- Astyanax chaparae* Fowler, 1943e: 3, fig. 2. Type locality: Todos Santos, Bolivia. Holotype: ANSP 69194.
- Distribution: South America: Bolivia (?).
- Countries: Bolivia
- Astyanax cordovae* (Günther, 1880)**
- Tetragonopterus cordovae* Günther, 1880: 12. Type locality: Río de Cordova [Argentina]. Syntypes: BMNH 1872.4.4.4-11 (8).
- Distribution: South America: Primero River in western Argentina.
- Countries: Argentina
- Astyanax cremnobates* Bertaco & Malabarba, 2001**
- Astyanax cremnobates* Bertaco & Malabarba, 2001: 224, fig. 2. Type locality: Brazil: Rio Grande do Sul: São Francisco de Paula, tributary of rio Santa Cruz (29°23'S 50°32'W). Holotype: MCP 26093.
- Maximum length: 8.91 cm SL
- Distribution: South America: Upper Jacuí and Maquiné River basins.
- Countries: Brazil
- Astyanax daguae* Eigenmann, 1913**
- Astyanax daguae* Eigenmann, 1913: 23. Type locality: Cordova [Colombia]. Holotype: FMNH 56251 [ex CM 5052].
- Maximum length: 4 cm TL
- Distribution: South America: Colombia (?).
- Countries: Colombia
- Astyanax eigenmanniorum* (Cope, 1894)**
- Tetragonopterus eigenmanniorum* Cope, 1894: 89, pl. 6 (fig. 8). Type locality: Rio Grande do Sul [Restricted to Laguna dos Patos system, Brazil, by Malabarba (1989)]. Holotype: ANSP 21598.
- Distribution: South America: Lower Paraná, Uruguay, and Laguna dos Patos drainage.
- Countries: Argentina, Brazil, Paraguay
- Astyanax erythropterus* (Holmberg, 1891)**
- Tetragonopterus erythropterus* Holmberg, 1891: 189. Type locality: Rio de la Plata, Paraná; Buenos Aires, Argentina.
- Distribution: South America: La Plata River basin.
- Countries: Argentina
- Astyanax fasciatus* (Cuvier, 1819)**
- Chalceus fasciatus* Cuvier, 1819: 352, pl. 26 (fig. 2). Type locality: Brésil. Syntypes: MNHN A.9896 (2), A.8653 and 8654 (2).

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- Tetragonopterus rutilus* Jenyns, 1842: 125, pl. 23 (fig. 2). Type locality: Río Paraná, South America. Holotype: BMNH 1917.7.14.14.
- ?*Tetragonopterus viejita* Valenciennes, in Cuvier & Valenciennes, 1850: 154. Type locality: Lagune de Maracaibo [Venezuela]. Syntypes: MNHN A.9820 (2, poor condition) Lake Maracaibo, A.8656 (1, dry) Brazil. Provisional synonym.
- Salmo lambari* Kner, 1859: 176. Type locality: Irisanga [Brazil]. Holotype: 1 specimen 4" long.
- Tetragonopterus aeneus* Günther, 1860a: 319. Type locality: Fresh waters of Oaxaca (Mexico). Syntypes: BMNH 1860.6.17.41-42 (2), 1907.4.10.3 (1).
- ?*Tetragonopterus microphthalmus* Günther, 1864: 324. Type locality: Pacific coast of Guatemala; Lake of Amatitlan; Río Rimac. Syntypes: 9 specimens, including BMNH 1864.1.26.349-350 (2) Panama. Provisional synonym.
- ?*Tetragonopterus humilis* Günther, 1864: 327. Type locality: Lake Amatitlan [Guatemala]. Syntypes: 4 specimens, but Eschmeyer reports BMNH 1865.4.29.45-50 (6). Provisional synonym.
- ?*Tetragonopterus panamensis* Günther, 1864: 324. Type locality: Pacific coast of Panama. Holotype: 1 specimen, but Eschmeyer lists syntypes as (4) BMNH 1864.1.26.415 (1), ZMB 6801 (2). Provisional synonym.
- ?*Tetragonopterus finitimus* Bocourt, 1868: 62. Type locality: environs d'Orizaba. Syntypes: MNHN 5223 (2). Provisional synonym.
- ?*Tetragonopterus cobanensis* Bocourt, 1868: 62. Type locality: Rivière de Coban, Guatemala. Syntypes: BMNH 1907.4.10.2 [ex MNHN] (1); MNHN 5219-5220 (19). Provisional synonym.
- ?*Tetragonopterus belizianus* Bocourt, 1868: 62. Type locality: environs de Belize. Syntypes: BMNH uncat. [ex MNHN] (1). MNHN 5224 and 5225 (13). Provisional synonym.
- ?*Tetragonopterus oaxacanensis* Bocourt, 1868: 62. Type locality: Oaxaca [Mexico]. Provisional synonym.
- ?*Astyanax carolinae* Gill, 1870: 92. Type locality: River Napo or Marañon. Holotype: USNM 8225. Provisional synonym.
- Tetragonopterus cuvieri* Lütken, 1875a: 131. Type locality: in fluminibus S. Francisco et Rio das Velhas cum affluentibus [Minas Gerais, Brazil]. Syntypes: MNHN 9581 (2); ZMB 9198 (2); ZMUC 306, 308, 310, 312, 314, 315, 328, 329, 363.
- ?*Tetragonopterus orstedii* Lütken, 1875b: 229. Type locality: flumine R. S. Juan Americae centralis. Syntypes: ZMUC 947-948 (2), 955-956 (2); ZMB 9197 (2). Provisional synonym.
- ?*Tetragonopterus rutilus jequitinhonhae* Steindachner, 1877: 693, pl. 2 (fig. 3). Type locality: Rio Jequitinhonha, Brazil. Syntypes: NMW 57759-61 (5, 3, 6). Provisional synonym.
- Astyanax albeolus* Eigenmann, 1908: 97. Type locality: Rio Machuca, Rio Siguire, Costa Rica. Holotype: FMNH 6241.
- ?*Tetragonopterus macrophthalmus* Regan, 1908b: 171, pl. 26 (fig. 4). Type locality: Mexico, Motzorongo in Veracruz. Syntypes: BMNH 1857.7.31.10 (1), 1905.12.6.19-22 (4), 1906.6.1.268 (1), 1906.6.1.269-278 (10?). Provisional synonym.
- ?*Astyanax regani* Meek, 1909: 207. Type locality: Las Cañas, Costa Rica. Holotype: FMNH 6257. Provisional synonym.
- ?*Astyanax grandis* Meek & Hildebrand, 1912: 67. Type locality: Río Juan Díaz, Panama. Holotype: FMNH 7571. Provisional synonym.
- ?*Astyanax aeneus costaricensis* Meek, 1914: 105. Type locality: La Junta; Guapilis; Parismina; Costa Rica River; Cuba River; Zent; La Victoria; Chitaria. Syntypes: FMNH 6349 (1), 7866-73 (5, 39, 15, 2, 6, 61, 49, 25); UMMZ 162475 (5). Provisional synonym.
- ?*Astyanax heterurus* Eigenmann & Wilson, in Eigenmann, Henn & Wilson, 1914: 11. Type locality: Turando [=Truando] [Colombia]. Holotype: FMNH 56577 [ex CM 5392]. Provisional synonym.
- ?*Astyanax fasciatus altior* Hubbs, 1936: 176, pl. 1 (fig. 1). Type locality: roadside pool 3 km. south of Progreso [Yucatán, se. Mexico]. Holotype: UMMZ 102144. Provisional synonym.
- ?*Astyanax hanstroemi* Dahl, 1943: 217, fig. Type locality: Río Batatal, trib. to Río San Jorge, Magdalena system, Munic. of Ayapel, Bolívar Dept., Colombia. Holotype: ZMUL. Provisional synonym.
- ?*Astyanax fasciatus orteguasae* Fowler, 1943a: 237, fig. 16. Type locality: Florencia, Río Ortegusa, Colombia. Holotype: ANSP 70498. Provisional synonym.
- Maximum length: 10 cm TL
Distribution: North, Central and South America: Most freshwater basins from Mexico to Argentina.
Countries: Argentina, Belize, Brazil, Colombia, Costa Rica, Mexico, Panama, Uruguay, Venezuela
- Astyanax fasslii* (Steindachner, 1915)**
Tetragonopterus (Aequidens) fasslii Steindachner, 1915a: 48, pl. 4 fig. 7. Type locality: Colombia. Holotype: NMW.
Distribution: South America: Western Colombia (?).
Countries: Colombia
- Astyanax festae* (Boulenger, 1898)**
Tetragonopterus festae Boulenger, 1898: 2. Type locality: Rio Vines [Ecuador]. Syntypes: BMNH 1898.11.4.65-70 (6), MSNG 34953 (1), MZUF 2698 (1), MZUT 1743 (1).
Distribution: South America: Upper Amazon River basin.
Countries: Ecuador, Peru
- Astyanax filiferus* (Eigenmann, 1913)**
Zygogaster filiferus Eigenmann, 1913: 23. Type locality: Apulo [Colombia]. Holotype: CAS 62258 [ex IU 12847].
Distribution: South America: Magdalena River basin.
Countries: Colombia
- Astyanax gisleni* Dahl, 1943**
Astyanax gisleni Dahl, 1943: 218, fig. Type locality: Río Aburrá, trib. via Río Porce to R. Nechí, Magdalena system, Medellín, Antioquia, Colombia, elev. ca. 1500 m. Syntypes: (13) ZMUL.
Distribution: South America: Magdalena River basin.
Countries: Colombia
- Astyanax giton* Eigenmann, 1908**
Astyanax giton Eigenmann, 1908: 97. Type locality: Rio Parahyba [Brazil]. Lectotype: MCZ 20936.
Maximum length: 8 cm TL
Distribution: South America: Paraíba do Sul River basin; coastal streams of Espírito Santo and Rio de Janeiro States.
Countries: Brazil
- Astyanax goyacensis* Eigenmann, 1908**
Astyanax goyacensis Eigenmann, 1908: 96. Type locality: Goyaz [= Goiás, Brazil]. Holotype: MCZ 89558.
Distribution: South America: Goiás State (?).
Countries: Brazil
- Astyanax gracilior* Eigenmann, 1908**
Astyanax gracilior Eigenmann, 1908: 98. Type locality: Obidos and Villa Bella [Brazil]. Syntypes: MCZ 20716 (1), 20838 (1), 21012 (1).
Distribution: South America: Amazon River basin.
Countries: Brazil
- Astyanax guaporensis* Eigenmann, 1911**
Astyanax guaporensis Eigenmann, 1911b: 176, pl. 7 (fig. 4). Type locality: Maciel, Rio Guaporé [Brazil]. Holotype: FMNH 54709 [ex CM 3351].
Distribution: South America: Guaporé River basin.
Countries: Brazil
- Astyanax guianensis* Eigenmann, 1909**
Astyanax guianensis Eigenmann, 1909a: 16. Type locality: Warraputa [Guyana]. Holotype: FMNH 53518 [ex CM 1013].

Check List of the Freshwater Fishes of South and Central America

- Maximum length: 6 cm TL
 Distribution: South America: Guyana and Venezuela (?).
 Countries: Guyana, Venezuela
- Astyanax gymnogenys* Eigenmann, 1911**
Astyanax gymnogenys Eigenmann, 1911b: 179, pl. 9. Type locality: Porto União, Rio Iguassú [Brazil]. Holotype: FMNH 54707 [ex CM 3350].
 Distribution: South America: Iguacu River basin.
 Countries: Brazil
- Astyanax hastatus* Myers, 1928**
Astyanax hastatus Myers, 1928: 87. Type locality: "The fishes were said to have been collected in the vicinity of [Rio de Janeiro], but there is a possibility of their having come from any of a number of places in south-eastern Brazil." Holotype: USNM 92952.
 Distribution: South America: Coastal streams in the vicinity of Rio de Janeiro.
 Countries: Brazil
- Astyanax integer* Myers, 1930**
Astyanax integer Myers, 1930: 67. Type locality: Guaicaramo, Rio Guavio, Colombia. Holotype: SU 23726.
 Distribution: South America: Upper Meta River.
 Countries: Colombia
- Astyanax intermedius* Eigenmann, 1908**
Astyanax scabripinnis intermedius Eigenmann, 1908: 98. Type locality: Rio Parahyba and Santa Clara [Brazil]. Lectotype: MCZ 20684.
 Distribution: South America: Paraíba do Sul River basin and coastal rivers of Rio de Janeiro State.
 Countries: Brazil
- Astyanax jacuhiensis* Cope, 1894**
Tetragonopterus jacuhiensis Cope, 1894: 88, pl. 6 (fig. 6). Type locality: Jacuhy [Rio Grande do Sul, Brazil]. Lectotype: ANSP 21912.
 Maximum length: 11 cm SL
 Distribution: South America: Jacui, Uruguay, and coastal river drainages of southern Brazil
 Countries: Argentina, Brazil, Uruguay
- Astyanax janeiroensis* Eigenmann, 1908**
Astyanax janeiroensis Eigenmann, 1908: 96. Type locality: Rio de Janeiro [Brazil]. Holotype: MCZ 21057.
 Distribution: South America: Eastern Brazil (?).
 Countries: Brazil
- Astyanax jenynsii* (Steindachner, 1877)**
Tetragonopterus jenynsii Steindachner, 1877: 580, pl. 3 (fig. 1). Type locality: Rio Parahyba [Brazil]. Syntypes: (7) NMW 57534-35 (3, 2).
 Maximum length: 7.62 cm SL
 Distribution: South America: Eastern Brazil (?).
 Countries: Brazil
- Astyanax jordani* (Hubbs & Innes, 1936)**
Anoptichthys jordani Hubbs & Innes, 1936: 5, pl. 1. Type locality: Subterranean stream in the forested mountain region of south-eastern San Luis Potosí, Mexico, in a region southwest of Valles drained by the Río Tampaón of the Río Panuco system. Holotype: UMMZ 113514.
Anoptichthys antrobius Alvarez, 1946: 278, figs. 16-23. Type locality: Cueva de El Pachón [San Luis Potosí, Tamaulipas, Mexico]. Holotype: whereabouts unknown.
Anoptichthys hubbsi Alvarez, 1947: 215, fig. 1. Type locality: Cueva de los Sabinos [San Luis Potosí, Mexico]. Holotype: whereabouts unknown.
- Distribution: North America: Mexico (?).
 Countries: Mexico
- Astyanax kennedyi* Géry, 1964**
Astyanax (Astyanax) kennedyi Géry, 1964e: 28, fig. 3. Type locality: Upper Amazon region, surrounding Iquitos, Peru. Holotype: USNM 200425 [ex Géry coll. 399.1].
 Distribution: South America: Upper Amazon River basin.
 Countries: Peru
- Astyanax kompi* Hildebrand, 1938**
Astyanax kompi Hildebrand, 1938: 260, fig. 3. Type locality: Laguna Gulnar or Grande, Volcán, Pacific slope, Panama. Holotype: USNM 106510.
 Distribution: Central America: Panama (?).
 Countries: Panama
- Astyanax kullanderi* Costa, 1995**
Astyanax kullanderi Costa, 1995: 258, fig. 1. Type locality: Brazil: Estado de Mato Grosso, stream tributary of rio Perdidos, rio das Mortes drainage, close to the road BR-070, about 10 km W of Primavera do Leste, 15°32'S, 54°18'W. Holotype: MNRJ 12427.
 Maximum length: 8.8 cm SL
 Distribution: South America: Upper Das Mortes River basin.
 Countries: Brazil
- Astyanax lacustris* (Lütken, 1875)**
Tetragonopterus lacustris Lütken, 1875a: 131. Type locality: lacu Lagoa Santa dicto nec non in rivulis nonnullis vicinis [Minas Gerais, Brazil].
 Distribution: South America: Eastern Brazil (?).
 Countries: Brazil
- Astyanax laticeps* (Cope, 1894)**
Tetragonopterus laticeps Cope, 1894: 89, pl. 6 (fig. 7). Type locality: Rio Grande do Sul [Restricted to Laguna dos Patos system, Brazil, by Malabarba (1989)]. Holotype: ANSP 21852.
 Maximum length: 5.41 cm SL
 Distribution: South America: Rio Grande do Sul State (?).
 Countries: Brazil
- Astyanax leopoldi* Géry, Planquette & Le Bail, 1988**
Astyanax leopoldi Géry, Planquette & Le Bail, 1988: 9, fig. 2. Type locality: Saut Alicoto en amont de Camopi, Moyen Oyapok [French Guiana]. Holotype: IRSNB 731.
 Maximum length: 6 cm TL
 Distribution: South America: Approuage and Oyapock River basins.
 Countries: Brazil, French Guiana
- Astyanax lineatus* (Perugia, 1891)**
Tetragonopterus lineatus Perugia, 1891: 644. Type locality: Villa María (Mato Grosso) Rio Paraguay, Brazil.
 Distribution: South America: La Plata River drainage.
 Countries: Argentina, Brazil
- Astyanax longior* (Cope, 1878)**
Tetragonopterus longior Cope, 1878: 691. Type locality: Moyabamba [Peru]. Lectotype: ANSP 21222, designated by Fowler (1906: 341).
 Distribution: South America: Upper Amazon River basin.
 Countries: Peru
- Astyanax maculisquamis* Garutti & Britski, 1997**
Astyanax maculisquamis Garutti & Britski, 1997: 220, fig. 1. Type locality: Pontes e Lacerda (aproximadamente 15°12'S-59°22'W), MT, poça em córrego afluente do rio Guaporé (cerca de 7 km da ponte), bacia do rio Madeira, bacia Amazônica [Brazil]. Holotype: MZUSP 37680.
 Distribution: South America: Upper Guaporé River basin.

Countries: Brazil

***Astyanax magdalenae* Eigenmann & Henn, 1916**

Astyanax magdalenae Eigenmann & Henn, 1916: 89. Type locality: Girardot [Colombia]. Holotype: FMNH 57006 [ex CM 5822]. Maximum length: 10 cm SL
Distribution: South America: Colombian rivers and the Catatumbo River basin.
Countries: Colombia

***Astyanax marionae* Eigenmann, 1911**

Astyanax marionae Eigenmann, 1911b: 175, pl. 7 (fig. 3). Type locality: Six miles from San Louiz de Caceres [Brazil]. Holotype: FMNH 54711 [ex CM 3353].
Distribution: South America: Paraguay River basin.
Countries: Brazil

***Astyanax maximus* (Steindachner, 1876)**

Tetragonopterus maximus Steindachner, 1876a: 593, pl. 7. Type locality: Tullumayo and Monterico, Peru. Syntypes: NMW 57662-63 (1, 2).

Tetragonopterus alosa Günther, 1876: 399. Type locality: Monterico, Peru. Syntypes: BMNH 1875.10.4.24-25 (2).

Astyanax metae Eigenmann in Eigenmann, Henn & Wilson, 1914: 11. Type locality: Río Negro, Villavicencio [Colombia]. Holotype: FMNH 56640 [ex CM 5457]. Provisional synonym.

Maximum length: 12.4 cm SL
Distribution: South America: Upper Amazon and Orinoco River basins.
Countries: Colombia, Peru, Venezuela

***Astyanax megaspilura* Fowler, 1944**

Astyanax megaspilura Fowler, 1944: 228, fig. 2. Type locality: A clear brook of Río Jurubidá, Nuquí, Colombia, elev. 3000 ft. Holotype: ANSP 71418.

Distribution: South America: Colombia (?).
Countries: Colombia

***Astyanax metae* Eigenmann, 1914**

Astyanax metae Eigenmann, in Eigenmann, Henn & Wilson, 1914: 11. Type locality: Río Negro, Villavicencio [Colombia]. Holotype: FMNH 56640 [ex CM 5457].

Maximum length: 16 cm TL
Distribution: South America: Orinoco River basins.
Countries: Colombia, Venezuela

Remarks and references: See Taphorn (1992: 116-117) for notes on habitat preferences and natural history.

***Astyanax mexicanus* (De Filippi, 1853)**

Tetragonopterus mexicanus De Filippi, 1853: 166. Type locality: Mexique [=Mexico]. Syntypes: MZUT 159 (3), ZMUC 941-942 (2).

Astyanax argentatus Baird & Girard, 1854: 27. Type locality: Upper tributaries of Río Nueces. Syntypes: BMNH 1883.12.14.107 [ex USNM] (1), MCZ 858 [ex USNM] (3), USNM 869 (28).

?*Tetragonopterus petenensis* Günther, 1864: 326. Type locality: Lake Peten [Petén Itza, Guatemala]; Western Ecuador. Syntypes: BMNH, 3 (Lake Peten); 1 (West Ecuador). Provisional synonym.

Tetragonopterus brevimanus Günther, 1864: 325. Type locality: Yzabal; Río S. Geronimo; Guatemala. Syntypes: 8 specimens, including BMNH 1861.8.12.20-21 (2) Guatemala, ?1864.1.24.177 (1) Río S. Geronimo, 1864.1.26.388 (1) Yzabal; MRAC 7057 (1).

Tetragonopterus fulgens Bocourt, 1868: 62. Type locality: Province of Cuernovaca [Mexico]. Syntypes: MNHN 5194 (2).

?*Tetragonopterus nitidus* Bocourt, 1868: 62. Type locality: Tasco. Syntypes: MNHN 5191 (3). Provisional synonym.

Tetragonopterus streetsii Cope, 1872a: 217. Type locality: Headwaters of the Coatzacoalcos River among the Cordilleras [Mex-

ico]. Syntypes: ANSP 15598-608 (11), 32371-74 (4).

Maximum length: 12 cm TL

Distribution: North America: Originally restricted to the Nueces, lower Río Grande and the lower Pecos River drainages in Texas, USA; now established elsewhere in Texas (primarily streams on Edwards Plateau) and New Mexico, USA (throughout Pecos River system); also in eastern and central Mexico.

Countries: Mexico, USA

***Astyanax microlepis* Eigenmann, 1913**

Astyanax microlepis Eigenmann, 1913: 24. Type locality: Piedra Moler [Colombia]. Holotype: FMNH 56209 [ex CM 5001].

Distribution: South America: Upper Cauca River basin.
Countries: Colombia

***Astyanax multidentis* Eigenmann, 1908**

Astyanax multidentis Eigenmann, 1908: 98. Type locality: Obidos, and Silva, Lake Saraca [Brazil]. Syntypes: USNM 120244 [ex MCZ 21064A = MCZ 89559] (6) Obidos.

Distribution: South America: Amazon River basin.
Countries: Brazil

***Astyanax mutator* Eigenmann, 1909**

Astyanax mutator Eigenmann, 1909a: 18. Type locality: Savannah Landing, Upper Potaro [Guyana]. Holotype: FMNH 52688 [ex CM 1023].

Distribution: South America: Guyana (?).
Countries: Guyana

***Astyanax myersi* (Fernández-Yépez, 1950)**

Poecilurichthys myersi Fernández-Yépez, 1950: 15, pl. 3 (fig. 1). Type locality: Río Autana, Hoya del Orinoco, Estado Amazonas, Venezuela. Holotype: AFY 48172.

Distribution: South America: Orinoco River basin.
Countries: Venezuela

***Astyanax nasutus* Meek, 1907**

Astyanax nasutus Meek, 1907: 108. Type locality: Lago Managua at Managua, Nicaragua. Holotype: FMNH 5909.

Distribution: Central America: Lake Managua basin.
Countries: Nicaragua

***Astyanax nicaraguensis* Eigenmann & Ogle, 1907**

Astyanax rutilus nicaraguensis Eigenmann & Ogle, 1907: 23. Type locality: Nicaragua. Holotype: USNM 55653.

Distribution: Central America: Nicaragua (?).
Countries: Nicaragua

***Astyanax obscurus* (Hensel, 1870)**

Tetragonopterus aeneus Hensel, 1870: 87. Type locality: Porto Alegre [Rio Grande do Sul, Brazil].

Tetragonopterus obscurus Hensel, 1870: 86. Type locality: Rio Cadea oberhalb des grossen Wasserfalles [Rio Grande do Sul, Brazil]. Syntypes: ZMB 7478 (3).

Distribution: South America: Laguna dos Patos drainage.
Countries: Brazil

***Astyanax ojiara* Azpelicueta & Garcia, 2000**

Astyanax ojiara Azpelicueta & Garcia, 2000: 246, fig. 1. Type locality: Argentina, province of Misiones, arroyo Benítez, headwaters of río Yaboty, an affluent of río Uruguay. Holotype: MLP 9470.

Distribution: South America: Upper Uruguay River basin.
Countries: Argentina

***Astyanax orbignyanus* (Valenciennes, 1850)**

Tetragonopterus orbignyanus Valenciennes in Cuvier & Valenciennes, 1850: 147. Type locality: La Plata [and presumably other localities in Argentina, where d'Orbigny obtained specimens, Argentina]. Syntypes: MNHN 4530 (1, poor condition), A.9816-

Check List of the Freshwater Fishes of South and Central America

- 18 (2, 1, 1).
Distribution: South America: Lower La Plata River basin.
Countries: Argentina
- Astyanax orthodus*** Eigenmann, 1907
Astyanax orthodus Eigenmann in Eigenmann & Ogle, 1907: 27.
Type locality: Truando, Colombia. Holotype: USNM 55655.
Distribution: South America: Atrato River basin.
Countries: Colombia
- Astyanax paraguayensis*** (Fowler, 1918)
Bertoniolus paraguayensis Fowler, 1918: 141, fig. Type locality:
Puerto Bertoni, Paraguay. Holotype: ANSP 47686.
Distribution: South America: Paraguay River basin.
Countries: Paraguay
- Astyanax parahybae*** (Eigenmann, 1908)
Astyanax fasciatus parahybae Eigenmann, 1908: 97. Type locality:
Rio Parahyba, Mendez, Miriahe, and Taubaté [Brazil – restricted
to Paraíba do Sul River between Barra do Pirai and Três Rios
(along the old Dom Pedro II Emperor's road)]. Lectotype: MCZ
20685.
Maximum length: 5.6 cm SL
Distribution: South America: Paraíba do Sul River basin and
coastal streams of Rio de Janeiro State.
Countries: Brazil
- Astyanax paranae*** Eigenmann, 1914
Astyanax scabripinnis paranae Eigenmann, 1914: 47. Type locali-
ty: Parana [Castro, Estado do Paraná according to Garutti &
Britski, 2000: 81], Brazil. Holotype: CAS 22555 [ex IU 11631].
Distribution: South America: Southern Brazil (?).
Countries: Brazil
- Astyanax paranahybae*** Eigenmann, 1911
Astyanax paranahybae Eigenmann, 1911b: 177, pl. 8 (fig. 1). Type
locality: Rio Paranahyba [Brazil]. Holotype: FMNH 54714 [ex
CM 3356].
Distribution: South America: Paraná River basin.
Countries: Brazil
- Astyanax paris*** Azpelicueta, Almirón & Casciotta,
2002
Astyanax paris Azpelicueta, Almirón & Casciotta, 2002: 1052, fig.
1. Type locality: Argentina, province of Misiones, río Uruguay
basin, headwater of arroyo Yabotí-Guazú, arroyo Fortaleza
(26°45'S, 54°10'W). Holotype: MLP 9584.
Maximum length: 8.58 mm SL
Distribution: South America: Upper Uruguay River basin in Mi-
siones Province.
Countries: Argentina
- Astyanax poetschkei*** Ahl, 1932
Astyanax (Poecilurichthys) poetschkei Ahl, 1932: 124, fig. Type
locality: Amazon R. Holotype: ZMB 20826.
Distribution: South America: Amazon River basin.
Countries:
- Astyanax ribeirae*** Eigenmann, 1911
Astyanax ribeirae Eigenmann, 1911b: 177, pl. 8 (fig. 2). Type
locality: Xiririca [Brazil]. Holotype: FMNH 54725 [ex CM
3368].
Maximum length: 8 cm TL
Distribution: South America: Southeastern Brazil (?).
Countries: Brazil
- Astyanax rivularis*** (Lütken, 1875)
Tetragonopterus rivularis Lütken, 1875a: 132. Type locality:
flumine Rio d. Velhas cum affluentibus [Minas Gerais, Brazil].
Syntypes: MNHN 9582 [ex ZUMC] (4), NMW 57707 (5), ZMB
9199 (4), ZMUC (49).
Distribution: South America: São Francisco River basin.
Countries: Brazil
- Astyanax robustus*** Meek, 1912
Astyanax robustus Meek, 1912: 69. Type locality: Virginia, Costa
Rica. Holotype: FMNH 7682.
Distribution: Central America: Costa Rica (?).
Countries: Costa Rica
- Astyanax ruberrimus*** Eigenmann, 1913
Astyanax ruberrimus Eigenmann, 1913: 25. Type locality: Istmina
[Colombia]. Holotype: FMNH 56122 [ex CM 4912].
Distribution: Central and South America: Panama and Colombia
(?).
Countries: Colombia, Panama
- Astyanax saltor*** Travassos, 1960
Astyanax saltor Travassos, 1960b: 17, fig. 1. Type locality: Rio
Cachimbo, abaixo do salto, Estado do Pará [Brazil]. Holotype:
MNRJ 9199.
Distribution: South America: Brazil (?).
Countries: Brazil
- Astyanax scabripinnis*** (Jenyns, 1842)
Tetragonopterus scabripinnis Jenyns, 1842: 125, pl. 23 (figs. 3,
3a). Type locality: Rio de Janeiro, Brazil. Holotype: BMNH
1917.7.14.15.
Maximum length: 6.86 cm SL
Distribution: South America: Rio de Janeiro State (?).
Countries: Argentina, Brazil
- Astyanax schubarti*** Britski, 1964
Astyanax schubarti Britski, 1964: 214, fig. Type locality: rio Mogi
Guassu em Emas, São Paulo, à jusante da barragem [Brazil]. Ho-
lotype: MZUSP 4263.
Maximum length: 9 cm SL
Distribution: South America: Upper Paraná River basin.
Countries: Brazil
- Astyanax scintillans*** Myers, 1928
Astyanax scintillans Myers, 1928: 88. Type locality: Playa Mate-
palma, Rio Orinoco, Venezuela. Syntypes: CAS 39493 [ex IU
uncat.] (2).
Distribution: South America: Orinoco River basin.
Countries: Venezuela
- Astyanax stilbe*** (Cope, 1870)
Tetragonopterus stilbe Cope, 1870: 559. Type locality: Para [Bra-
zil]. Holotype: ANSP 8085.
Distribution: South America: Lower Amazon and Atrato River
basins.
Countries: Brazil, Colombia
- Astyanax superbus*** Myers, 1942
Astyanax superbus Myers, 1942: 92, fig. 2. Type locality: small
brook tributary to the Rio Tamanaco (a tributary of the Rio Paye;
Rio Portuguesa drainage) at Camoruco, 20 km. northeast of San
Carlos, Venezuela. Holotype: SU 36489.
Distribution: South America: Portuguesa River basin.
Countries: Venezuela
- Astyanax symmetricus*** Eigenmann, 1908
Astyanax symmetricus Eigenmann, 1908: 95. Type locality: Taba-
tinga [Amazonas, Brazil]. Holotype: MCZ 20768.
Distribution: South America: Upper Amazon River basin.
Countries: Brazil
- Astyanax taeniatus*** (Jenyns, 1842)
Tetragonopterus taeniatus Jenyns, 1842: 126. Type locality: run-
ning brook at Socego, in the province of Rio de Janeiro [Brazil].

Syntypes: Cambridge University Museum V. 329(2).
 Distribution: South America: Paraíba do Sul River drainage and coastal rivers of Rio de Janeiro and Espírito Santo States.
 Countries: Brazil

***Astyanax trierythropterus* Godoy, 1970**

Astyanax (Astyanax) trierythropterus Godoy, 1970: 276, figs. 1-4.
 Type locality: Rio Mogi Guassu, Cachoeira de Emas, a juzante da barragem [São Paulo State, Brazil]. Holotype: EEBP 706, Coleção 8.22, possibly lost.
 Distribution: South America: Upper Paraná River basin.
 Countries: Brazil

***Astyanax unitaeniatus* Garutti, 1998**

Astyanax unitaeniatus Garutti, 1998: 116, fig. 1. Type locality: Brasil, Goiás: Iaciara, Ribeirão Macambira (aproximadamente 14°08'S-46°37'W), junto à ponte na rodovia GO-112. Holotype: MZUSP 40542.
 Distribution: South America: Paraná River basin in upper Tocantins River drainage.
 Countries: Brazil

***Astyanax validus* Géry, Planquette & Le Bail, 1991**

Astyanax validus Géry, Planquette & Le Bail, 1991: 46, pl. 15 (fig. 1). Type locality: Rivière Comté, Crique Blache [French Guiana]. Holotype: MHNG 2435.77.
 Maximum length: 15 cm TL
 Distribution: South America: French Guiana (?).
 Countries: French Guiana

***Astyanax venezuelae* Schultz, 1944**

Astyanax venezuelae Schultz, 1944: 359, fig. 54. Type locality: Río Torbes, 1 km above Táriba, Orinoco system [Venezuela]. Holotype: USNM 121449.
 Maximum length: 5 cm TL
 Distribution: South America: Venezuela (?).
 Countries: Venezuela

***Astyanax villwocki* Zarske & Géry, 1999**

Astyanax villwocki Zarske & Géry, 1999: 200, fig.1. Type locality: Rio Pacal, Rio Pachitea basin, Departamento Ucayali, Peru. Holotype: MTD F 22400.
 Maximum length: 11.4 cm SL
 Distribution: South America: Ucayali, Beni, and Mamoré River basins.
 Countries: Bolivia, Peru

Species inquirendae

Astyanax depressirostris Miranda Ribeiro, 1908: unnum. p. Type locality: Ribeira [Ribeira River, São Paulo, Brazil]. Lectotype: MNRJ 18241. [Lectotype designated by Miranda Ribeiro (1953: 396) as MNRJ 2621A, subsequently isolated and catalogued as MNRJ 18241; MNRJ 2621 are paralectotypes].
Tetragonopterus paucidens Ulrey, 1894: 610. Type locality: Itaituba [Brazil]. Holotype: whereabouts unknown.

ATOPOMESUS

Atopomesus Myers, 1927: 112. Type species: *Atopomesus pachyodus* Myers, 1927. Type by original designation. Gender: masculine. See comments on relationships in Malabarba (1998: 231).

***Atopomesus pachyodus* Myers, 1927**

Atopomesus pachyodus Myers, 1927: 112. Type locality: Brazil: Cucuhy, Rio Negro, on the Colombian border. Holotype: CAS 41736.
 Maximum length: 4.3 cm
 Distribution: South America: Negro River basin.
 Countries: Brazil

ATTONITUS

Attonitus Vari & Ortega, 2000: 114. Type species: *Attonitus irisae* Vari & Ortega, 2000. Type by original designation. Gender: masculine.

***Attonitus bounites* Vari & Ortega, 2000**

Attonitus bounites Vari & Ortega, 2000: 123, fig. 2. Type locality: Peru, Departamento de Puno, Provincia Carabaya, Zona Reservada Tambopata Candamo, Río Candamo (13°24'S 70°01'W). Holotype: MUSM 11840.
 Maximum length: 5.67 cm SL
 Distribution: South America: Madre de Dios River basin.
 Countries: Peru

***Attonitus ephimeros* Vari & Ortega, 2000**

Attonitus ephimeros Vari & Ortega, 2000: 129, fig. 4. Type locality: Peru, Departamento de Cusco, Provincia La Convencion, Río Urubamba basin, Río Picha, Puerto Huallana, Quebrada Mapichiriato (11°50'S 73°20'W). Holotype: MUSM 11501.
 Maximum length: 4.97 cm SL
 Distribution: South America: Aguaytia and Pachitea rivers in the Ucayali River basin.
 Countries: Peru

***Attonitus irisae* Vari & Ortega, 2000**

Attonitus irisae Vari & Ortega, 2000: 133, fig. 5. Type locality: Peru, Departamento de Huanuco, Provincia Pachitea, mouth of Río Huambo, where it empties into Río Pachitea (approximately 9°39'S 74°56'W). Holotype: MUSM 10759.
 Maximum length: 4.62 cm SL
 Distribution: South America: Aguaytia and Pachitea rivers in the Ucayali River basin.
 Countries: Peru

AULIXIDENS

Aulixidens Böhlke, 1952: 775. Type species: *Aulixidens eugeniae* Böhlke, 1952. Type by original designation. Gender: masculine. See comments on relationships in Malabarba (1998: 232).

***Aulixidens eugeniae* Böhlke, 1952**

Aulixidens eugeniae Böhlke, 1952: 775. Type locality: mouth of the Rio Curamoni (or Curamuni, as Ternetz notes his Indians pronounced it), Canal de Casiquiare, Venezuela, approximately 2°38'North Latitude, 66°12' West Longitude. Holotype: CAS 16940.
 Maximum length: 4.3 cm SL
 Distribution: South America: Orinoco River basin.
 Countries: Venezuela

AXELRODIA

Axelrodia Géry, 1965c: 31. Type species: *Axelrodia fowleri* Géry, 1965. Type by original designation. Gender: feminine. See Géry (1965c, 1966, 1973) for species descriptions and discussion on the genus.

***Axelrodia lindeae* Géry, 1973**

Axelrodia lindeae Géry, 1973: 111, figs. 18-19. Type locality: rio Curuçamba, about 9 km of Obidos (3 km from the Obidos-airport), lower Amazon basin [Pará, Brazil]. Holotype: MHNG 2229.08.
 Maximum length: 2.06 cm SL
 Distribution: South America: Curuçamba River on the lower Amazon basin, and middle Madeira River basin.
 Countries: Brazil

***Axelrodia riesei* Géry, 1966**

Axelrodia riesei Géry, 1966a: 112, fig. 4. Type locality: Upper Rio Méta basin, east of Villavicencio, Colombia. Holotype: USNM

207923.

Maximum length: 1.67 cm SL

Distribution: South America: Upper Meta River.

Countries: Colombia

***Axelrodia stigmatias* (Fowler, 1913)**

Hyphessobrycon stigmatias Fowler, 1913: 547, fig. 14. Type locality: Tributary of the Madeira River near Porto Velho, Brazil. Holotype: ANSP 39231.

Axelrodia fowleri Géry, 1965c: 33, pl. 4 (fig. 14). Type locality: environs de Iquitos, Haute Amazonie [Peru]. Holotype: SMF 7212.

Maximum length: 2.05 cm SL

Distribution: South America: Upper Amazon River basin in Brazil and Peru and middle Madeira River in Brazil.

Countries: Brazil, Peru

Remarks and references: See Géry (1966a: 112) for the synonym.

BARIO

Entomolepis Eigenmann, 1917: 63. Type species: *Tetragonopterus steindachneri* Eigenmann, 1893. Type by original designation. Gender: feminine. Preoccupied by *Entomolepis* Brady, 1889, in Crustacea; replaced by *Bario* Myers, 1940.

Bario Myers, 1940: 35. Type species: *Tetragonopterus steindachneri* Eigenmann, 1893. Type by being a replacement name. Gender: masculine. Replacement for *Entomolepis* Eigenmann, 1917, preoccupied by *Entomolepis* Brady, 1889, in Crustacea.

***Bario steindachneri* (Eigenmann, 1893)**

Tetragonopterus lineatus Steindachner, 1891a: 173. Type locality: Iquitos [Peru]. Species illustrated and described in more detail in Steindachner (1891b: 368, pl. 2, fig. 1). Permanently invalid, preoccupied by *Tetragonopterus lineatus* Perugia, 1891, replaced by *Tetragonopterus steindachneri* Eigenmann, 1893.

Tetragonopterus steindachneri Eigenmann, 1893: 53. Type locality: Iquitos [Peru]. Replacement name for *Tetragonopterus lineatus* Steindachner, 1891, preoccupied by *Tetragonopterus lineatus* Perugia, 1891.

Maximum length: 9 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

Remarks and references: See Eigenmann (1917: 63) for description.

Common names: Lambari (Brazil), Mojara (Peru)

BOEHLKEA

Boehlkea Géry, 1966c: 212. Type species: *Boehlkea fredcochui* Géry, 1966c. Type by original designation. Gender: feminine.

***Boehlkea fredcochui* Géry, 1966**

Boehlkea fredcochui Géry, 1966c: 212, fig. 5. Type locality: brooks near Loreto Yacu, on the Colombian side of the Upper Amazon, about 45 miles west of Leticia [Colombia - Aquarium import]. Holotype: ANSP 111675 [ex Géry coll. 0124.1].

Maximum length: 4.12 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Colombia

BRAMOCHARAX

Bramocharax Gill in Gill & Bransford, 1877: 189. Type species: *Bramocharax bransfordii* Gill, 1877. Type by monotypy. Gender: masculine.

Catemaco Contreras-Balderas & Rivera-Teillery, 1985: 9. Type species: *Bramocharax (Catemaco) caballeroi* Contreras-Balderas & Rivera-Teillery, 1985. Type by original designation. Gender: masculine.

***Bramocharax baileyi* Rosen, 1972**

Bramocharax baileyi Rosen, 1972: 4, fig. 3. Type locality: Río San Simon, 6 km. due west of Chiséc, Alta Verapaz, Guatemala. Holotype: AMNH 30197.

Maximum length: 6.8 cm SL

Distribution: Central America: Usumacinta River basin.

Countries: Guatemala

***Bramocharax bransfordii* Gill, 1877**

Bramocharax Bransfordii Gill, in Gill & Bransford, 1877: 190. Type locality: Lake Nicaragua [Nicaragua]. Syntypes: USNM 16885 (3).

Bramocharax elongatus Meek, 1907: 110. Type locality: Lake Managua, Managua, Nicaragua. Holotype: FMNH 5922.

Maximum length: 15 cm SL

Distribution: Central America: Nicaragua Lake and Managua Lake basins.

Countries: Costa Rica, Nicaragua

Remarks and references: See Rosen (1972) for relationships of species.

Common names: Sabalito (Nicaragua)

***Bramocharax caballeroi* Contreras-Balderas & Rivera-Teillery, 1985**

Bramocharax (Catemaco) caballeroi Contreras-Balderas & Rivera-Teillery, 1985: 10, fig. 1. Type locality: NW del Lago Catemaco, Veracruz, Mexico. Holotype: UANL 5681.

Maximum length: 13.8 cm SL

Distribution: North America: Catemaco Lake basin.

Countries: Mexico

Remarks and references: See Contreras-Balderas & Rivera Teillery (1985) for detailed description.

***Bramocharax dorioni* Rosen, 1970**

Bramocharax bransfordii dorioni Rosen, 1970: 3, fig. 2. Type locality: Río Semococh, tributary to the Río Chajmaic, a headwater source of the Río de la Pasión (Río Usumacinta Basin) 15 km by road south of Sebol, Alta Verapaz, Guatemala. Holotype: AMNH 29411.

Maximum length: 19.3 cm SL

Distribution: South America: Usumacinta River basin.

Countries: Guatemala

BRITTANICHTHYS

Brittanichthys Géry, 1965a: 13. Type species: *Brittanichthys axelrodi* Géry, 1965. Type by original designation. Gender: masculine. See comments on relationships in Malabarba (1998: 232).

***Brittanichthys axelrodi* Géry, 1965**

Brittanichthys axelrodi Géry, 1965a: 22, fig. 1. Type locality: Rio Negro basin (Brazil), Praia (= beach) Bulufu on the Rio Itu; the collecting place is about 80 km. upstream from the meeting with the Rio Negro, Lat. about 0°-30'S., Long. about 63°-30'W. Holotype: USNM 198132.

Maximum length: 2.8 cm SL

Distribution: South America: Negro River basin.

Countries: Brazil

***Brittanichthys myersi* Géry, 1965**

Brittanichthys myersi Géry, 1965a: 62, fig. 5. Type locality: Rio Negro, Brazil, unnamed inlet on shore, at about 13 km. west of junction with the Amazon, 10 km. of Manaus; Lat. about 3°10'S, Long. about 59°55'W. Holotype: USNM 198131.

Maximum length: 3.2 cm SL

Distribution: South America: Negro River basin.

Countries: Brazil

BRYCONACIDNUS

Bryconacidnus Myers in Eigenmann & Myers, 1929: 545. Type species: *Hyphessobrycon ellisi* Pearson, 1924. Type by original

designation. Gender: masculine.

***Bryconacidnus ellisi* (Pearson, 1924)**

Hypessobrycon ellisi Pearson, 1924: 39, pl. 10 (fig. 2). Type locality: Espia [...at the junction of the Miguilla and La Paz rivers, Bolivia]. Syntypes: (55) CAS 47167 [ex IU 17343] (37), SU 24660 [ex IU 17343] (3), UMMZ 66505 (14), USNM 117544 [ex UMMZ 66505, orig. IU 17343] (1). Plus additional material.

Maximum length: 3.8 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Bolivia, Ecuador, Peru

Remarks and references: See Géry (1972a: 62) for detailed description. Possibly synonym of *Microgenys weyrauchi* Fowler, 1945, according to Géry (1977: 398).

Common names: Mojarita (Peru)

***Bryconacidnus hemigrammus* (Pearson, 1924)**

Bryconamericus hemigrammus Pearson, 1924: 44. Type locality: Popoi River, Upper Beni [Bolivia]. Syntypes: CAS 39616 [ex IU 17353].

Maximum length: 4 cm SL

Distribution: South America: Upper Madeira River basin.

Countries: Bolivia

Remarks and references: See Géry (1977) for photograph.

***Bryconacidnus paipayensis* (Pearson, 1929)**

Hemigrammus paipayensis Pearson, in Eigenmann & Myers, 1929: 533. Type locality: Paipay, Rio Crisnejas [Andes of Northern Peru]. Syntypes: CAS 44467 [ex IU 17643] (now 1).

Maximum length: 5 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

Common names: Mojarita (Peru)

BRYCONAMERICUS

Bryconamericus Eigenmann, in Eigenmann, McAtee & Ward, 1907: 139. Type species: *Bryconamericus exodon* Eigenmann, 1907. Type by monotypy. Gender: masculine.

Eretmobrycon Fink, 1976: 332. Type species: *Eretmobrycon bayano* Fink, 1976. Type by original designation. Gender: masculine.

***Bryconamericus agna* Azpelicueta & Almirón, 2001**

Bryconamericus agna Azpelicueta & Almirón, 2001: 276, fig. 1. Type locality: Argentina, Misiones, Municipio Libertador General San Martín, arroyo Tabay (55°10'W – 27°00'S), Paraná basin. Holotype: FML 3700.

Maximum length: 6.5 cm SL

Distribution: South America: Paraná River basin.

Countries: Argentina

***Bryconamericus alfredae* Eigenmann, 1927**

Bryconamericus alfredae Eigenmann, 1927: 394, pl. 99 (fig. 1). Type locality: Santa Ana, Rio Urubamba [Peru]. Holotype: MCZ 31564 [MCZ 30982 also listed as holotype in MCZ catalog].

Maximum length: 6.6 cm TL

Distribution: South America: Amazon River basin.

Countries: Peru

***Bryconamericus alpha* Eigenmann, 1914**

Bryconamericus alpha Eigenmann in Eigenmann, Henn & Wilson, 1914: 7. Type locality: Villavicencio, Oriente, Colombia [Orinoco River system]. Holotype: FMNH 56646 [ex CM 5463].

Maximum length: 7.6 cm TL

Distribution: South America: Orinoco River basin.

Countries: Colombia, Venezuela

***Bryconamericus bayano* (Fink, 1976)**

Eretmobrycon bayano Fink, 1976: 334, figs. 2-4. Type locality:

Panama, Bayano river basin, pool in small stream about 19 Km along road from El Llano to Carti, about 0.5 Km downstream from the road. Holotype: USNM 213842.

Maximum length: 5.7 cm SL

Distribution: Central America: Upper Bayano River basin.

Countries: Panama

***Bryconamericus beta* Eigenmann, 1914**

Bryconamericus beta Eigenmann, in Eigenmann, Henn & Wilson, 1914: 7. Type locality: Villavicencio [Orinoco system, Colombia]. Holotype: FMNH 56648 [ex CM 5465a].

Maximum length: 7.5 cm TL

Distribution: South America: Orinoco River basin.

Countries: Colombia, Venezuela

Remarks and references: See Taphorn (1992: 137-139) for notes on the species.

***Bryconamericus bolivianus* Pearson, 1924**

Bryconamericus bolivianus Pearson, 1924: 43, pl. 10 (fig. 4). Type locality: Río Colorado, Lower Bopi [Bolivia]. Syntypes: (9) CAS 39506 [ex IU 17349] (1), CAS 39507 [ex IU 17349] (4), ?UMMZ 66513 (3). Additional original material: CAS 39508 [ex IU 17350] (2) & CAS 39509 [ex IU 17351] (now 5).

Maximum length: 6.8 cm SL

Distribution: South America: Beni River basin.

Countries: Bolivia

***Bryconamericus brevirostris* (Günther, 1860)**

Chalceus brevirostris Günther, 1860b: 420. Type locality: Western Andes of Ecuador. Holotype: BMNH 1860.6.16.166 or 196.

Maximum length: 9.5 cm TL

Distribution: South America: Pacific coastal drainages of Ecuador and Peru.

Countries: Ecuador, Peru

Remarks and references: See Böhlke (1958: 13-14) for comments on the species.

***Bryconamericus caucanus* Eigenmann, 1913**

Bryconamericus caucanus Eigenmann, 1913: 17. Type locality: Piedra Moler [Colombia]. Holotype: FMNH 56229 [ex CM 5031a].

Maximum length: 8.8 cm TL

Distribution: South America: Magdalena River basin.

Countries: Colombia

Remarks and references: See Román-Valencia & Muñoz (2001) for observations on diet and reproduction.

***Bryconamericus cismontanus* Eigenmann, 1914**

Bryconamericus cismontanus Eigenmann, in Eigenmann, Henn & Wilson, 1914: 4. Type locality: Villavicencio [Orinoco River system, Colombia]. Holotype: FMNH 56642 [ex CM 5459].

Maximum length: 6 cm SL

Distribution: South America: Orinoco River basin.

Countries: Colombia, Venezuela

***Bryconamericus cristiani* Román-Valencia, 1998**

Bryconamericus cristiani Román-Valencia, 1998: 110, fig. 1. Type locality: Colombia, departamento del Meta, en la vía Villavicencio-Acacias, vereda Brisas de Guayuriba, cerca de la escuela cruzando el puente sobre el río Guayuriba, caño Cayupe, afluente del río Guayuriba, Alto Meta (4o 7' N y 74 15' W). Holotype: ICNMNH 3445.

Maximum length: 6.86 cm SL

Distribution: South America: Orinoco River basin.

Countries: Colombia

***Bryconamericus dahli* Román-Valencia, 2000**

Bryconamericus dahli Román-Valencia, 2000: 451, fig. 1. Type locality: Colombia, Departamento de Nariño, sistema del río Patia, cuenca del río Telembi, Quebrada Babosa afluente do río

Sabune, em la vía a Tucmaco km. 98, a dos km de la margen derecha (aprox. 78° 23' W y los 1° 37' N). Holotype: ICNMNH 2722.

Maximum length: 7.983 cm SL

Distribution: South America: Patia and Mira River basins.

Countries: Colombia

***Bryconamericus deuterodonoides* Eigenmann, 1914**

Bryconamericus deuterodonoides Eigenmann, in Eigenmann, Henn & Wilson, 1914: 5. Type locality: Río Negro, Quebrada at Villavicencio [Colombia]. Holotype: FMNH 56644 [ex CM 5461].

Bryconamericus deuterodonoides euryodous Schultz, 1944: 344, fig. 51. Type locality: Río Guárico and tributaries between San Sebastián and San Casimiro, Estado de Aragua, Venezuela. Holotype: USNM 121437.

Bryconamericus deuterodonoides caudovittatus Inger, 1956: 435. Type locality: Río Abácapa on the west side of Chimantá-tepui [Venezuela]. Holotype: FMNH 45706.

Maximum length: 5 cm TL

Distribution: South America: Orinoco River and Maracaibo Lake basins.

Countries: Colombia, Venezuela

Remarks and references: See Taphorn (1992: 140-142) for notes on taxonomy and ecology, and Flecker et al. (1991) for notes on reproduction.

***Bryconamericus diaphanus* (Cope, 1878)**

Tetragonopterus diaphanus Cope, 1878: 691. Type locality: Río Huallaga at Moyabamba, Peru. Lectotype: ANSP 21216, designated by Fowler (1906: 339, fig. 27).

Maximum length: 5 cm TL

Distribution: South America: Amazon River basin.

Countries: Peru

***Bryconamericus eigenmanni* (Evermann & Kendall, 1906)**

Astyanax eigenmanni Evermann & Kendall, 1906: 83, fig. 1. Type locality: Río Primero, Province of Cordoba [Argentina]. Holotype: USNM 55570.

Maximum length: 6.1 cm SL

Distribution: South America: Primero River, tributary to Laguna Mar Chiquita.

Countries: Argentina

Remarks and references: Redescribed by Miquelarena & Aquino (1999).

***Bryconamericus emperador* (Eigenmann & Ogle, 1907)**

Astyanax emperador Eigenmann & Ogle, 1907: 26. Type locality: Empire Station, Panama. Holotype: USNM 55651.

Bryconamericus ortholepis Eigenmann, 1913: 15. Type locality: Boca de Raspadura [Colombia]. Holotype: CM 5088 (missing).

Bryconamericus scopiferus Eigenmann, 1913: 16. Type locality: Istmina, Río San Juan [Colombia]. Holotype: FMNH 56224 [ex. C.M. 5026].

Bryconamericus juanensis Regan, 1913: 464. Type locality: Southwestern Colombia. Holotype: ?.

Bryconamericus rubricauda Regan, 1913: 464. Type locality: Río Condoto, Colombia. Holotype: ?.

Bryconamericus cascajalensis Meek & Hildebrand, 1916: 284, pl. 19. Type locality: Río Cascajal, Porto Bello, Panama. Holotype: FMNH 8946.

Bryconamericus baudoensis Fowler, 1944: 231, figs. 3-4. Type locality: Río Baudó, Chocó Prov., Colombia, elev. 1200 ft. Holotype: ANSP 71425.

Maximum length: 10.4 cm SL

Distribution: South and Central America: Chagres, Tuira, Bayano, and Santa María River basins in Panamá and Baudó, San Juan,

Atrato and Pacific coastal drainages of Colombia

Countries: Colombia, Panama

Remarks and references: See Kramer (1978) for observations on reproduction, diet and preferred microhabitat. Synonymy according to Román-Valencia (2002).

***Bryconamericus exodon* Eigenmann, 1907**

Bryconamericus exodon Eigenmann, in Eigenmann, McAtee & Ward, 1907: 139. Type locality: Puerto Max [Paraguay]. Holotype: IU 10298a (lost).

Maximum length: 5.7 cm TL

Distribution: South America: Paraguay River basin.

Countries: Brazil, Paraguay

***Bryconamericus galvisi* Román-Valencia, 2000**

Bryconamericus galvisi Román-Valencia, 2000: 457, fig. 5. Type locality: Colombia, Departamento del Putumayo, municipio de Sibundoy, cuenca del Alto Río Putumayo, Valle Sibundoy (aprox. 77°23' W y los 5°00' N) [76°53'W - 1°10'N, bearings of Sibundoy city]. Holotype: ICNMNH 2720.

Maximum length: 7.63 cm SL

Distribution: South America: Putumayo River basin.

Countries: Colombia

***Bryconamericus gonzalezi* Román-Valencia, 2002**

Bryconamericus gonzalezi Román-Valencia, 2002: 180, fig. 2. Type locality: río Bongie (9°21'35"N y los 82°36'35"W) [Panama]. Holotype: IUQ 377.

Maximum length: 7.38 cm SL

Distribution: Central America: Sixaola, Cañaza, and Bongie River basins, in the Caribbean slope of Costa Rica and Panama.

Countries: Costa Rica, Panama

***Bryconamericus grosvenori* Eigenmann, 1927**

Bryconamericus grosvenori Eigenmann, 1927: 365, pl. 99 (fig. 2). Type locality: Río Comercio [Urubamba River basin, Peru]. Holotype: MCZ 31562.

Maximum length: 7 cm TL

Distribution: South America: Amazon River basin.

Countries: Peru

***Bryconamericus guaytarae* Eigenmann & Henn, 1914**

Bryconamericus scopiferus guaytarae Eigenmann & Henn, in Eigenmann, Henn & Wilson, 1914: 7. Type locality: Patia at the mouth of Río Guaitara [Colombia]. Holotype: FMNH 56657 (ex CM 5474).

Maximum length: 8.3 cm TL

Distribution: South America: Patía River basin.

Countries: Colombia

***Bryconamericus hyphesson* Eigenmann, 1909**

Bryconamericus hyphesson Eigenmann, 1909a: 32. Type locality: Tumatumari, Lower Potaro [Guyana]. Holotype: FMNH 52708 [ex CM 1070].

Maximum length: 3.7 cm TL

Distribution: South America: Potaro River basin.

Countries: Guyana

***Bryconamericus icelus* Dahl, 1964**

Bryconamericus icelus Dahl, in Dahl & Medem, 1964: 70. Type locality: Quebrada Guamural, tributary of Río Manso del Sinú, Colombia. Holotype: possibly lost.

Maximum length: 8 cm SL

Distribution: South America: Sinú River basin.

Countries: Colombia

***Bryconamericus ichoensis* Román-Valencia, 2000**

Bryconamericus ichoensis Román-Valencia, 2000: 455, fig. 3. Type locality: Colombia, Departamento del Chocó, municipio de San Francisco de Ichó, Alto Atrato, Quebrada Chaparraidó, afluo-

ente del río Ichó em la vía Tutunendo-San Francisco de Ichó (aprox. 76°38' W y los 5°38' N). Holotype: ICNMMH 2718.

Maximum length: 3.4 cm SL

Distribution: South America: Atrato River basin

Countries: Colombia

***Bryconamericus iheringii* (Boulenger, 1887)**

Tetragonopterus iheringii Boulenger, 1887b: 172. Type locality: San Lorenzo, Rio Grande do Sul [Brazil, Rio Grande do Sul, São Lourenço do Sul]. Lectotype: BMNH 1886.3.15.30, designated by Malabarba & Kindel (1995: 679).

Tetragonopterus pliodus Cope, 1894: 90, pl. 5 (fig. 5). Type locality: Rio Grande do Sul [restricted to Laguna dos Patos system, Brazil, by Malabarba (1989)]. Lectotype: ANSP 21578, designated by Fowler (1906: 347).

Bryconamericus boops Eigenmann, 1908: 105. Type locality: Maldonado [Uruguay]. Holotype: MCZ 20700. Deformed specimen of *Bryconamericus iheringii* (Boulenger 1887) (Malabarba & Kindel 1995: 684).

Maximum length: 7.3 cm SL

Distribution: South America: Laguna dos Patos and Uruguay River basin.

Countries: Brazil, Uruguay

Common names: Lambari (Brazil)

***Bryconamericus lambari* Malabarba & Kindel, 1995**

Bryconamericus lambari Malabarba & Kindel, 1995: 680, fig. 1. Type locality: Small creek flowing into arroio Feitoria, under bridge of avenida Ipiranga, município de Dois Irmãos, Rio Grande do Sul, Brazil, 51°07'S, 29°36'W [actually 29°36'S, 51°07'W]. Holotype: MCP 15448.

Maximum length: 5.6 cm SL

Distribution: South America: Feitoria Creek and tributaries in Caf River basin, Laguna dos Patos drainage.

Countries: Brazil

***Bryconamericus loisae* Géry, 1964**

Bryconamericus loisae Géry, 1964c: 46, fig. 12. Type locality: about 200 miles east of Bogota, Colombia, in the upper Rio Meta drainage. Holotype: USNM 198645.

Maximum length: 7.4 cm SL

Distribution: South America: Meta River basin.

Countries: Colombia

***Bryconamericus megalepis* Fowler, 1941**

Bryconamericus megalepis Fowler, 1941: 188, fig. 98. Type locality: Fortaleza, Ceará [Brazil]. Holotype: ANSP 69602.

Maximum length: 4.5 cm SL

Distribution: South America: Coastal drainages of northeastern Brazil.

Countries: Brazil

Remarks and references: Apparently a Cheirodontinae (H.A. Britski, pers. comm.)

***Bryconamericus mennii* Miquelarena, Protogino, Filiberto & López, 2002**

Bryconamericus mennii Miquelarena, Protogino, Filiberto & López, 2002: 71, fig. 1. Type locality: Cuña-Pirú creek (27°10'S-54°57'W), Departamento Canguá, Misiones province, Argentina. Holotype: ILPLA 1251.

Maximum length: 5.5 cm SL

Distribution: South America: Tributaries of the lower Paraná River in Misiones Province.

Countries: Argentina

***Bryconamericus microcephalus* (Miranda Ribeiro, 1908)**

Astyanax microcephalus Miranda Ribeiro, 1908: [3]. Type locality: Rio Bethary [Betari River, tributary of Ribeira de Iguape Riv-

er, São Paulo, Brazil]. Lectotype: MNRJ 2576A, designated by Miranda Ribeiro (1953: 396) [but perhaps specimen not isolated]; same specimen also selected by Bizerril & Peres-Neto (1995: 15).

Maximum length: 6.6 cm SL

Distribution: South America: Ribeira de Iguape River basin.

Countries: Brazil

Remarks and references: Redescribed by Bizeiril & Peres-Neto (1995).

***Bryconamericus miraensis* Fowler, 1945**

Bryconamericus miraensis Fowler, 1945b: 99, fig. 4. Type locality: Ricaurte on the Rio Guebo at 3900 feet elevation, in basin of Rio Mira, Nariño, Pacific Slope of Southwest Colombia. Holotype: ANSP 71686.

Maximum length: 9.3 cm TL

Distribution: South America: Mira River basin.

Countries: Colombia

***Bryconamericus motatanensis* Schultz, 1944**

Bryconamericus beta motatanensis Schultz, 1944: 341, fig. 50. Type locality: Río San Juan at bridge south of Mene Grande, Motatán system [Venezuela]. Holotype: USNM 121477.

Maximum length: 4.7 cm TL

Distribution: South America: Maracaibo Lake basin

Countries: Venezuela

***Bryconamericus multiradiatus* Dahl, 1960**

Bryconamericus multiradiatus Dahl, 1960a: 471, fig. Type locality: small brook in front of the village Riosucio, lower Atrato [Colombia]. Holotype: ICNMMH 82.

Maximum length: 2.7 cm TL

Distribution: South America: Atrato River basin.

Countries: Colombia

***Bryconamericus novae* Eigenmann & Henn, 1914**

Bryconamericus novae Eigenmann & Henn, 1914: 234. Type locality: Below Cachoeira da Velha near Piabana, Rio Novo of Rio Tocantins, Lower Amazon basin [Brazil]. Holotype: FMNH 54905 [ex CM 3568a].

Maximum length: 5.7 cm TL

Distribution: South America: Tocantins River basin.

Countries: Brazil

***Bryconamericus ornaticeps* Bizerril & Peres-Neto, 1995**

Bryconamericus ornaticeps Bizerril & Peres-Neto, 1995: 18, fig. 3. Type locality: Rio Macacu, city of Cachoeira de Macacu, State of Rio de Janeiro, Brazil. Holotype: MNRJ 12310.

Maximum length: 6.5 cm SL

Distribution: South America: Macacu River basin in Rio de Janeiro State.

Countries: Brazil

***Bryconamericus osgoodi* Eigenmann & Allen, 1942**

Bryconamericus osgoodi Eigenmann & Allen, 1942: 225, pl. 14 (fig. 6). Type locality: Moyobamba [Huallaga River basin, Upper Amazon, Peru]. Holotype: CAS 40828 [ex IU 15915].

Maximum length: 6.1 cm SL

Distribution: South America: Amazon River basin.

Countries: Peru

***Bryconamericus pachacuti* Eigenmann, 1927**

Bryconamericus pachacuti Eigenmann, 1927: 376, pl. 99 (fig. 3). Type locality: Santa Ana, Río Urubamba [Peru]. Holotype: MCZ 31563.

Maximum length: 7.5 cm TL

Distribution: South America: Upper Amazon River basin and the Urubamba River.

Countries: Peru

***Bryconamericus pectinatus* Vari & Siebert, 1990**

Bryconamericus pectinatus Vari & Siebert, 1990: 517, figs. 1-5. Type locality: Peru, Departamento Madre de Dios, Provincia Manú, Parque Nacional de Manú, second large quebrada along Trail 1 leading to the east from Pakitza, tributary of Río Manú (approx. 11°50'S, 71°21'W). Holotype: MHN-USM 2057.

Maximum length: 3.48 cm SL
Distribution: South America: Peru.
Countries: Peru

***Bryconamericus peruanus* (Müller & Troschel, 1845)**

Tetragonopterus peruanus Müller & Troschel, 1845: 28, pl. 8 (fig. 1). Type locality: Peru [Near Lima]. Syntypes: ZMB 3591-92 (2, 1).

Maximum length: 9.2 cm SL
Distribution: South America: Amazon River basin; Guayas, Esmeraldas, and Santiago River basins.
Countries: Ecuador, Peru
Remarks and references: See Böhlke (1958) for an extensive discussion about this species.

***Bryconamericus phoenicopterus* (Cope, 1872)**

Tetragonopterus phoenicopterus Cope, 1872b: 261. Type locality: [Ambyiacu River, Peru]. Holotype: ANSP 8093.

Maximum length: 6 cm TL
Distribution: South America: Amazon River basin.
Countries: Peru

***Bryconamericus plutarcoi* Román-Valencia, 2001**

Bryconamericus plutarcoi Román-Valencia, 2001: 470, fig. 1. Type locality: Colombia, Departamento de Santander, quebrada Santa Rosa, cuenca del río Suárez, sistema río Magdalena (6°26'09" N & 73°18'56" O). Holotype: ICMNH 4886.

Maximum length: 6.94 cm SL
Distribution: South America: Upper Suarez River in the Magdalena River drainage.
Countries: Colombia

***Bryconamericus rubropictus* (Berg, 1901)**

Tetragonopterus rubropictus Berg, 1901: 305. Type locality: Río Molinos, Territorio de los Andes (República Argentina), como a 3000 metros sobre el nivel del mar. Syntypes: MACN (8 specimens).

Distribution: South America: Pasaje-Juramento River basin in Paraná River drainage.
Countries: Argentina
Remarks and references: Transferred from *Astyanax* and redescribed by Braga (2000).

***Bryconamericus scleroparius* (Regan, 1908)**

Tetragonopterus scleroparius Regan, 1908a: 455. Type locality: Río Iroquois [Eastern slope of Costa Rica]. Syntypes: (11) BMNH 1909.3.13.30-39 (10). Additional material: BMNH (5) w. Ecuador, (2) Panama.

Bryconamericus peruanus ricao Eigenmann, 1908: 106. Type locality: Chitaria, Costa Rica [tributary of Revintazon River, Atlantic Slope]. Lectotype: FMNH 59523, designated by Grey (1947: 127).

Maximum length: 9.5 cm TL
Distribution: Central and South America: Coastal rivers in Costa Rica, Ecuador, and Panama.
Countries: Costa Rica, Ecuador, Panama
Remarks and references: See notes on the species by Bussing (1987).

***Bryconamericus simus* (Boulenger, 1898)**

Tetragonopterus simus Boulenger, 1898: 2. Type locality: vallée du Chota, Nord de l'Equateur. [Pacific slope north of Ecuador]. Syntypes: BMNH 1898.11.4.71-73 (3), MSNG 35974 (3),

MZUT 1527 (many).

Maximum length: 8.7 cm TL
Distribution: South America: Amazon River basin.
Countries: Ecuador, Peru

***Bryconamericus stramineus* Eigenmann, 1908**

Bryconamericus stramineus Eigenmann, 1908: 105. Type locality: Piracicaba and Uruguay River, restricted by Eigenmann (1927: 370) to Piracicaba [upper Paraná basin, São Paulo, Brazil]. Lectotype: CAS 40833 [ex IU 11519], designated by Eigenmann (1927).

Maximum length: 5.6 cm SL
Distribution: South America: La Plata and São Francisco River basins.
Countries: Argentina, Brazil, Paraguay, Uruguay
Common names: Lambari (Brazil)
Remarks and references: See Casatti & Castro (1998) for notes on natural history.

***Bryconamericus sylvicola* Braga, 1998**

Bryconamericus sylvicola Braga, 1998: 22, fig. 1. Type locality: Argentina, Provincia de Misiones, Departamento Gral. Manuel Belgrano, arroyo Central (em proximidades RN 101, aproximadamente 25°50'LS, 54°10'LO), tributario del río Uruguay-i, afluente del río Paraná. Holotype: MACN 8072.

Maximum length: 6.5 cm SL
Distribution: South America: Paraná River basin.
Countries: Argentina

***Bryconamericus tenuis* Bizerril & Auraujo, 1992**

Bryconamericus tenuis Bizerril & Auraujo, 1992: 65, fig. 1. Type locality: Etat de Rio de Janeiro, rio São João, Ville de Silva Jardim [Brazil]. Holotype: MNRJ 12230.

Maximum length: 3.8 cm SL
Distribution: South America: São João River basin in Rio de Janeiro State.
Countries: Brazil

***Bryconamericus ternetzi* Myers, 1928**

Bryconamericus ternetzi Myers, 1928: 89. Type locality: Camanáos Rapids, Rio Negro, Brazil. Holotype: CAS 44216 [ex IU].

Maximum length: 5.9 cm TL
Distribution: South America: Upper Negro River basin.
Countries: Brazil
Remarks and references: Illustration of the holotype in Géry (1977: 386).

***Bryconamericus terrabensis* Meek, 1914**

Bryconamericus terrabensis Meek, 1914: 108. Type locality: Río Grande de Térraba, Costa Rica. No types known.

Maximum length: 9.0 cm SL
Distribution: Central America: Costa Rica (?).
Countries: Costa Rica
Remarks and references: See notes on the species by Bussing (1987).

***Bryconamericus thomasi* Fowler, 1940**

Bryconamericus thomasi Fowler, 1940: 49, fig. 3. Type locality: Río Lipeo, Bolivia. Holotype: ANSP 68740.

Maximum length: 7 cm SL
Distribution: South America: Paraguay River basin.
Countries: Argentina, Bolivia
Remarks and references: Redescribed by Miquelarena & Aquino (1995).

***Bryconamericus uporas* Casciotta, Azpelicueta & Almirón, 2002**

Bryconamericus uporas Casciotta, Azpelicueta & Almirón, 2002: 156. Type locality: Argentina, Misiones, Municipio Leandro N.

Alen, arroyo Once Vueltas (27°38'S – 55°12'W), Uruguay basin.
 Holotype: MLP 9568
 Maximum length: 5.34 cm SL
 Distribution: South America: Uruguay River basin.
 Countries: Argentina, Brazil

***Bryconamericus zeteki* Hildebrand, 1938**

Bryconamericus zeteki Hildebrand, 1938: 265, fig. 4. Type locality: A creek in El Valle, Pacific slope, Panama. Holotype: USNM 106511.
 Maximum length: 8.8 cm TL
 Distribution: Central America: Panama (?).
 Countries: Panama

BRYCONELLA

Bryconella Géry, 1965c: 27. Type species: *Bryconella haraldi* Géry, 1965. Type by original designation. Gender: feminine.

***Bryconella pallidifrons* (Fowler, 1946)**

Cheirodon pallidifrons Fowler, 1946: 1, fig. Type locality: South American, supposedly from the Amazon R. Holotype: ANSP 71728.

Hyphessobrycon thompsoni Fowler, 1949b: 73, fig. Type locality: Aquarium fish; supposed to be South America, probably Brazil. Holotype: ANSP 71849.

Bryconella haraldi Géry, 1965c: 28, pl. 4 (fig. 13). Type locality: Igarapé Prêto, collateral de l'Amazone supérieure près de Belem, à environ 60 km en aval de Leticia [Brazil]. Holotype: SMF 7220.

Maximum length: 2.32 cm SL
 Distribution: South America: Amazon River basin.
 Countries: Brazil, Peru
 Remarks and references: See Géry (1972b) for a comparison among the three nominal species.
 Common names: Mojarrita (Peru)

BRYCONEXODON

Bryconexodon Géry, 1980b: 2. Type species: *Bryconexodon juruena* Géry, 1980. Type by original designation. Gender: masculine.

***Bryconexodon juruena* Géry, 1980**

Bryconexodon juruena Géry, 1980b: 2, fig. 1. Type locality: Haut rio Juruena, affluent du rio Tapajoz, Mato Grosso, Brésil, au voisinage de la route Cuiaba-Porto Velho. Holotype: MZUSP 14638.

Maximum length: 12.5 cm SL
 Distribution: South America: Upper Tapajós River basin.
 Countries: Brazil

***Bryconexodon trombetasi* Jégu, Santos & Ferreira, 1991**

Bryconexodon trombetasi Jégu, Santos & Ferreira, 1991: 774, fig. 2. Type locality: Rio Trombetas, em amont de la confluence avec l'Igarapé Caxipacoré, Parà, Brésil. Holotype: INPA 3103.

Maximum length: 11.7 cm SL
 Distribution: South America: Trombetas River basin.
 Countries: Brazil

BRYCONOPS

Bryconops Kner, 1858a: 80. Type species: *Bryconops alburnoides* Kner, 1858. Type by subsequent designation by Eigenmann (1910: 435). Gender: masculine.

Cretochanes Günther, 1864: 318. Type species: *Salmo melanurus* Bloch, 1794. Type by subsequent designation by Eigenmann (1910: 435). Gender: masculine.

Brycochandus Eigenmann, 1908: 106. Type species: *Brycochandus durbini* Eigenmann, 1908. Type by original designation.

Gender: masculine.

Autanichthys Fernández-Yépez, 1950: 11. Type species: *Autanichthys giacopinii* Fernández-Yépez, 1950. Type by original designation. Gender: masculine.

***Bryconops affinis* (Günther, 1864)**

Tetragonopterus affinis Günther, 1864: 329. Type locality: Guyana. Holotype: BMNH 1969.12.13. 1.

Maximum length: 12 cm TL
 Distribution: South America: Coastal streams of the Guiana Shield.
 Countries: French Guiana, Guyana, Suriname

***Bryconops alburnoides* Kner, 1858**

Bryconops lucidus Kner, 1858a: 80. Type locality: Rio Branco [Amazon system, Brazil]. Holotype: NMW 62847.

Bryconops alburnoides Kner, 1858a: 80. Type locality: Rio Guaporé [Madeira River basin, Brazil]. Syntypes: NMW 5994 (1), 16170 (1, dry), 62843-45 (2, 2, 2).

Maximum length: over 10 cm SL
 Distribution: South America: Orinoco and Amazon River basin.
 Countries: Brazil, Venezuela

***Bryconops caudomaculatus* (Günther, 1864)**

Tetragonopterus caudomaculatus Günther, 1864: 330. Type locality: South America. Holotype: BMNH 1852.9.13.74.

Maximum length: 7 cm TL
 Distribution: South America: Coastal streams of the Guiana Shield, Orinoco and Amazon River basins.
 Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela

***Bryconops colanegra* Chernoff & Machado-Allison, 1999**

Bryconops colanegra Chernoff & Machado-Allison, 1999: 365, fig. 5. Type locality: Río Carrao near base camp at Angel Falls, Bolívar, Venezuela. Holotype: MBUCV-V-27716.

Maximum length: 8.78 cm SL
 Distribution: South America: Caroní River basin.
 Countries: Venezuela

***Bryconops colaroja* Chernoff & Machado-Allison, 1999**

Bryconops colaroja Chernoff & Machado-Allison, 1999: 363, fig. 4. Type locality: Río las Clariats at Puente Las Claritas, at km 86 on the El Dorado-Sta. Elena Hwy, 6°10'16.4"N, 61°25'33.9"W, Estado Bolívar, Venezuela.

Maximum length: 7.79 cm SL
 Distribution: South America: Cuyuní River basin in the vicinity of the Venezuelan-Guyanese border.
 Countries: Venezuela

***Bryconops cyrtogaster* (Norman, 1926)**

Cretochanes cyrtogaster Norman, 1926: 91. Type locality: Oya-pock River, French Guiana. Syntypes: BMNH 1926.3.2.515-524.

Maximum length: 12 cm TL
 Distribution: South America: Oyapock River between French Guiana and Brazil.
 Countries: Brazil, French Guiana

***Bryconops disruptus* Machado-Allison & Chernoff, 1997**

Bryconops disruptus Machado-Allison & Chernoff, 1997: 68, fig. 2. Type locality: Pozos y Playa en la boca del Caño Darigua 7 Km Sur de San Carlos de Río Negro, Amazonas, Venezuela. Holotype: MBUCV-V-25003.

Maximum length: 6.41 cm SL
 Distribution: South America: Negro River basin.
 Countries: Brazil, Venezuela

***Bryconops durbini* (Eigenmann, 1908)**

Brycochandus durbini Eigenmann, 1908: 106. Type locality: Rio Tapajos [Brazil]. Syntypes: MCZ 20862 (2).
Maximum length: 3.06 cm SL
Distribution: South America: Tapajós River basin.
Countries: Brazil

***Bryconops giacopinii* (Fernández-Yépez, 1950)**

Autanichthys giacopinii Fernández-Yépez, 1950: 12, pl. 1 (fig. 3).
Type locality: Río Autana, ca. 8 km above confluence in Río Sipapo, ca. 4°44'N, 67°37'W, Fed. Terr. of Amazonas, Venezuela. Neotype: MBUCV 21510. Holotype (AFY 48171) and paratypes (AFY 48235) apparently lost; neotype designated by Chernoff et al. (1994: 239).
Distribution: South America: Autana River basin in upper Orinoco River drainage.
Countries: Venezuela

***Bryconops gracilis* (Eigenmann, 1908)**

Cretochanes gracilis Eigenmann, 1908: 106. Type locality: Rio Tapajos [Brazil]. Holotype: whereabouts unknown.
Distribution: South America: Tapajós River basin.
Countries: Brazil

***Bryconops humeralis* Machado-Allison, Chernoff & Buckup, 1996**

Bryconops humeralis Machado-Allison, Chernoff & Buckup, 1996: 46, fig. 3. Type locality: Río Cua, AM [Venezuela]. Holotype: MBUCV-V-25000.
Maximum length: 8.6 cm SL
Distribution: South America: Upper Orinoco, Casiquiare, and Negro River basins.
Countries: Venezuela

***Bryconops imitator* Chernoff & Machado-Allison, 2002**

Bryconops imitator Chernoff & Machado-Allison, in Chernoff, et al., 2002: 195, fig. 2. Type locality: Venezuela: Bolívar: Río Caura, small branch of Río Caura at Raudal Cejiato, 5°33'28"N 64°18'49"W. Holotype: MBUCV-V-29605.
Maximum length: 7.56 cm SL
Distribution: South America: Caura River basin.
Countries: Venezuela

***Bryconops inpai* Knöppel, Junk & Géry, 1968**

Bryconops (Cretochanes) inpai Knöppel, Junk & Géry, 1968: 231, fig. 1b. Type locality: Lower Rio Negro region, Igarapé Barro Branco, a brook in the "Reserva Ducke" (INPA) about 30 km from Manaus [Brazil]. Holotype: INPA 10978.
Maximum length: 10 cm TL
Distribution: South America: Negro River and Casiquiare basins.
Countries: Brazil, Venezuela

***Bryconops melanurus* (Bloch, 1794)**

Salmo melanurus Bloch, 1794: 104, pl. 381 (fig. 2). Type locality: Suriname. Syntypes: ZMB 3588 (2).
Maximum length: 12 cm SL
Distribution: South America: Coastal streams of the Guiana Shield.
Countries: Guyana, French Guiana, Suriname

***Bryconops transitoria* Steindachner, 1915**

Bryconops melanurus transitoria Steindachner, 1915a: 49, pl. 1 (fig. 5). Type locality: Río Tapajos [Brazil]. Syntypes: NMW 68532 (4), 68939 (3), 69213 (6).
Distribution: South America: Tapajós River basin.
Countries: Brazil

***Bryconops vibex* Machado-Allison, Chernoff &**

Buckup, 1996

Bryconops vibex Machado-Allison, Chernoff & Buckup, 1996: 47, fig. 6. Type locality: Río Cataniapo, Salto Nieves, AM [Venezuela]. Holotype: MBUCV-V-25002.
Maximum length: 6.77 cm SL
Distribution: South America: Cataniapo River basin.
Countries: Venezuela

CAIAPOBRYCON

Caiaopobrycon Malabarba & Vari, 2000: 316. Type species: *Caiaopobrycon tucurui* Malabarba & Vari, 2000. Type by original designation. Gender: masculine.

***Caiaopobrycon tucurui* Malabarba & Vari, 2000**

Caiaopobrycon tucurui Malabarba & Vari, 2000: 316, fig. 2. Type locality: Brazil, Goiás, rio do Peixe, tributary of rio Maranhão, Niquelândia (14°28'S 48°45'W). Holotype: MNRJ 14546.
Maximum length: 4.53 cm SL
Distribution: South America: Tocantins River basin.
Countries: Brazil
Remarks and references: Relationships discussed in Malabarba & Vari (2000).

CARLASTYANAX

Carlastyanax Géry, 1972a: 16. Type species: *Astyanax aurocaudatus* Eigenmann, 1913. Type by original designation. Gender: masculine.

***Carlastyanax aurocaudatus* (Eigenmann, 1913)**

Astyanax aurocaudatus Eigenmann, 1913: 26. Type locality: Boquia [Cauca River basin, Colombia]. Holotype: FMNH 56882 [ex CM 5162].
Maximum length: 6 cm SL
Distribution: South America: Cauca River basin.
Countries: Colombia
Remarks and references: See Géry, 1977: 379 for comments and description of color pattern in life.
Common names: Gold-tailed tetra (USA)

CERATOBANCHIA

Ceratobranchia Eigenmann, in Eigenmann, Henn & Wilson, 1914: 3. Type species: *Ceratobranchia obtusirostris* Eigenmann, 1914. Type by monotypy. Gender: feminine. Reviewed by Chernoff & Machado-Allison (1990).

***Ceratobranchia binghami* Eigenmann, 1927**

Ceratobranchia binghami Eigenmann, 1927: 357, pl. 96 (fig. 1).
Type locality: Santa Ana, Rio Urubamba [Depto. Cuzco, Peru]. Holotype: MCZ 31561.
Maximum length: 5.3 cm SL
Distribution: South America: Upper Amazon River basin.
Countries: Peru

***Ceratobranchia delotaenia* Chernoff & Machado-Allison, 1990**

Ceratobranchia delotaenia Chernoff & Machado-Allison, 1990: 283, figs. 20-21. Type locality: Cuzco/Madre de Dios border, mouth of Río Carbon, below Atalaya in vicinity of road ford on north/south hwy, 12°53'S, 71°20'W [Depto. de Cuzco, Peru]. Holotype: ANSP 163721 [ex ANSP 143770].
Maximum length: 3.79 cm SL
Distribution: South America: Upper Amazon River basin.
Countries: Peru

***Ceratobranchia elatior* Tortonese, 1942**

Ceratobranchia elatior Tortonese, 1942: 67, pl. 4 (fig. 1). Type locality: Río Zamora, Ecuador. Holotype: MZUT 3558.
Maximum length: 5.2 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Ecuador

***Ceratobranchia joanae* Chernoff & Machado-Allison, 1990**

Ceratobranchia joanae Chernoff & Machado-Allison, 1990: 286, fig. 22. Type locality: Venezuela, Bolivar, Río Maniapure at crossing of Caicara-Puerto Ayacucho Hwy, 6°55'48"N, 66°33'22"W. Holotype: MBUCV 18616 [ex ANSP 159214].

Maximum length: 3.4 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

***Ceratobranchia obtusirostris* Eigenmann, 1914**

Ceratobranchia obtusirostris Eigenmann, in Eigenmann, Henn & Wilson, 1914: 4. Type locality: Chauchamago, Peru [=Chanchamayo, now Pueblo Nuevo, Depto. Junín, 11°15'S, 75°15'W]. Holotype: CAS 40848 [ex IU 13154].

Maximum length: 5.5 cm SL

Distribution: South America: Amazon River basin.

Countries: Peru

CHALCEUS

Chalceus Cuvier, 1816: 454. Type species: *Chalceus macrolepidotus* Cuvier, 1816. Type by monotypy. Gender: masculine. Most recent appraisal on the taxonomy of the genus is Géry (1977: 342). The synonymy mentioned below was suggested by A. Zanata and M. Toledo-Piza (pers. comm.), who are reviewing the genus.

Plethodectes Cope, 1870: 563. Type species: *Plethodectes erythrurus* Cope, 1870. Type by monotypy. Gender: masculine.

Pellegrinina Fowler, 1907: 442. Type species: *Pellegrinina heterolepis* Fowler, 1907. Type by original designation. Gender: feminine.

***Chalceus erythrurus* (Cope, 1870)**

Plethodectes erythrurus Cope, 1870: 563, figs. Type locality: Pebas, Equador [Amazon system, Peru]. Holotype: ANSP 8032.

Pellegrinina heterolepis Fowler, 1907: 442, fig. 39. Type locality: Probably some part of West Africa. Holotype: ANSP 8150 (caudal damaged).

Chalceus macrolepidotus iquitensis Nakashima, 1941: 76, fig. Type locality: Cercanías del puerto de Iquitos [Amazon system, Peru]. Type specimen(s) lost (H. Ortega, pers. comm.).

Maximum length: 21.35 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Brazil, Peru

Common names: Sardina (Peru)

***Chalceus macrolepidotus* Cuvier, 1816**

Chalceus macrolepidotus Cuvier, 1816: 454, pl. 21 (fig. 1). Type locality: Brésil. Holotype: MNHN 2634.

Chalceus ararapeera Valenciennes, in Cuvier & Valenciennes, 1850: 244. Type locality: l'Essequibo [Guiana]. Syntypes: MNHN 5402 (2), A.9836 (1), A.9916.

Creagrutus pellegrini Puyo, 1943: 143, fig. 2. Type locality: haut Itany... cours supérieur du Marouini [French Guiana]. Type specimen (s) lost (see Géry, 1959c: 345-346; Géry & Planquette, 1982: 68).

Maximum length: 24.46 cm SL

Distribution: South America: Negro and Orinoco River basins and coastal rivers in Guyana, Suriname, and French Guiana.

Countries: Brazil, Colombia, French Guiana, Guyana, Suriname, Venezuela

Common names: Alampia (French Guiana), Arari-pirá (Brazil), Douanier (French Guiana), Douanier caca (French Guiana), Kalala (French Guiana), Mopéaki (French Guiana), Rabirrojo (Colombia)

COPTOBRYCON

Coptobrycon Géry, 1966c: 226. Type species: *Hasemanian bilineata* Ellis, 1911. Type by original designation. Gender: masculine.

***Coptobrycon bilineatus* (Ellis, 1911)**

Hasemanian bilineata Ellis, 1911: 150, pl. 1 (fig. 3). Type locality: Alto da Serra, São Paulo, in a creek [upper Paraná River basin, São Paulo, Brazil]. Holotype: FMNH 54383 [ex CM 2937 or 3004].

Maximum length: 4.1 cm TL

Distribution: South America: Upper Tietê River basin.

Countries: Brazil

Remarks and references: See Géry (1966: 226) for remarks.

CREAGRUTUS

Creagrutus Günther, 1864: 339. Type species: *Leporinus muelleri* Günther, 1859. Type by monotypy. Gender: masculine.

Creagrudite Myers, 1927: 117. Type species: *Creagrudite maxillaris* Myers, 1927. Type by original designation. Gender: masculine.

Creagrutops Schultz, 1944: 327. Type species: *Creagrutops maracaiboensis* Schultz, 1944. Type by original designation. Gender: masculine.

***Creagrutus affinis* Steindachner, 1880**

Creagrutus affinis Steindachner, 1880: 79. Type locality: Río Cauca, Colombia. Lectotype: NMW 67120.1, designated by Harold & Vari (1994: 25).

Creagrutus notropoides Meek & Hildebrand, 1912: 68. Type locality: R. Indio, Panama. Holotype: FMNH 7574.

Creagrutus leuciscus Regan, 1913: 463. Type locality: R. Lisa and R. Condoto, San Juan River, Colombia. Lectotype: BMNH 1913.10.1.6, designated by Harold & Vari (1994: 26).

Creagrutus simus Meek & Hildebrand, 1913: 85. Type locality: Río Cupe, Cituro, Panama. Holotype: FMNH 7591.

Creagrutus londonoi Fowler, 1945d: 3, figs. 1-3. Type locality: Honda, Colombia. Holotype: ANSP 71610.

Maximum length: 7.8 cm SL

Distribution: Central and South America: Caribbean drainages of Colombia from the Magdalena River basin west to coastal basins of Chocó Department, Pacific slope rivers of Panama from Bayano to Tuira River, Chagres River system of Atlantic slope of Panama, and Baudo and San Juan rivers of Pacific slopes of Colombia.

Countries: Colombia, Panama

***Creagrutus amoenus* Fowler, 1943**

Creagrutus amoenus Fowler, 1943a: 239, fig. 18. Type locality: Florencia, Río Ortegusa, Caquetá, Colombia. Holotype: ANSP 70499.

Creagrutus boehlkei Géry, 1972a: 63, pl. 4 (fig. 2). Type locality: Oriente del Ecuador (=eastern Ecuador). Holotype: ZSM 28428.

Maximum length: 9.1 cm SL

Distribution: South America: Andean foothill rivers of eastern Ecuador and southeastern Colombia.

Countries: Colombia, Ecuador

Remarks and references: See Vari & Harold (2001: 58) for detailed redescription.

***Creagrutus anary* Fowler, 1913**

Creagrutus anary Fowler, 1913: 552, fig. 16. Type locality: Madeira River, about 200 miles east of long. 62°20'W, Brazil. Holotype: ANSP 39290 (missing). Type locality apparently erroneous (Böhlke 1955: 8).

Maximum length: 4.5 cm SL

Distribution: South America: Madeira River basin.

Countries: Brazil

Remarks and references: See Vari & Harold (2001: 63) for de-

tailed redescription.

***Creagrutus atratus* Vari & Harold, 2001**

Creagrutus atratus Vari & Harold, 2001: 66, fig. 24-25. Type locality: Colombia, Cundinamarca, Río Meta basin, Río Caqueza, tributary to Río Negro, about 2 km upstream of village of Caqueza (latter at 4°25'N, 73°57'W). Holotype: ICNMHN 4158.

Maximum length: 7.01 cm SL

Distribution: South America: western portions of Orinoco River basin.

Countries: Colombia

***Creagrutus atrisignum* Myers, 1927**

Creagrutus atrisignum Myers, 1927: 116. Type locality: Upper Río Maranhão (upper Tocantins), Goyaz (=Goiás), Brazil. Holotype: CAS 41339.

Maximum length: 5.5 cm SL

Distribution: South America: Maranhão River basin in Tocantins River drainage.

Countries: Brazil

Remarks and references: See Vari & Harold (2001: 69) for detailed redescription.

***Creagrutus barrigai* Vari & Harold, 2001**

Creagrutus barrigai Vari & Harold, 2001: 71, fig. 27. Type locality: Ecuador, Sucumbíos, Río Aguatico, near San Pablo de Kante-siya (0°15'18"S, 76°25'30"W). Holotype: MEPN 4621.

Maximum length: 5.3 cm SL

Distribution: South America: Western Amazon River basin in northeastern Peru, northeastern Ecuador, and western Brazil.

Countries: Brazil, Ecuador, Peru

***Creagrutus beni* Eigenmann, 1911**

Creagrutus beni Eigenmann, 1911b: 172, pl. 6 (fig. 2). Type locality: Villa Bella on Río Beni (Bolivia). Holotype: FMNH 54585 (poor condition).

Maximum length: 7.3 cm SL

Distribution: South America: Upper Madeira River basin in northeastern Bolivia.

Countries: Bolivia

Remarks and references: See Vari & Harold (2001: 75) for detailed redescription.

***Creagrutus bolivari* Schultz, 1944**

Creagrutus bolivari Schultz, 1944: 334, fig. 49. Type locality: Río Guárico and tributaries between San Sebastián and San Casimiro, State of Aragua, Venezuela. Holotype: USNM 121497.

Maximum length: 5.2 cm SL

Distribution: South America: Orinoco River basin.

Countries: Colombia, Venezuela

Remarks and references: See Vari & Harold (2001: 79) for detailed redescription.

***Creagrutus brevipinnis* Eigenmann, 1913**

Creagrutus brevipinnis Eigenmann, 1913: 10. Type locality: Piedra de Moler, Colombia. Holotype: FMNH 56095.

Maximum length: 4.8 cm SL

Distribution: South America: Upper Cauca River basin.

Countries: Colombia

Remarks and references: See Harold & Vari (1994: 18) for detailed redescription.

***Creagrutus britskii* Vari & Harold, 2001**

Creagrutus britskii Vari & Harold, 2001: 83, fig. 31. Type locality: Brazil, Goiás, Iaciara, Ribeirão Macambira (approximately 14°20'S, 46°45'W), near bridge on highway GO 112. Holotype: MZUSP 40537.

Maximum length: 5.25 cm SL

Distribution: South America: Upper Tocantins River basin.

Countries: Brazil

***Creagrutus calai* Vari & Harold, 2001**

Creagrutus calai Vari & Harold, 2001: 85, fig. 32. Type locality: Colombia, Meta, unnamed stream on Rancho El Viento, across Río Meta from Puerto Lopez (4°08'N, 72°39'W). Holotype: ANSP 130527.

Maximum length: 6.6 cm SL

Distribution: South America: Western Meta River basin in eastern Colombia.

Countries: Colombia

***Creagrutus caucanus* Eigenmann, 1913**

Creagrutus caucanus Eigenmann, 1913: 9. Type locality: Paila, Colombia. Holotype: FMNH 56104.

Maximum length: 8.3 cm SL

Distribution: South America: Upper Cauca River basin.

Countries: Colombia

Remarks and references: See Harold & Vari (1994: 5) for detailed redescription.

***Creagrutus changae* Vari & Harold, 2001**

Creagrutus changae Vari & Harold, 2001: 88, fig. 34. Type locality: Peru, Huanuco, Provincia Pachitea, Río San Alejandro, a tributary of Río Sungarayacu, just above junction with Río Sungarayacu (approximately 9°23'S, 75°11'W). Holotype: MUSM 8858.

Maximum length: 6.69 cm SL

Distribution: South America: Western tributaries of Ucayali River in departments of Junin, Pasco, and Huanuco, Peru.

Countries: Peru

***Creagrutus cochui* Géry, 1964**

Creagrutus cochui Géry, 1964e: 56, fig. 12. Type locality: Upper Amazon region surrounding Iquitos, Peru. Holotype: USNM 200426.

Maximum length: 7.9 cm SL

Distribution: South America: Western Amazon River basin.

Countries: Brazil, Peru

Remarks and references: See Vari & Harold (2001: 91) for detailed redescription.

Common names: Mojarita (Peru)

***Creagrutus cracentis* Vari & Harold, 2001**

Creagrutus cracentis Vari & Harold, 2001: 93, fig. 36. Type locality: Brazil, Pará, Rio Tapajós, sandy beaches on an island located 5 km S of Itaituba (latter locality at 4°17'S, 55°59'W). Holotype: MCP 15213.

Maximum length: 3.83 cm SL

Distribution: South America: Lower portions of Tapajós River basin.

Countries: Brazil

***Creagrutus crenatus* Vari & Harold, 2001**

Creagrutus crenatus Vari & Harold, 2001: 95, fig. 37. Type locality: Venezuela, Lara, Quebrada Sanare in Yay (9°45'N, 69°43'W). Holotype: MHNLS 505.

Maximum length: 7.02 cm SL

Distribution: South America: Upper Tocuyo River, Caribbean versant, north central Venezuela.

Countries: Venezuela

***Creagrutus ephippiatus* Vari & Harold, 2001**

Creagrutus ephippiatus Vari & Harold, 2001: 98, fig. 39. Type locality: Venezuela, Amazonas, Upper Río Siapa, Campamento Siapa (Siapa Base Camp). Holotype: MBUCV V-29068.

Maximum length: 5.84 cm SL

Distribution: South America: Siapa River, southern tributary of Casiquiare River, upper Negro River basin.

Countries: Venezuela

***Creagrutus figueiredoi* Vari & Harold, 2001**

- Creagrutus figueiredoi* Vari & Harold, 2001: 101, fig. 40. Type locality: Brazil, Distrito Federal, Rio Maranhão, upper Rio Tocantins basin, approximately 35 air km N of Brasília (approximately 15°32'S, 47°49'W). Holotype: MZUSP 50542.
Maximum length: 6.33 cm SL
Distribution: South America: Tocantins River drainage in both upper Tocantins and Araguaia River basins.
Countries: Brazil
- Creagrutus flavescens* Vari & Harold, 2001**
Creagrutus flavescens Vari & Harold, 2001: 104, fig. 41. Type locality: Ecuador, Pastaza, Río Tiguino basin, Río Tiguino No. 3 (unnamed tributary of Río Tiguino; 1°07'35"S, 76°56'52"W). Holotype: MEPN 4622.
Maximum length: 9.38 cm SL
Distribution: South America: Eastern slopes of the Andean piedmont.
Countries: Colombia, Ecuador, Peru
- Creagrutus gephyrus* Böhlke & Saul, 1975**
Creagrutus gephyrus Böhlke & Saul, 1975: 25, figs. 1-4. Type locality: Río Aguarico at Santa Cecilia, Napo Province, Ecuador. Holotype: ANSP 130516.
Maximum length: 6.5 cm SL
Distribution: South America: Andean piedmont rivers of eastern Ecuador and northeastern Peru.
Countries: Ecuador, Peru
Remarks and references: See Vari & Harold (2001: 108) for detailed redescription.
- Creagrutus gracilis* Vari & Harold, 2001**
Creagrutus gracilis Vari & Harold, 2001: 111, fig. 44. Type locality: Peru, Amazonas, Provincia Condorcanqui, Río Santiago, at La Poza (4°01'S, 77°47'W). Holotype: LACM 41724-27.
Maximum length: 7.7 cm SL
Distribution: South America: Amazonas and Loreto States of Peru and various localities along eastern slope of Andean Cordilleras in Ecuador.
Countries: Ecuador, Peru
- Creagrutus gyrospilus* Vari & Harold, 2001**
Creagrutus gyrospilus Vari & Harold, 2001: 113, fig. 45. Type locality: Venezuela, Portuguesa, Río Saguaz, Río Guanare-Apure drainage, bridge near park on road to Chabasquen (= Paraíso de Chabasquén; 9°23'30"N, 70°00'30"W). Holotype: INHS 69479.
Maximum length: 6.23 cm SL
Distribution: South America: Western Orinoco River basin in Venezuela.
Countries: Venezuela
- Creagrutus hildebrandi* Schultz, 1944**
Creagrutus hildebrandi Schultz, 1944: 330, figs. 47-48. Type locality: Río Táchira, 7 km north of San Antonio, Catatumbo system, Venezuela. Holotype: USNM 121482.
Maximum length: 6.3 cm SL
Distribution: South America: Maracaibo Lake basin and Gulf of Venezuela.
Countries: Venezuela
Remarks and references: See Harold & Vari (1994: 20) for detailed redescription.
- Creagrutus holmi* Vari & Harold, 2001**
Creagrutus holmi Vari & Harold, 2001: 116, fig. 46. Type locality: Peru, Amazonas, Provincia Utcubamba, Bagua Grande, San Antonio, Quebrada Jaimito (approximately 5°47'S, 78°23'W). Holotype: MUSM 5670.
Maximum length: 9.2 cm SL
Distribution: South America: Marañón River basin above Pongo de Manseriche, in northeastern Peru.
Countries: Peru
- Creagrutus hysginus* Harold, Vari, Machado-Allison & Provenzano, 1994**
Creagrutus hysginus Harold, Vari, Machado-Allison & Provenzano, 1994: 975, fig. 1. Type locality: Venezuela, Estado Sucre, Río Güiría, near La Toma. Holotype: MBUCV V-20310.
Maximum length: 5.6 cm SL
Distribution: South America: Rivers draining into Gulf of Paria, Estados Sucre and Monagas.
Countries: Venezuela
Remarks and references: See Vari & Harold (2001: 119) for detailed redescription.
- Creagrutus ignotus* Vari & Harold, 2001**
Creagrutus ignotus Vari & Harold, 2001: 122, fig. 48. Type locality: Brazil, Mato Grosso, Riacho (small stream) 1, tributary to Rio Preto at road to San Francisco, Município de Diamantino (Rio Arinos basin). Holotype: MZUSP 45310.
Maximum length: 5.3 cm SL
Distribution: South America: Upper Tapajós River basin.
Countries: Brazil
- Creagrutus kunturus* Vari, Harold & Ortega, 1995**
Creagrutus kunturus Vari, Harold & Ortega, 1995: 290, figs. 1-2. Type locality: Peru, Departamento Amazonas, Provincia Condorcanqui, Cordillera del Condor, upper Río Comainas, 20 m upriver of Puesto de Vigilancia No.22 (3°56'30"S, 78°24'20"W). Holotype: MUSM 5667.
Maximum length: 9.6 cm SL
Distribution: South America: Upper Marañón River in northeastern Peru, upper Pastaza River and southwestern portion of Napo River in southeastern Ecuador.
Countries: Ecuador, Peru
Remarks and references: See Vari & Harold (2001: 125) for detailed redescription.
- Creagrutus lassoi* Vari & Harold, 2001**
Creagrutus lassoi Vari & Harold, 2001: 128, fig. 52. Type locality: Venezuela, Yaracuy, Río Tupe, Río Aroa drainage, approximately 12 km N of Aroa, on Highway 3 (10°30'19"N, 68°52'33"W). Holotype: INHS 60094.
Maximum length: 7.54 cm SL
Distribution: South America: Aroa and Yaracuy River basins, Caribbean versant drainages of north central Venezuela.
Countries: Venezuela
- Creagrutus lepidus* Vari, Harold, Lasso & Machado-Allison, 1993**
Creagrutus lepidus Vari, Harold, Lasso & Machado-Allison, 1993: 352, fig. 1. Type locality: Río Aroa basin, Quebrada El Charal, Finca El Jaguar, Sierra de Aroa, State of Yaracuy, Venezuela (approx. 10°32'N, 68°32'W). Holotype: MHNS 9659.
Maximum length: 4.7 cm SL
Distribution: South America: Aroa and Urama River basins, Caribbean versant drainages of Venezuela.
Countries: Venezuela
Remarks and references: See Vari & Harold (2001: 131) for detailed redescription.
- Creagrutus machadoi* Vari & Harold, 2001**
Creagrutus machadoi Vari & Harold, 2001: 134, fig. 54. Type locality: Venezuela, Bolívar, Departamento Cedeño, upper Río Caura, Caño Yumucukenã, within 4 km of its mouth. Holotype: MCNG 18852.
Maximum length: 4.45 cm SL
Distribution: South America: Caura River basin.
Countries: Venezuela
- Creagrutus magdalenae* Eigenmann, 1913**
Creagrutus magdalenae Eigenmann, 1913: 8. Type locality: Gi-

rardot, Colombia. Holotype: FMNH 56088.
 Maximum length: 5.6 cm SL
 Distribution: South America: Magdalena River basin.
 Countries: Colombia
 Remarks and references: See Harold & Vari (1994: 16) for detailed redescription.

***Creagrutus magoi* Vari & Harold, 2001**

Creagrutus magoi Vari & Harold, 2001: 137, fig. 55. Type locality: Venezuela, Bolivar, Río Chaviripa, where crossed by bridge on road from Caicara to San Fernando de Atabapo (approximately 7°11'N, 66°18'W). Holotype: UF 80477.
 Maximum length: 6.48 cm SL
 Distribution: South America: Chaviripa and Parguaza River basins, right bank tributaries to the Orinoco River.
 Countries: Venezuela

***Creagrutus manu* Vari & Harold, 2001**

Creagrutus manu Vari & Harold, 2001: 140, fig. 56. Type locality: Peru, Madre de Dios, Provincia Manu, Río Manu basin, Parque Nacional Manu, Quebrada Agua Clara, first major quebrada on trail 1 leading from Pakitza (approximately 11°57'S, 71°17'W). Holotype: MUSM 8867.
 Maximum length: 3.97 cm SL
 Distribution: South America: Upper Manu River basin in southeastern Peru.
 Countries: Peru

***Creagrutus maracaiboensis* (Schultz, 1944)**

Creagrutops maracaiboensis Schultz, 1944: 327, figs. 45-46. Type locality: Río Negro below mouth of Río Yasa, Lago Maracaibo basin, Venezuela. Holotype: USNM 121531.
 Maximum length: 2.2 cm SL
 Distribution: South America: Maracaibo Lake basin.
 Countries: Venezuela
 Remarks and references: See Harold & Vari (1994: 10) for detailed redescription.

***Creagrutus maxillaris* (Myers, 1927)**

Creagrudite maxillaris Myers, 1927: 118. Type locality: Sandbank on the Colombian border, Río Negro, Cucuhú (=Cucuf) (Brazil). Holotype: CAS 30419.
 Maximum length: 7.2 cm SL
 Distribution: South America: Orinoco River basin and rivers draining the Guyana shield, upper Negro River in Venezuela and Brazil, and perhaps upper Madeira River basin along Brazilian-Bolivian border.
 Countries: Brazil, Venezuela
 Remarks and references: See Vari & Harold (2001: 142) for detailed redescription.

***Creagrutus melanzonus* Eigenmann, 1909**

Creagrutus melanzonus Eigenmann, 1909a: 30. Type locality: Crab Falls, British Guiana (=Guyana). Holotype: FMNH 52705.
 Maximum length: 3.6 cm SL
 Distribution: South America: Cuyuni River of eastern Venezuela to Sinnamary River basin of French Guiana.
 Countries: French Guiana, Guyana, Venezuela
 Remarks and references: See Vari & Harold (2001: 146) for detailed redescription.

***Creagrutus melasma* Vari, Harold & Taphorn, 1994**

Creagrutus melasma Vari, Harold & Taphorn, 1994: 91, fig. 1. Type locality: Venezuela, Estado Guarico, Parque Nacional Guatopo, Río Orituco, first bridge along road from Santa Teresa to Altagracia. Holotype: MBUCV V-22198.
 Maximum length: 4 cm SL
 Distribution: South America: Orinoco River basin and Tuy and Neveri rivers of Caribbean Sea versant of Venezuela.
 Countries: Venezuela

Remarks and references: See Vari & Harold (2001: 149) for detailed redescription.

***Creagrutus menezesi* Vari & Harold, 2001**

Creagrutus menezesi Vari & Harold, 2001: 153, figs. 63-64. Type locality: Brazil, Mato Grosso, Ribeirão Chiqueirão (tributary of Río Jangada, which, in turn, drains into the Río Cuiabá), approximately 21 km W of Jangada (latter locality at 15°14'S, 56°29'W) on road to Barra do Bugres, Município de Jangada. Holotype: MZUSP 50546.
 Maximum length: 7.52 cm SL
 Distribution: South America: Tocantins River basin and tentatively Branco and Negro River near mouth of Branco.
 Countries: Brazil

***Creagrutus meridionalis* Vari & Harold, 2001**

Creagrutus meridionalis Vari & Harold, 2001: 157, fig. 65. Type locality: Brazil, Mato Grosso, Ribeirão Chiqueirão (tributary of Río Jangada, which, in turn, drains into the Río Cuiabá), approximately 21 km W of Jangada (latter locality at 15°14'S, 56°29'W) on road to Barra do Bugres, Município de Jangada. Holotype: MZUSP 50546.
 Maximum length: 6.2 cm SL
 Distribution: South America: Upper Paraguay River basin in Mato Grosso State, and eastern tributaries to Paraguay River in Paraguay.
 Countries: Brazil, Paraguay

***Creagrutus molinus* Vari & Harold, 2001**

Creagrutus molinus Vari & Harold, 2001: 159, fig. 66. Type locality: Brazil, Mato Grosso, Rio Araguaia basin, riacho (small stream) tributary to Ribeirão Lajeado, Município de Alto Araguaia (approximately 17°19'S, 53°12'W). Holotype: MZUSP 41461.
 Maximum length: 5.58 cm SL
 Distribution: South America: Upper Araguaia River basin.
 Countries: Brazil

***Creagrutus mucipu* Vari & Harold, 2001**

Creagrutus mucipu Vari & Harold, 2001: 162, fig. 68. Type locality: Brazil, Goiás, Município de Minaçu, Rio Tocantins, at port of Rubao (13°44'31"S, 48°08'29"W). Holotype: MCP 19511.
 Maximum length: 5.61 cm SL
 Distribution: South America: Upper Tocantins River basin.
 Countries: Brazil

***Creagrutus muelleri* (Günther, 1859)**

Leporinus muelleri Günther, 1859: 92. Type locality: Andes of western Ecuador. Syntypes: BMNH 1858.7.25.42-43.
 Maximum length: 10.8 cm SL
 Distribution: South America: Rivers of eastern slope of the Andean piedmont in Ecuador.
 Countries: Ecuador
 Remarks and references: See Vari & Harold (2001: 165) for detailed redescription.

***Creagrutus nigrostigmatus* Dahl, 1960**

Creagrutus nigrostigmatus Dahl, 1960b: 353. Type locality: Pozo aproximadamente 200 metros corriente arriba del puente de carretera entre Sincelejo y Tolú, en el arroyo Pechilín, municipio de Toluviejo, departamento de Bolívar, Colombia [=pool approx. 200 m upriver of bridge along road between Sincelejo and Tolú]. Neotype: ICNMHN 989, designated by Harold & Vari (1994: 10).
 Maximum length: 2.3 cm SL
 Distribution: South America: Caño Pechilín and Caño Zaragocilla in Colombia.
 Countries: Colombia
 Remarks and references: See Harold & Vari (1994: 7) for detailed redescription.

***Creagrutus occidaneus* Vari & Harold, 2001**

Creagrutus occidaneus Vari & Harold, 2001: 167, fig. 70. Type locality: Peru, Madre de Dios, Provincia Manu, Parque Nacional Manu, Pakitza, beach along Río Manu close to mouth of Quebrada Pachija (approximately 11°57'S, 71°17'W). Holotype: MUSM 8869.

Maximum length: 6.59 cm SL

Distribution: South America: Foothills and lowlands of eastern Peru in the Manu River basin of Department of Madre de Dios and in upper Purus River basin in states of Acre and Amazonas, Brazil and Department of Ucayali, Peru.

Countries: Brazil, Peru

***Creagrutus ortegai* Vari & Harold, 2001**

Creagrutus ortegai Vari & Harold, 2001: 170, fig. 71. Type locality: Peru, San Martín, Provincia San Martín, Banda de Shilcayo, upper portions of Quebrada Choclin, tributary to Río Huallaga, near town of Shapaja (latter locality at 6°36'S, 76°16'W). Holotype: MUSM 7498.

Maximum length: 7.11 cm SL

Distribution: South America: Huallaga River basin and headwaters of the Aguaytia River.

Countries: Peru

***Creagrutus ouranonastes* Vari & Harold, 2001**

Creagrutus ouranonastes Vari & Harold, 2001: 173, fig. 72. Type locality: Peru, Apurímac, Provincia Aymaraes, Río Chalhuanca (approximately 14°01'S, 73°11'W). Holotype: MUSM 8872.

Maximum length: 10 cm SL

Distribution: South America: Upper Apurímac River basin.

Countries: Peru

***Creagrutus paraguayensis* Mahnert & Géry, 1988**

Creagrutus paraguayensis Mahnert & Géry, 1988: 5, figs. 4-5; pl. 3. Type locality: Río Azotey à Cororo, près de l'embouchure du Río Ypané Province Concepción, Paraguay (=Río Azotey at Cororo, near mouth of Río Ypané, Concepción Province, Paraguay). Holotype: MHNG 2386.01.

Maximum length: 5.8 cm SL

Distribution: South America: Paraguay River basin in central and northern Paraguay.

Countries: Paraguay

Remarks and references: See Vari & Harold (2001: 175) for detailed redescription.

***Creagrutus paralacus* Harold & Vari, 1994**

Creagrutus paralacus Harold & Vari, 1994: 13, fig. 8. Type locality: Río Catatumbo basin, Río Táchira, 7 km N of San Antonio, Venezuela. Holotype: USNM 121504.

Maximum length: 6.7 cm SL

Distribution: South America: Southern and southeastern tributaries to Maracaibo Lake.

Countries: Venezuela

***Creagrutus pearsoni* Mahnert & Géry, 1988**

Piabina beni Pearson, 1924: 45, pl. 10 (fig. 5). Type locality: Popoi River, upper Beni. Syntypes: CAS 87389, UMMZ 66 495.

Creagrutus pearsoni Mahnert & Géry, 1988: 5. Type locality: Río Beni at Villa Bella, Amazon system, Bolivia. Holotype: FMNH 54585 (poor condition).

Maximum length: 3.4 cm SL

Distribution: South America: Upper Madeira River basin in northeastern Bolivia and southeastern Peru.

Countries: Bolivia, Peru

Remarks and references: See Vari & Harold (2001: 178) for detailed redescription.

***Creagrutus peruanus* (Steindachner, 1875)**

Piabina peruana Steindachner, 1875: 596. Type locality: Monteri-

co, Peru [=Montericco, Ayacucho, Peru]. Syntypes: NMW 19852-19854, 19867-19871.

Creagrutus nasutus Günther, 1876: 400. Type locality: Monterico, Peru [=Monterrico, Ayacucho, Peru]. Syntypes: BMNH 1875.10.14.26-33.

Maximum length: 8.7 cm SL

Distribution: South America: Apurímac and Urubamba River basins.

Countries: Peru

Remarks and references: See Vari & Harold (2001: 181) for detailed redescription.

Common names: Mojarita (Peru)

***Creagrutus petilus* Vari & Harold, 2001**

Creagrutus petilus Vari & Harold, 2001: 184, fig. 78. Type locality: Brazil, Rondônia, Rio Marco Rondon, Pimenta Bueno (approximately 11°29'S, 61°12'W). Holotype: MNRJ 14807.

Maximum length: 4.88 cm SL

Distribution: South America: Upper Machado River, right bank tributary of Madeira River.

Countries: Brazil

***Creagrutus phasma* Myers, 1927**

Creagrutus phasma Myers, 1927: 117. Type locality: Venezuela, mouth of Curamuni, Río Cassiquiare. Syntypes: CAS 209192.

Maximum length: 6.6 cm SL

Distribution: South America: Upper Negro River north to Orinoco River basin.

Countries: Brazil, Colombia, Venezuela

Remarks and references: See Vari & Harold (2001: 186) for detailed redescription.

***Creagrutus pila* Vari & Harold, 2001**

Creagrutus pila Vari & Harold, 2001: 189, fig. 80. Type locality: Peru, Ucayali, Provincia Padre Abad, Río Huacamayo, km 155 on Highway (Carratera Federico Basadre) from Pucallpa to Tingo Maria. Holotype: MUSM 8874.

Maximum length: 7.05 cm SL

Distribution: South America: Smaller rivers draining into Aguaytia River, left bank tributary of Ucayali River.

Countries: Peru

***Creagrutus planquettei* Géry & Renno, 1989**

Creagrutus planquettei Géry & Renno, 1989: 1, figs. 1-5. Type locality: Crique Japigny, Arataye, affluent de l'Approuague, en amont de Pierrette, Guyane (=crique Japigny, Arataye, tributary of Approuague River, above Pierrette, French Guiana). Holotype: MNHN 1989-31.

Maximum length: 6.7 cm SL

Distribution: South America: Middle and upper Approuague River basin.

Countries: French Guiana

Remarks and references: See Vari & Harold (2001: 191) for detailed redescription.

Common names: Yaya (French Guiana)

***Creagrutus provenzanoi* Vari & Harold, 2001**

Creagrutus provenzanoi Vari & Harold, 2001: 195, fig. 84. Type locality: Venezuela, Amazonas, Upper Río Cataniapo basin, small caño above Saramã Sota. Holotype: MBUCV V-14392.

Maximum length: 5.76 cm SL

Distribution: South America: Cataniapo River basin, right bank tributary of Orinoco River.

Countries: Venezuela

***Creagrutus runa* Vari & Harold, 2001**

Creagrutus runa Vari & Harold, 2001: 198, fig. 85. Type locality: Brazil, Amazonas, Rio Negro, Paraná do Jacaré (approximately 0°30'S, 66°30'W). Holotype: MZUSP 29888.

Maximum length: 6.27 cm SL

Distribution: South America: Upper Negro River basin.

Countries: Brazil, Venezuela

***Creagrutus saxatilis* Vari & Harold, 2001**

Creagrutus saxatilis Vari & Harold, 2001: 200, fig. 86. Type locality: Brazil, Goiás, Niquelândia, Rio Indaial, left bank tributary of Rio Maranhão, upper Rio Tocantins basin. Holotype: MNRJ 14544.

Maximum length: 8.17 cm SL

Distribution: South America: Upper Tocantins River basin in Goiás State and Distrito Federal.

Countries: Brazil

***Creagrutus seductus* Vari & Harold, 2001**

Creagrutus seductus Vari & Harold, 2001: 202, fig. 87. Type locality: Brazil, Mato Grosso, Upper Rio Araguaia basin, Córrego Fundo, Município de Barra do Garças (approximately 15°53'S, 52°15'W). Holotype: MZUSP 51026.

Maximum length: 7.03 cm SL

Distribution: South America: Upper Araguaia River basin.

Countries: Brazil

***Creagrutus taphorni* Vari & Harold, 2001**

Creagrutus taphorni Vari & Harold, 2001: 205, fig. 88. Type locality: Venezuela, Guarico, Río Orituco, Parque Nacional Guatopo, first bridge along road from Santa Teresa to Altigracia. Holotype: MBUCV V-29288.

Maximum length: 7.41 cm SL

Distribution: South America: Piedmont streams of north central Venezuela, east of Andean Cordilleras, largely in Orinoco River and Tuy River basin of Caribbean versant.

Countries: Venezuela

***Creagrutus unguis* Vari & Harold, 2001**

Creagrutus unguis Vari & Harold, 2001: 209, fig. 89. Type locality: Peru, Madre de Dios, Provincia Manu, Quebrada Soga, tributary of Río Alto Madre de Dios, 1 km upstream from Erika (opposite Salvacion; approximately 12°53'S, 71°12'W). Holotype: MUSM 8878.

Maximum length: 7.49 cm SL

Distribution: South America: Madre de Dios River basin.

Countries: Peru

***Creagrutus veruina* Vari & Harold, 2001**

Creagrutus veruina Vari & Harold, 2001: 213, fig. 91. Type locality: Venezuela, Amazonas, Río Cataniapo, 200 m above Las Pavas. Holotype: MBUCV V-29072.

Maximum length: 4.47 cm SL

Distribution: South America: Cataniapo River basin, east bank tributary of middle Orinoco River.

Countries: Venezuela

***Creagrutus vexillapinnus* Vari & Harold, 2001**

Creagrutus vexillapinnus Vari & Harold, 2001: 215, fig. 92. Type locality: Brazil, Amazonas, Rio Negro, Cachoeira de São Gabriel (0°08'S, 67°05'W). Holotype: MZUSP 29894.

Maximum length: 5.04 cm SL

Distribution: South America: Upper Negro and upper Orinoco River basins.

Countries: Brazil, Venezuela

***Creagrutus xiphos* Vari & Harold, 2001**

Creagrutus xiphos Vari & Harold, 2001: 218, fig. 93. Type locality: Venezuela, Bolivar, Sand bank along Río Mato (7°02'N, 65°13'W). Holotype: ANSP 165815.

Maximum length: 2.77 cm SL

Distribution: South America: Mato River in the Caura River basin, Orinoco River drainage.

Countries: Venezuela

***Creagrutus zephyrus* Vari & Harold, 2001**

Creagrutus zephyrus Vari & Harold, 2001: 220, fig. 94. Type locality: Venezuela, Amazonas, Río Casiquiare, playa and backwater about 2 km downstream from mouth of Río Pamoni (2°48'N, 65°57'W). Holotype: ANSP 161238.

Maximum length: 3.98 cm SL

Distribution: South America: Central and upper Negro River.

Countries: Brazil, Venezuela

CTENOBRYCON

Ctenobrycon Eigenmann, 1908: 94. Type species: *Tetragonopterus hauxwellianus* Cope, 1870. Type by original designation. Gender: masculine.

Apodastyanax Fowler, 1911: 422. Type species: *Apodastyanax stewardsoni* Fowler, 1911. Type by original designation. Gender: masculine.

***Ctenobrycon alleni* (Eigenmann & McAtee, 1907)**

Tetragonopterus alleni Eigenmann & McAtee, in Eigenmann, McAtee & Ward, 1907: 126, pl. 40 (fig. 2). Type locality: Corumba [Rio Paraguay basin, Mato Grosso do Sul, Brazil]. Holotype: CAS 57616 [ex IU 10158].

Maximum length: 8 cm SL

Distribution: South America: Paraguay River basin.

Countries: Brazil, Paraguay

Remarks and references: See Britski et. al. (1999: 32) for description.

Common names: Lambari (Brazil)

***Ctenobrycon hauxwellianus* (Cope, 1870)**

Tetragonopterus hauxwellianus Cope, 1870: 560. Type locality: Pebas, Ecuador [now Peru]. Syntypes: ANSP 8157 [incorrectly considered as the holotype by Böhlke (1984)], ANSP 8138-42 (5).

Ctenobrycon rhabdops Fowler, 1913: 537, fig. 10. Type locality: Igarapé de Candelaria (about two miles from the Madeira River, into which it empties), in Lat. S. 8°45', Long. W 63°54', Brazil. Holotype: ANSP 39220.

Maximum length: 8 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

Common names: Lambari (Brazil), Mojara (Peru)

***Ctenobrycon spilurus* (Valenciennes, 1850)**

Tetragonopterus spilurus Valenciennes, in Cuvier & Valenciennes, 1850: 156. Type locality: Surinam. Syntypes: MHNH 5341 (ex RMNH).

Apodastyanax stewardsoni Fowler, 1911: 422, fig. 2. Type locality: Corisal, Venezuela [Orinoco River basin]. Holotype: ANSP 37867.

Maximum length: 8 cm SL

Distribution: South America: Orinoco River basin; coastal river basins of Guiana, Suriname, and french Guiana.

Countries: French Guiana, Guyana, Suriname, Venezuela

Remarks and references: See Taphorn (1992) for notes on ecology and synonymy.

Common names: Bobita (Venezuela)

Species inquirendae

Tetragonopterus multiradiatus Steindachner, 1876b: 92. Type locality: Amazonenstrom bei Teffé [Brazil]. Syntypes not found at NMW.

Tetragonopterus correntinus Holmberg, 1891: 188. Type locality: Corrientes, Río Paraná, Argentina. No types known.

Astyanax pelegri Eigenmann, in Eigenmann, McAtee & Ward, 1907: 136, pl. 40 (fig. 3). Type locality: Paraguay Basin and Bahia Negra.

Tetragonopterus gibbicervix Pellegrin, 1909: 152. Type locality: Tabatinga Tonnantins Teffé [Amazon River, Brazil]. Syntypes:

MNHN 1909-182 (1), MNHN 1909-320 (1), MNHN 1909-321 (2), NMW 57516 (1).

Remarks and references: Redescribed in Travassos (1957: 87).
Common names: Lambari (Brazil)

DEUTERODON

Deuterodon Eigenmann in Eigenmann, McAtee & Ward, 1907: 140. Type species: *Deuterodon iguape* Eigenmann, 1907. Type by monotypy. Gender: masculine. Species of coastal river drainages of southern Brazil revised by Lucena & Lucena (1992), with species descriptions, geographical distribution and comments on diagnostic characters.

Joinvillea Steindachner, 1908: 29. Type species: *Joinvillea rosae* Steindachner, 1908. Type by monotypy. Gender: feminine.

Distoechus Gomes, 1947: 12. Type species: *Distoechus stigmaturus* Gomes, 1947. Type by original designation. Gender: masculine.

Deuterodon iguape Eigenmann, 1907

Deuterodon iguape Eigenmann, in Eigenmann, McAtee & Ward, 1907: 140, pl. 41 (fig. 3). Type locality: Iguape [São Paulo, Brazil]. Holotype: CAS 44226 [ex IU 9265].

Maximum length: 9.84 cm SL

Distribution: South America: Ribeira de Iguape River basin.

Countries: Brazil

Remarks and references: Redescribed with synonymy in Eigenmann (1927: 346); see Lucena & Lucena (1992: 152) for comments about species description.

Common names: Lambari (Brazil)

Deuterodon langei Travassos, 1957

Deuterodon langei Travassos, 1957: 81, fig. 9. Type locality: Córrego da Divisa - Pôrto de Cima - Paraná [Morretes, Brazil]. Holotype: MNRJ 8534.

Deuterodon amniculus Lucena & Lucena, 1992: 127, fig. 5. Type locality: Santa Catarina: arroio Lindo, ao lado da SC 301 próximo do entroncamento com a Br 101, Pirabeiraba, Joinville (aprox. 48°57'W 26°10'S). Holotype: MCP 14755.

Deuterodon garujo Lucena & Lucena, 1992: 130, fig. 5. Type locality: Santa Catarina: rio Garuvá, sob a ponte na Br 101 cerca de 2 Km da divisa Santa Catarina/Paraná, Garuvá (aprox. 48°55'W 25°59'S). Holotype: MCP 14754.

Maximum length: 9.4 cm SL

Distribution: South America: Coastal basins between Cubatão (northern) River, Santa Catarina State and the Nhundiaquara River basin in Paraná State.

Countries: Brazil

Remarks and references: see Lucena & Lucena (1992: 137) for comments about distribution.

Common names: Lambari (Brazil)

Deuterodon longirostris (Steindachner, 1907)

Tetragonopterus fasciatus longirostris Steindachner, 1907: 481. Type locality: Flusse Cubatão [Águas Mornas, Santa Catarina State, Brazil]. Syntypes: (23) NMW 57508 (2), 57633 (4).

Maximum length: 9.13 cm SL

Distribution: South America: Cubatão (southern) River in Santa Catarina State.

Countries: Brazil

Remarks and references: For information regarding the type locality see Lucena & Lucena (1990).

Common names: Lambari (Brazil)

Deuterodon rosae (Steindachner, 1908)

Joinvillea rosae Steindachner, 1908: 30. Type locality: Rio Jaraçuá bei Joinville im Staate S. Catarina (Brasilien). Lectotype: NMW 69596 (105 mm SL), designated by Lucena & Lucena (1992: 138).

Maximum length: 11.7 cm SL

Distribution: South America: Itapocú River basin.

Countries: Brazil

Deuterodon singularis Lucena & Lucena, 1992

Deuterodon singularis Lucena & Lucena, 1992: 141, fig. 11. Type locality: Santa Catarina: rio Sanga de Areia, Gravatal (aprox. 49°06'W 28°33'S) [Brazil]. Holotype: MCP 14753.

Maximum length: 8.8 cm SL

Distribution: South America: Tubarão River basin and coastal drainages between its mouth and Da Madre River.

Countries: Brazil

Common names: Lambari (Brazil)

Deuterodon stigmaturus (Gomes, 1947)

Distoechus stigmaturus Gomes, 1947: 13, fig. 2; pl. 1 (fig. 2). Type locality: backwater of Rio Maquiné, a tributary to Lagôa dos Quadros, Conceição do Arroio County, Rio Grande do Sul, Brazil. Holotype: UMMZ 143273.

Maximum length: 10.7 cm SL

Distribution: South America: Maquiné, Três Forquilhas and Mampituba River basins in Rio Grande do Sul State.

Countries: Brazil

Common names: Lambari (Brazil)

Deuterodon supparis Lucena & Lucena, 1992

Deuterodon supparis Lucena & Lucena, 1992: 148, fig. 12. Type locality: Santa Catarina: afluente do Rio Itajaí-Açu, estrada Blumenau-Rio do Sul (Br 470), próximo a Ibirama (aprox. 49°33' W 27°04'S) [Brazil]. Holotype: MCP 14752.

Maximum length: 10.24 cm SL

Distribution: South America: Itajaí-Açu River basin in Santa Catarina State.

Countries: Brazil

Common names: Lambari (Brazil)

ENGRAULISOMA

Engraulisoma Castro, 1981: 135. Type species: *Engraulisoma taeniatum* Castro, 1981. Type by original designation. Gender: neuter.

Engraulisoma taeniatum Castro, 1981

Engraulisoma taeniatum Castro, 1981: 137, fig. 1. Type locality: Brasil. Mato Grosso: Rio Cuiabá, Município de Poconé. Holotype: MZUSP 14704.

Maximum length: 4.2 cm SL

Distribution: South America: Upper Paraguay and Napo River basins.

Countries: Brazil, Ecuador, Peru

EXODON

Exodon Müller & Troschel, 1844: 31. Type species: *Exodon paradoxus* Müller & Troschel, 1844. Type by monotypy. Gender: masculine.

Hystricodon Günther, 1864: 349. Type species: *Exodon paradoxus* Müller & Troschel, 1844. Type by being a replacement name. Gender: masculine.

Exodon paradoxus Müller & Troschel, 1844

Exodon paradoxus Müller & Troschel, 1844: 91, pl. 4 (fig. 1). Type locality: Guiana. Syntypes: ZMB 3609 (2).

Epicyrthus exodon Valenciennes in Cuvier & Valenciennes, 1850: 46. Type locality: l'Amazone.

Maximum length: 7.5 cm SL

Distribution: South America: Amazon River basin; Tocantins River basin; Guyana.

Countries: Brazil, Guyana

Common names: Miguelinho (Brazil)

GENYCHARAX

Genycharax Eigenmann, 1912a: 22. Type species: *Genycharax tarpon* Eigenmann, 1912. Type by original designation. Gender: masculine.

Genycharax tarpon Eigenmann, 1912

Genycharax tarpon Eigenmann, 1912a: 22. Type locality: Cartago [Cauca River basin, Colombia]. Holotype: FMNH 56018 [ex CM 4808].

Maximum length: 17.4 cm SL

Distribution: South America: Upper Cauca River basin.

Countries: Colombia

Remarks and references: Game fish (Eigenmann, 1912a: 22; Dahl, 1971: 129). See Géry (1977: 531) for comments.

GRUNDULUS

Grundulus Valenciennes, in Cuvier & Valenciennes, 1846: 216. Type species: *Poecilia bogotensis* Humboldt, 1821. Type by monotypy. Gender: masculine. See Malabarba (1998: 228-229) for comments on the status of *Grundulus*, *Rhodeoides* and *Ctenocharax*.

Rhodeoides Thominot, 1884: 149. Type species: *Rhodeoides vaillanti* Thominot, 1884. Type by monotypy. Gender: masculine.

Ctenocharax Regan, 1907: 403. Type species: *Ctenocharax bogotensis* Regan, 1907. Type by monotypy. Gender: masculine.

Grundulus bogotensis (Humboldt, 1821)

Poecilia bogotensis Humboldt in Humboldt & Valenciennes, 1821: 154, 159, pl. 45 (fig. 1). Type locality: Plains of Bogota, Colombia. Holotype: unknown.

Ctenocharax bogotensis Regan, 1907: 403. Type locality: Bogota [Colombia]. Holotype: BMNH 1868.3.4.1.

Distribution: South America: Magdalena River basin.

Countries: Colombia

Remarks and references: *Ctenocharax bogotensis* Regan is a junior homonym of the type species of *Grundulus*, *Poecilia bogotensis* Humboldt, 1821 - see Malabarba (1998: 229) for comments.

Species inquirenda

Rhodeoides vaillanti Thominot, 1884: 150. Type locality: Río Chénéché, affluent of Río Magdalena, Bolivia, elev. ca. 2000 m. Holotype: unknown.

GYMNOCHARACINUS

Gymnocharacinus Steindachner, 1903b: 6. Type species: *Gymnocharacinus bergii* Steindachner, 1903. Type by monotypy. Gender: masculine.

Gymnocharacinus bergii Steindachner, 1903

Gymnocharacinus bergii Steindachner, 1903a: 17. Type locality: Bache des südlichen Argentinien, der nach kurzem Laufe in der Ebene verschwindet [Argentina]. Syntypes: NMW 69429 (1), uncat (1, skeleton).

Maximum length: 7.5 cm TL

Distribution: South America: Valcheta River basin in Negro River drainage of southern Argentina.

Countries: Argentina

Remarks and references: Illustrated and described in more detail in Steindachner (1903b: 6, pl. 1, fig. 2). See Géry, (1977: 535) for comments. Threatened species according to Ortubay & Cussac (2000: 144).

Common names: Mojarra bronceada (Argentina), Mojarra desnuda (Argentina), Naked Characin (USA), Naked Tetra (USA)

GYMNOCORYMBUS

Gymnocorymbus Eigenmann, 1908: 93. Type species: *Gymnocorymbus thayeri* Eigenmann, 1908. Type by original designation. Gender: masculine.

Gymnocorymbus bondi (Fowler, 1911)

Phenacogaster bondi Fowler, 1911: 419, fig. 1. Type locality: Corisal, Venezuela. Holotype: ANSP 37863.

Gymnocorymbus socolofi Géry, 1964c: 25, fig. 1. Type locality: about 200 miles east of Bogota, Colombia, in the upper Rio Meta drainage. Holotype: USNM 198646.

Maximum length: 5 cm SL

Distribution: South America: Orinoco River basin.

Countries: Colombia, Venezuela

Remarks and references: Synonymy above is based on personal observation and examination of types.

Common names: Bobita (Venezuela)

Gymnocorymbus ternetzi (Boulenger, 1895)

Tetragonopterus ternetzi Boulenger, 1895: 528. Type locality: Descalvados, Matto Grosso [Brazil]. Syntypes: BMNH 1885.5.163-7.

Maximum length: 6 cm SL

Distribution: South America: Paraguay and Guaporé River basins.

Countries: Argentina, Bolivia, Brazil, Colombia (introduced)

Remarks and references: See Britski et. al. (1999: 32) for description.

Common names: Black tetra (USA), Tetra preto (Brazil)

Gymnocorymbus thayeri Eigenmann, 1908

Gymnocorymbus thayeri Eigenmann, 1908: 93. Type locality: Amazons from Tabatinga to Gurupa [Brazil].

Moenkhausia profunda Eigenmann, 1912b: 322, pl. 46 (fig. 1). Type locality: Cloaca trenches, Issora Rubber Plantation [Guyana]. Holotype: FMNH 53717 [ex CM 2207].

Maximum length: 5 cm SL

Distribution: South America: Upper Amazon River basin (Bolivia and Colombia). Recorded from the Orinoco River, Guyana, and Trinidad and Tobago.

Countries: Bolivia, Colombia, Guyana, Trinidad and Tobago

Remarks and references: See Eigenmann (1918: 125) for description.

Common names: False black tetra (USA), Lambari (Brazil), Sardinita (Ecuador)

GYMNOTICHTHYS

Gymnotichthys Fernández-Yépez, 1950: 9. Type species: *Gymnotichthys hildae* Fernández-Yépez, 1950. Type by original designation. Gender: masculine.

Gymnotichthys hildae Fernández-Yépez, 1950

Gymnotichthys hildae Fernández-Yépez, 1950: 10, pl. 2 (fig. 1). Type locality: Río Autana [Orinoco River basin, Venezuela]. Holotype: MHNLS 963 [ex AFY 48164].

Maximum length: 7.1 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Remarks and references: See Géry (1977: 451) for comments.

HASEMANIA

Hasemanian Ellis, 1911: 148. Type species: *Hasemanian melanura* Ellis, 1911. Type by original designation. Gender: feminine.

Pristicharax Fowler, 1949a: 1. Type species: *Pristicharax hanseni* Fowler, 1949a. Type by original designation. Gender: masculine.

Hasemanian crenuchoides Zarske & Géry, 1999

Hasemanian crenuchoides Zarske & Géry, 1999: 91, fig. 1. Type locality: Corrego Planaltina, oberer Rio São Bartolomeu (mündend in den Rio Corumba, Nebenfluss des Rio Paranaíba, La-Plata system), 1050 m über NN, nahe Planaltina, nordöstl. von Brasília, Distrito Federal, Bundesstaat Goias, Brasilien, etwa 15°38' südl. Breite und 47°40' westl. Länge. Holotype: MZUSP 52732.

Maximum length: 6.72 cm SL
 Distribution: South America: Upper Paraná River basin in Distrito Federal.
 Countries: Brazil

***Hasemania hanseni* (Fowler, 1949)**

Pristicharax hanseni Fowler, 1949a: 1, fig. 2. Type locality: Goiaz, Brazil. Holotype: ANSP 72104.
 Maximum length: 3.1 cm SL
 Distribution: South America: Goiás State (exact locality unknown).
 Countries: Brazil
 Remarks and references: See Böhlke (1958: 46-49) for a redescription of the species.

***Hasemania maxillaris* Ellis, 1911**

Hasemania maxillaris Ellis, 1911: 148, pl. 1 (fig. 1). Type locality: Porto União, Rio Iguassú [Iguaçu River, Paraná River basin, Paraná, Brazil]. Holotype: FMNH 54303 [ex CM 2937].
 Maximum length: 2.9 cm TL
 Distribution: South America: Iguaçu River basin.
 Countries: Brazil

***Hasemania melanura* Ellis, 1911**

Hasemania melanura Ellis, 1911: 149, pl. 1 (fig. 2). Type locality: Porto União, Rio Iguassú [Iguaçu, Paraná River basin, Paraná, Brazil]. Holotype: FMNH 54384 [ex CM 3002].
 Maximum length: 4.4 cm TL
 Distribution: South America: Iguaçu River basin.
 Countries: Brazil

***Hasemania nana* (Lütken, 1875)**

Tetragonopterus nanus Lütken, 1875a: 133. Type locality: Iacu Lagoa Santa [São Francisco River basin, Minas Gerais, Brazil]. Syntypes: USNM 44958 (4), MNHN 9584 (5), ZMB 9202 (5), ZMUC 664-678 (15), ZMUC 900-916 (17).
Hasemania marginata Meinken, 1938: 225, fig. Type locality: Südöstliches Brasilien, genauer Fangplatz unbekannt.
 Maximum length: 2.66 cm SL
 Distribution: South America: São Francisco River basin in Minas Gerais State.
 Countries: Brazil
 Remarks and references: See Géry (1972: 9) and Lima & Gerhard (2001: 112) for notes on taxonomy.

HEMIBRYCON

Hemibrycon Günther, 1864: 330. Type species: *Tetragonopterus polyodon* Günther, 1864. Type by monotypy. Gender: masculine.

***Hemibrycon boquiae* (Eigenmann, 1913)**

Bryconamericus boquiae Eigenmann, 1913: 20. Type locality: Boquia [at western base of Mount Tolima, Colombia]. Holotype: FMNH 56259 [ex CM 5059]. Name originally published as *Bryconamericus* or *Hemibrycon boquiae* spec. nov.?
Hemibrycon boquillae Eigenmann, 1922b: 153. Type locality: Boquia [at western base of Mount Tolima, Colombia]. Holotype: FMNH 56259 [ex CM 5059].
 Maximum length: 4.8 cm SL
 Distribution: South America: Upper Cauca River basin.
 Countries: Colombia
 Remarks and references: Misspelled or unjustifiably emended to *Hemibrycon boquillae* by Eigenmann (1922: 153) with same types. See Dahl (1971) for identification key and distribution and list of species from Colombia.
 Common names: Sardina (Colombia)

***Hemibrycon carrilloi* Dahl, 1960**

Hemibrycon carrilloi Dahl, 1960a: 467, fig. Type locality: Quebrada La Noche, tributary to the upper Atrato [Colombia]. Holo-

type: whereabouts unknown.
 Maximum length: 6.67 cm SL
 Distribution: South America: Upper Atrato River basin.
 Countries: Colombia
 Common names: Sardina (Colombia)

***Hemibrycon colombianus* Eigenmann, 1914**

Hemibrycon colombianus Eigenmann, in Eigenmann, Henn & Wilson, 1914: 8. Type locality: Rio San Gil, Santander, Colombia. Holotype: FMNH 56653 [ex CM 5470].
 Maximum length: 10.6 cm SL
 Distribution: South America: San Gil River, Santander.
 Countries: Colombia
 Remarks and references: See Dahl, (1971) for identification key and distribution and list of species from Colombia.
 Common names: Golosa (Colombia), Sardina (Colombia)

***Hemibrycon dariensis* Meek & Hildebrand, 1916**

Hemibrycon dariensis Meek & Hildebrand, 1916: 285, pl. 20. Type locality: Rio Yape, Rio Tuyra Basin, Panama. Holotype: FMNH 8947.
 Maximum length: 6.5 cm SL
 Distribution: Central America: Yape River in Tuira River basin.
 Countries: Panama

***Hemibrycon decurrens* (Eigenmann, 1913)**

Bryconamericus decurrens Eigenmann, 1913: 20. Type locality: Soplaviento [Colombia]. Holotype: FMNH 56255 [ex CM 5055].
 Maximum length: 5.7 cm SL
 Distribution: South America: Lower Magdalena River basin.
 Countries: Colombia
 Remarks and references: See Dahl (1971) for identification key and distribution and list of species from Colombia.
 Common names: Galocha (Colombia), Sardinita (Colombia)

***Hemibrycon dentatus* (Eigenmann, 1913)**

Bryconamericus dentatus Eigenmann, 1913: 19. Type locality: Piedra Moler [Colombia]. Holotype: FMNH 56253 [ex CM 5054a].
 Maximum length: 11.8 cm SL
 Distribution: South America: Cauca River basin, upper San Jorge, Cesar, and Orihueca Rivers.
 Countries: Colombia
 Remarks and references: See Dahl (1971) for identification key and distribution and list of species from Colombia.
 Common names: Sardina (Colombia)

***Hemibrycon guppyi* (Regan, 1906)**

Tetragonopterus guppyi Regan, 1906: 384, pl. 21 (fig. 1). Type locality: Glenside Estate stream, at the foot of the range of hills, Trinidad Island, West Indies.
 Maximum length: 8.5 cm SL
 Distribution: South America: Glenside Estate Stream, Trinidad Island.
 Countries: Trinidad and Tobago
 Common names: Mountain-stream Sardine (Trinidad and Tobago)

***Hemibrycon helleri* Eigenmann, 1927**

Hemibrycon helleri Eigenmann, 1927b: 406, pl. 96 (fig. 2). Type locality: Rio Comerciato [Peru]. Holotype: ?MCZ 31565 (1) or 30980 (1).
 Maximum length: 10 cm SL
 Distribution: South America: Amazon River basin, Urubamba, Comerciato, and Crisnejas rivers in Peru.
 Countries: Peru

***Hemibrycon huambonicus* (Steindachner, 1882)**

Tetragonopterus huambonicus Steindachner, 1882a: 177. Type locality: Huambo [Peru]. Syntypes: NMW 57531. Species later illustrated and described in more detail in Steindachner (1882b:

25, pl. 5, fig. 1).
 Maximum length: 11.9 cm SL
 Distribution: South America: Amazon River basin, mountain streams of the eastern slope of Peru and the Beni River basin.
 Countries: Peru

***Hemibrycon jaborero* Schultz, 1944**

Hemibrycon dentatus jaborero Schultz, 1944: 363, fig. 55. Type locality: Río Chama at Estanques, Estado de Mérida, Venezuela.
 Holotype: USNM 121455.
 Maximum length: 11.5 cm SL
 Distribution: South America: Maracaibo Lake basin.
 Countries: Venezuela

***Hemibrycon jelskii* (Steindachner, 1877)**

Tetragonopterus jelskii Steindachner, 1876a: 590. Type locality: Monterico [Peru].
 Maximum length: 4 cm SL
 Distribution: South America: Remac River basin near Lima.
 Countries: Peru

***Hemibrycon metae* Myers, 1930**

Hemibrycon metae Myers, 1930: 68. Type locality: Guaicaramo, Río Guavio, Colombia. Holotype: SU 23727.
 Maximum length: 8 cm SL
 Distribution: South America: Upper Meta River basin.
 Countries: Colombia

***Hemibrycon orcesi* Böhlke, 1958**

Hemibrycon orcési Böhlke, 1958b: 25, pl. 2 (fig. 4). Type locality: Río Macuna [northern tributary of upper Morona River, upper Amazon, 2°7-13' S, 77°35-47' W, prov. Santiago-Zamora, Ecuador]. Holotype: USNM 164064.
 Maximum length: 5 cm SL
 Distribution: South America: Macuma River basin.
 Countries: Ecuador

***Hemibrycon polyodon* (Günther, 1864)**

Tetragonopterus polyodon Günther, 1864: 330. Type locality: Guayaquil [Ecuador]. Holotype: BMNH 1858.7.25.41.
 ?*Hemibrycon coxei* Fowler, 1943d: 1, fig. 1(1). Type locality: Hacienda Las Mascota, mouth of the Río Pastaza, basin of the Río Marañón, Ecuador. Holotype: ANSP 70155. Provisional synonym.
 Maximum length: 16.8 cm SL
 Distribution: South America: Amazon River basin.
 Countries: Ecuador
 Remarks and references: See Eigenmann (1927: 410), Fowler (1943: 2), and Géry (1977: 379) for distribution of *Hemibrycon* species in Ecuador and possibly synonym of *H. coxei* with *H. polyodon*. The type locality of *H. coxei* given by Fowler (1943) is not in accordance with the original label of the holotype (M.H. Sabaj, pers.comm.) or the information given by Brown (1941: 834) on the position of the Hacienda Mascota (see also Böhlke, 1958b: 24-25). Type locality should be amended to "Ecuador, Napo-Pastaza, Hacienda Mascota, río Topo, a tributary of río Pastaza, 1°25'S, 78°11'W".

***Hemibrycon surinamensis* Géry, 1962**

Hemibrycon surinamensis Géry, 1962: 71, fig. 2. Type locality: Browns creek, -km. 114 of the railroad Paramaribo-Dam, Paramacca river basin, Surinam. Holotype: ZMA 104188 [ex Géry M.107.1].
 Maximum length: 7.08 cm SL
 Distribution: South America: Coastal drainages of French Guiana and Suriname.
 Countries: French Guiana, Suriname

***Hemibrycon taeniurus* (Gill, 1858)**

Poecilurichthys taeniurus Gill, 1858: 418. Type locality: Western

portion of the Island of Trinidad, W.I. [Trinidad and Tobago]
 Maximum length: 6.4 cm SL
 Distribution: Central America: Western Trinidad Island.
 Countries: Trinidad and Tobago
 Common names: Mountain stream sardine (Trinidad and Tobago), Sardine (Trinidad and Tobago)

***Hemibrycon tolimae* (Eigenmann, 1913)**

Bryconamericus tolimae Eigenmann, 1913: 18. Type locality: Ibagué [Colombia]. Holotype: FMNH 56257 [ex CM 5057].
 Maximum length: 11.8 cm SL
 Distribution: South America: Upper Magdalena River basin.
 Countries: Colombia
 Remarks and references: See Dahl (1971) for identification key and distribution and list of species from Colombia.
 Common names: Pintona (Colombia), Sardina pintada (Colombia), Sardinita pintada (Colombia)

***Hemibrycon tridens* Eigenmann, 1922**

Hemibrycon tridens Eigenmann, 1922b: 152. Type locality: Río Apurimac at Uruhuasi [Peru]. Holotype: CAS 44358 [ex IU 13723]. Description in key.
 Maximum length: 6.5 cm SL
 Distribution: South America: Upper Amazon River basin.
 Countries: Peru
 Remarks and references: See Eigenmann (1927: 403-404) for detailed description.

***Hemibrycon velox* Dahl, 1964**

Hemibrycon velox Dahl, in Dahl & Medem, 1964: 68, fig. Type locality: Quebrada Caña Fina, Río Verde del Sinu [Colombia].
 Holotype: not researched.
 Maximum length: 11 cm SL
 Distribution: South America: Sinu River basin.
 Countries: Colombia
 Remarks and references: See Dahl (1971) for identification key and distribution and list of species from Colombia.
 Common names: Sardina (Colombia)

HEMIGRAMMUS

Hemigrammus Gill, 1858: 420. Type species: *Poecilurichthys (Hemigrammus) unilineatus* Gill, 1858. Type by monotypy in subgenus. Gender: masculine. More recent appraisal is Géry (1977: 490-510). See Taphorn (1992: 221) for synonymization of *Ramizerella*.

Holopristis Eigenmann, 1903: 145. Type species: *Tetragonopterus ocellifer* Steindachner, 1883. Type by original designation. Gender: feminine. Unjustifiably emended or misspelled *Holopristes* by Eigenmann & Ogle (1907: 11).

Ramirezella Fernández-Yépez, 1949: unnumbered. Type species: *Ramirezella newboldi* Fernández-Yépez, 1949. Type by original designation. Gender: feminine.

***Hemigrammus aereus* Géry, 1959**

Hemigrammus aereus Géry, 1959a: 257, fig. 5. Type locality: crique Nancibo, basin de la Conté, un des formateurs du Mahury [French Guiana]. Holotype: MHNG 2181.86.
 Maximum length: 2.4 cm SL
 Distribution: South America: Known only from the type locality in Comté River basin.
 Countries: French Guiana
 Remarks and references: Planquette et al. (1996: 295) suggested that probably *Hemigrammus aereus* is a synonym of either *Moenkhausia colletii* or *Hemigrammus bellottii*.

***Hemigrammus analis* Durbin, 1909**

Hemigrammus analis Durbin, 1909: 64. Type locality: Rockstone [Essequibo River, Guyana]. Holotype: FMNH 53041 [ex CM 1466].

Maximum length: 3.6 cm TL

Distribution: South America: Essequibo and Demerara rivers; Apure River basin, Orinoco River basin, lower Tapajós and Negro River basins.

Countries: Brazil, Guyana, Venezuela

Remarks and references: Goulding et al. (1988) and Taphorn (1992: 200-202) provided information on taxonomy and ecology.

***Hemigrammus barrigonae* Eigenmann & Henn, 1914**

Hemigrammus barrigonae Eigenmann & Henn, 1914: 232. Type locality: Barrigona, Rio Meta [Colombia]. Holotype: CAS 44368 [ex IU 13423].

Maximum length: 4 cm SL

Distribution: South America: Orinoco River basin.

Countries: Colombia, Venezuela

Remarks and references: See Taphorn (1992: 203-205) for redescription and ecological notes.

Common names: Sardinita dos líneas (Venezuela)

***Hemigrammus belottii* (Steindachner, 1882)**

Tetragonopterus belottii Steindachner, 1882a: 179. Type locality: Tabatinga [Solimões River at Tabatinga, Amazonas, Brazil]. Syntypes: NMW 57253 (13), NMW 57524 (9), NMW 57525 (9). Described in more detail in Steindachner (1882b: 34-35).

Maximum length: 2.63 cm SL

Distribution: South America: Solimões and Negro River basins and Maroni River basin.

Countries: Brazil, French Guiana

Remarks and references: See Géry (1963) and Planquette et al. (1996: 274-275) for redescription and figures.

***Hemigrammus bleheri* Géry & Mahnert, 1986**

Hemigrammus bleheri Géry & Mahnert, 1986: 41, fig. unnumb. Type locality: Middle Rio Negro, Brazil, probably near Rio Jufaris. Holotype: MZUSP 37369.

Maximum length: 3.6 cm SL

Distribution: South America: Negro and Meta River basins.

Countries: Brazil, Colombia

Remarks and references: Ornamental fish.

***Hemigrammus boesemani* Géry, 1959**

Hemigrammus micropterus boesemani Géry, 1959a: 251, fig. 2. Type locality: Crique vers Sinnamary, Guyane fse [French Guiana]. Holotype: MHNG 2181.80.

Maximum length: 2.65 cm SL

Distribution: South America: Maroni, Mana, Iracoubo, Sinnamary, Kourou, Comté, and Kaw rivers, French Guiana; Suriname; upper Amazon in Peru.

Countries: French Guiana, Peru, Suriname

Remarks and references: See Planquette et al. (1996: 275) for notes on taxonomy, ecology and distribution.

***Hemigrammus brevis* Ellis, 1911**

Hemigrammus brevis Ellis, 1911: 161, pl. 3 (fig. 4). Type locality: Barreiras. Lagôas do Rio Grande [São Francisco River basin, Bahia, Brazil]. Holotype: FMNH 54444 [ex CM 3068].

Maximum length: 3.6 cm TL

Distribution: South America: Rio São Francisco basin, Brazil.

Countries: Brazil

***Hemigrammus coeruleus* Durbin, 1908**

Hemigrammus coeruleus Durbin, in Eigenmann, 1908: 99. Type locality: Manacapuru [Solimões River, Amazonas, Brazil]. Syntypes: MCZ 20801 (97); original says 103 specimens, the type 46.

Maximum length: 5.8 cm TL

Distribution: South America: Solimões River and lower Negro River basins in Brazil.

Countries: Brazil

***Hemigrammus cupreus* Durbin, 1918**

Hemigrammus cupreus Durbin, in Eigenmann, 1918: 168, pl. 20 (fig. 3). Type locality: Jatuarana [probably near Parintins, Amazonas, Brazil], Silva, Lake Saraca [Silves, Lago Saracá, Amazonas, Brazil]. Syntypes: MCZ 21067 (6), MCZ 89964 (11), CAS 42675 (2).

Maximum length: 5.3 cm TL

Distribution: South America: Solimões River basin in Brazil.

Countries: Brazil

***Hemigrammus cylindricus* Durbin, 1909**

Hemigrammus cylindricus Durbin, 1909: 62. Type locality: Tumatumari [Guyana]. Holotype: FMNH 53426 [ex CM 1461].

Maximum length: 10.8 cm TL

Distribution: South America: Essequibo River, Guyana.

Countries: Guyana

***Hemigrammus elegans* (Steindachner, 1882)**

Tetragonopterus elegans Steindachner, 1882a: 179. Type locality: Obidos [Amazon River at Óbidos, Pará, Brazil]. Syntypes: NMW 57390 (8), ?MCZ 90014 (2). Described in more detail in Steindachner (1882b: 36, pl. 7, fig. 4).

Maximum length: 4 cm SL

Distribution: South America: Amazon and Tapajós River basins in Brazil; Apure and Aguaro River basins in Venezuela.

Countries: Brazil, Venezuela

Remarks and references: Taphorn (1992: 206-207) provided taxonomical/ecological remarks.

***Hemigrammus erythrozonus* Durbin, 1909**

Hemigrammus erythrozonus Durbin, 1909: 56. Type locality: Erukin [Essequibo River, Guyana]. Holotype: FMNH 53546 [ex CM 1448].

Maximum length: 3.3 cm TL

Distribution: South America: Essequibo River, Guyana.

Countries: Guyana

***Hemigrammus gracilis* (Lütken, 1875)**

Tetragonopterus gracilis Lütken, 1875a: 133. Type locality: Lagoa Santa [São Francisco River basin, Minas Gerais, Brazil]. Syntypes: MNHN 9583 (4), NMW 68066 (5), ZMB 9201 (1), ZMUC 522-529 (8), ZMUC 539 (1), ZMUC 650 (1), ZMUC 651 (1), ZMUC 661 (1), ZMUC 662 (1).

Maximum length: 4.4 cm SL

Distribution: South America: São Francisco and Amazon River basins, Brazil.

Countries: Brazil

Remarks and references: Considered a *Hyphessobrycon* previous to Géry (1977).

***Hemigrammus guyanensis* Géry, 1959**

Hemigrammus guyanensis Géry, 1959a: 254, fig. 3. Type locality: crique Sable (Hte Mana) [French Guiana]. Holotype: MHNG 2181.23.

Maximum length: 3.5 cm SL

Distribution: South America: Maroni, Mana, Approuague, and Oyapock Rivers, French Guiana.

Countries: French Guiana

Remarks and references: See Planquette et al. (1996: 276-277) for notes on taxonomy, ecology and distribution.

***Hemigrammus haraldi* Géry, 1961**

Hemigrammus pulcher haraldi Géry, 1961a: 44, fig. 2. Type locality: Upper Solimões, environs of Sao Paulo de Olivença (Brazil), in an inland-lake midst the thick forest between Paraná-Paraná and the Paraná-Camatia. Holotype: USNM 196672.

Maximum length: 2.73 cm SL

Distribution: South America: Upper Amazon River basin in western Brazil.

Countries: Brazil

***Hemigrammus hyanuary* Durbin, 1918**

Hemigrammus hyanuary Durbin in Eigenmann, 1918: 151, pl. 18 (fig. 4). Type locality: Lake Hyanuary [= Lago Januari, Amazonas, Brazil]. Syntypes: MCZ 20955 (4), CAS 42676 (2).

Maximum length: 4.4 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

***Hemigrammus iota* Durbin, 1909**

Hemigrammus iota Durbin, 1909: 60. Type locality: Gluck Island [Essequibo River, Guyana]. Holotype: FMNH 53034 [ex CM 1458].

Maximum length: 2.1 cm TL

Distribution: South America: Essequibo River basin.

Countries: Guyana

***Hemigrammus levis* Durbin, 1908**

Hemigrammus levis Durbin, in Eigenmann, 1908: 100. Type locality: Lago do Maximo, Obidos, Villa Bella, Lake Jose Assu [Amazon River basin, Brazil]. Syntypes: MCZ 20738 (194), MCZ 20749 (28), MCZ 20829 (3), MCZ 89961 (64), MCZ 89962 (18), USNM 120266 (6), CAS 42677 (5), CAS 42678 (7). Lectotype designated as MCZ 20738 by Eigenmann (1918: 149) but lot with more than one specimen so lectotype designation is not valid.

Maximum length: 4.8 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

Remarks and references: See Araújo-Lima et al. (1986) to observations on diet and microhabitat preferences.

***Hemigrammus luelingi* Géry, 1964**

Hemigrammus luelingi Géry, 1964a: 7, fig. 5. Type locality: petit ruisseau faisant communiquer le Zapote Cocha avec le Caño Yarina, en bordure du Rio Pacaya, affluent du canal de Puinahua (bras du bas Rio Ucayali). Holotype: ZFMK?

Maximum length: 2.51 cm SL

Distribution: South America: Pacaya River basin.

Countries: Peru

***Hemigrammus lunatus* Durbin, 1918**

Hemigrammus lunatus Durbin, in Eigenmann, 1918: 164. Type locality: Amazon. Holotype: MCZ 20964 (1 of 3).

Maximum length: 4.8 cm TL

Distribution: South America: Amazon, Paraguay, and Suriname River basins.

Countries: Brazil, Peru, Suriname

Remarks and references: For taxonomic remarks, see Géry (1964: 9-10).

***Hemigrammus mahnerti* Uj & Géry, 1989**

Hemigrammus mahnerti Uj & Géry, 1989: 154, figs. 5-7. Type locality: Paraguay, dépt. Misiones, marais près de Panchito Lopez à 4 km de Yabebyry. Holotype: MHNG 2412.82.

Maximum length: 2.75 cm SL

Distribution: South America: Paraná and Paraguay River basins in Paraguay.

Countries: Paraguay

***Hemigrammus marginatus* Ellis, 1911**

Hemigrammus marginatus Ellis, 1911: 159, pl. 3 (fig. 3). Type locality: Queimadas, Rio Itapicurú [Bahia, Brazil]. Holotype: FMNH 54430 [ex CM 3053].

Maximum length: 4.5 cm SL

Distribution: South America: São Francisco, Itapicuru, Paraná, and Paraguay River basins; Guaporé and Amazon River basins; Orinoco River basin.

Countries: Brazil, Colombia, Peru, Venezuela

Remarks and references: See Taphorn (1992: 209-210) for taxonomic remarks.

***Hemigrammus matei* Eigenmann, 1918**

Hemigrammus matei Eigenmann, 1918: 152, pl. 19 (fig. 1). Type locality: Argentina. Holotype: CAS 44436 [ex IU 11438].

Maximum length: 4.3 cm TL

Distribution: South America: Argentina (exact locality unknown).

Countries: Argentina

***Hemigrammus maxillaris* (Fowler, 1932)**

Hyphessobrycon maxillaris Fowler, 1932: 354, fig. p. 350. Type locality: Descavaldos, Matto Grosso [Brazil]. Holotype: ANSP 53660.

Maximum length: 3.8 cm SL

Distribution: South America: Paraguay River basin.

Countries: Brazil

Remarks and references: Transferred from *Hyphessobrycon* to *Hemigrammus* by Weitzman (1985).

***Hemigrammus megaceps* Fowler, 1945**

Hemigrammus megaceps Fowler, 1945c: 1, fig. 3. Type locality: Ninabamba near Ayacucho, at 1900 meters elevation, Rio Ucayali basin, Peru. Holotype: ANSP 71624.

Maximum length: 2.8 cm TL

Distribution: South America: Upper Ucayali River basin.

Countries: Peru

***Hemigrammus melanochrous* Fowler, 1913**

Hemigrammus melanochrous Fowler, 1913: 543, fig. 12. Type locality: Tributary of Madeira River near Porto Velho, Brazil. Holotype: ANSP 39228.

Maximum length: 3 cm TL

Distribution: South America: Middle Madeira River basin.

Countries: Brazil

***Hemigrammus micropterus* Meek, 1907**

Hemigrammus micropterus Meek, in Eigenmann & Ogle, 1907: 15. Type locality: Los Castillos, Venezuela. Holotype: CAS 44438 [ex IU 10802].

Maximum length: 4 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Remarks and references: See Taphorn (1992: 212-214) for taxonomical/ecological remarks.

***Hemigrammus microstomus* Durbin, 1918**

Hemigrammus microstomus Durbin, in Eigenmann, 1918: 165. Type locality: Santarem [Amazon basin, Pará, Brazil]. Holotype: MCZ 20782 (1 of 9).

Maximum length: 4 cm SL

Distribution: South America: Central Amazon and Orinoco River basins.

Countries: Brazil, Venezuela

Remarks and references: See Taphorn (1992: 215-216) for taxonomical/ecological remarks.

***Hemigrammus minus* Böhlke, 1955**

Hemigrammus minus Böhlke, 1955: 229, fig. 2. Type locality: rapids at Camanáos on the Rio Negro, Brazil... Camanáos is down river from São Gabriel, at approximately 0°10'S South Latitude, 66°25' West Longitude. Holotype: SU 47759.

Maximum length: 2.83 cm SL

Distribution: South America: Middle Negro and Amazon basins; upper Orinoco River basin.

Countries: Brazil, Colombia, Venezuela

Remarks and references: See Taphorn (1992: 218-219) for taxonomical/ecological remarks.

***Hemigrammus neptunus* Zarske & Géry, 2002**

- Hemigrammus neptunus* Zarske & Géry, 2002a: 24, fig. 3. Type locality: Bolivien, Dep. Pando, Río Manuripi, unweit des Zusammenflusses mit dem Río Tahamanu, mehrere Fundorte Zwischen Alméndrillo (11°11'687"S, 67°34'269"W) und Bolima (11°16'890" S, 67°36'246"). Holotype: MTD F 25536. Maximum length: 3.19 cm SL. Distribution: South America: Amazon River basin in Bolivia. Countries: Bolivia
- Hemigrammus newboldi* (Fernández-Yépez, 1949)**
Ramirezella newboldi Fernández-Yépez, 1949: [2], fig. Type locality: Palital, Edo. Guárico, Venezuela [Orinoco River basin]. Holotype: AFY 45019. Maximum length: 5 cm SL. Distribution: South America: Orinoco River basin. Countries: Venezuela. Remarks and references: See Taphorn (1992: 221-222) for taxonomical/ecological remarks.
- Hemigrammus ocellifer* (Steindachner, 1882)**
Tetragonopterus ocellifer Steindachner, 1882a: 179. Type locality: Villa bella, Cudajas [= Vila Bela, now Parintins, and Cudajas = Codajás, Amazon basin, Brazil]. Syntypes: ?MCZ 20969 (5), MSNM 4 (1), NMW 57689 (6). Species later illustrated and described in more detail in Steindachner (1882b: 32, pl. 7, fig. 5). ?*Hemigrammus ocellifer falsus* Meinken, 1958: 232. Type locality: Amazonas. Holotype: ZMH H1183. Maximum length: 4.4 cm TL. Distribution: South America: Rivers of Guyana, Suriname, French Guiana, and Amazon basin in Brazil and Peru. Countries: Brazil, French Guiana, Guyana, Peru, Suriname, Trinidad and Tobago (introduced). Remarks and references: See Géry (1959, 1964) and Planquette et al. (1996: 278-279) for taxonomical, distributional and ecological remarks.
- Hemigrammus orthus* Durbin, 1909**
Hemigrammus orthus Durbin, 1909: 61. Type locality: Tukeit [upper Essequibo River, Guyana]. Holotype: FMNH 53052 [ex CM 1477]. Maximum length: 3.4 cm TL. Distribution: South America: Essequibo River in Guyana; lower Tapajós River. Countries: Brazil, Guyana. Remarks and references: Géry (1977: 494) and Planquette et al. (1996: 274) consider *Hemigrammus orthus* as being possibly a synonym of *Hemigrammus bellotii*.
- Hemigrammus pretoensis* Géry, 1965**
Hemigrammus pretoensis Géry, 1965c: 19, pl. 2 (fig. 7). Type locality: Igarapé Prêto, collatéral de l'Amazone supérieure près de Belem, à environ 60 km en aval de Leticia [Brazil]. Holotype: SMF 7237. Maximum length: 4.54 cm SL. Distribution: South America: Upper Solimões River basin. Countries: Brazil
- Hemigrammus pulcher* Ladiges, 1938**
Hemigrammus pulcher Ladiges, 1938: 49. Type locality: dem Stromgebiet zwischen Tabatinga und Iquitos. Lectotype: ZMH H61 [ex 17757, in part], designated by Ladiges et al. (1958: 157). Maximum length: 3.28 cm SL. Distribution: South America: Upper Amazon River basin. Countries: Peru. Remarks and references: See Géry (1961) for remarks on the taxonomy.
- Hemigrammus rhodostomus* Ahl, 1924**
Hemigrammus rhodostomus Ahl, 1924: 405, fig. Type locality: Pará [Brazil]. Lectotype: ZMB 22626 [apparently not 22616], designated by Zarske & Géry (1995: 112). Maximum length: 5 cm TL. Distribution: South America: Lower Amazon River basin in Pará State, and Orinoco River basin. Countries: Brazil, Venezuela. Remarks and references: See Géry & Uj (1986) and Taphorn (1992: 224-225) for taxonomic remarks.
- Hemigrammus rodwayi* Durbin, 1909**
Hemigrammus rodwayi Durbin, 1909: 58. Type locality: Georgetown trenches [Guyana]. Holotype: FMNH 53026 [ex CM 1450]. *Hemigrammus armstrongi* Schultz & Axelrod, 1955: 5, fig. (p. 4). Type locality: From near Georgetown, British Guyana. Holotype: USNM 163868. Maximum length: 5.3 cm TL. Distribution: South America: Rivers of Guyana, Suriname, French Guiana, and Amazon River basin. Countries: Brazil, French Guiana, Guyana, Peru, Suriname. Remarks and references: See Géry (1964: 32) and Planquette et al. (1996: 280-281) for taxonomic, distributional, and ecological remarks.
- Hemigrammus schmardae* (Steindachner, 1882)**
Tetragonopterus schmardae Steindachner, 1882a: 179. Type locality: Tabatinga [upper Amazon basin, Brazil]. Syntypes: NMW 57809 (3), NMW 57979 (22), NMW 81255 (2). Described in more detail in Steindachner (1882b: 37, pl. 7, fig. 6). *Hemigrammus proneki* Géry, 1963b: 14, fig. 2. Type locality: near Tapurucuara, upper Rio Negro [Amazonas, Brazil]. Holotype: USNM 198648. Maximum length: 3.68 cm SL. Distribution: South America: Amazon, Negro and Orinoco River basins. Countries: Brazil, Venezuela. Remarks and references: See Géry (1977: 506) for the synonym, Taphorn (1992: 227-228) for notes on the taxonomy and ecology.
- Hemigrammus stictus* (Durbin, 1909)**
Hyphessobrycon stictus Durbin, 1909: 71. Type locality: Lama Stop-Off [Guyana]. Holotype: FMNH 52798 [ex CM 1197]. Maximum length: 4.3 cm TL. Distribution: South America: Amazon and Negro River basins, Orinoco River basin, and coastal rivers in Guyana. Countries: Brazil, Guyana, Venezuela. Remarks and references: See Taphorn (1992: 233-234) for an account on the taxonomy.
- Hemigrammus tridens* Eigenmann, 1907**
Hemigrammus tridens Eigenmann, in Eigenmann & Ogle, 1907: 15. Type locality: Arroyo Pypucu, Paraguay basin [Paraguay]. Holotype: CAS 58609 [ex IU 11262]. Maximum length: 2 cm TL. Distribution: South America: Paraguay River basin. Countries: Paraguay
- Hemigrammus ulreyi* (Boulenger, 1895)**
Tetragonopterus ulreyi Boulenger, 1895: 529. Type locality: Descalvados, Matto Grosso [Paraguay basin, Mato Grosso, Brazil]. Syntypes: BMNH 1895.5.17.194-199 (6). Maximum length: 4.4 cm TL. Distribution: South America: Paraguay River basin. Countries: Brazil
- Hemigrammus unilineatus* (Gill, 1858)**
Poecilurichthys unilineatus Gill, 1858: 420. Type locality: Western Portion of the Island of Trinidad, W. I. [Trinidad and Tobago]. No types known. *Hemigrammus unilineatus cayennensis* Géry, 1959a: 248, fig. 1. Type locality: crique d'eau douce de l'île de Cayenne [French Guiana]. Holotype: MHNG 2179.61.

Maximum length: 5.3 cm TL

Distribution: Central to South America: River basins of Trinidad, coastal river basins of Venezuela, rivers of Guyana, Suriname, French Guiana; Guaporé and Amazon River basins.

Countries: Brazil, French Guiana, Guyana, Peru, Suriname, Trinidad and Tobago, Venezuela

Remarks and references: See Géry (1959, 1966), Planquette et al. (1996: 282-283), and Weitzman & Palmer (1997a: 237) for taxonomic remarks.

***Hemigrammus vorderwinkleri* Géry, 1963**

Hemigrammus vorderwinkleri Géry, 1963b: 11, fig. 1. Type locality: near Tapurucuara, upper Rio Negro [Amazonas, Brazil]. Holotype: USNM 198643.

Maximum length: 3.3 cm SL

Distribution: South America: Middle Negro River basin.

Countries: Brazil

HOLLANDICHTHYS

Hollandichthys Eigenmann, 1909b: 257. Type species: *Tetragonopterus multifasciatus* Eigenmann & Norris, 1900. Type by monotypy. Gender: masculine.

***Hollandichthys multifasciatus* (Eigenmann & Norris, 1900)**

Tetragonopterus multifasciatus Eigenmann & Norris, 1900: 358. Type locality: Cubatão [São Paulo, Brazil]. Syntypes: CAS 61483 [ex IU 9288].

Pseudochalceus perstriatus Miranda Ribeiro, 1908: [4], fig. 5. Type locality: Corregos de Iporanga [São Paulo, Brazil].

Pseudochalceus affinis Steindachner, 1908: 29. Type locality: Rio Jaraguá bei Joinville, Staate S. Catharina (Brasilien). Syntypes: NMW 56736-37 (6-3).

Maximum length: 9.64 cm SL

Distribution: South America: Coastal rivers from Rio de Janeiro to Rio Grande do Sul.

Countries: Brazil

Remarks and references: See Eigenmann (1921) for a detailed description; Sabino & Castro (1990) for ecological observations and biological information. Probably a species complex including several species.

Common names: Lambari-listrado (Brazil)

HYPHESSOBRYCON

Hyphessobrycon Durbin, in Eigenmann, 1908: 100. Type species: *Hemigrammus compressus* Meek, 1908. Type by original designation. Gender: masculine. More recent appraisal is Géry (1977: 458-486). See Weitzman & Palmer (1997a) for synonymization of *Megalampodus* and *Pseudopristella*. Probably not monophyletic (Weitzman & Fink, 1983; Weitzman & Palmer, 1997a).

Dermatocheir Durbin, 1909: 55. Type species: *Dermatocheir catablepta* Durbin, 1909. Type by original designation. Gender: feminine.

Megalampodus Eigenmann, 1915: 49. Type species: *Megalampodus megalopterus* Eigenmann, 1915. Type by original designation. Gender: masculine.

Ectreopterus Fowler, 1943c: 313. Type species: *Megalampodus uruguayensis* Fowler, 1943c. Type by original designation. Gender: masculine.

Pseudopristella Géry, 1960b: 18. Type species: *Pseudopristella simulata* Géry, 1960b. Type by original designation. Gender: feminine.

***Hyphessobrycon agulha* Fowler, 1913**

Hyphessobrycon agulha Fowler, 1913: 549, fig. 15. Type locality: Madeira River, about 200 miles east of W. Long. 62°20', Brazil. Holotype: ANSP 39232.

Maximum length: 4.2 cm SL

Distribution: South America: Madeira River basin.

Countries: Brazil

Remarks and references: See Géry (1965: 23-24; 1972: 8) for remarks on the taxonomy of the species.

***Hyphessobrycon albolineatum* Fernández-Yépez, 1950**

Hyphessobrycon albolineatum Fernández-Yépez, 1950: 17, pl. 3 (fig. 3). Type locality: Rio Autana, Venezuela. Holotype: AFY 48169.

Maximum length: 2.58 cm SL

Distribution: South America: Autana River in the Orinoco River basin.

Countries: Venezuela

***Hyphessobrycon amandae* Géry & Uj, 1987**

Hyphessobrycon amandae Géry & Uj, 1987b: 59, figs. Type locality: Rio das Mortes, Brazil, some 100 km before its confluence with the Braço Maior of the Rio Araguaia (the western border of the Ilha do Bananal), State of Mato Grosso. Holotype: MZUSP 37367 [ex Géry no. G.799.1].

Maximum length: 1.95 cm SL

Distribution: South America: Araguaia River basin.

Countries: Brazil

Remarks and references: See Weitzman & Palmer (1997a: 239) for taxonomical remarks.

***Hyphessobrycon amapaensis* Zarske & Géry, 1998**

Hyphessobrycon amapaensis Zarske & Géry, 1998: 20, fig. 1. Type locality: Brasilien, Amapa, etwa 45 km nördlich Macapa. Kleiner Savannenbach an der B 156 von Sitio Camaipi nach Santa Clara, etwa 11 km von Sitio Camaipi (Rio-Preto-Gebiet). Holotype: MZUSP 52730.

Maximum length: 2.99 cm SL

Distribution: South America: Amapa State (known only from the type locality).

Countries: Brazil

***Hyphessobrycon anisitsi* (Eigenmann, 1907)**

Hemigrammus anisitsi Eigenmann in Eigenmann & Ogle, 1907: 16. Type locality: Villa Rica [Paraguay]. Holotype: CAS 11984 [ex IU 10182] (1 of 3).

Hemigrammus caudovittatus Ahl, 1923: 261, fig. Type locality: Buenos Aires [Argentina]. Syntypes not found in ZMB (Zarske & Géry, 1995: 110).

Hyphessobrycon erythrurus Ahl, 1928: 319. Type locality: Probably Brazil. Syntypes: (5) ZMB 20828 (1).

Maximum length: 5.7 cm TL

Distribution: South America: Paraná and Uruguay River basins.

Countries: Argentina, Brazil, Paraguay

***Hyphessobrycon arianae* Uj & Géry, 1989**

Hyphessobrycon arianae Uj & Géry, 1989: 148, figs. 2-4. Type locality: Paraguay, dépt. Caaguazu, Rio Güyraugua, affl. du Rio Monday à 3 km E de Juan Frutos. Holotype: MHNG 2412.79.

Maximum length: 2.4 cm SL

Distribution: South America: Paraná River basin.

Countries: Paraguay

Remarks and references: This species is possibly a synonym of *Cheirodon stenodon* Eigenmann, 1915 (Malabarba, 1998).

***Hyphessobrycon axelrodi* (Travassos, 1959)**

Aphyocharax axelrodi Travassos, 1959: 5, figs. unnumb. p. 6. Type locality: Trinidad, T.W.I. near Piarco. Holotype: MNRJ 9120.

Maximum length: 2.2 cm SL

Distribution: South America: Island of Trinidad.

Countries: Trinidad and Tobago

Remarks and references: See Weitzman & Palmer (1997a: 234;

1998: 130-131) for remarks.

***Hypessobrycon balbus* Myers, 1927**

Hypessobrycon balbus Myers, 1927: 115. Type locality: Planaltina, Lagoa Fervedeira, Goyaz [Distrito Federal, Alto Paraná River basin, Brazil]. Holotype: CAS 51789 [ex IU 17678a].

Maximum length: 6 cm TL

Distribution: South America: Upper Paraná River basin.

Countries: Brazil

***Hypessobrycon bentosi* Durbin, 1908**

Hypessobrycon bentosi Durbin, in Eigenmann, 1908: 101. Type locality: Obidos [Amazon River basin, Pará, Brazil]. Syntypes: CAS 42682 (3), MCZ 20842 (15), USNM 120270 (3).

Hypessobrycon robertsi Anonymous [H. R. Axelrod], 1958: 76. Not available as above, no distinguishing features provided; as pointed out by Weitzman & Palmer (1997a: 226) and Weitzman & Palmer (1997b: 153), "Numerous subsequent references to *H. robertsi* in the aquarium literature appear to refer to *H. bentosi* and may have made the name *H. robertsi* available."

Maximum length: 4.32 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

Remarks and references: See Weitzman & Palmer (1997a: 226-227; 1997d) for taxonomic comments.

***Hypessobrycon bifasciatus* Ellis, 1911**

Hypessobrycon bifasciatus Ellis, 1911: 156, pls. 2 (fig. 4), 3 (fig. 1). Type locality: Campos [Paraíba do Sul River, Rio de Janeiro, Brazil]. Holotype: FMNH 54404 [ex CM 3026].

Maximum length: 4.7 cm TL

Distribution: South America: Coastal river drainages from Espírito Santo to Rio Grande do Sul States and upper Paraná River basin.

Countries: Brazil

***Hypessobrycon boulengeri* (Eigenmann, 1907)**

Hemigrammus boulengeri Eigenmann in Eigenmann & Ogle, 1907: 15. Type locality: Rio Grande do Sul, Brazil [restricted to Laguna dos Patos system by Malabarba, 1989]. Holotype: CAS 44379 [ex IU 11073].

Maximum length: 4.5 cm TL

Distribution: South America: Coastal river drainages of Rio Grande do Sul State.

Countries: Brazil

Remarks and references: See Malabarba (1989: 134-135) for comments.

***Hypessobrycon cachimbensis* Travassos, 1964**

Hypessobrycon cachimbensis Travassos, 1964: 542, fig. 5. Type locality: Rio Cachimbo - Cachimbo - Aeroporto da FAB. Abaixo do Salto - Estado do Pará. Lat. 9°22'S e Long. 54°55'W [Brazil]. Holotype: MNRJ 9196.

Maximum length: 4.2 cm SL

Distribution: South America: Cachimbo River, Tapajós River basin.

Countries: Brazil

***Hypessobrycon catableptus* (Durbin, 1909)**

Dermatocheir catablepta Durbin, 1909: 55. Type locality: Tumatumari, above the falls [Guyana]. Holotype: FMNH 53553 [ex CM 1198].

Maximum length: 1.8 cm TL

Distribution: South America: Essequibo River basin.

Countries: Guyana

Remarks and references: See Weitzman & Vari (1987: 650-651; 1988: 650-651) for comments on the species.

***Hypessobrycon coelestinus* Myers, 1929**

Hypessobrycon coelestinus Myers in Eigenmann & Myers, 1929: 535. Type locality: Lagoa Bonita, into São Bartholomeu, Goyaz,

Brazil. Holotype: CAS 60476 [ex IU 17665].

Maximum length: 2.9 cm TL

Distribution: South America: Upper Paraná River basin.

Countries: Brazil

***Hypessobrycon columbianus* Zarske & Géry, 2001**

Hypessobrycon columbianus Zarske & Géry, 2001: 23, fig. 1.

Type locality: Kolumbien, Darien, kleiner Bach etwa 6 km flussaufwärts von Acandi, Einzugsgebiet des Rio Acandi, Atlantikküste. Holotype MTD F 25 497.

Max length: 4.6 cm SL (7 cm TL)

Distribution: South America: Acandi River basin.

Countries: Colombia

***Hypessobrycon compressus* (Meek, 1904)**

Hemigrammus compressus Meek, 1904: 87, fig. 25. Type locality: El Hule, Oaxaca. Basin of the Rio Papaloapam [Mexico]. Holotype: FMNH 4641.

Maximum length: 4.4 cm TL

Distribution: North and Central America: Papaloapam River basin.

Countries: Belize, Mexico

***Hypessobrycon condotensis* Regan, 1913**

Hypessobrycon condotensis Regan, 1913: 465. Type locality: Rio Condoto and the Rio San Juan. Syntypes: BMNH 1913.10.1.19-21 (3).

Maximum length: 4 cm TL

Distribution: South America: Condoto and San Juan River basins.

Countries: Colombia

***Hypessobrycon copelandi* Durbin, 1908**

Hypessobrycon copelandi Durbin, in Eigenmann, 1908: 101. Type locality: Tabatinga [Amazon River basin, Amazonas, Brazil]. Syntypes: CAS 42683 (5), MCZ 20771 (88), USNM 120271 (6).

Maximum length: 3.46 cm SL

Distribution: South America: Upper Solimões, Mana and Approuague River basins.

Countries: Brazil, French Guiana

Remarks and references: See Weitzman & Palmer (1997a: 226) and Planquette et al. (1996: 288-289) for comments.

***Hypessobrycon diancistrus* Weitzman, 1977**

Hypessobrycon diancistrus Weitzman, 1977b: 349, figs. 1-5. Type locality: Colombia, State of Vichada, Río Vichada, about 50 km west of San José de Ocumé (70°20'W, 4°14'S), Orinoco river basin. Holotype: USNM 216607.

Maximum length: 3 cm SL

Distribution: South America: Orinoco and Negro River basins.

Countries: Brazil, Colombia

***Hypessobrycon duragenys* Ellis, 1911**

Hypessobrycon duragenys Ellis, 1911: 155, pl. 2 (fig. 3). Type locality: Mogy das Cruzes, Rio Tietê [upper Paraná River basin, São Paulo, Brazil]. Holotype: FMNH [ex CM 3023] (missing).

Maximum length: 6.8 cm TL

Distribution: South America: Upper Tietê and Paraíba do Sul River basins.

Countries: Brazil

***Hypessobrycon ecuadorensis* (Eigenmann, 1915)**

Megalampodus ecuadorensis Eigenmann, 1915: 99. Type locality: "Naranjito, Río Chan Chan, Ecuador". Holotype: CAS [ex IU 13628] (apparently lost).

Maximum length: 2.05 cm SL

Distribution: South America: Guayas River basin.

Countries: Ecuador

Remarks and references: Weitzman & Palmer (1998: 129-130) noted that *Megalampodus ecuadorensis* Eigenmann is a secondary homonym of *Hypessobrycon ecuadoriensis* Eigenmann &

Henn. They decided to not propose a new name in view of the uncertainties involving the taxonomic status of the species. We agree that an analysis of the species of the "rosy tetra" complex occurring in trans-Andean rivers of South America and Central America is needed before any nomenclatural action could be made.

***Hyphessobrycon ecuadoriensis* Eigenmann & Henn, 1914**

Hyphessobrycon ecuadoriensis Eigenmann & Henn, in Eigenmann, Henn & Wilson, 1914: 9. Type locality: Vincés, Ecuador [Los Ríos, forest pool near Vincés, w. Ecuador (ca. 1°33'S, 79°44'W)]. Holotype: CAS 61602 [ex IU 13105a].
Maximum length: 3.1 cm TL
Distribution: South America: Only known from the type locality.
Countries: Ecuador

***Hyphessobrycon elachys* Weitzman, 1984**

Hyphessobrycon elachys Weitzman, 1984: 800, figs. 1-5. Type locality: Paraguay, Departamento San Pedro, swamp 3 km northwest of Lima, Río Aguaray-guazu system, 23°55'S, 56°29'W. Holotype: USNM 232393.
Maximum length: 1.79 cm SL
Distribution: South America: Paraguay River basin.
Countries: Brazil, Paraguay

***Hyphessobrycon eos* Durbin, 1909**

Hyphessobrycon eos Durbin, 1909: 69. Type locality: Creek between Potaro Landing and Kangaruma [Guyana]. Holotype: FMNH 52795 [ex CM 1194].
Maximum length: 4.2 cm TL
Distribution: South America: Guyana (?).
Countries: Guyana

***Hyphessobrycon epicharis* Weitzman & Palmer, 1997**

Hyphessobrycon epicharis Weitzman & Palmer, 1997a: 214, figs. 1-4. Type locality: Venezuela, State of Amazonas, head waters of Río Baria (= Río Mawarinuma...), tributary mouth, 3 km downstream from Neblina base camp on left bank, 0°55'N, 66°10'W. Holotype: MBUCV-V 20800.
Maximum length: 3.3 cm SL
Distribution: South America: Upper Orinoco and upper Negro River basins.
Countries: Brazil, Venezuela

***Hyphessobrycon eques* (Steindachner, 1882)**

Chirodon eques Steindachner, 1882a: 179. Type locality: Villa Bella, Obidos [Villa Bella = Parintins, Amazon River basin, Brazil]. Syntypes: NMW 62693: 1-4

Tetragonopterus callistus Boulenger, 1900: 2. Type locality: Carandosiño [= Carandazinho, near Corumbá, Paraguay River system, Mato Grosso do Sul, Brazil]. Syntypes: BMNH 1900.4.4.63-68.

Hemigrammus melasopterus Eigenmann & Kennedy, 1903: 518. Type locality: Type locality: Aguada, near Arroyo Trementina [Paraguay]. Holotype: CAS 44381 [ex IU 10039].

Hyphessobrycon serpae Durbin in Eigenmann, 1908: 100. Type locality: Serpa [Serpa = Itacoatiara, Amazon River basin, Amazonas, Brazil]. Syntypes: CAS 42684 (5), MCZ 20985 (34), USNM 120269 (6).

Maximum length: 3.13 cm SL
Distribution: South America: Amazon and Guaporé River basin; Paraguay River basin.
Countries: Brazil, French Guiana (introduced), Paraguay
Remarks and references: See Weitzman & Palmer (1997a, b) for notes on the taxonomy and synonyms.
Common names: Mato grosso (Brazil)

***Hyphessobrycon erythrostigma* (Fowler, 1943)**

Hemigrammus erythrostigma Fowler, 1943b: 33, fig. Type locality: without locality, supposed to have been secured in Brazil. Holotype: ANSP 70208.

Hyphessobrycon rubrostigma Hoedeman, 1956: 312, fig. Type locality: Colombia. Holotype: ZMA 101935a.

Maximum length: 6.06 cm SL
Distribution: South America: Upper Amazon River basin.
Countries: Brazil, Colombia, Peru
Remarks and references: See Weitzman (1977) for redescription, and Weitzman & Palmer (1997c) for general comments.

***Hyphessobrycon fernandezi* Fernández-Yépez, 1950**

Hyphessobrycon fernandezi Fernández-Yépez, 1972: 20, pl. 20. Type locality: Río Yaracuy [Venezuela]. Holotype: no repository stated.
Maximum length: 3.66 cm SL
Distribution: South America: Yaracuy River basin.
Countries: Venezuela

***Hyphessobrycon flammeus* Myers, 1924**

Hyphessobrycon flammeus Myers, 1924: 330, fig. Type locality: Rio de Janeiro, Brazil. Syntypes: USNM 92629 (2).

Maximum length: 2.5 cm SL
Distribution: South America: Coastal rivers of Rio de Janeiro State.
Countries: Brazil
Remarks and references: See Weitzman et al. (1988) for comments on the distribution.

***Hyphessobrycon frankei* Zarske & Géry, 1997**

Hyphessobrycon frankei Zarske & Géry, 1997: 309, fig. 3. Type locality: Bach an der Carretera Central, zehn Kilometer westlich Aguaytia [Ucayali River basin, Depto. Loreto, Peru]. Holotype: MTDf 17706.

Maximum length: 3.35 cm SL
Distribution: South America: Ucayali River basin.
Countries: Peru

***Hyphessobrycon georgettae* Géry, 1961**

Hyphessobrycon georgetti Géry, 1961d: 121, figs. 1-3. Type locality: swamprecreek in Paru savannah [Suriname]. Holotype: ZMA 103269. Originally as *georgetti* but named after a woman so emended to *georgettae*.

Maximum length: 3.2 cm SL
Distribution: South America: Suriname (?).
Countries: Suriname

***Hyphessobrycon gracilior* Géry, 1964**

Hyphessobrycon gracilior Géry, 1964a: 12, figs. 10-11. Type locality: petit ruisseau faisant communiquer le Zapote Cocha avec le Caño Yarina, en bordure du Río Pacaya, affluent du Canal de Puinahua (bras du Río Ucayali) [Peru]. Holotype: not researched.

Maximum length: 2.15 cm SL
Distribution: South America: Upper Amazon River basin.
Countries: Peru

***Hyphessobrycon griemi* Hoedeman, 1957**

Hyphessobrycon griemi Hoedeman, 1957: 87, figs. 1-3. Type locality: Gojas, Brasilien. Holotype: ZMA 101936a.

Hyphessobrycon flammeus guabirubae Godoy, 1987: 220, unnumbered fig. on p. 220. Type locality: lagoa entre Brusque e Guabiruba, SC [Brazil].

Maximum length: 2.57 cm SL
Distribution: South America: Eastern coastal rivers from São Paulo to northern Santa Catarina States.
Countries: Brazil
Remarks and references: See Weitzman et al. (1988) for comments on the distribution.

***Hyphessobrycon guarani* Mahnert & Géry, 1987**

Hyphessobrycon guarani Mahnert & Géry, 1987: 307, figs. 1-2.
Type locality: Paraguay, dept. Alto Parana, Rio Alto Parana à Puerto Bertoni (25°38 S, 54°40'W), dans um brás mort du fleuve. Holotype: MHNG 2366.99.
Maximum length: 3.05 cm SL
Distribution: South America: Upper Paraná River basin.
Countries: Paraguay

***Hyphessobrycon haraldschultzi* Travassos, 1960**

Hyphessobrycon haraldschultzi Travassos, 1960a: 5, fig. 1. Type locality: Ilha do Bananal, Goyaz-Brazil [Araguaia River basin, Tocantins State]. Holotype: MNRJ 9207.
Maximum length: 2.1 cm TL
Distribution: South America: Araguaia River basin.
Countries: Brazil

***Hyphessobrycon hasemani* Fowler, 1913**

Hyphessobrycon hasemani Fowler, 1913: 545, fig. 13. Type locality: Madeira River above Falls of Guajaramirim, approximately in Lat. S. 10°47'S, Long. W. 65°23'W, Brazil. Holotype: ANSP 39230.
Maximum length: 2.8 cm SL
Distribution: South America: Madeira River (only known from type locality).
Countries: Brazil
Remarks and references: See Weitzman & Palmer (1997a: 238) for remarks on the taxonomy.

***Hyphessobrycon heliacus* Moreira, Landim & Costa, 2002**

Hyphessobrycon heliacus Moreira, Landim & Costa, 2002: 428, fig. 1. Type locality: ribeirão Macuco (= córrego-Duas Bocas), tributary of the rio Teles Pires, rio Tapajós basin, 71.9 km north from Sinop, município de Cláudia, at the BR-163 road in direction to Santarém, Estado de Mato Grosso, Brasil, 55°19'W, 11°15'S. Holotype: MZUSP 52891.
Maximum length: 2.78 cm SL
Distribution: South America: Teles Pires River in the upper Tapajós basin.
Countries: Brazil

***Hyphessobrycon herbertaxelrodi* Géry, 1961**

Hyphessobrycon herbertaxelrodi Géry, 1961c: 29, fig. 4. Type locality: Coxim on the Rio Taquary (Rio Paraguay Basin), State of Mato Grosso, Brazil. Holotype: USNM 196089.
Maximum length: 3.23 cm SL
Distribution: South America: Paraguay River basin.
Countries: Brazil
Common names: Neon-negro (Brazil)

***Hyphessobrycon heteresthes* (Ulrey, 1894)**

Aphyocara heteresthes Ulrey, 1894: 612. Type locality: Brazil. Syntypes: CAS 76377 (4), SU 2161 (1). Species was also described as new in Ulrey (1895: 293).
Maximum length: 1.7 cm TL
Distribution: South America: Only known from type locality.
Countries: Brazil
Remarks and references: See Weitzman & Palmer (1998: 125-126) for comments.

***Hyphessobrycon heterorhabdus* (Ulrey, 1894)**

Tetragonopterus heterorhabdus Ulrey, 1894: 610. Type locality: Brazil. Syntypes: CAS 44415 (9), CAS 44416 (6), SU 2174 (1).
Maximum length: 3.3 cm TL
Distribution: South America: Lower Amazon River basin.
Countries: Brazil

***Hyphessobrycon hildae* Fernández-Yépez, 1950**

Hyphessobrycon hildae Fernández-Yépez, 1950: 18, pl. 3 (fig. 4).
Type locality: Rio Autana, Venezuela. Holotype: MHNSL 989 [ex AFY 48170].
Maximum length: 1.88 cm SL
Distribution: South America: Autana River basin.
Countries: Venezuela

***Hyphessobrycon igneus* Miquelarena, Menni, Lopez & Casciotta, 1980**

Hyphessobrycon igneus Miquelarena, Menni, Lopez & Casciotta, 1980: 237, fig. 1a. Type locality: Laguna frente a Escuela N°12, camino Bella Vista-San Roque, Corrientes [Argentina]. Holotype: ILPLA 23-IX-80-7.
Maximum length: 3.4 cm SL
Distribution: South America: Paraná River basin.
Countries: Argentina

***Hyphessobrycon iheringi* Fowler, 1941**

Hyphessobrycon iheringi Fowler, 1941: 186, fig. 96. Type locality: Fortelesa, Ceará [= Fortaleza, Brazil]. Holotype: ANSP 69579.
Maximum length: 4.2 cm SL
Distribution: South America: Fortaleza, Ceará State (only known from type locality).
Countries: Brazil

***Hyphessobrycon inconstans* (Eigenmann & Ogle, 1907)**

Hemigrammus inconstans Eigenmann & Ogle, 1907: 17, fig. 4. Type locality: Para (?), Brazil. Holotype: USNM 34591 [not 55652].
Maximum length: 4.5 cm TL
Distribution: South America: Pará (exact locality unknown).
Countries: Brazil

***Hyphessobrycon itaparicensis* Lima & Costa, 2001**

Hyphessobrycon itaparicensis Lima & Costa, 2001: 234, fig. 1. Type locality: Brazil: Estado da Bahia, small stream in Ilha de Itaparica. Holotype: MZUSP 57539.
Maximum length: 3.84 cm SL
Distribution: South America: Coastal streams in eastern Brazil.
Countries: Brazil

***Hyphessobrycon loretoensis* Ladiges, 1938**

Hyphessobrycon loretoensis Ladiges, 1938: 51. Type locality: Loretogebiet am peruanischen Teil des Amazonas. Lectotype: ZMH H59 [ex 17759 in part], designated by Ladiges et al. (1958: 157).
Maximum length: 2.4 cm SL
Distribution: South America: Upper Amazon River.
Countries: Peru

***Hyphessobrycon loweae* Costa & Géry, 1994**

Hyphessobrycon loweae Costa & Géry, 1994: 71, figs. 1-2. Type locality: Brazil: Estado de Mato Grosso, córrego Xavante, a tributary of rio Culuene, rio Xingú basin, 40 km S of Paranatinga, 15°01'S, 54°03'W. Holotype: MNRJ 12437.
Maximum length: 3.16 cm SL
Distribution: South America: Upper Xingu River basin.
Countries: Brazil
Remarks and references: See Weitzman & Palmer (1997a: 236) for taxonomical remarks.

***Hyphessobrycon luetkenii* (Boulenger, 1887)**

Tetragonopterus luetkenii Boulenger, 1887b: 173. Type locality: San Lorenzo, Rio Grande do Sul [Brazil]. Syntypes: BMNH 1885.2.3.78-80 (3), BMNH 1886.3.15.35-38 (4).
Maximum length: 6.9 cm TL
Distribution: South America: Coastal river drainages and Uruguay River basin in Rio Grande do Sul State; Paraíba do Sul River in

Rio de Janeiro State; Paraguay River basin.

Countries: Brazil, Paraguay

***Hyphessobrycon maculicauda* Ahl, 1936**

Hyphessobrycon maculicauda Ahl, 1936: 22. Type locality: Mittelbrasilien. Holotype: ZMB (not found).

Maximum length: 4.3 cm TL

Distribution: South America: Central Brazil (exact locality unknown).

Countries: Brazil

***Hyphessobrycon megalopterus* (Eigenmann, 1915)**

Megalampodus megalopterus Eigenmann, 1915: 50, fig. 14; pl. 7.

Type locality: Cáceres [=Cáceres, Mato Grosso, Brazil]. Holotype: FMNH 57823 [ex CM 6806].

Megalampodus rogoaguae Pearson, 1924: 33, pl. 10 (fig. 3).

Type locality: Lagoons, Lake Rogoagua [ca. 13°58'S, 66°53'W, Beni, Bolivia]. Holotype: CAS 98917 [ex IU 17348].

Maximum length: 3.64 cm SL

Distribution: South America: Upper Paraguay and Guaporé River basins.

Countries: Bolivia, Brazil

Remarks and references: See Weitzman & Palmer (1997a: 231-232; 1998: 126-129) for notes on the taxonomy.

***Hyphessobrycon melanopleurus* Ellis, 1911**

Hyphessobrycon melanopleurus Ellis, 1911: 157, pl. 3 (fig. 2).

Type locality: Alto da Serra, São Paulo [Brazil]. Holotype: FMNH 54413 [ex CM 3035].

Maximum length: 3.5 cm TL

Distribution: South America: Upper Tietê River.

Countries: Brazil

***Hyphessobrycon melasemion* Fowler, 1945**

Hyphessobrycon melasemion Fowler, 1945a: 57, fig. Type locality: Locality unknown (supposed to be the lower Amazon?). Holotype: ANSP 71584.

Maximum length: 3.88 cm SL

Distribution: South America: Unknown.

Countries: Brazil (?)

Remarks and references: See Weitzman & Palmer (1997a: 234) for taxonomical remarks.

***Hyphessobrycon melazonatus* Durbin, 1908**

Hyphessobrycon melazonatus Durbin, in Eigenmann, 1908: 101.

Type locality: Lago do Maximo [near Parintins, Amazonas, Brazil]. Lectotype: MCZ 20737.

Maximum length: 3.8 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

***Hyphessobrycon meridionalis* Ringuelet, Miquelarena & Menni, 1978**

Hyphessobrycon meridionalis Ringuelet, Miquelarena & Menni, 1978: 248, figs. 2-3. Type locality: Cantera sobre ruta provincial N°15, 70 m al sur del canal Delgado, a 30 m del camino en dirección al Río de la Plata (Los Talas, Pcia. de Buenos Aires) [Argentina]. Holotype: ILPLA 30.3.77.1.

Maximum length: 4.55 cm SL

Distribution: South America: Lower Paraná River and coastal river basins of Rio Grande do Sul State.

Countries: Argentina, Brazil

***Hyphessobrycon metae* Eigenmann & Henn, 1914**

Hyphessobrycon metae Eigenmann & Henn, 1914: 233. Type locality: Barrigona, Río Meta [Colombia]. Holotype: CAS 61751 [ex IU 13421].

Maximum length: 4 cm SL

Distribution: South America: Orinoco River basin.

Countries: Colombia, Venezuela

Remarks and references: See Taphorn (1992: 242-243) for comments on taxonomy and ecology.

***Hyphessobrycon micropterus* (Eigenmann, 1915)**

Megalampodus micropterus Eigenmann, 1915: 54, fig. 16; pl. 8

(fig. 1). Type locality: Lagoa do Porto [São Francisco River basin, Bahia, Brazil]. Holotype: FMNH 57916 [ex CM 6900a].

Maximum length: 2.7 cm SL

Distribution: South America: São Francisco River basin.

Countries: Brazil

Remarks and references: See Weitzman & Palmer (1997a: 232-233; 1998: 129) for remarks on the taxonomy.

***Hyphessobrycon milleri* Durbin, 1908**

Hyphessobrycon compressus milleri Durbin in Eigenmann, 1908:

100. Type locality: Los Amates, Guatemala [Zacapa, Río Motagua drainage, 15°16'N, 89°6'W]. Holotype: whereabouts unknown.

Maximum length: 2.92 cm SL

Distribution: Central America: Motagua River basin.

Countries: Guatemala

***Hyphessobrycon minimus* Durbin, 1909**

Hyphessobrycon minimus Durbin, 1909: 68. Type locality: Cane

Grove Corner [mouth of the Mahaica River, Guyana]. Holotype: FMNH 52794 [ex CM 1193].

Maximum length: 2.1 cm TL

Distribution: South America: Mahaica River basin.

Countries: Guyana

***Hyphessobrycon minor* Durbin, 1909**

Hyphessobrycon minor Durbin, 1909: 65. Type locality: Konawaruk

[Konawaruk River, tributary of the Essequibo River, approx. 6°42'N, 58°54'W, Guyana]. Holotype: FMNH 52789 [ex CM 1189] (missing).

Maximum length: 3.12 cm SL

Distribution: South America: Essequibo River basin.

Countries: Guyana

Remarks and references: See Weitzman & Palmer (1997a: 229) for notes on taxonomy.

***Hyphessobrycon moniliger* Moreira, Lima & Costa, 2002**

Hyphessobrycon moniliger Moreira, Lima & Costa, 2002: 74, fig.

1. Type locality: Brazil: Tocantins: município de Araguaçu, farm Praia Alta 2, Araguaçu to Barreira do Piqui road, 27 km N from Araguaçu, pool behind farm's house, rio Água Fria basin, 12°42'S 49°55'W. Holotype: MZUSP 67466.

Maximum length: 2.88 cm SL

Distribution: South America: Araguaia-Tocantins River and upper Tapajós River basins.

Countries: Brazil

***Hyphessobrycon mutabilis* Costa & Géry, 1994**

Hyphessobrycon mutabilis Costa & Géry, 1994: 74, figs. 6-7. Type

locality: Brazil: Estado de Mato Grosso, tributary of rio Sete de Setembro, rio Xingu basin, 107 km SW of Canarana, 13°51'S, 52°40'W. Holotype: MNRJ 12438.

Maximum length: 2.69 cm SL

Distribution: South America: Upper Xingu River basin.

Countries: Brazil

***Hyphessobrycon negodagua* Lima & Gerhard, 2001**

Hyphessobrycon negodagua Lima & Gerhard, 2001: 106, fig. 1.

Type locality: Brazil: Bahia; município de Iraquara, rio Pratinha at fazenda Pratinha, 12°21'13''S 41°32'51''W. Holotype: MZUSP 53989.

Maximum length: 2.82 cm SL

Distribution: South America: Upper Paraguaçu River basin.

Countries: Brazil

***Hyphessobrycon panamensis* Durbin, 1908**

Hyphessobrycon panamensis Durbin in Eigenmann, 1908: 101. Type locality: Panama Boqueron River, Panama. Syntypes: MCZ 20688 (5), USNM 120416 (1).

Hemigrammus minutus Meek & Hildebrand, 1912: 67. Type locality: Rio Agua Clara, C.Z., Panama. Holotype: FMNH 7572 (missing).

Hyphessobrycon panamensis daguae Eigenmann, 1922: 141. Type locality: Dagua and Patia Basins [Colombia]. Syntypes: FMNH ?56516 (1), FMNH 56526-56529 (1,2,2,2), FMNH 58316 (2).

Maximum length: 4.41 cm SL

Distribution: South and Central America: Atlantic slope of southern Costa Rica; atlantic coastal streams of Panama; San Juan, Atrato, Dagua, and Patia Rivers, and around the mouth of the Magdalena River; Esmeraldas River.

Countries: Colombia, Costa Rica, Ecuador, Panama

Remarks and references: See Weitzman & Palmer (1997a: 227-229) for notes on taxonomy, and Kramer (1978) for observations on reproduction.

***Hyphessobrycon parvillus* Ellis, 1911**

Hyphessobrycon parvillus Ellis, 1911: 153, pl. 2 (fig. 1). Type locality: Alagoinhas, Rio Catú [Bahia, Brazil]. Holotype: FMNH 54392 [ex CM 3011].

Maximum length: 2.16 cm SL

Distribution: South America: Catu and Itapicuru Rivers in northeastern Bahia.

Countries: Brazil

Remarks and references: See Lima & Gerhard (2001: 110-111) for comments on the taxonomy.

***Hyphessobrycon peruvianus* Ladiges, 1938**

Hyphessobrycon peruvianus Ladiges, 1938: 50. Type locality: der peruanische Teil des Amazonenstromes zwischen Tabatinga und Iquitos angegeben. Lectotype: ZMH H60 [ex 17758 in part].

Maximum length: 2.81 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

***Hyphessobrycon piabinhas* Fowler, 1941**

Hyphessobrycon piabinhas Fowler, 1941: 187, fig. 97. Type locality: Fortaleza, Ceará [=Fortaleza, Brazil]. Holotype: ANSP 69580.

Maximum length: 3.2 cm SL

Distribution: South America: Fortaleza, Ceará (only known from type locality).

Countries: Brazil

Remarks and references: See notes on the type material by Géry (1972: 8-9).

***Hyphessobrycon poecilioides* Eigenmann, 1913**

Hyphessobrycon poecilioides Eigenmann, 1913: 29. Type locality: Cali [Colombia]. Holotype: FMNH 56290 [ex CM 5091].

Maximum length: 6.9 cm TL

Distribution: South America: Cauca River basin.

Countries: Colombia

***Hyphessobrycon procerus* Mahnert & Géry, 1987**

Hyphessobrycon procerus Mahnert & Géry, 1987: 311, figs. 3-4. Type locality: Paraguay, dept. Caaguazu, Rio Guyrau-gua à Ltr. Juan M. Frutos. Holotype: MHNG 2385.68.

Maximum length: 3.3 cm SL

Distribution: South America: Guyrau-gua River basin.

Countries: Paraguay

***Hyphessobrycon proteus* Eigenmann, 1913**

Hyphessobrycon proteus Eigenmann, 1913: 28. Type locality: Quibdo [Colombia]. Holotype: FMNH 56293 [ex CM 5094].

Maximum length: 7.4 cm TL

Distribution: South America: Atrato, Sinú, and lower portions of Magdalena River basins.

Countries: Colombia

Remarks and references: Generally considered a synonym of *Hyphessobrycon inconstans* (Eigenmann & Ogle), see Eigenmann (1918: 199), but probably a valid species.

Common names: Galocha (Colombia), Sardinita (Colombia)

***Hyphessobrycon pulchripinnis* Ahl, 1937**

Hyphessobrycon pulchripinnis Ahl, 1937a: 235. Type locality: vermutlich Amazonas [Brasil]. Holotype: ZMB 20849 (male).

Maximum length: 3.6 cm TL

Distribution: South America: Tapajós River basin.

Countries: Brazil

Remarks and references: See Géry (1980a) for a redescription, and Burt et al. (1988) for comments on the reproduction.

***Hyphessobrycon pyrrhonotus* Burgess, 1993**

Hyphessobrycon pyrrhonotus Burgess, 1993: 157, figs. Type locality: Rio Erere, a tributary to the Rio Negro, Brazil. Holotype: MZUSP 45714.

Maximum length: 4.54 cm SL

Distribution: South America: Negro River basin.

Countries: Brazil

Remarks and references: See Weitzman & Palmer (1997c) for general comments.

***Hyphessobrycon pytai* Géry & Mahnert, 1993**

Hyphessobrycon pytai Géry & Mahnert, 1993: 33, fig. 1. Type locality: Paraguay, Caaguazu: petit affluent du Rio Güyraugua sur la route Asuncion-Cde del Este, près de Juan Frutos, bassin du Rio Monday (Parana). Holotype: MHNG 2543.86.

Maximum length: 3.8 cm SL

Distribution: South America: Güyraugua River basin (only known from type locality).

Countries: Paraguay

***Hyphessobrycon reticulatus* Ellis, 1911**

Hyphessobrycon reticulatus Ellis, 1911: 153, pl. 2 (fig. 2). Type locality: Campos [Paraíba do Sul River, Rio de Janeiro, Brazil]. Holotype: FMNH 54397 [ex CM 3018].

Maximum length: 4.9 cm SL

Distribution: South America: Coastal river drainages from Rio de Janeiro to northern Santa Catarina States.

Countries: Brazil

Remarks and references: Possibly a junior synonym of *Hyphessobrycon boulengeri* (Malabarba, 1989: 135).

***Hyphessobrycon robustulus* (Cope, 1870)**

Hemigrammus robustulus Cope, 1870: 561. Type locality: Pebas, Equador [actually Peru]. Syntypes: ANSP 8037 (1), ANSP 8038-8052 (15).

Maximum length: 4.4 cm TL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

Remarks and references: Holotype redescribed and figured by Fowler (1906: 335-336).

***Hyphessobrycon rosaceus* Durbin, 1909**

Hyphessobrycon rosaceus Durbin, 1909: 67. Type locality: Gluck I., Essequibo R., Guyana (a river island at ca 6°00' to 6°05'N, 58°36'W). Holotype: FMNH 52791 [ex CM 1190].

Hyphessobrycon ornatus Ahl, 1934: 238, figs. Type locality: Pará, Brazil [probably in error for Guyana]. Syntypes: ZMB 20781 (1 or 3), ZMB 20805 (7).

Cheirodon troemneri Fowler, 1942: 1. Type locality: Aquarium fish without locality, thought to have been obtained in Brazil. Holotype: lost (Weitzman & Palmer, 1997a: 234).

Maximum length: 3.42 cm SL

Distribution: South America: Essequibo, Corantijn and Suriname

River basins.

Countries: Guyana, Suriname

Remarks and references: See Weitzman & Palmer (1997a: 229-231; 1997b) for notes on taxonomy. See Weitzman & Palmer (1997a: 233-234) for possible synonymy of *C. troemneri*.

***Hyphessobrycon roseus* (Géry, 1960)**

Megalampodus roseus Géry, 1960b: 26, pl. 2 (fig. 3); figs. 10-11. Type locality: criques near Gaa Kaba, Maroni [French Guiana]. Holotype: SMF 4784.

Maximum length: 1.93 cm SL

Distribution: South America: Maroni and Oyapock River basins.

Countries: French Guiana

Remarks and references: See Planquette et al. (1996: 332-333) and Weitzman & Palmer (1998: 131) for notes on taxonomy, biology and distribution.

***Hyphessobrycon saizi* Géry, 1964**

Hyphessobrycon saizi Géry, 1964c: 46, fig. 11. Type locality: About 200 miles east of Bogota, Colombia, in the upper Rio Meta drainage. Holotype: USNM 198647.

Maximum length: 23 mm SL

Distribution: South America: Upper Meta River basin.

Countries: Colombia

***Hyphessobrycon santae* (Eigenmann, 1907)**

Hemigrammus santae Eigenmann in Eigenmann & Ogle, 1907: 16. Type locality: Lagoa Santa [São Francisco River basin, Minas Gerais, Brazil]. Holotype: USNM 55652.

Tetragonopterus rivularis var. *interrupta* Lütken, 1875b: 215. Name not available, published in the synonymy of *Tetragonopterus rivularis* Lütken. Also a junior homonym of *Tetragonopterus interruptus* Jenyns.

Maximum length: 4.2 cm TL

Distribution: South America: São Francisco River basin.

Countries: Brazil

***Hyphessobrycon savagei* Bussing, 1967**

Hyphessobrycon savagei Bussing, 1967: 215, fig. 2. Type locality: Puntarenas: Río Ceibo (260 m) at IH [=Interamerican Highway], 4 km NW of Buenos Aires turnoff [Costa Rica]. Holotype: LACM 9237-1.

Maximum length: 3.72 cm SL

Distribution: Central America: Pacific drainages between Jicote River near Parrita and Esquinas River basin.

Countries: Costa Rica

***Hyphessobrycon schauenseei* Fowler, 1926**

Hyphessobrycon schauenseei Fowler, 1926: 254, fig. Type locality: Rio Inhangpy, Pará, Brazil [= Inhangapi River]. Holotype: ANSP 90878.

Maximum length: 3.1 cm SL

Distribution: South America: Inhangapi River basin (only known from type locality).

Countries: Brazil

***Hyphessobrycon scholzei* Ahl, 1937**

Hyphessobrycon scholzei Ahl, 1937b: 445. Type locality: Amazonas bei Para [Brazil]. Lectotype: ZMB 20798, designated by Zarske & Géry (1995: 116).

Maximum length: 4 cm TL

Distribution: South America: Lower Amazon River basin.

Countries: Brazil

***Hyphessobrycon simulatus* (Géry, 1960)**

Pseudopristella simulata Géry, 1960b: 18, pl. 2 (fig. 1); figs. 3-4. Type locality: Kourou River (coast) [French Guiana]. Holotype: SMF 4786.

Maximum length: 3 cm SL

Distribution: South America: Maroni, Mana, Sinnamary, Kourou,

Comté, Approuague and Oyapock River basins.

Countries: French Guiana

Remarks and references: See Planquette et al. (1996: 336-337) and Weitzman & Palmer (1997a: 235) for notes on taxonomy, biology and distribution.

***Hyphessobrycon socolofi* Weitzman, 1977**

Hyphessobrycon socolofi Weitzman, 1977a: 327, figs. 1-3. Type locality: Brazil, State of Amazonas, Rio Negro, Barcelos (62°57'W, 0°58'S). Holotype: MZUSP 13181.

Maximum length: 5.63 cm SL

Distribution: South America: Negro River basin.

Countries: Brazil

Remarks and references: See Weitzman & Palmer (1997c) for general comments.

***Hyphessobrycon sovichthys* Schultz, 1944**

Hyphessobrycon sovichthys Schultz, 1944: 350, fig. 53. Type locality: Ciénaga del Guanavana, about 10 km. north of Sinamaica, Maracaibo Basin, Venezuela. Holotype: USNM 121534.

Maximum length: 3 cm SL

Distribution: South America: Maracaibo Lake basin.

Countries: Venezuela

***Hyphessobrycon stegemanni* Géry, 1961**

Hyphessobrycon stegemanni Géry, 1961b: 7, fig. 1. Type locality: originally savannahs of northeastern Brazil, between the lower Rio Tocantins and the rio Capim corrected to Brazil, Estado do Tocantins... município de Itacajá, between rio Manoel Alves Pequeno and rio Vermelho, rio Tocantins basin, approx. 8°19'S, 47°25'W (Lima & Géry, 2001: 96). Holotype: USNM 195942.

Maximum length: 3.12 cm SL

Distribution: South America: Tocantins River basin.

Countries: Brazil

Remarks and references: See Lima & Géry (2001) for the correction of the type locality, and Seegers & Géry (1989) for notes on distribution.

***Hyphessobrycon stramineus* Durbin, 1918**

Hyphessobrycon stramineus Durbin, in Eigenmann, 1918: 190. Type locality: Tabatinga [Amazon River basin, Amazonas, Brazil]. Holotype: MCZ 20772.

Maximum length: 3.8 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

***Hyphessobrycon sweglesi* (Géry, 1961)**

Megalampodus sweglesi Géry, 1961c: 36, fig. 7. Type locality: Surroundings of Leticia, Upper Amazon, corrected to Río Muco and upper Meta (Géry, 1966c: 232) [Orinoco River basin, Colombia]. Holotype: USNM 196090.

Maximum length: 3.2 cm SL

Distribution: South America: Orinoco River basin.

Countries: Colombia

Remarks and references: Taphorn (1992: 239) suggested that *H. sweglesi* could be a synonym of *H. bentosi*. However, see Weitzman & Palmer (1997d; 1998: 131).

***Hyphessobrycon takasei* Géry, 1964**

Hyphessobrycon takasei Géry, 1964d: 15, fig. 2. Type locality: Serra do Navio above Macapa, Amapa Territorio, lower Amazon basin [Brazil]. Holotype: USNM 198138.

Maximum length: 3.02 cm SL

Distribution: South America: Araguari and Oyapock River basins.

Countries: Brazil, French Guiana

Remarks and references: See Planquette et al. (1996: 290-291) for notes on taxonomy, ecology, and distribution.

***Hyphessobrycon taurocephalus* Ellis, 1911**

Hyphessobrycon taurocephalus Ellis, 1911: 151 [footnote], pl. 1

(fig. 4). Type locality: Serrinha Paraná, Rio Iguassú [=Iguaçu River, Brazil]. Holotype: FMNH 54389 [ex CM 3007].
 Maximum length: 5.5 cm TL
 Distribution: South America: Iguacu River basin.
 Countries: Brazil
 Remarks and references: See Lima & Gerhard (2001: 159) for notes on taxonomy.

***Hyphessobrycon tenuis* Géry, 1964**

Hyphessobrycon tenuis Géry, 1964a: 10, fig. 8. Type locality: petit ruisseau faisant communiquer le Zapote Cocha avec le Caño Yarina, en bordure du Rio Pacaya, affluent du canal de Puinahua (bras du bas Rio Ucayali) [Peru]. Holotype: not researched.
 Maximum length: 2.6 cm SL
 Distribution: South America: Upper Amazon River basin.
 Countries: Peru

***Hyphessobrycon tortuguerae* Böhlke, 1958**

Hyphessobrycon tortuguerae Böhlke, 1958a: 173, fig. 1. Type locality: Tortuguero River (Lagoon) at Tortuguero, 2 miles from ocean inlet, Costa Rica. Holotype: UF 5741.
 Maximum length: 3.9 cm SL
 Distribution: Central America: Atlantic versant between the Patuca River in Honduras and rivers San Juan and Tortuguero in northern Costa Rica.
 Countries: Costa Rica, Honduras

***Hyphessobrycon tropis* Géry, 1963**

Hyphessobrycon tropis Géry, 1963b: 57, fig. 5. Type locality: Tapurucua, upper Rio Negro [Brazil]. Holotype: USNM 198639 [ex Géry coll. M.336,1].
 Maximum length: 2.13 cm SL
 Distribution: South America: Middle Negro River basin.
 Countries: Brazil

***Hyphessobrycon tukunai* Géry, 1965**

Hyphessobrycon tukunai Géry, 1965c: 25, pl. 4 (fig. 12). Type locality: Igarapé Prêto, collatéral de l'Amazone supérieure près de Belem, à environ 60 km en aval de Leticia [Solimões River, Amazonas, Brazil]. Holotype: SMF 7209.
 Maximum length: 2.06 cm SL
 Distribution: South America: Upper Solimões River basin.
 Countries: Brazil

***Hyphessobrycon uruguayensis* (Fowler, 1943)**

Megalampodus uruguayensis Fowler, 1943c: 313, fig. 2. Type locality: Uruguay. Holotype: ANSP 70331.
 Maximum length: 3.74 cm SL
 Distribution: South America: Uruguay River basin.
 Countries: Uruguay
 Remarks and references: See Weitzman & Palmer (1997a: 234; 1998: 129) for notes on taxonomy.

***Hyphessobrycon vilmae* Géry, 1966**

Hyphessobrycon vilmae Géry, 1966b: 64, fig. 1. Type locality: Upper Arinos-Juruena basin, Brazil. Holotype: MHNG 2229.04.
 Maximum length: 2.94 cm SL
 Distribution: South America: Upper Tapajós River basin.
 Countries: Brazil

***Hyphessobrycon wajat* Almiron & Casciotta, 1999**

Hyphessobrycon wajat Almiron & Casciotta, 1999: 340, fig. 1. Type locality: Argentina, Corrientes province, Laguna Brava (58°44'W-27°33'S). Holotype: MLP 9321.
 Maximum length: 3.1 cm SL
 Distribution: South America: Paraná River basin.
 Countries: Argentina

***Hyphessobrycon weneri* Géry & Uj, 1987**

Hyphessobrycon weneri Géry & Uj, 1987a: 546, fig. Unnumb. p.546. Type locality: Estado do Para, Brasilien, Einzugsgebiet des Rio Guama, Waldbach zwischen Santa Maria do Para und Sao Miguel do Guama, etwa 120 Kilometer von Belem (Para) auf der strasse BR 010. Holotype: MZUSP 42365.
 Maximum length: 3.2 cm SL
 Distribution: South America: Guamá River basin.
 Countries: Brazil
 Remarks and references: See Weitzman & Palmer (1997a: 215, 222) for notes on taxonomy.

HYPOBRYCON

Hypobrycon Malabarba & Malabarba, 1994: 20. Type species: *Hypobrycon maromba* Malabarba & Malabarba, 1994. Type by original designation. Gender: masculine.

***Hypobrycon leptorhynchus* Silva & Malabarba, 1996**

Hypobrycon leptorhynchus Silva & Malabarba, 1996: 46, fig. 1. Type locality: Brazil: Santa Catarina: Campos Novos: rio Ibicuí, about 10 km from its mouth in the rio Canoas, rio Uruguai drainage, near the Celulose Iguacu pulp mill plant (approx. 27°33'S, 51°12'W). Holotype: MCP 18862.
 Maximum length: 4.76 cm SL
 Distribution: South America: Upper Uruguay River basin.
 Countries: Brazil

***Hypobrycon maromba* Malabarba & Malabarba, 1994**

Hypobrycon maromba Malabarba & Malabarba, 1994: 20, fig. 2. Type locality: Brazil: Santa Catarina: rio das Marombas, under Irineu Bornhausen bridge, on the old road to Campos Novos (approx. 27°11'S, 50°38'W). Holotype: MCP 15757.
 Maximum length: 4.84 cm SL
 Distribution: South America: Upper Uruguay River basin.
 Countries: Brazil

***Hypobrycon poi* Almirón, Casciotta & Cione, 2001**

Hypobrycon poi Almirón, Casciotta, Azpelicueta & Cione, 2001: 35, fig. 1. Type locality: Argentina, Misiones, Municipio Leandro N. Alem, arroyo Once Vueltas (27°38'S - 55°12'W), Uruguay basin. Holotype: MLP 9573.
 Distribution: South America: Uruguay River basin.
 Countries: Argentina

INPAICHTHYS

Inpaichthys Géry & Junk, 1977: 417. Type species: *Inpaichthys kerri* Géry & Junk, 1977. Type by original designation. Gender: masculine.

***Inpaichthys kerri* Géry & Junk, 1977**

Inpaichthys kerri Géry & Junk, 1977: 418, fig. 5. Type locality: pequeno igarapé pertencente ao sistema do igarapé Queimada (atualmente igarapé do Aeroporto), cerca de duas horas da Cidade de Humboldt (Núcleo Aripuanã), na futura estrada para Juruena, alto rio Aripuanã [Madeira River system, Mato Grosso, Brazil]. Holotype: INPA 10408.
 Maximum length: 2.8 cm SL
 Distribution: South America: Aripuanã River, upper Madeira River basin in Mato Grosso State.
 Countries: Brazil
 Common names: Puxa-puxa (Brazil)

JUPIABA

Jupiaba Zanata, 1997: 102. Type species: *Jupiaba poranga* Zanata, 1997. Gender: feminine.

***Jupiaba abramoides* (Eigenmann, 1909)**

Astyanax abramoides Eigenmann, 1909a: 21. Type locality: Tumatari, Potaro River [Guyana]. Holotype: FMNH 52863 [ex CM

1028].
 Maximum length: 12 cm SL
 Distribution: South America: Orinoco River basin and coastal drainages in the Guianas
 Countries: French Guiana, Guyana, Suriname, Venezuela

***Jupiaba acanthogaster* (Eigenmann, 1911)**

Deuterodon acanthogaster Eigenmann, 1911b: 179, pl. 8 (fig. 3).
 Type locality: Corumbá [Brazil]. Holotype: FMNH 54748 [ex CM 3395a].

Distribution: South America: Paraguay River basin in Brazil, upper Tapajós and Tocantins River basins.
 Countries: Brazil

***Jupiaba anteroides* (Géry, 1965)**

Astyanax (Poecilirichthys) anteroides Géry, 1965c: 16, pl. 1 (figs. 3-4). Type locality: Igarapé Prêto, collatéral de l'Amazone supérieure près de Belem, à environ 60 km en aval de Leticia, Brazil. Holotype: SMF 7255.

Distribution: South America: Upper Amazon and Curuá-Una River basins.
 Countries: Brazil

***Jupiaba apenina* Zanata, 1997**

Jupiaba apenina Zanata, 1997: 108, fig. 7. Type locality: Brasil. Mato Grosso: Cachimbo, rio Peixoto de Azevedo. Holotype: MZUSP 48458.

Distribution: South America: Peixoto de Azevedo and Noedori River basins.
 Countries: Brazil

***Jupiaba asymmetrica* (Eigenmann, 1908)**

Astyanax asymmetricus Eigenmann, 1908: 94. Type locality: Tabatinga [Amazonas, Brazil].

?*Astyanax asymmetricus colombiensis* Fowler, 1945b: 97, fig. 2. Type locality: Morelia, Río Caquetá drainage, Colombia. Holotype: ANSP 71672. Provisional synonym.

Distribution: South America: Upper Amazon River basin
 Countries: Brazil, Colombia, Ecuador, Peru

***Jupiaba atypindi* Zanata, 1997**

Jupiaba atypindi Zanata, 1997: 111, fig. 8. Type locality: Brasil. Pará: (igarapé Jaramucu, affluente do rio Cuminá). Holotype: MZUSP 17809.

Distribution: South America: Negro River and some of its tributaries: Uraricoera, Surumu, and Cuminá rivers.
 Countries: Brazil

***Jupiaba essequibensis* (Eigenmann, 1909)**

Astyanax essequibensis Eigenmann, 1909a: 17. Type locality: Tumatumari, Potaro River [Guyana]. Holotype: FMNH 53519 [ex CM 1018].

Distribution: South America: Essequibo River basin.
 Countries: Guyana

***Jupiaba keithi* (Géry, Planquette & Le Bail, 1996)**

Astyanax keithi Géry, Planquette & Le Bail, 1996: 26, fig. 10; pl. 1c. Type locality: Maroni, Crique Balaté [French Guiana]. Holotype: MNHN 1995-1087.

Maximum length: 10 cm SL
 Distribution: South America: Coastal rivers in French Guiana.
 Countries: French Guiana

***Jupiaba maroniensis* (Géry, Planquette & Le Bail, 1996)**

Astyanax maroniensis Géry, Planquette & Le Bail, 1996: 17, pl. 2a. Type locality: Antecume Pata, village indien au confluent du Litani et du Marouini, formateurs du Maroni [French Guiana]. Holotype: MNHN 1995-1091.

Maximum length: 6 cm TL

Distribution: South America: Coastal rivers in French Guiana.
 Countries: French Guiana

***Jupiaba meunieri* (Géry, Planquette & Le Bail, 1996)**

Astyanax meunieri Géry, Planquette & Le Bail, 1996: 21, pl. 2b.

Type locality: Approuague, Rivière Arataye au Saut Japigny [French Guiana]. Holotype: MNHN 1995-1086.

Maximum length: 9 cm SL
 Distribution: South America: Coastal rivers in French Guiana and Suriname.

Countries: French Guiana, Suriname

***Jupiaba minor* (Travassos, 1964)**

Deuterodon minor Travassos, 1964: 11, fig. 1. Type locality: Rio Cachimbo - Cachimbo - Aeroporto da FAB. Abaixo do Salto - Estado do Pará. Lat. 9°22'S e Long. 54°55'W [Brasil]. Holotype: MNRJ 9196.

Distribution: South America: Cachimbo River basin, Pará State.
 Countries: Brazil

***Jupiaba mucronata* (Eigenmann, 1909)**

Astyanax mucronatus Eigenmann, 1909a: 19. Type locality: Tumatumari above fall [Guyana]. Holotype: FMNH 53520 [ex CM 1025].

Maximum length: 4.2 cm SL
 Distribution: South America: Coastal rivers in Guyana.
 Countries: Guyana

***Jupiaba ocellata* (Géry, Planquette & Le Bail, 1996)**

Astyanax ocellatus Géry, Planquette & Le Bail, 1996: 12, pl. 1a.

Type locality: Oyapock entre Saut Maripa et Camopi [French Guiana]. Holotype: MNHN 1995-1090.

Maximum length: 12 cm TL
 Distribution: South America: Coastal rivers of northeastern South America.

Countries: Brazil, French Guiana

***Jupiaba pinnata* (Eigenmann, 1909)**

Deuterodon pinnatus Eigenmann, 1909a: 25. Type locality: Amatuk, Lower Potaro River [Guyana]. Holotype: FMNH 53525 [ex CM 1046].

Maximum length: 5.82 cm SL
 Distribution: South America: Coastal rivers in Guyana and Suriname.

Countries: Guyana, Suriname

***Jupiaba pirana* Zanata, 1997**

Jupiaba pirana Zanata, 1997: 114, fig. 9. Type locality: Brasil. Pará: (rio Tapajós, igarapé Pimenta, Parque Nacional da Amazônia). Holotype: MZUSP 25389.

Maximum length: 4.35 cm SL
 Distribution: South America: Tapajós River basin.
 Countries: Brazil

***Jupiaba polylepis* (Günther, 1864)**

Tetragonopterus polylepis Günther, 1864: 320. Type locality: British Guiana. Holotype: BMNH 1845.3.5.33.

Maximum length: 6.12 cm SL
 Distribution: South America: Paru de Oeste, Xingu, Tocantins, and Araguaia River basins and coastal rivers in Suriname and Guyana.

Countries: Brazil, Guyana, Suriname

***Jupiaba poranga* Zanata, 1997**

Jupiaba poranga Zanata, 1997: 115, fig. 10. Type locality: Brasil. Mato Grosso: Diamantino (rio Arinos, riacho Monjolinho). Holotype: MZUSP 45324.

Maximum length: 7.9 cm SL
 Distribution: South America: Peixoto de Azevedo and Arinos River basins in Tapajós River drainage.

Countries: Brazil

***Jupiaba potaroensis* (Eigenmann, 1909)**

Astyanax potaroensis Eigenmann, 1909a: 22. Type locality: Amatum Cataract, Potaro River [Guyana]. Holotype: FMNH 52695 [ex CM 1037].

Maximum length: 4.64 cm SL

Distribution: South America: Potaro River basin.

Countries: Guyana

***Jupiaba scologaster* (Weitzman & Vari, 1986)**

Astyanax scologaster Weitzman & Vari, 1986: 709, figs. 1, 3. Type locality: Venezuela, Territorio Federal Amazonas, lower portion of Caño Manu, which drains into the Casiquiare about 250 m upstream of Solano (approx. 02°00'N, 66°57'W). Holotype: MBUCV V-15249.

Maximum length: 3.7 cm SL

Distribution: South America: Upper Negro and Orinoco River basins.

Countries: Brazil, Venezuela

***Jupiaba yarina* Zanata, 1997**

Jupiaba yarina Zanata, 1997: 119, fig. 11. Type locality: Brasil. Mato Grosso: (rio Arinos, riacho Monjolinho). Holotype: MZUSP 45323.

Maximum length: 7.73 cm SL

Distribution: South America: Arinos River basin in Tapajós River drainage.

Countries: Brazil

***Jupiaba zonata* (Eigenmann, 1908)**

Astyanax zonatus Eigenmann, 1908: 95. Type locality: Tabatinga [Amazonas, Brazil]. Lectotype: MCZ 89560 (1 of 2).

Maximum length: 4.71 cm SL

Distribution: South America: Upper Amazon and Negro River basins.

Countries: Brazil

KNODUS

Knodus Eigenmann, 1911a: 216. Type species: *Knodus meridae* Eigenmann, 1911. Type by monotypy. Gender: masculine. Also appeared as new genus in Eigenmann (1918: 114) but with type given as *Bryconamericus breviceps* Eigenmann.

***Knodus breviceps* (Eigenmann, 1908)**

Bryconamericus breviceps Eigenmann, 1908: 105. Type locality: Goyaz [Goiás, Tocantins or Paraná River basin, Brazil]. Syntypes: (many) MCZ 20692 (20, USNM 120274 [ex MCZ 20692] (4).

Maximum length: 8.7 cm TL

Distribution: South America: Tocantins River basin.

Countries: Brazil

Common names: Piaba (Brazil)

***Knodus caquetae* Fowler, 1945**

Knodus caquetae Fowler, 1945b: 94, fig. 1. Type locality: Morelia, Rio Caquetá drainage, Colombia. Holotype: ANSP 71670.

Maximum length: 6.5 cm SL

Distribution: South America: Amazon and Caquetá River basins.

Countries: Colombia

***Knodus chapadae* (Fowler, 1906)**

Astyanax chapadae Fowler, 1906: 349, fig. 33. Type locality: Near Santa Anna da Chapada, in Matto Grosso, Brazil, from the headwaters of the Paraguay. Holotype: ANSP 21828.

Maximum length: 4.4 cm SL

Distribution: South America: Upper Paraguay River basin.

Countries: Brazil

***Knodus delta* Géry, 1972**

Knodus delta Géry, 1972a: 56, pl. 3 (fig. 2). Type locality: Ruisseau près de Puerto Napo, haut Río Napo [Ecuador]. Holotype: ZMH H1473.

Maximum length: 3.61 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Ecuador

***Knodus gamma* Géry, 1972**

Knodus gamma Géry, 1972a: 52, pl. 2 (fig. 3). Type locality: Río Villano, affluent du rio Cururay [Ecuador]. Holotype: ZMH H1861.

Maximum length: 4.84 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Ecuador

***Knodus heteresthes* (Eigenmann, 1908)**

Bryconamericus heteresthes Eigenmann, 1908: 105. Type locality: Tapajos [Brazil]. Syntypes: (many) MCZ 89966 [ex MCZ 20862a] (34), USNM 120247 [ex MCZ 20862a] (6).

Maximum length: 5.1 cm TL

Distribution: South America: Tapajós River basin.

Countries: Brazil

***Knodus hypopterus* (Fowler, 1943)**

Bryconamericus hypopterus Fowler, 1943a: 242, fig. 20. Type locality: Florencia, Rio Ortegusa, Colombia. Holotype: ANSP 70505.

Maximum length: 4.4 cm TL

Distribution: South America: Upper Amazon River basin.

Countries: Colombia

***Knodus megalops* Myers, 1929**

Knodus megalops Myers in Eigenmann & Myers, 1929: 527. Type locality: Rio Pichis, Puerto Bermudez [Peru]. Holotype: CAS 61845 [ex IU 17668].

Maximum length: 5.9 cm TL

Distribution: South America: Amazon River River basin.

Countries: Peru

***Knodus meridae* Eigenmann, 1911**

Knodus meridae Eigenmann, 1911b: 216. Type locality: Merida, Venezuela. Holotype: BMNH 1911.5.29.148.

Maximum length: 4.5 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

***Knodus mizquae* (Fowler, 1943)**

Astyanax mizquae Fowler, 1943e: 4, fig. 3. Type locality: Ele Ele, 5000 feet elevation, Río Mizque, Department of Cochabamba, Bolivia. Holotype: ANSP 69176.

Distribution: South America: Bolivia (?).

Countries: Bolivia

***Knodus moenkhausii* (Eigenmann & Kennedy, 1903)**

Poecilurichthys moenkhausii Eigenmann & Kennedy, 1903: 522. Type locality: a brook near Arroyo Trementina [Paraguay]. Holotype: CAS 55102 [ex IU 10001].

Maximum length: 4.5 cm TL

Distribution: South America: Paraguay River basin.

Countries: Paraguay, Peru

***Knodus orteguasae* (Fowler, 1943)**

Bryconamericus orteguasae Fowler, 1943a: 240, fig. 19. Type locality: Florencia, Rio Ortegusa, Colombia. Holotype: ANSP 70504.

Distribution: South America: Caquetá River basin.

Countries: Colombia

***Knodus savannensis* Géry, 1961**

Knodus savannensis Géry, 1961c: 26, fig. 1. Type locality: savan-

nahs of northeastern Brazil, between the lower Rio Tocantins and the rio Capim [Brazil], corrected to "Brazil, Estado do Tocantins.. município de Itacajá, between rio Manoel Alves Pequeno and rio Vermelho, rio Tocantins basin, approx. 8°19'S, 47°25'W or Brasil, estado do Tocantins, rio Javaés, Ilha do Bananal, approx. 11° S, 51° W" by Lima & Géry (2001: 96). Holotype: USNM 196088.

Maximum length: 3.37 cm SL

Distribution: South America: Tocantins River basin.

Countries: Brazil

***Knodus septentrionalis* Géry, 1972**

Knodus victoriae septentrionalis Géry, 1972a: 49, pl. 2, fig. 1. Type locality: rio Capotazo, affluent du haut rio Paltaza [Ecuador]. Holotype: ZMH 2261.

Maximum length: 5.05 cm SL

Distribution: South America: Upper Pastaza River basin.

Countries: Ecuador

***Knodus smithi* (Fowler, 1913)**

Bryconamericus smithi Fowler, 1913: 557, fig. 18. Type locality: Tributary of the Madeira River near Porto Velho, Brazil. Holotype: ANSP 39293.

Bryconamericus jacunda Fowler, 1913: 555, fig. 17. Type locality: Madeira River, about 200 miles east of W. Long. 62°20', Brazil. Holotype: ANSP 39292.

Maximum length: 3.5 cm TL

Distribution: South America: Madeira River basin.

Countries: Bolivia, Brazil

***Knodus victoriae* (Steindachner, 1907)**

Tetragonopterus victoriae Steindachner, 1907: 83. Type locality: einem kleinen Bache nächst seiner Mündung in den Parnahyba bei dem Städtchen Victoria [Maranhão, Brazil]. Syntypes: (several) NMW 57823-25 (16, 13, 18).

Distribution: South America: Parnaíba River basin.

Countries: Brazil

LEPTAGONIATES

Leptagoniates Boulenger, 1887a: 281. Type species: *Leptagoniates steindachneri* Boulenger, 1887a. Type by monotypy. Gender: masculine. See Malabarba (1998: 229) for comments.

***Leptagoniates pi* Vari, 1978**

Leptagoniates pi Vari, 1978: 185, fig. 1. Type locality: Bolivia, Río Mamoré, 10 km west of San Pedro, lagoons communicating with river. Holotype: AMNH 35952.

Maximum length: 3.1 cm SL

Distribution: South America: Mamoré River basin.

Countries: Bolivia

***Leptagoniates steindachneri* Boulenger, 1887**

Leptagoniates steindachneri Boulenger, 1887a: 282, pl. 23, fig. 3. Type locality: Sarayacu [eastern Ecuador]. Holotype: BMNH 1880.12.5.252.

Maximum length: 7.6 cm SL

Distribution: South America: Amazon River basin.

Countries: Ecuador, Peru

LEPTOBRYCON

Leptobrycon Eigenmann, 1915: 46. Type species: *Leptobrycon jatuaranae* Eigenmann, 1915. Type by original designation. Gender: masculine. See Malabarba (1998: 230) for comments.

***Leptobrycon jatuaranae* Eigenmann, 1915**

Leptobrycon jatuaranae Eigenmann, 1915: 46, pl. 6 (fig. 1). Type locality: Jatuarana [Amazonas, Brazil]. Holotype: MCZ 20952.

Maximum length: 2.9 cm

Distribution: South America: Amazon River basin.

Countries: Brazil

LIGNOBRYCON

Lignobrycon Eigenmann & Myers, 1929: 513. Type species: *Tetragonopterus ligniticus* Woodward, 1898. Type by original designation. Gender: masculine. Type is a fossil species.

Moojenichthys Miranda Ribeiro, 1956: 546. Type species: *Moojenichthys myersi* Miranda Ribeiro, 1956. Type by original designation. Gender: masculine.

***Lignobrycon myersi* (Miranda Ribeiro, 1956)**

Moojenichthys myersi Miranda Ribeiro, 1956: 546, fig. Type locality: Rio Braço, Ilhéos [Ilhéus], Bahia, Brazil. Holotype: MNRJ 4127.

Maximum length: 8.48 cm SL

Distribution: South America: Do Braço River basin in Bahia State.

Countries: Brazil

Remarks and references: See Castro & Vari (1990) for redescription and comments on relationships.

Common names: Canivete (Brazil), Mossarupê (Brazil), Piabafaca (Brazil)

MARKIANA

Markiana Eigenmann, 1903: 145. Type species: *Tetragonopterus nigripinnis* Perugia, 1891. Type by original designation. Gender: feminine.

***Markiana geayi* (Pellegrin, 1908)**

Tetragonopterus (Markiana) nigripinnis geayi Pellegrin, 1908: 347. Type locality: Río Apuré (Vénézuéla) [Orinoco River basin]. Holotype: MNHN 98-17.

Maximum length: 10.4 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Remarks and references: See Eigenmann (1918: 123) for key.

***Markiana nigripinnis* (Perugia, 1891)**

Tetragonopterus nigripinnis Perugia, 1891: 643. Type locality: Río della Plata [Argentina]. Syntypes: MSNG 9222 (3).

Maximum length: 10.4 cm SL

Distribution: South America: Paraná, Paraguay, and Mamoré River basins.

Countries: Argentina, Bolivia, Brazil, Paraguay

Remarks and references: See Eigenmann (1918: 123) for key.

Common names: Lambari-campo (Brazil), Sardina (Bolivia)

MICROGENYS

Microgenys Eigenmann, 1913: 22. Type species: *Microgenys minutus* Eigenmann, 1913. Type by original designation. Gender: feminine.

***Microgenys lativirgata* Pearson, 1927**

Microgenys lativirgatus Pearson, in Eigenmann, 1927: 355. Type locality: Río Pusoc, above Balsas, Peru. Syntypes: CAS 47171 [ex IU 17642].

Maximum length: 7.1 cm SL

Distribution: South America: Amazon River basin.

Countries: Peru

Remarks and references: see Eigenmann (1927: 354) for a comparison with *M. minuta* (in key).

Common names: Mojarrita (Peru)

***Microgenys minuta* Eigenmann, 1913**

Microgenys minutus Eigenmann, 1913: 22. Type locality: Piedra Moler [upper Cauca basin, Colombia]. Holotype: FMNH 56215 [ex CM 5007].

Maximum length: 4.5 cm SL

Distribution: South America: Cauca River basin.

Countries: Colombia

Remarks and references: see Eigenmann (1927: 354) for a redescription, figure and comparison with *M. lativirgata*.

***Microgenys weyrauchi* Fowler, 1945**

Microgenys weyrauchi Fowler, 1945c: 3, fig. 4. Type locality: Ninabamba near Ayacucho, at 1900 meters elevation, Rio Ucayali basin, Peru. Holotype: ANSP 71627.

Maximum length: 2.8 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Peru

Remarks and references: possibly a junior synonym of *Bryconacidnus ellisi* (Pearson, 1924), as suggested by Géry (1977: 398).

Common names: Mojarrita (Peru)

MICROSHEMOBRYCON

Microchemobrycon Eigenmann, 1915: 56. Type species: *Microchemobrycon guaporensis* Eigenmann, 1915. Type by original designation. Gender: masculine. See reviews by Böhlke (1953) and Géry (1973).

***Microchemobrycon callops* Böhlke, 1953**

Microchemobrycon callops Böhlke, 1953b: 846, pl. 20 (fig. 2). Type locality: Rio Negro at Camanaos Rapids, Brazil... Camanaos is just down river from São Gabriel, at approximately 0°10' North Latitude, 66°55' West Longitude. Holotype: SU 17491.

Maximum length: 3 cm SL

Distribution: South America: Negro, Orinoco, and Paru do Oeste River basins.

Countries: Brazil, Venezuela

***Microchemobrycon casiquiare* Böhlke, 1953**

Microchemobrycon casiquiare Böhlke, 1953b: 843, pl. 20 (fig. 1). Type locality: São Gabriel Rapids of the Rio Negro, Brazil, shortly down river from 0°08'03" South Latitude, 67°03'28" West Longitude, where the village of São Gabriel is situated. Holotype: SU 17497.

Maximum length: 3 cm SL

Distribution: South America: Negro, Casiquiare, and Madeira Rivers basins.

Countries: Brazil, Venezuela

***Microchemobrycon elongatus* Géry, 1973**

Microchemobrycon elongatus Géry, 1973: 97, fig. 9. Type locality: Rio Suiazinho (rio Xingù basin)... place North-West of Base Camp, which is 256 km North of Xavantina by road, 12°49'S, 51°46'W [Brazil]. Holotype: BMNH 1972.11.15.1.

Maximum length: 2.5 cm SL

Distribution: South America: Xingu River basin.

Countries: Brazil

***Microchemobrycon geisleri* Géry, 1973**

Microchemobrycon geisleri Géry, 1973: 93, fig. 7. Type locality: Igarapé about 35 km N.-W. from Obidos, rio Curuçamba drainage, lower Amazon basin [Brazil]. Holotype: MHNG 2229.09 [ex Géry coll. 0672].

Maximum length: 2.7 cm SL

Distribution: South America: Lower Amazon River basin.

Countries: Brazil

***Microchemobrycon guaporensis* Eigenmann, 1915**

Microchemobrycon guaporensis Eigenmann, 1915: 56, pl. 8 (fig. 2). Type locality: Maciél, Rio Guaporé [Madeira River basin, Brazil]. Holotype: FMNH 57926 [ex CM 6910a].

Maximum length: 3 cm SL

Distribution: South America: Guapore River basin.

Countries: Brazil

***Microchemobrycon melanotus* (Eigenmann, 1912)**

Aphyocharax melanotus Eigenmann, 1912b: 312. Type locality: Rockstone sand-bank [Essequibo River, Guyana]. Holotype: FMNH 53578.

Maximum length: 4.3 cm TL

Distribution: South America: Essequibo and Negro River basins.

Countries: Brazil, Guyana.

***Microchemobrycon meyburgi* Meinken, 1975**

Microchemobrycon meyburgi Meinken, 1975: 217, fig. 1. Type locality: Rio Xeriuni, Brasilien. Holotype: SMF 12271.

Maximum length: 2.2 cm SL

Distribution: South America: Branco River basin.

Countries: Brazil

MIXOBRYCON

Mixobrycon Eigenmann, 1915: 62. Type species: *Cheirodon ribeiroi* Eigenmann, 1907. Type by original designation. Gender: masculine. See Malabarba 1998: 231.

***Mixobrycon ribeiroi* (Eigenmann, 1907)**

Cheirodon ribeiroi Eigenmann in Eigenmann & Ogle, 1907: 9. Type locality: Puerto Max, Paraguay Basin. Holotype: CAS 59778 [ex IU 10229].

Maximum length: 3.5 cm SL

Distribution: South America: Paraguay River basin.

Countries: Paraguay

Remarks and references: See Malabarba (1998: 231) for comments on type specimen. Described in more detail by Eigenmann (1915: 62-64, pl. 10, fig. 2).

MOENKHAUSIA

Moenkhausia Eigenmann, 1903: 145. Type species: *Tetragonopterus xinguensis* Steindachner, 1882. Type by original designation. Gender: feminine.

Opisthanodus Ahl, 1935: 46. Type species: *Opisthanodus haerteli* Ahl, 1935. Type by original designation. Gender: Masculine.

***Moenkhausia affinis* Steindachner, 1915**

Moenkhausia affinis Steindachner, 1915b: 348. Type locality: Mündung des Rio Negro. Syntypes: NMW (3)

Maximum length: 6 cm SL

Distribution: South America: Lower Negro River basin.

Countries: Brazil

Common names: Lambari (Brazil)

***Moenkhausia agnesae* Géry, 1965**

Moenkhausia agnesae Géry, 1965c: 14, pl. 1 (fig. 1). Type locality: Igarapé Preto, collatéral de l'Amazonie supérieure près de Belém, à environ 60 km en aval de Leticia. Holotype: SMF 7238.

Maximum length: 6.9 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Brazil

Common names: Lambari (Brazil)

***Moenkhausia atahualpiana* (Fowler, 1907)**

Astyanax atahualpianus Fowler, 1907: 436, fig. 36. Type locality: Near Pebas, Peru. Holotype: ANSP 21435.

Distribution: South America: Amazon River basin.

Countries: Peru

Common names: Mojara (Peru)

***Moenkhausia barbouri* Eigenmann, 1908**

Moenkhausia barbouri Eigenmann, 1908: 103. Type locality: Villa Bella [now Parintins, Amazonas, Brazil]. Syntypes: MCZ 20708 (2).

Maximum length: 6.5 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

Remarks and references: See Géry (1977: 446) for identification key.

Common names: Lambari (Brazil)

***Moenkhausia browni* Eigenmann, 1909**

Moenkhausia browni Eigenmann, 1909a: 13. Type locality: Aruaitaima Falls, Potaro River [Guyana]. Holotype: FMNH 52732 [ex CM].

Maximum length: 8.2 cm TL

Distribution: South America: Potaro River basin.

Countries: Guyana

Remarks and references: See Géry (1977: 446) for identification key.

***Moenkhausia ceros* Eigenmann, 1908**

Moenkhausia ceros Eigenmann, 1908: 104. Type locality: Lake Hyanuary [= Paraná do Januári, Amazonas, Brazil]. Holotype: MCZ 49161.

Maximum length: 5 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

Remarks and references: See Géry (1977: 446) for identification key.

Common names: Lambari (Brazil), Mojara (Peru)

***Moenkhausia chrysargyrea* (Günther, 1864)**

Tetragonopterus chrysargyreus Günther, 1864: 328. Type locality: Essequebo [Guyana]. Holotype: BMNH 1864.1.21.69.

Moenkhausia chrysargyrea leucopomis Fowler, 1914: 244, fig. 7. Type locality: Rupununi River, British Guyana. Holotype: ANSP 39330.

Maximum length: 10 cm SL

Distribution: South America: Guianas coastal rivers and Amazon River basin.

Countries: Brazil, French Guiana, Guyana, Venezuela

Remarks and references: See Eigenmann (1917: 75, pl. 6, fig. 3) for a detailed redescription. Notes on taxonomy and ecology by Taphorn (1992: 266) and Planquette et al. (1996: 294). See Géry (1977: 446) for identification key.

Common names: Lambari (Brazil), Mojara (Peru), Sardinita (Ecuador), Palometa Aro de Oro (Venezuela),

***Moenkhausia collettii* (Steindachner, 1882)**

Tetragonopterus collettii Steindachner, 1882a: 179. Type locality: Rio Hyavary. Obidos [Javari River, tributary of Solimões River at the Brazilian-border, c. 4°21'S, 70°02'W; Brazil, Pará, Amazon River at Óbidos, 1°52'S, 55°30'W]. Syntypes: MCZ 20483 (42) Obidos, ? MCZ 90154 [ex MCZ 20480a] (3) Obidos; NMW 57379-82 (3, 3, 2, 5).

Maximum length: 4.5 cm SL

Distribution: South America: Amazon River basin from Peru to the Guianas.

Countries: Brazil, Colombia, French Guiana, Guyana, Peru, Suriname, Venezuela

Remarks and references: See Géry (1977: 446) for identification key.

Common names: Bobita (Venezuela), Lambari (Brazil), Mojara (Peru), Sardinita (Ecuador)

***Moenkhausia comma* Eigenmann, 1908**

Moenkhausia comma Eigenmann, 1908: 102. Type locality: Cudajás [Solimões River at Codajás, near Ilha Codajás, Amazonas, Brazil, 3°55'S, 62°0'W]. Syntypes: MCZ 20972 (2). Eigenmann (1917: 77) writes "One specimen 20972 part Type 77 mm", but this does not constitute a lectotype designation.

Maximum length: 7.4 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil

Remarks and references: See Géry (1977: 446) for identification key.

Common names: Lambari (Brazil), Mojara (Peru)

***Moenkhausia copei* (Steindachner, 1882)**

Tetragonopterus copei Steindachner, 1882a: 179. Type locality: Santarem [Brazil, Pará, Santarém and environs, 2°26'S, 54°51'W]. Syntypes (several): ?MCZ 89960 (30) Obidos; NMW 57383 (5).

Maximum length: 6 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Brazil, Venezuela.

Remarks and references: See notes on taxonomy and ecology by Taphorn (1992: 269-270).

Common names: bobita, sardinita (Venezuela).

***Moenkhausia costae* (Steindachner, 1907)**

Tetragonopterus costae Steindachner, 1907: 84. Type locality: Rio San Francisco, Rio grande do Norte und Rio Preto bei Joazeiro, Barra, Sa Rita [Brazil]. Syntypes: MNHN 1907-178 [ex NMW] (4); MZUT 1682 (3); NMW 57391-98 (8?), NMW 57401-06 (6?), NMW 57408-09 (2?), NMW 57411 (1).

Maximum length: 5.9 cm SL

Distribution: South America: Sao Francisco and Itapicuru River basins.

Countries: Brazil

Remarks and references: See redescription and figures by Eigenmann (1917: 93-95, pl. 14, fig. 2) and Britski et al. (1984: 46, fig.35). See Géry (1977: 446) for identification key.

Common names: Lambari (Brazil), Piaba (Brazil)

***Moenkhausia cotinho* Eigenmann, 1908**

Moenkhausia cotinho Eigenmann, 1908: 104. Type locality: Para [Belém and environs, Pará, Brazil, 1°27'S, 48°29'W]. Syntypes: MCZ 21013 (2), MCZ 21070 (3).

Maximum length: 5.1 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Venezuela

Remarks and references: Syntypes collected by Dr. Justa presumably from Brazil, Paraíba, rio Paraíba do Norte at João Pessoa, 7°6'S, 34°53'W, a locality outside the known range of the species. See Géry (1977: 446) for identification key.

Common names: Bobita (Venezuela), Lambari (Brazil), Mojara (Peru)

***Moenkhausia crisnejas* Pearson, 1929**

Moenkhausia crisnejas Pearson, in Eigenmann & Myers, 1929: 524. Type locality: Paipay, Rio Crisnejas, Peru. Syntypes: CAS 60477 (24) (ex IU 17641).

Maximum length: 4.4 cm SL

Distribution: South America: Crisnejas River basin.

Countries: Peru

Remarks and references: See Géry (1977: 446) for identification key.

Common names: Mojara (Peru)

***Moenkhausia dichrourea* (Kner, 1858)**

Tetragonopterus dichrourus Kner, 1858a: 80. Type locality: Rio Guaporé...Caicara...Rio Paraguay [Guaporé and Paraguay River basins, Brazil]. Syntypes: NMW 56219 (4), NMW 57593 (2).

Maximum length: 10 cm SL

Distribution: South America: Amazon, Paraguay, and Orinoco River basins.

Countries: Brazil, Paraguay, Peru, Venezuela

Remarks and references: See Géry (1977: 446) for identification key. Notes on taxonomy and ecology by Taphorn (1992: 272-273).

Common names: Lambari (Brazil), Lambari-corintiano (Brazil), Mojara (Peru), sardinita tijeras (Venezuela)

***Moenkhausia diktyota* Lima & Toledo-Piza, 2001**

Moenkhausia diktyota Lima & Toledo-Piza, 2001: 1058, fig. 1.

Type locality: Brazil, Amazonas, rio Negro, igarapé at São João, near Santa Isabel do Rio Negro, 0°24'S; 65°02'W. Holotype: MZUSP 62614

Maximum length: 5.2 cm SL

Distribution: South America: Upper Negro River basin.

Countries: Brazil

Common names: Lambari (Brazil), Tuniupe (Tukano Indians in upper rio Negro, Brazil), Tumuapé (Tuyuka Indians in upper rio Negro, Brazil).

***Moenkhausia doceana* (Steindachner, 1877)**

Tetragonopterus doceanus Steindachner, 1877: 572. Type locality: Rio Doce [eastern Brazil]. Syntypes: MNHN 1913-135 and 136 (2); NMW 57389 (2), NMW 57591 (2).

Maximum length: 7.7 cm SL

Distribution: South America: Mucuri and Doce River basins.

Countries: Brazil

Remarks and references: See Géry (1977: 446) for identification key.

Common names: Lambari (Brazil)

***Moenkhausia dorsinuda* Zarske & Géry, 2002**

Moenkhausia dorsinuda Zarske & Géry, 2002b: 13, fig. 1. Type locality: Bolivien, Departamento Beni, Río Ipurupuru, unweit der Kreuzung des Flusses an der Strasse nach San Ramón, etwa 73km nördlich Trinidad (14°12'538"S, 64°56'268"W). Holotype: MTD F 24833.

Maximum length: 7.09 cm SL

Distribution: South America: Amazon River basin in Bolivia.

Countries: Bolivia

***Moenkhausia eigenmanni* Géry, 1964**

Moenkhausia eigenmanni Géry, 1964c: 30, fig. 5. Type locality: about 200 miles east of Bogota, Colombia, in the upper Rio Meta drainage. Holotype: USNM 198640.

Maximum length: 5.25 cm SL

Distribution: South America: Upper Meta River basin.

Countries: Colombia

Remarks and references: See Géry (1977: 446) for identification key.

***Moenkhausia georgiae* Géry, 1965**

Moenkhausia georgiae Géry, 1965b: 104, pl. 1 (fig. 3). Type locality: between "Saut-Chien" and "Saut-Topi-Topi", middle Mana River, French Guiana. Holotype: ZMA 104223.

Maximum length: 6.9 cm SL

Distribution: South America: Sipaliwini, Maroni, Mana, Sinnamary, Comté, Approuague, and Oyapock River basins.

Countries: French Guiana, Suriname

Remarks and references: See Géry (1977: 446) for identification key. See Planquette et al. (1996: 296-297) for notes on ecology, taxonomy and distribution.

***Moenkhausia gracilima* (Eigenmann, 1908)**

Moenkhausia lepidurus gracilimus Eigenmann, 1908: 104. Type locality: Villa Bella; Serpa [Amazon River at Parintins, Amazonas, Brazil, 2°38'S, 56°45'W; Brazil, Amazonas, Amazon River at Itacoatiara, 3°06'S, 58°22'W]. Syntypes: MCZ 20983 (now 13), USNM 120279 [ex MCZ 20983] (4).

Maximum length: 5.9 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil

Remarks and references: See Géry (1977: 446) for identification key; Géry (1992: 71) for notes on taxonomy and distribution.

Common names: Lambari (Brazil)

***Moenkhausia grandisquamis* (Müller & Troschel, 1845)**

Tetragonopterus grandisquamis Müller & Troschel, 1845: 27, pl. 8

(fig. 2). Type locality: Surinam.

Maximum length: 6.4 cm SL

Distribution: South America: Amazon, Orinoco and coastal river drainages of the Guianas.

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela

Remarks and references: See Géry (1977: 446) for identification key.

Common names: Lambari (Brazil), Sardina (Ecuador), Weti fisa, Sriba, Piki pilélou (French Guiana)

***Moenkhausia hasemani* Eigenmann, 1917**

Moenkhausia lepidura hasemani Eigenmann, 1917: 102, pls. 15 (fig. 3), 101 (fig. 5). Type locality: Santarem [Pará, Brazil]. Holotype: FNNH 55055 [ex CM 3746].

Maximum length: 4.5 cm SL

Distribution: South America: Lower Tapajós River basin.

Countries: Brazil

Remarks and references: See Géry (1977: 446) for identification key; Géry (1992: 73) for notes on taxonomy.

Common names: Lambari (Brazil)

***Moenkhausia hemigrammoides* Géry, 1965**

Moenkhausia hemigrammoides Géry, 1965b: 109, fig. 6. Type locality: Weyne, Matoekasie creek, on the road Albina-Moengo, Cottica River basin [Suriname]. Holotype: ZMA 104227.

Maximum length: 4 cm SL

Distribution: South America: Coastal rivers in Suriname and French Guiana.

Countries: French Guiana, Suriname

Remarks and references: See Géry (1977: 446) for identification key; Planquette et al. (1996: 302-303) for notes, ecology, and distribution.

***Moenkhausia icae* Eigenmann, 1908**

Moenkhausia lepidurus icae Eigenmann, 1908: 103. Type locality: Iça [Brazil, Amazonas, Iça River, tributary of Solimões River, near the Brazilian-Colombian border, 3°07'S, 67°58'W]. Syntypes: MCZ MCZ 20810 (1, missing), MCZ 20812 (30).

Maximum length: 5 cm SL

Distribution: South America: Solimões and Iça River basins.

Countries: Brazil

Remarks and references: See Géry (1992: 73) for notes on the species.

***Moenkhausia inrai* Géry, 1992**

Moenkhausia inrai Géry, 1992: 74, fig. 7. Type locality: "crique Roche au-dessus du Saut Grand Canori, Approuague" [French Guiana]. Holotype: MNHN 1992-0943.

Maximum length: 6.45 cm SL

Distribution: South America: Maroni and Approuague River basins.

Countries: French Guiana

Common names: Pikili (French Guiana).

***Moenkhausia intermedia* Eigenmann, 1908**

Moenkhausia dichrourus intermedius Eigenmann, 1908: 103. Type locality: Tabatinga [Amazonas, Brazil]. Syntypes: MCZ 20762 (2).

Moenkhausia lepidura madeirae Fowler, 1913: 540, fig. 11. Type locality: Tributary of Rio Madeira near Porto Velho, Brazil. Holotype: ANSP 39224.

Astyanax bipunctialbicaudalis Godoy, 1977: 666, fig. 7. Type locality: Rio Mogi Guassu, Cachoeira de Emas, Pirassununga (SP), mais ou menos 500 m abaixo da ponte. Holotype: EEBP-Pirassununga 8109.

Maximum length: 8 cm SL

Distribution: South America: Amazon, Orinoco, La Plata, Approuague, Maroni and Mana River basins.

Countries: Argentina, Bolivia, Brazil, French Guiana, Paraguay, Venezuela

Remarks and references: See Géry (1977: 446) for identification key.

Common names: Lambari (Brazil), Lambari-corintiano (Brazil)

***Moenkhausia jamesi* Eigenmann, 1908**

Moenkhausia jamesi Eigenmann, 1908: 102. Type locality: Içá; Obidos; Lago do Maximo, Tajapurú [Brazil, Amazonas, Içá River, tributary of Solimões River, near the Brazilian-Colombian border, 3°07'S, 67°58'W; Brazil, Pará, Amazon River at Óbidos, 1°52'S, 55°30'W; Lake Maximo, near Parintins, 2°40'S, 56°45'W, Amazonas, Brazil; Furo Tajapurú at Tajapurú, Ilha de Marajó, 1°50'S, 50°25'W, Pará, Brazil]. Syntypes: MCZ 20734 (1), MCZ 20742 (1), MCZ 20816 (2), MCZ 20827 (1).

Maximum length: 6.8 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil

Remarks and references: See Eigenmann (1917: 72-73, pl. 5, fig. 1) for a more detailed description and figure; See Géry (1977: 446) for identification key.

Common names: Lambari (Brazil)

***Moenkhausia justae* Eigenmann, 1908**

Moenkhausia justae Eigenmann, 1908: 102. Type locality: Not provided in the original description; Eigenmann (1917: 73) suggested "probably... neighborhood of Manaus". Eschmeyer et al. (1998: 822), based on undisclosed evidence, suggested Paraíba do Norte River, João Pessoa, Paraíba. However, recent collections at João Pessoa and other sites in northeastern Brazil did not reveal specimens which could be assigned to that species (R.S. Rosa, H.A. Britski, pers. comm.). As a consequence, the type-locality should be still considered uncertain, but more probably lies in Amazon basin in Brazil. Holotype: MCZ 21014.

Maximum length: 6 cm SL

Distribution: South America: Amazon River basin in Brazil.

Countries: Brazil

Remarks and references: Very similar and doubtfully diagnosable from *M. jamesi* (Eigenmann, 1917: 73; Géry, 1977: 447).

Common names: Lambari (Brazil)

***Moenkhausia lata* Eigenmann, 1908**

Moenkhausia lepidurus latus Eigenmann, 1908: 103. Type locality: Rio Tapajós [Brazil, Pará, approx. 2°24'S, 54°51'W]. Syn-types: (many) CAS 42670 [ex IU 15259 & MCZ 20860] (5, missing), MCZ 20860 (2), USNM 120278 [ex MCZ 20860] (4).

Maximum length: 8 cm SL

Distribution: South America: Tapajós and Oyapock River basins.

Countries: Brazil, French Guiana

Remarks and references: See Géry (1977: 446) for identification key. See Géry (1992: 72) and Planquette et al. (1996: 308-309) for notes on the species.

Common names: Lambari (Brazil), Pilaki (French Guiana)

***Moenkhausia latissima* Eigenmann, 1908**

Moenkhausia latissimus Eigenmann, 1908: 101. Type locality: Tabatinga [Brazil, Amazonas, Solimões River at Tabatinga and environs, 4°14'S, 69°44'W]. Syntypes: MCZ 20767 (9), MCZ 20769 (now 9), USNM 120277 [ex MCZ 20769] (3).

Maximum length: 9.2 cm SL

Distribution: South America: Upper Amazon River near Tabatinga.

Countries: Brazil

Remarks and references: See Géry (1977: 446) for identification key.

Common names: Lambari (Brazil), Sardina (Ecuador)

***Moenkhausia lepidura* (Kner, 1858)**

Tetragonopterus lepidurus Kner, 1858a: 80. Type locality: Rio Guaporé [Rondônia, Brazil; provided by Kner, 1859: 41]. Syn-types: presumably at NMW.

Knodus calliurus Ahl, 1931: 208, fig. 2. Type locality: Rio Capim

[Pará, Brazil]. Holotype: ZMB 23684.

Maximum length: 8.4 cm SL

Distribution: South America: Amazon, Orinoco, and coastal rivers in Guyana and Suriname.

Countries: Brazil, Guyana, Peru, Suriname, Venezuela

Remarks and references: See Géry (1992) for taxonomic remarks on the species; Taphorn (1992: 275-276) and Araújo-Lima et al. (1986) for observations on diet and microhabitat preferences.

Common names: Mojara (Peru)

***Moenkhausia levidorsa* Benine, 2002**

Moenkhausia levidorsa Benine, 2002: 290, fig. 1. Type locality: Brazil: State of Mato Grosso: Núcleo Aripuanã, Igarapé do Aeroporto, Furo Bahia, above cachoeira de Dardanelos (approximately 10°10'S 59°25'W). Holotype: INPA 16774.

Maximum length: 6.4 cm SL

Distribution: South America: Middle Tapajós River basin.

Countries: Brazil.

***Moenkhausia lopezi* Britski & Silimon, 2001**

Moenkhausia lopezi Britski & Silimon, 2001: 113, fig. 2. Type locality: Ribeirão Sozinho na rodovia BR 163, entre Rondonópolis e Coxim (aproximadamente 17°30'S 55°10'W), município de Rondonópolis, Estado do Mato Grosso do Sul. Holotype: MZUSP 64480.

Distribution: South America: Paraguay River basin.

Countries: Brazil.

***Moenkhausia loweae* Géry, 1992**

Moenkhausia loweae Géry, 1992: 73, fig. 6. Type locality: Rio das Mortes à Xavantina [Brazil]. Holotype: MZUSP 44560.

Maximum length: 5.25 cm SL

Distribution: South America: Araguaia River basin.

Countries: Brazil

Common names: Lambari (Brazil)

***Moenkhausia margitae* Zarske & Géry, 2001**

Moenkhausia margitae Zarske & Géry, 2001: 7, fig. 1. Type locality: Peru, Ucayali, Quebrada an der Straße Campo Verde - Nueva Requena (etwa auf halber Strecke). Holotype: MTD F 17256.

Maximum length: 6.4 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

Common names: Mojara (Peru)

***Moenkhausia megalops* (Eigenmann, 1907)**

Astyanax megalops Eigenmann in Eigenmann & Ogle, 1907: 29. Type locality: Itaituba, Brazil. Holotype: CAS 71433 [ex IU 5192].

Maximum length: 5 cm SL

Distribution: South America: Amazon River basin and coastal rivers in French Guiana.

Countries: Brazil, French Guiana

Remarks and references: See Géry (1977: 446) for identification key.

Common names: Lambari (Brazil)

***Moenkhausia melogramma* Eigenmann, 1908**

Moenkhausia melogrammus Eigenmann, 1908: 102. Type locality: Tabatinga [Amazonas, Brazil]. Holotype: MCZ 20825.

Maximum length: 4 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Brazil

Remarks and references: See Géry (1977: 446) for identification key.

Common names: Lambari (Brazil)

***Moenkhausia metae* Eigenmann, 1922**

Moenkhausia metae Eigenmann, 1922b: 234, pl. 34 (fig. 3). Type locality: Barrigón, Río Meta [Orinoco System, Colombia]. Holo-

type: CAS 55610 [ex IU 15026a].
 Maximum length: 7.4 cm SL
 Distribution: South America: Upper Meta River basin.
 Countries: Colombia
 Remarks and references: See Géry (1977: 446) for identification key.

***Moenkhausia miangi* Steindachner, 1915**

Moenkhausia miangi Steindachner, 1915a: 43, pl. 3 (fig. 5). Type locality: aus dem Miang an der Grenze von Venezuela.
 Maximum length: 8.9 cm SL
 Distribution: South America: Upper Branco and upper Caroni River basins
 Countries: Brazil, Venezuela
 Remarks and references: See Géry (1977: 446) for identification key; Lasso (1990: 222) for remarks on the species.
 Common names: Bobita (Venezuela), Curuku (Venezuela)

***Moenkhausia moisae* Géry, Planquette & Le Bail, 1995**

Moenkhausia moisae Gery, Planquette, & Le Bail, 1995: 67, fig. 2. Type locality: Crique Blaté, Bas Maroni. Holotype: MNHN 1995-1073.
 Maximum length: 9.5 cm SL
 Distribution: South America: Maroni and Mana River basins.
 Countries: French Guiana

***Moenkhausia naponis* Böhlke, 1958**

Moenkhausia naponis Böhlke, 1958b: 14, fig. 1. Type locality: from headwaters of Río Arajuno [Ecuador, 1°24' to 1°26'S, 77°50' to 77°55'W]. Holotype: USNM 164067.
 Maximum length: 5.4 cm SL
 Distribution: South America: Upper Amazon River basin.
 Countries: Ecuador
 Remarks and references: See Géry (1977: 446) for identification key.
 Common names: Sardinita (Ecuador)

***Moenkhausia newtoni* Travassos, 1964**

Moenkhausia newtoni Travassos, 1964: 543, fig. 6-9. Type locality: Rio Cachimbo, Cachimbo, Aeroporto da FAB. Abaixo do Salto, Estado do Pará. Lat. 9°22'S e Long. 54°55'W [Brazil]. Holotype: MNRJ 9177.
 Maximum length: 2.7 cm SL
 Distribution: South America: Amazon River basin in Pará State.
 Countries: Brazil
 Common names: Lambari (Brazil)

***Moenkhausia nigromarginata* Costa, 1994**

Moenkhausia nigromarginata Costa, 1994: 22, fig. 1. Type locality: Brazil, Estado do Mato Grosso, small stream, tributary to Rio Cravari, near the road MT-170, about 10 km N of Campo Novo do Parecis, rio Tapajós basin. Holotype: MNRJ 12429.
 Maximum length: 5.3 cm SL
 Distribution: South America: Upper Tapajós River basin
 Countries: Brazil
 Common names: Lambari (Brazil)

***Moenkhausia oligolepis* (Günther, 1864)**

Tetragonopterus oligolepis Günther, 1864: 327. Type locality: British Guyana. Holotype: BMNH 1969.12.19.2.
Tetragonopterus agassizii Steindachner, 1876b: 89, pl. 6, fig. 2. Type locality: Amazonenstrom bei Tabatinga [Brazil]. Syntypes: ZMUC 42 (1); NMW 57176-79 (2, 2, 3, 2).
 Maximum length: 10 cm SL
 Distribution: South America: Venezuela, the Guianas and the Amazon River basin.
 Countries: Brazil, French Guiana, Guyana, Peru, Suriname, Venezuela

Remarks and references: See Géry (1977: 446) for identification key; Planquette et al. (1996: 312-313) for notes.
 Common names: Bobita (Venezuela), Lambari olho-de-fogo (Brazil), Mojara (Peru), Pequirá (Brazil), Tetra de vidro (Peru), Tetra espejo (Peru)

***Moenkhausia orteguasae* Fowler, 1943**

Moenkhausia orteguasae Fowler, 1943a: 233, fig. 14. Type locality: Florencia, Rio Orteguasa, Colombia. Holotype: ANSP 70496.
 Maximum length: 7.3 cm TL
 Distribution: South America: Orteguasa River basin.
 Countries: Colombia
 Remarks and references: See Géry (1977: 446) for identification key.

***Moenkhausia ovalis* (Günther, 1868)**

Tetragonopterus ovalis Günther, 1868: 480. Type locality: Xeberos [Peru]. Holotype: BMNH 1867.6.13.87.
 Maximum length: 8 cm SL
 Distribution: South America: Upper Amazon River basin.
 Countries: Peru
 Remarks and references: See Géry (1977: 446) for identification key.
 Common names: Mojara (Peru)

***Moenkhausia phaeonota* Fink, 1979**

Moenkhausia phaeonota Fink, 1979: 2, fig. 1. Type locality: Brazil, Mato Grosso, from the shores of an island "below Rio dos Peixes", Rio Arinos, Juruena-Tapajós drainage. Holotype: MZUSP 13793.
 Maximum length: 5.6 cm SL
 Distribution: South America: Upper Tapajós River basin.
 Countries: Brazil
 Common names: Lambari (Brazil), Piaba (Brazil)

***Moenkhausia pittieri* Eigenmann, 1920**

Moenkhausia pittieri Eigenmann, 1920: 10, pl. 3. Type locality: Concejo, Rio Tiquirito [Venezuela]. Holotype: CAS 62059 [ex IU 15136].
Opisthanodus haerteli Ahl, 1935: 47. Type locality: Amazonas bei Para [Brazil]. Lectotype: ZMB 20793.
 Maximum length: 6 cm SL
 Distribution: South America: Lake Valencia basin.
 Countries: Venezuela
 Remarks and references: See Géry (1977: 446) for identification key and Zarske & Géry (1995: 117) for synonymy.
 Common names: Bobita (Venezuela)

***Moenkhausia pyrophthalma* Costa, 1994**

Moenkhausia pyrophthalma Costa, 1994: 25, figs. 3-4. Type locality: Brazil: Estado do Mato Grosso, stream crossing the road between Água Boa and Cocalinho, 13 km W of the point where the road reaches rio das Mortes, rio Araguaia-Tocantins basin, 14°03'S, 51°47'W. Holotype: MNRJ 12431.
 Maximum length: 3.4 cm SL
 Distribution: South America: Araguaia River basin.
 Countries: Brazil
 Common names: Lambari olho-de-fogo (Brazil)

***Moenkhausia robertsi* Géry, 1964**

Moenkhausia robertsi Géry, 1964: 21, fig. 1. Type locality: Upper Amazon region surrounding Iquitos [Peru]. Holotype: USNM 200427 [ex Géry coll. 398.1].
 Maximum length: 4.9 cm SL
 Distribution: South America: Upper Amazon River basin.
 Countries: Peru
 Remarks and references: See Géry (1977: 446) for identification key.
 Common names: Mojara (Peru)

***Moenkhausia sanctaefilomenae* (Steindachner, 1907)**

Tetragonopterus sanctae Filomenae Steindachner, 1907: 82. Type locality: Lagune bei Sa. Filomena am Rio Parnahyba [Brazil]. Syntypes: NMW 57513 (5), NMW 57514 (7), NMW 57515 (2).

Moenkhausia australe Eigenmann, 1908: 103. Type locality: Arroyos Trementina and Chagalalina [Paraguay]. Syntypes: Probably MCZ (2).

Maximum length: 7 cm SL

Distribution: South America: Parnaíba, São Francisco, upper Paraná, Paraguay and Uruguay River basins.

Countries: Argentina, Brazil, Paraguay

Remarks and references: See Géry (1977: 446) for identification key.

Common names: Lambari olho-de-fogo (Brazil), Pequirá (Brazil)

***Moenkhausia shideleri* Eigenmann, 1909**

Moenkhausia shideleri Eigenmann, 1909a: 15. Type locality: Bartica [Guyana]. Holotype: FMNH 52961 [ex CM 1012].

Maximum length: 7.3 cm SL

Distribution: South America: Guyana (?).

Countries: Guyana

Remarks and references: See Géry (1977: 446) for identification key.

***Moenkhausia simulata* (Eigenmann, 1924)**

Astyanax simulatus Eigenmann in Pearson, 1924: 41. Type locality: Creek at Puerto Burmedez [Peru]. Syntypes: MCZ 31875 [ex IU 16860] (2), USNM 167811 [ex IU 15860] (2), CAS 62100 [ex IU 15860] (orig. 10, now 6), USNM 167811 [ex IU 15860] (2).

Maximum length: 7.2 cm SL

Distribution: South America: Upper Amazon, Pachitea, and Maroni River basins.

Countries: French Guiana, Peru, Suriname

Remarks and references: See Géry (1977: 446) for identification key; Planquette et al. (1996: 316-317) for record in French Guiana and Suriname.

Common names: Mojara (Peru)

***Moenkhausia surinamensis* Géry, 1965**

Moenkhausia surinamensis Géry, 1965b: 102, fig. 2. Type locality: Browns creek, km 114 from Paramaribo on the Paramaribo-Dam railroad, between Saramacca and Suriname River systems [Suriname]. Holotype: ZMA 104221.

Maximum length: 10 cm SL

Distribution: South America: Suriname, Saramacca, Oyapock, Approuague, Comté, and Sinnamary River basins.

Countries: Brazil, French Guiana, Suriname

Remarks and references: See Géry (1977: 446) for identification key; Planquette et al. (1996: 314-315) for notes on the species.

***Moenkhausia takasei* Géry, 1964**

Moenkhausia takasei Géry, 1964d: 13, fig. 1. Type locality: creek close to Belem do Para, Rio Guama basin, lower Amazon [Brazil]. Holotype: USNM 198136.

Maximum length: 3.3 cm SL

Distribution: South America: Lower Amazon River basin.

Countries: Brazil

Remarks and references: See Géry (1977: 446) for identification key.

Common names: Lambari (Brazil)

***Moenkhausia tergimacula* Lucena & Lucena, 1999**

Moenkhausia tergimacula Lucena & Lucena, 1999: 232, fig. 1. Type locality: Brazil: Goiás: Minaçu: rio Tocantins, 3 km downstream of Serra da Mesa Dam, 13°50'51"S 48°16'60". Holotype: MCP 20560.

Maximum length: 5.2 cm SL

Distribution: South America: Upper Tocantins River basin.

Countries: Brazil

Common names: Lambari (Brazil), Piaba (Brazil)

***Moenkhausia xinguensis* (Steindachner, 1882)**

Tetragonopterus xinguensis Steindachner, 1882a: 178. Type locality: Xingu [Xingu River, Pará, Brazil]. Holotype: NMW.

Maximum length: 5 cm SL

Distribution: South America: Xingu River basin.

Countries: Brazil

Remarks and references: Species later described in more detail by Steindachner (1882b: 32). See Géry (1977: 446) for identification key.

Common names: Lambari (Brazil), Piaba (Brazil)

Species inquirendae

Moenkhausia tridentata Holly, 1929: 1. Type locality: Piquirão (Amazonasgebiet) [Brazil]. Holotype: whereabouts unknown.

Moenkhausia lepidura ocoae Fowler, 1943a: 234, fig. 15. Type locality: Rio Ocoá, Rio Meta basin, Colombia. Holotype: ANSP 70497.

Moenkhausia schultzi Fernández-Yépez, 1950: 13, pl. 2 (fig. 4). Type locality: Rio Autana, Venezuela. Holotype: AFY 48166.

MONOTOCHEIRODON

Monotocheirodon Eigenmann & Pearson, in Pearson, 1924: 34. Type species: *Monotocheirodon pearsoni* Eigenmann, 1924. Type by monotypy. Gender: masculine.

***Monotocheirodon pearsoni* Eigenmann, 1924**

Monotocheirodon pearsoni Eigenmann, in Pearson, 1924: 34, pl. 11, fig. 1. Type locality: Espia [Beni River basin, Bolivia]. Syntypes: (10) CAS 59792 [ex IU 15348] (7), UMMZ 66484 (4). Additional original material: CAS 70832 [ex IU 17334] (3), 70833 [ex IU 17333] (now 5), 70835 [ex IU 17335] (2).

Maximum length: 4.4 cm

Distribution: South America: Beni River basin.

Countries: Bolivia

NEMATOBRYCON

Nematobrycon Eigenmann, 1911a: 215. Type species: *Nematobrycon palmeri* Eigenmann, 1911. Type by monotypy. Gender: masculine. See Weitzman & Fink (1971: 57) for comments and discussion about species of this genus.

***Nematobrycon lacortei* Weitzman & Fink, 1971**

Nematobrycon lacortei Weitzman & Fink, 1971: 59, fig. 1. Type locality: Probably from Rio Calima, Colombia. Holotype: USNM 205594.

Maximum length: 3.6 cm SL

Distribution: South America: San Juan River basin.

Countries: Colombia

Remarks and references: See Weitzman & Fink (1971: 57) for detailed synonymy and Géry (1977: 386) for comments.

Common names: Rainbow tetra (USA)

***Nematobrycon palmeri* Eigenmann, 1911**

Nematobrycon palmeri Eigenmann, 1911a: 215. Type locality: Condoto, Rio Condoto, and Novita, Rio Tamana, S.W. Colombia [restricted to Colombia, Condoto River, by Weitzman & Fink (1971: 68)]. Lectotype: BMNH 1910.7.11.96, designated by Weitzman & Fink (1971: 68).

Nematobrycon amphiloxus Eigenmann & Wilson, in Eigenmann, Henn & Wilson, 1914: 13. Type locality: Boca de Raspadura [Colombia]. Holotype: CM 5050 (apparently lost).

Maximum length: 4.2 cm SL

Distribution: South America: Atrato and San Juan River basins.

Countries: Colombia

Remarks and references: See Weitzman & Fink (1971) for detailed synonymy and Géry (1977: 386) for comments.

Common names: Emperor tetra (USA)

NEMATOCHARAX

Nematocharax Weitzman, Menezes & Britski, 1986: 335. Type species: *Nematocharax venustus* Weitzman, Menezes & Britski, 1986. Type by original designation. Gender: masculine.

***Nematocharax venustus* Weitzman, Menezes & Britski, 1986**

Nematocharax venustus Weitzman, Menezes & Britski, 1986: 336, fig. 1. Type locality: Brazil; Minas Gerais, Município Medina, Rio Jequitinhonha at Itaobim, about 16°40'S, 41°23'W. Holotype: MZUSP 5131.

Maximum length: 5.1 cm SL

Distribution: South America: Jequitinhonha River basin.

Countries: Brazil

ODONTOSTOECHUS

Odontostoechus Gomes, 1947: 7. Type species: *Odontostoechus lethostigmus* Gomes, 1947. Type by original designation. Gender: masculine.

***Odontostoechus lethostigmus* Gomes, 1947**

Odontostoechus lethostigmus Gomes, 1947: 8, fig. 1; pl. 1 (fig. 1). Type locality: backwater of Rio Maquiné, a tributary to Lagôa dos Quadros, Conceição do Arroio County, Rio Grande do Sul, Brazil. Holotype: UMMZ 143272.

Maximum length: 6.65 cm SL

Distribution: South America: Maquiné, Três Forquilhas and Mapi-tuba River basins in southern Brazil.

Countries: Brazil

Remarks and references: See comments on possible relationships in Malabarba (1998: 231-232).

OLIGOBRYCON

Oligobrycon Eigenmann, 1915: 56. Type species: *Oligobrycon microstomus* Eigenmann, 1915. Type by original designation. Gender: masculine.

***Oligobrycon microstomus* Eigenmann, 1915**

Oligobrycon microstomus Eigenmann, 1915: 57, fig. 17; pl. 9 (fig. 1). Type locality: Jacarehy, Rio Parahyba [Brazil]. Holotype: FMNH 57913 [ex CM 6898].

Maximum length: 3.9 cm TL

Distribution: South America: Upper and middle Paraíba do Sul River basin.

Countries: Brazil

Remarks and references: Known only from type specimens.

OLIGOSARCUS

Oligosarcus Günther, 1864: 353. Type species: *Oligosarcus argenteus* Günther, 1864. Type by monotypy. Gender: masculine.

Acestrorhamphus Eigenmann & Kennedy, 1903: 527. Type species: *Hydrocyon hepsetus* Cuvier, 1816. Type by monotypy. Gender: masculine.

Paroligosarcus Campos & Trewavas, 1949: 157. Type species: *Oligosarcus pintoii* Campos, 1945. Type by monotypy. Gender: masculine. Originally proposed as a subgenus of *Oligosarcus*.

***Oligosarcus acutirostris* Menezes, 1987**

Oligosarcus acutirostris Menezes, 1987: 15, fig. 3. Type locality: Rio Itapemirim, Fazenda Boa Esperança, entre Pacotuba e Coutinho, Espírito Santo (aproximadamente 21°S, 41°W) [Brazil]. Holotype: MZUSP 37525.

Maximum length: 16 cm SL

Distribution: South America: Eastern coastal rivers between Espírito Santo and Bahia States.

Countries: Brazil

***Oligosarcus argenteus* Günther, 1864**

Oligosarcus argenteus Günther, 1864: 353. Type locality: Brazil. Lectotype: BMNH 1967.1.24.2.

Oligosarcus meadi Menezes, 1969: 31 fig. 21. Type locality: União de Caeté, Minas Gerais, Rio das Velhas basin. Holotype: MZUSP 4618.

Maximum length: 10.5 cm SL

Distribution: South America: Doce and Das Velhas River basins.

Countries: Brazil

Remarks and references: See Menezes (1987: 22) for diagnosis.

***Oligosarcus bolivianus* (Fowler, 1940)**

Acestrorhamphus bolivianus Fowler, 1940: 53, fig. 7. Type locality: Río Lipeo, Bolivia. Holotype: ANSP 68814.

Maximum length: 14.7 cm SL

Distribution: South America: Lipeo River in the Paraguay River basin.

Countries: Bolivia

Remarks and references: See Menezes (1987: 26) for diagnosis.

***Oligosarcus brevioris* Menezes, 1987**

Oligosarcus brevioris Menezes, 1987: 10, fig. 2. Type locality: Arroio Cachoeirinha, bacia do Rio Pelotas, estrada Vacaria-Bom Jesus, município de Vacaria, Rio Grande do Sul (ca. 28°40'S, 50°40'W) [Brazil]. Holotype: MZUSP 37508.

Maximum length: 16.6 cm SL

Distribution: South America: Upper Uruguay River basin.

Countries: Brazil

***Oligosarcus hepsetus* (Cuvier, 1829)**

Hydrocyon hepsetus Cuvier, 1829: 312. Type locality: Unknown. No types known.

Maximum length: 23.8 cm SL

Distribution: South America: Southeastern Brazil and La Plata River basin.

Countries: Argentina, Brazil

Remarks and references: See Menezes (1987: 31) for diagnosis.

Common names: Tajibucu (Brazil), Tambicu (Brazil)

***Oligosarcus jenynsii* (Günther, 1864)**

Xiphorhamphus jenynsii Günther, 1864: 356. Type locality: Freshwater Lake of Maldonado [Uruguay]. Types apparently not preserved.

Xiphorhamphus brachycephalus Cope, 1894: 84, pl. 4. Type locality: Rio Grande do Sul [restricted to Laguna dos Patos system, Brazil, by Malabarba (1989)]. Lectotype: ANSP 21728, designated by Fowler (1907: 460).

Acestrorhamphus purpureus Messner, 1962: 1. Type locality: Río Olimar, near the mouth of Arroyo de las Piedras, Uruguay. Holotype: MNHN 79.

Maximum length: 22.2 cm SL

Distribution: South America: Streams, rivers and lagoons of coastal areas and interior plains of Rio Grande do Sul State, Uruguay and Argentina.

Countries: Argentina, Brazil, Uruguay

Remarks and references: See Menezes (1987: 23) for diagnosis.

Common names: Branca (Brazil), Tambica (Brazil), Tambicu (Brazil)

***Oligosarcus macrolepis* (Steindachner, 1877)**

Xiphorhamphus macrolepis Steindachner, 1877: 594. Type locality: Rio Jequitinhonha. Syntypes: not found at NMW.

Maximum length: 7.7 cm SL

Distribution: South America: Jequitinhonha River basin.

Countries: Brazil

Remarks and references: See Menezes (1987: 21) for diagnosis.

Common names: Tambicu (Brazil)

***Oligosarcus menezesi* Miquelarena & Protogino, 1996**

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- Oligosarcus menezesi* Miquelarena & Protogino, 1996: 112, fig. Type locality: Arroyo Urugua-í, arriba de Salto de Uruguaú, em terrenos de la Cia. "Alto Parana" [Paraná River basin, Misiones, Argentina]. Holotype: ILPLA 299.
Maximum length: 13.8 cm SL
Distribution: South America: Upper Urugua-í creek, upper Paraná River basin in Misiones.
Countries: Argentina
Remarks and references: See Miquelarena & Protogino (1996) for detailed description.
- Oligosarcus oligolepis* (Steindachner, 1867)**
Xiphorhamphus oligolepis Steindachner, 1867: 339. Type locality: Río de la Plata. Holotype: NMW.
Maximum length: 2.5 cm SL
Distribution: South America: Paraguay, lower Paraná, Uruguay and La Plata River basins.
Countries: Brazil, Argentina, Uruguay and Paraguay
Remarks and references: See Menezes (1987: 28) for diagnosis.
- Oligosarcus paranensis* Menezes & Géry, 1983**
Oligosarcus paranensis Menezes & Géry, 1983: 572, fig. 3. Type locality: Represa de Salesópolis (Tietê river system), State of São Paulo, Brazil. Holotype: MZUSP 25721.
Maximum length: 20.5 cm SL
Distribution: South America: Upper Paraná River basin.
Countries: Brazil, Paraguay
Remarks and references: See Menezes (1987: 27) for diagnosis.
Common names: Tambicu (Brazil)
- Oligosarcus pintoí* Campos, 1945**
Oligosarcus pintoí Campos, 1945: 456, fig. 9. Type locality: Rio Mogi-Guaçu [upper Paraná River basin, São Paulo, Brazil]. Holotype: MZUSP 3465.
Hemibrycon marciae Godoy, 1971: 155, fig. 2. Type locality: tanque da EEBP-Pirassununga (SP), bacia do Rio Mogi Guassa [upper Paraná River basin, São Paulo, Brazil]. Holotype: EEBP 710.
Maximum length: 8.4 cm SL
Distribution: South America: Upper Paraná River basin.
Countries: Brazil, Paraguay
Remarks and references: See Menezes (1987: 20) for diagnosis.
Common names: Lambari (Brazil)
- Oligosarcus planaltinae* Menezes & Géry, 1983**
Oligosarcus planaltinae Menezes & Géry, 1983: 564, fig. 1. Type locality: Córrego Planaltina, a tributary of Rio São Bartolomeu (Paraná river system) near Brasília, State of Goiás, Brazil. Holotype: MZUSP 26718 or 25718.
Maximum length: 9.9 cm SL
Distribution: South America: Paranaíba River basin in Goiás State.
Countries: Brazil
Remarks and references: See Menezes (1987: 33) for diagnosis.
- Oligosarcus robustus* Menezes, 1969**
Oligosarcus robustus Menezes, 1969: 26, fig. 18. Type locality: Rio Caí in Montenegro, Rio Grande do Sul, Brazil (Guaíba River basin). Holotype: MZUSP 4917.
Maximum length: 22 cm SL
Distribution: South America: Coastal drainages of Rio Grande do Sul State.
Countries: Brazil
Remarks and references: See Menezes (1987: 30) for diagnosis.
Common names: Branca (Brazil), Tambica (Brazil), Tambicu (Brazil)
- Oligosarcus schindleri* Menezes & Géry, 1983**
Oligosarcus schindleri Menezes & Géry, 1983: 566, fig. 2. Type locality: San Francisco de Chipiriri in a small tributary of the Río Chapare (Rio Madeira basin), about 100 km east of Cochabamba, Bolivia. Holotype: ZSM 26095.
Maximum length: 8.2 cm SL
Distribution: South America: Chapare River basin and lagoons near Cochabamba.
Countries: Bolivia
Remarks and references: See Menezes (1987: 27) for diagnosis.
- Oligosarcus solitarius* Menezes, 1987**
Oligosarcus solitarius Menezes, 1987: 6, fig. 1. Type locality: Lagoa Carioca, Vale do Rio Doce, Minas Gérias, aproximadamente (20°S, 43°W). Holotype: MZUSP 37377.
Maximum length: 16.2 cm SL
Distribution: South America: Doce River basin.
Countries: Brazil
- Species inquirenda***
Xiphorhamphus pericoptes Muller & Troschel, 1844: 93. Type locality: Brasilia. No types known. Either a synonym of *Oligosarcus hepsetus* or *Oligosarcus robustus* (see Menezes, 1987: 32).
- OTHONOCHEIRODUS**
Othonocheirodus Myers, 1927: 113. Type species: *Othonocheirodus eigenmanni* Myers, 1927. Type by original designation. Gender: masculine.
- Othonocheirodus eigenmanni* Myers, 1927**
Othonocheirodus eigenmanni Myers, 1927: 114. Type locality: Peru: Rio Cayumba [tributary of Huallaga River]. Holotype: IU 17674.
Maximum length: 4.7 cm
Distribution: South America: Amazon River basin.
Countries: Peru
Remarks and references: See comments on possible relationships in Malabarba (1998: 231-232).
- OXYBRYCON**
Oxybrycon Géry, 1964a: 15. Type species: *Oxybrycon parvulus* Géry, 1964. Type by original designation. Gender: masculine.
- Oxybrycon parvulus* Géry, 1964**
Oxybrycon parvulus Géry, 1964a: 16, fig. 13. Type locality: petit ruisseau faisant communiquer le <<Zapote Cocha>> avec le <<Caño Yarina>>, en bordure du Rio Pacaya, affluent du canal de Puinahua (bras du bas Rio Ucayali) [Peru]. Holotype: unnumbered; not researched.
Maximum length: 1.6 cm SL
Distribution: South America: Upper Amazon River basin.
Countries: Peru
Common names: Mojara (Peru)
- PARACHEIRODON**
Lamprocheirodon Géry, 1960a: 13. Type species: *Cheirodon axelrodi* Schultz, 1956. Type by original designation. Gender: masculine.
Paracheirodon Géry, 1960a: 12. Type species: *Hyphessobrycon innesi* Myers, 1936. Type by original designation. Gender: masculine. Phylogeny, species description and key in Weitzman & Fink (1983).
- Paracheirodon axelrodi* (Schultz, 1956)**
Cheirodon axelrodi Schultz, 1956: 42, unnumbered fig. Type locality: near Porto Velho, Brazil; corrected in Weitzman & Fink (1983) to "Brazil, Amazonas, stream near Tomar (=Thomar) (0°25'S, 63°55'W), Rio Negro". Holotype: USNM 164483.
Hyphessobrycon cardinalis Myers & Weitzman, 1956: 1. Type locality: Rio Negro, Amazonas, Brazil [aquarium import]; corrected in Weitzman & Fink (1983) to "Brazil, Amazonas, rio

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Negro near Tomar (0°25'S, 63°55'W)". Holotype: SU 48710.
Maximum length: 2.51 cm SL
Distribution: South America: Upper Orinoco and Negro River basins.
Countries: Brazil, Colombia, Venezuela
Remarks and references: Synonym, redescription, figures and discussion of type locality in Weitzman & Fink (1983)
Common names: Neon (Brazil, USA), Neon tetra (USA)

***Paracheirodon innesi* (Myers, 1936)**

Hyphessobrycon innesi Myers, 1936: 97. Type locality: Peruvian Amazon [Aquarium import]. Holotype: USNM 102109.
Maximum length: 2.2 cm SL
Distribution: South America: Blackwater or clearwater streams tributaries of the Solimões River.
Countries: Brazil, Colombia, Peru
Remarks and references: Redescribed and figured in Weitzman & Fink (1983).

***Paracheirodon simulans* (Géry, 1963)**

Hyphessobrycon simulans Géry, 1963a: 15, fig. 1. Type locality: Rio Purus [Brazil] [corrected by Géry (1966: 231) to Rio Jufaris (or Tupari), which empties into the Rio Negro just above Rio Branco]. Holotype: USNM 197510 [ex Géry coll. M.332.1].
Maximum length: 2.02 cm SL
Distribution: South America: Upper Negro and Orinoco River basins.
Countries: Brazil, Colombia, Venezuela
Remarks and references: Redescribed and figured in Weitzman & Fink (1983).
Common names: Neon (Brazil, USA), Neon tetra (USA)

PARAGONIATES

Paragoniates Steindachner, 1876b: 117. Type species: *Paragoniates alburnus* Steindachner, 1876b. Type by subsequent designation by Eigenmann (1910: 441). Gender: masculine.

***Paragoniates alburnus* Steindachner, 1876**

Paragoniates alburnus Steindachner, 1876b: 117, pl. 8 (fig. 3).
Type locality: Amazonenstrom bei Teffé [Brazil]. Holotype: NMW 73544.
Maximum length: 6 cm TL
Distribution: South America: Middle and upper Amazon and Orinoco River basins.
Countries: Brazil, Peru, Venezuela
Remarks and references: See Taphorn (1992: 289-290) for remarks on the species.

Species inquirenda

Paragoniates muelleri Steindachner, 1876b: 120. Type locality: Amazonenstrom bei Obidos [Brazil]. Holotype: NMW 56535.

PARAPRISTELLA

Parapristella Géry, 1964c: 41. Type species: *Pristella aubynei* Eigenmann, 1909a. Type by original designation. Gender: feminine.

***Parapristella aubynei* (Eigenmann, 1909)**

Pristella aubynei Eigenmann, 1909a: 24. Type locality: Lama Stop-off [coastal basin, about twenty-five miles east of Georgetown, Guyana]. Holotype: FMNH 52698 [ex CM 1042].
Maximum length: 5 cm SL
Distribution: South America: Coastal drainages of Guyana.
Countries: Guyana
Remarks and references: Valid as *Parapristella aubynei* according to Géry (1964c: 41). See Géry (1977: 487) for comments.

***Parapristella georgiae* Géry, 1964**

Parapristella georgiae Géry, 1964c: 44, fig. 9. Type locality:

about 200 miles east of Bogota, Colombia, in the upper Rio Meta drainage. Holotype: USNM 198641.
Maximum length: 5 cm SL
Distribution: South America: Meta and Aguaro River basins.
Countries: Colombia, Venezuela
Remarks and references: See Géry (1977: 487) and Taphorn (1992: 292-293) for remarks on the species.
Common names: Plain Jane (USA)

PARECBASIS

Parecbasis Eigenmann, 1914: 45. Type species: *Parecbasis cyclolepis* Eigenmann, 1914. Type by monotypy. Gender: feminine.

***Parecbasis cyclolepis* Eigenmann, 1914**

Parecbasis cyclolepis Eigenmann, 1914: 45. Type locality: San Antonio, de Rio Madeira [Rondônia, Brazil]. Holotype: FMNH 56677 [ex CM 5495].
Maximum length: 8 cm SL
Distribution: South America: Madeira-Mamoré River basin.
Countries: Bolivia, Brazil, Peru
Common names: Mojara (Peru)

PETITELLA

Petitella Géry & Boutière, 1964: 474. Type species: *Petitella georgiae* Géry & Boutière, 1964. Type by original designation. Gender: feminine.

***Petitella georgiae* Géry & Boutière, 1964**

Petitella georgiae Géry & Boutière, 1964: 474, fig. 1. Type locality: village de Lagunas, bas Rio Huallaga, Loreto District, Pérou. Holotype: MHNG 2150.28.
Maximum length: 3.86 cm SL
Distribution: South America: Upper Amazon River basin in Peru; Purus, Negro, and Madeira River basins.
Countries: Brazil, Peru
Remarks and references: See Géry & Mahnert (1986) for remarks on taxonomy and distribution.

PHENAGONIATES

Phenagoniates Eigenmann & Wilson, in Eigenmann, Henn & Wilson, 1914: 2. Type species: *Phenagoniates wilsoni* Eigenmann, 1914. Type by monotypy. Gender: masculine.

***Phenagoniates macrolepis* (Meek & Hildebrand, 1913)**

Roeboides macrolepis Meek & Hildebrand, 1913: 84. Type locality: Rio Cupe, Boca de Cupe, Panama [Tuirá River basin]. Holotype: FMNH 7590.

Phenagoniates wilsoni Eigenmann, in Eigenmann, Henn & Wilson, 1914: 2. Type locality: Manigru [Colombia]. Holotype: FMNH 56540 [ex CM 5354].

Maximum length: 4.5 cm SL

Distribution: Central and South America: Chucunaque and Atrato Rivers and Lake Maracaibo basins.

Countries: Colombia, Panama, Venezuela

Remarks and references: See Fink & Weitzman (1974: 30) for detailed synonymy and Géry (1977: 347) for key and comments.

Common names: Barred glass tetra (USA)

PIABARCHUS

Piabarchus Myers, 1928: 90. Type species: *Piabina analis* Eigenmann, 1914. Type by original designation. Gender: masculine.

***Piabarchus analis* (Eigenmann, 1914)**

Piabina analis Eigenmann, in Eigenmann, Henn & Wilson, 1914: 8. Type locality: Cáceres [=Cáceres, upper Paraguay River basin, Mato Grosso, Brazil]. Holotype: FMNH 56661 [ex CM 5478].

Maximum length: 3.09 cm SL
 Distribution: South America: Paraguay River basin; upper Amazon River basin in Peru.
 Countries: Brazil, Paraguay, Peru
 Remarks and references: See Mahnert & Géry (1988) for remarks on taxonomy.

***Piabarchus torrenticola* Mahnert & Géry, 1988**

Piabarchus torrenticola Mahnert & Géry, 1988: 3, fig. 2; pl. 2.
 Type locality: Salto Pirareta, prov. Cordillera, Paraguay. Holotype: MHNG 2385-70.
 Maximum length: 7.7 cm SL
 Distribution: South America: Paraguay River basin.
 Countries: Brazil, Paraguay

PIABINA

Piabina Reinhardt, 1867: 49. Type species: *Piabina argentea* Reinhardt, 1867. Type by monotypy. Gender: feminine.

***Piabina argentea* Reinhardt, 1867**

Piabina argentea Reinhardt, 1867: 50, pl. 1 figs. 1,2. Type locality: Rio das Velhas, Brazil. Syntypes: ZMUC 253, 254.
Piabina piquira Eigenmann, 1910: 434. Type locality: Piracicaba. Placed as a synonym of *Piabina argentea* by Eigenmann and Myers (1929: 430).
 Maximum length: 6.8 cm SL
 Distribution: South America: Upper Paraná River basin in northeastern Paraguay and southern Brazil, São Francisco, Itapicuru, Paraíba, and Itapemirim River basins.
 Countries: Brazil, Paraguay
 Remarks and references: See Vari & Harold (2001: 224) for detailed redescription.

PRIONOBAMA

Prionobrama Fowler, 1913: 534. Type species: *Prionobrama madeirae* Fowler, 1913. Type by original designation. Gender: feminine.
Bleptonema Eigenmann, 1914: 44. Type species: *Bleptonema paraguayensis* Eigenmann, 1914. Type by subsequent designation by Jordan (1920: 535). Gender: neuter.

***Prionobrama filigera* (Cope, 1870)**

Aphyocharax filigerus Cope, 1870: 564. Type locality: Pebas, Eastern Ecuador [actually Peru]. Holotype: ANSP 8073.
Prionobrama madeirae Fowler, 1913: 535, fig. 9. Type locality: Tributary of the Madeira River, near Porto Velho, Brazil. Holotype: ANSP 39218.
Bleptonema amazonae Eigenmann, 1914: 44. Type locality: Santarém [Brazil]. Holotype: FMNH 56679 [ex CM 5497a].
Aphyocharax analis Nichols, 1915: 127. fig. 1. Type locality: Manaus ["an aquarium fish said to come from Manaus"; Amazonas, Brazil]. Holotype: AMNH 5073.
 Maximum length: 6 cm TL
 Distribution: South America: Amazon River basin.
 Countries: Bolivia, Brazil, Colombia, Ecuador, Peru

***Prionobrama paraguayensis* (Eigenmann, 1914)**

Bleptonema paraguayensis Eigenmann, 1914: 44. Type locality: Corumba [Paraguay River, Brazil]. Holotype: FMNH 56681 [ex CM 5499a].
 Maximum length: 5 cm TL
 Distribution: South America: Paraguay and lower Paraná River basins.
 Countries: Argentina, Bolivia, Brazil, Paraguay

PRISTELLA

Pristella Eigenmann, 1908: 99. Type species: *Holopristis riddlei* Meek, 1907. Type by original designation. Gender: feminine.

***Pristella maxillaris* (Ulrey, 1894)**

Aphyocharax maxillaris Ulrey, 1894: 611. Type locality: Brazil. Syntypes: SU 2170 (1), 47059 (2).
Holopristis riddlei Meek, in Eigenmann & Ogle, 1907: 11. Type locality: Los Castillas, Venezuela. Holotype: CAS 57151.
 Maximum length: 4.5 cm TL
 Distribution: South America: Amazon, Orinoco, and coastal river drainages of the Guianas.
 Countries: Brazil, French Guiana, Guyana, Venezuela
 Remarks and references: See Planquette et al. (1996: 334-335) for notes on the species.

PROBOLODUS

Probolodus Eigenmann, 1911b: 164. Type species: *Probolodus heterostomus* Eigenmann, 1911. Type by original designation. Gender: masculine.

***Probolodus heterostomus* Eigenmann, 1911**

Probolodus heterostomus Eigenmann, 1911b: 164, pl. 4 (fig. 1).
 Type locality: Campos [on Parahyba do Sul River, Rio de Janeiro, Brazil]. Holotype: FMNH 54328 [ex CM 2973].
 Maximum length: 8.1 cm SL
 Distribution: South America: Coastal basins of southeastern Brazil.
 Countries: Brazil
 Remarks and references: See Géry (1977: 579) for comments and Bizerril (1994: 65) for key.

PSALIDODON

Psalidodon Eigenmann, 1911b: 165. Type species: *Psalidodon gymnodontus* Eigenmann, 1911. Type by original designation. Gender: masculine.

***Psalidodon gymnodontus* Eigenmann, 1911**

Psalidodon gymnodontus Eigenmann, 1911b: 166, pl. 4 (figs. 2-3).
 Type locality: Porto União, Rio Iguassú [Paraná, Brazil]. Holotype: FMNH 54574 [ex CM 3204].
 Maximum length: 17 cm SL
 Distribution: South America: Iguazu River basin.
 Countries: Brazil
 Remarks and references: See comments in Garavello et al. (1977: 75).
 Common names: Lambari (Brazil)

PSELLOGRAMMUS

Psellogrammus Eigenmann, 1908: 99. Type species: *Hemigrammus kennedyi* Eigenmann, 1903. Type by original designation. Gender: masculine.

***Psellogrammus kennedyi* (Eigenmann, 1903)**

Hemigrammus kennedyi Eigenmann, in Eigenmann & Kennedy, 1903: 520. Type locality: Campo Grande [Lagunitas, five kilometers from Asuncion, Paraguay River basin, Paraguay]. Holotype: CAS 44420 [ex IU 10016].
 Maximum length: 5.9 cm SL
 Distribution: South America: Paraguay and São Francisco River basins.
 Countries: Brazil, Paraguay
 Remarks and references: See Britski et. al. (1999: 32) for description.
 Common names: Lambari (Brazil)

PSEUDOCHALCEUS

Pseudochalceus Kner, 1863: 225. Type species: *Pseudochalceus lineatus* Kner, 1863. Type by monotypy. Gender: masculine. Also appeared as new in Kner & Steindachner (1864: 35).

***Pseudochalceus kyburzi* Schultz, 1966**

Pseudochalceus kyburzi Schultz, 1966: 27, fig. p. 25. Type locality: Río Calima, Cauca Valley, Colombia. Holotype: USNM 231738 [ex USNM 257403-F27].

Maximum length: 7.8 cm SL

Distribution: South America: Coastal rivers in Pacific versant of Colombia.

Countries: Colombia

Remarks and references: See Schultz (1966) for description and ecological observations; Géry (1972: 941) for comparison with other species.

***Pseudochalceus lineatus* Kner, 1863**

Pseudochalceus lineatus Kner, 1863: 225, fig. 11. Type locality: Vom Westabhange der Anden in Staate Ecuador. Syntypes: NMW 56738-9. Also appeared as new in Kner & Steindachner (1864: 35, pl. 5, fig. 1).

Maximum length: 7.5 cm TL

Distribution: South America: Coastal rivers in Pacific versant of Ecuador.

Countries: Ecuador

Remarks and references: See Kner & Steindachner (1864) for a detailed description; Géry (1972: 941) for comparison with other species.

***Pseudochalceus longianalis* Géry, 1972**

Pseudochalceus (Pseudochalceus) longianalis Géry, 1972c: 933, fig. 1. Type locality: Sud de la Colombie, près de la frontière avec l'Equateur, versant pacifique: rio Guiza, affluent du rio Mira, à la Guayacana, Province Narino, altitude 240 m, coordonnées 1°27'N et 78°27'O. Holotype: MHNG 1226.90.

Maximum length: 7.85 cm SL

Distribution: South America: Coastal rivers in Pacific versant of Colombia and Ecuador.

Countries: Colombia, Ecuador

Remarks and references: See Géry (1972: 941) for comparison with other species.

RACHOVISCUS

Rachoviscus Myers, 1926: 1. Type species: *Rachoviscus crassiceps* Myers, 1926. Type by monotypy. Gender: neuter.

***Rachoviscus crassiceps* Myers, 1926**

Rachoviscus crassiceps Myers, 1926: 1, fig. unnumbered. Type locality: Rio de Janeiro. Lectotype: USNM 92971, designated by Weitzman & Cruz (1981: 1009); they also suggest type locality probably is the region of Paranaguá, Paraná, Brazil.

Maximum length: 3.85 cm SL

Distribution: South America: Coastal river basins of Paraná and northern Santa Catarina States.

Countries: Brazil

Remarks and references: See Weitzman & Cruz (1981) for redescription.

***Rachoviscus graciliceps* Weitzman & Cruz, 1981**

Rachoviscus graciliceps Weitzman & Cruz, 1981: 1003, figs. 1-2. Type locality: Brazil, State of Bahia:... one of three small creeks about 1 km north of Prado and about 500 meters from Atlantic Ocean, 39°14'W, 17°19'S. Holotype: MZUSP 14387.

Maximum length: 4.76 cm SL

Distribution: South America: Coastal river basins of southern Bahia State.

Countries: Brazil

RHINOBYRYCON

Rhinobrycon Myers, 1944: 587. Type species: *Rhinobrycon negrensis* Myers, 1944. Type by original designation. Gender: masculine.

***Rhinobrycon negrensis* Myers, 1944**

Rhinobrycon negrensis Myers, 1944: 589, fig. Type locality: Santa Isabel, Rio Negro, Amazonas, Brazil. Holotype: CAS 11089.

Maximum length: 3.9 cm SL

Distribution: South America: Negro River basin.

Countries: Brazil

RHINOPETITIA

Rhinopetitia Géry, 1964b: 454. Type species: *Rhinopetitia myersi* Géry, 1964b. Type by original designation. Gender: feminine.

***Rhinopetitia myersi* Géry, 1964**

Rhinopetitia myersi Géry, 1964b: 454, fig. 3; pl. 4a. Type locality: Ilha do Bananal, haut Rio Araguaia, Brésil. Holotype: MHNG 2229.03 [ex Géry coll. M.194,1].

Maximum length: 3.04 cm SL

Distribution: South America: Araguaia River basin.

Countries: Brazil

ROEBOEXODON

Roeboexodon Géry, 1959c: 346. Type species: *Roeboexodon geryi* Myers, 1960. Type by subsequent designation by Myers (1960: 210). Gender: masculine

***Roeboexodon geryi* Myers, 1960**

Roeboexodon geryi Myers, 1960: 209. Type locality: Confluent du Ouaqui et du Tampoc, bassin du Haut-Maroni, Guyane Française. Holotype: MNHN 59-38, established by Myers (1960: 210) based in the type-specimens of *Exodon guyanensis* sensu Géry (1959c).

Maximum length: 15 cm SL

Distribution: South America: Amazon, Tocantins, Xingu, and Tapajós River basins.

Countries: Brazil.

Remarks and references: See color photo in Planquette et al. (1996). Puyo (1948) on the basis of three specimens collected in French Guyana, described *Exodon guyanensis*. Géry (1959) designated a neotype and proposed the new genus *Roeboexodon* for Puyo's species. Myers (1960) indicated differences between Géry's and Puyo's descriptions, stating that the former did not corresponded to *E. guyanensis*. For this reason, Myers (1) erected a new genus, *Gnathoplax* in order to house the species of Puyo, (2) maintained the name *Roeboexodon* for the specimens of Géry and, (3) provided a specific epithet for *Roeboexodon*: *R. geryi*. We herein keep the name *Roeboexodon geryi* and regard the neotype designation by Géry invalid in accordance with the arguments mentioned by Myers (1960). Moreover, Géry (1959) doesn't say that there are controversies concerning Puyo's species identification or even that the taxon is involved in nomenclatural problems, basic premises for a neotype designation following the ICZN Art. 75.1. Contrarily, Géry statement: "l'espèce, bien que clairement définie et figurée par Puyo, l'était toutefois incomplètement et aucun type était désigné...." enforces the incompleteness of Puyo's description but no difficulties on the identification. Besides, Géry (p. 346) cited his objectives: "... désigner un néotype de *Exodon guyanensis* et d'en faire une redescription figurée (...) le tout en application des Règles de la nomenclature, ...", which allow us to exclusively view his action as a procedure to satisfy the "need" of replacement of the missing type-specimens. It characterizes this procedure as merely curatorial, and not as a reason for a neotype designation. On the contrary, it automatically invalidates the neotype designation (ICZN Art 75.2). It seems that Myers' procedure is nomenclaturally correct in spite of the presence of some questionable diagnostic characters cited by Puyo (1948). We considered the names *Gnathoplax* Myers and *Exodon guyanensis* (Puyo), respectively Genus and Species inquirenda.

SALMINUS

Salminus Agassiz, in Spix & Agassiz, 1829: 76. Type species: *Hydrocyon brevidens* Cuvier, 1819. Type by monotypy. Gender: masculine.

***Salminus affinis* Steindachner, 1880**

Salminus affinis Steindachner, 1880: 80, pl. 7 (fig. 2). Type locality: Cauca [Colombia]. Lectotype: NMW 78042.02, designated by Géry & Lauzanne (1990: 123).

Maximum length: 100 cm SL

Distribution: South America: Magdalena River basin and Santiago River basin in Ecuador.

Countries: Colombia, Ecuador

Common names: Dorada (Colombia), Picuda (Colombia), Rubia (Colombia), Rubio (Colombia)

***Salminus brasiliensis* (Cuvier, 1816)**

Hydrocynus brasiliensis Cuvier, 1816: 167. Type locality: Brésil. Holotype: MNHN A.8555 (dry).

Hydrocyon brevidens Cuvier, 1819: 364, pl. 27 (fig. 1). Type locality: Brésil. Holotype: MNHN A.8555 (dry). Objective synonym of *Salminus brasiliensis* (Cuvier, 1816) (Géry & Lauzanne, 1990: 117).

Salminus maxillosus Valenciennes, in Cuvier & Valenciennes, 1850: 62. Type locality: l'Amazone [Brazil]. Holotype: MNHN A.8550 (dry). Possibly a synonym of *Salminus brasiliensis* (Cuvier, 1816) (Géry & Lauzanne 1990: 122).

Salminus cuvieri Valenciennes, in Cuvier & Valenciennes, 1850: 56. Type locality: Brésil. Holotype: MNHN A.8555. Objective synonym of *Salminus brasiliensis* (Cuvier, 1816) (Géry & Lauzanne, 1990: 117).

Salminus orbignyanus Valenciennes, in Cuvier & Valenciennes, 1850: 65. Type locality: les Missions jusqu'à Buénos Ayres, Argentina; dans tous les affluents du Parana ou de l'Uruguay. Holotype: MNHN A.8551. Possible synonym of *Salminus brasiliensis* (Cuvier, 1816) (Géry & Lauzanne 1990: 122).

Salmo auratus Larrañaga, 1923: 378. Type locality: Uruguay.

Salmo 27-radiatus Larrañaga, 1923: 388. Type locality: Uruguay. Originally as *Salmo auratus* vel *27-radiatus*.

Maximum length: 100 cm SL

Distribution: South America: Paraná, Paraguay, and Uruguay River basins; Laguna dos Patos drainage, upper Chaparé and Mamoré River basin in Bolivia. Occurrence in the remaining Amazon River basin highly doubtful.

Countries: Argentina, Bolivia, Brazil, Paraguay, Uruguay

Remarks and references: See Géry & Lauzanne (1990) for remarks on taxonomy.

Common names: Dorado (Argentina, Uruguay), Dourado (Brazil), Pirayú (Argentina, Uruguay)

***Salminus hilarii* Valenciennes, 1850**

Salminus hilarii Valenciennes, in Cuvier & Valenciennes, 1850: 64. Type locality: Rio San Francisco [Brazil]. Lectotype: MNHN A.8658, designated by Géry & Lauzanne (1990: 117).

Brycon erythrura Fowler, 1941: 191, fig. 101. Type locality: Rio Jaguaribe, Orós, Ceará [Brazil]. Holotype: ANSP 69608.

Holobrycon iquitensis Nakashima, 1941: 72, fig. Type locality: Cercanías del Puerto de Iquitos [Peru]. Probably a synonym of *Salminus hilarii* (Géry & Lauzanne, 1990: 116). Type material lost (H. Ortega, pers. comm.).

Maximum length: 50 cm SL

Distribution: South America: Upper Paraná, São Francisco, and Tocantins River basins; upper Amazon River basin; Orinoco River basin.

Countries: Brazil, Colombia, Ecuador, Peru, Venezuela

Remarks and references: See Géry & Lauzanne (1990) for remarks on taxonomy.

Common names: Dorada (Venezuela), Dorado (Colombia), Dourado (Brazil), Sábalo (Peru), Saltador (Venezuela), Saltadora

(Venezuela), Sauta (Venezuela), Tabarana (Brazil), Tubarana (Brazil), Tuburana (Brazil)

SCHULTZITES

Schultzites Géry, 1964c: 31. Type species: *Schultzites axelrodi* Géry, 1964. Type by original designation. Gender: masculine.

***Schultzites axelrodi* Géry, 1964**

Schultzites axelrodi Géry, 1964c: 32, fig. 7. Type locality: about 200 miles east of Bogota, Colombia, in the upper Rio Meta drainage [Colombia]. Holotype: USNM 198642.

Maximum length: 3.4 cm SL

Distribution: South America: Upper Meta River basin.

Countries: Colombia

Remarks and references: See Géry (1977: 450) for comments.

Common names: Axelrod's Moenkhausia (USA)

SCISSOR

Scissor Günther, 1864: 331. Type species: *Scissor macrocephalus* Günther, 1864. Type by monotypy. Gender: masculine.

***Scissor macrocephalus* Günther, 1864**

Scissor macrocephalus Günther, 1864: 331. Type locality: ...as all the specimens from the same source were from Surinam, it is probable that this species also comes from that country. Holotype: BMNH 1858.6.14.1.

Distribution: South America: Suriname (?).

Countries: Suriname

Remarks and references: See Rosen (1972: 16-17) for notes on the species.

SERRABRYCON

Serrabrycon Vari, 1986: 329. Type species: *Serrabrycon magoi* Vari, 1986. Type by original designation. Gender: masculine.

***Serrabrycon magoi* Vari, 1986**

Serrabrycon magoi Vari, 1986: 329, figs. 1-3. Type locality: Venezuela, Territorio Federal Amazonas, Departamento Rio Negro, lower portion of Caño Manu, which drains into the Casiquiare about 250 m upstream of Solano (approx. 02°00'N 66°57'W). Holotype: MBUCV 14270.

Maximum length: 3.1 cm SL

Distribution: South America: Upper Negro, Casiquiare, and Orinoco River basins.

Countries: Brazil, Venezuela

Remarks and references: See Taphorn (1992: 292, 324-325) for remarks on the species.

STICHONODON

Lütkenia Steindachner, 1876b: 85. Type species: *Lütkenia insignis* Steindachner, 1876. Type by monotypy. Gender: feminine. Apparently preoccupied by *Lütkenia* Claus, 1864, in Crustacea [not investigated], replaced by *Stichonodon* Eigenmann, 1903.

Stichonodon Eigenmann, 1903: 146. Type species: *Lütkenia insignis* Steindachner, 1876. Type by being a replacement name. Gender: masculine. Replacement for *Lütkenia* Steindachner 1877, preoccupied by *Lutkenia* Claus, 1864, in Crustacea [original spelling not investigated].

***Stichonodon insignis* (Steindachner, 1876)**

Lütkenia insignis Steindachner, 1876b: 86, pl. 8 (fig. 1). Type locality: Amazonenstrom bei Tabatinga und Santarem [Brazil]. Syntypes: (several) NMW; ZSM (1).

Maximum length: 8 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

STYGICHTHYS

Stygichthys Brittan & Böhlke, 1965: 1. Type species: *Stygichthys typhlops* Brittan & Böhlke, 1965. Type by original designation. Gender: masculine.

***Stygichthys typhlops* Brittan & Böhlke, 1965**

Stygichthys typhlops Brittan & Böhlke, 1965: 2, figs. 1-2. Type locality: Jaiba, state of Minas Gerais, Brazil. Holotype: ANSP 100891.

Maximum length: 2.36 cm SL

Distribution: South America: Upper São Francisco River basin in Minas Gerais State.

Countries: Brazil

Remarks and references: Threatened species (Romero & McLeran, 2000).

THAYERIA

Thayeria Eigenmann, 1908: 94. Type species: *Thayeria obliquus* Eigenmann, 1908. Type by original designation. Gender: feminine.

***Thayeria boehlkei* Weitzman, 1957**

Thayeria boehlkei Weitzman, 1957: 391, fig. 1. Type locality: No definite locality. Holotype: CAS (ex SU) 149907.

Maximum length: 3.15 cm SL

Distribution: South America: Upper Amazon River basin in Peru and Araguaia River in Brazil.

Countries: Brazil, Peru

Remarks and references: See Géry (1960, 1964) for notes on taxonomy and distribution.

***Thayeria ifati* Géry, 1959**

Thayeria ifati Géry, 1959b: 128, figs. 1-3. Type locality: Gaa Kaba, Maroni, Guiana, north of the 4th parallel. Holotype: MHNG 2173.42 (ex Géry 25T05a).

Maximum length: 3.5 cm SL

Distribution: South America: Maroni and Approuague River basins in French Guiana.

Countries: French Guiana

***Thayeria obliqua* Eigenmann, 1908**

Thayeria obliquus Eigenmann, 1908: 94. Type locality: Obidos [Amazon River basin, Pará, Brazil]. Syntypes: USNM 120295 (6), MCZ 20841 (20).

Thayeria sanctae-mariae Ladiges, 1951: 129, fig. Type locality: Staate Goyaz (Brasilien) südlich Carolina bei der Ortschaft St. Maria [Tocantins River basin, Brazil]. Holotype: ZSM.

Maximum length: 7.6 cm SL

Distribution: South America: Middle Amazon, middle Tocantins, and Guaporé River basins, Brazil.

Countries: Brazil

Remarks and references: See Géry (1960) for notes on taxonomy and distribution.

THRISOBRYCON

Thrissobrycon Böhlke, 1953a: 168. Type species: *Thrissobrycon pectinifer* Böhlke, 1953. Type by original designation. Gender: masculine.

***Thrissobrycon pectinifer* Böhlke, 1953**

Thrissobrycon pectinifer Böhlke, 1953a: 169, fig. 1. Type locality: Upper Rio Negro at Cucuhy (São Antonio), Brazil... approximately 1°12' North Latitude, 66°51' West Longitude. Holotype: SU 16944.

Maximum length: 2.85 cm SL

Distribution: South America Upper Negro River basin.

Countries: Brazil

TRIPORTHEUS

Chalcinus Valenciennes, in Cuvier & Valenciennes, 1849: 258.

Type species: *Chalcinus brachipomus* Valenciennes, 1849. Type by subsequent designation. Gender: masculine.

Triporthus Cope, 1872b: 263. Type species: *Triporthus albus* Cope, 1872b. Type by subsequent designation. Gender: masculine.

Coscinoxyron Fowler, 1907: 450. Type species: *Chalcinus culter* Cope, 1872b. Type by original designation. Gender: neuter.

***Triporthus albus* Cope, 1872**

Triporthus albus Cope, 1872b: 264. Type locality: Ambyiacu [Peru]. Holotype: ANSP 21234.

Maximum length: 15.1 cm SL

Distribution: South America: Amazon River basin, Tocantins-Araguaia basin.

Countries: Bolivia, Brazil, Ecuador, Peru

Common names: Sardina (Peru)

***Triporthus angulatus* (Spix & Agassiz, 1829)**

Chalceus angulatus Spix & Agassiz, 1829: 67, pl. 34. Type locality: in Brasiliae aequinoctialis fluviis. Type specimens (2) probably lost (Kotellat, 1988).

Triporthus flavus Cope, 1872b: 264, pl. 14 (fig. 1). Type locality: Ambyiacu [Peru]. Lectotype: ANSP 8077 designated by Fowler (1907: 448).

Chalcinus angulatus fuscus Garman, 1890: 4. Type locality: Villa Bella and Lake Hyanuary [Brazil]. Syntypes: MCZ 21175, MCZ 21202, MCZ 21239, MCZ 21201, MCZ 21241 (22), MCZ 21183, MCZ 21187, MCZ 21189 (10), MCZ 21190, MCZ 21186, MCZ 21191 (15), MCZ 21224 (33), MCZ 21216 (3), USNM 120253 (3).

Chalcinus angulatus vittatus Garman, 1890: 4. Type locality: José Fernandez, Villa Bella, Porto do Moz, and Santarem [Brazil]. Syntypes: MCZ 21175 (22), MCZ 21183 (10), MCZ 21186, MCZ 21190, MCZ 21191 (10), MCZ 21270 (18).

Maximum length: 16.3 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil, Ecuador, Peru, Venezuela

Common names: Sardinha (Brazil), Sardinha chata (Brazil)

***Triporthus culter* (Cope, 1872)**

Chalcinus culter Cope, 1872b: 265, pl. 14 (fig. 3). Type locality: Ambyiacu [Peru]. Holotype: ANSP 16672.

Maximum length: 24.5 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

Common names: Sardina (Peru)

***Triporthus curtus* (Garman, 1890)**

Chalcinus angulatus curtus Garman, 1890: 4. Type locality: Pará and Arary [Brazil]. Syntypes: MCZ 21264 (1), MCZ 21272 (2).

Maximum length: 10.68 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

***Triporthus elongatus* (Günther, 1864)**

Chalcinus elongatus Günther, 1864: 342. Type locality: Unknown. Holotype: BMNH 1852.9.13.10.

Chalcinus cruzi Miranda Ribeiro, 1941: 173, fig. 5. Type locality: Not given. Holotype: MNRJ 2775.

Chalcinus amazonensis Miranda Ribeiro, 1941: 174. Type locality: Rio Amazonas [Brazil]. Holotype: MNRJ 2771.

Chalcinus elongatus iquitensis Nakashima, 1941: 63, fig. Type locality: Cercanias del puerto de Iquitos [Amazon system, Peru]. Type material lost.

Maximum length: 24.2 cm SL

Distribution: South America: Trinidad Island; Amazon, Orinoco, and Essequibo River basins.

Check List of the Freshwater Fishes of South and Central America

Countries: Brazil, Ecuador, Guiana, Peru, Trinidad and Tobago, Venezuela.

***Triportheus guentheri* (Garman, 1890)**

Chalcinus guentheri Garman, 1890: 4. Type locality: San Francisco River [Minas Gerais, Brazil]. Holotype: MCZ 21173. Eschmeyer et al. (1998: 686) add material from BMNH as being part of a syntypical series, but Garman (1890: 5) stated: "Taking one from the San Francisco river as a typical specimen", which suggests that Garman designated only a specimen from MCZ as typical.

Maximum length: 13.4 cm SL

Distribution: South America: São Francisco River basin.

Countries: Brazil

Common name: sardinha, peituda (Brazil)

***Triportheus magdalenae* (Steindachner, 1878)**

Chalcinus magdalenae Steindachner, 1878: 91. Type locality: Cienaga... Magdalena-strom [Colombia]. Syntypes: NMW 69151-54, ZMUC 87.

Maximum length: 19 cm SL

Distribution: South America: Magdalena River basin.

Countries: Colombia

***Triportheus nematurus* (Kner, 1858)**

Chalcinus nematurus Kner, 1858b: 163. Type locality: not mentioned in original description [Cujaba, Suaguragua und Caiçara Brazil]. Syntypes: NMW 16171 (1), NMW 62689 (2), NMW 69034 (1), NMW 69694 (2). Type locality provided by Kner (1860: 7).

Salmo clupeoides Kner, 1860: 15. Name not available, published in the synonymy of *Triportheus nematurus*.

Maximum length: 15.8 cm SL

Distribution: South America: Paraná-Paraguay River basin.

Countries: Brazil, Paraguay

***Triportheus paranensis* (Günther, 1874)**

Chalcinus paranensis Günther, 1874: 454. Type locality: River Parana. Holotype: BMNH 1872.5.6.32.

Maximum length: 15.9 cm SL

Distribution: South America: La Plata and Paraná-Paraguay River basins.

Countries: Argentina, Brazil, Paraguay

***Triportheus pictus* (Garman, 1890)**

Chalcinus pictus Garman, 1890: 5. Type locality: Jutahy [tributary of Solimões River, Amazonas, Brazil].

Holotype: MCZ 21261.

Maximum length: 10.74 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

***Triportheus rotundatus* (Jardine, 1841)**

Chalceus rotundatus Jardine in Schomburgk, 1841: 209. Type locality: River Padauri [Padauri River, a tributary of the Negro River, Amazonas, Brazil]. Types unknown.

Chalcinus brachipomus Valenciennes in Cuvier & Valenciennes, 1850: 259. Type locality: La Mana, l'Esséquiabo R. Syntypes: MNHN 5402 (2), MNHN A.9836 (1), MNHN A.9916 (5).

Chalcinus rotundatus Nakashima, 1941: 65. Type locality: Cercanias del puerto de Iquitos [Amazon system, Peru]. Type material lost. Appeared as *Chalcinus rotundatus* in main heading and as *Chalcinus rotundatus iquitensis* in figure caption; intention of author unclear.

Chalcinus rotundatus iquitensis Nakashima, 1941: 65. Type locality: Cercanias del puerto de Iquitos [Amazon system, Peru]. Type material lost. (See remarks of *Chalcinus rotundatus*).

Maximum length: 17.8 cm SL

Distribution: South America: Amazon River basin and coastal rivers of the Guianas.

Countries: Brazil, French Guiana, Guyana, Peru, Suriname

Common names: Moroyo (French Guiana), Sardina (Peru), Sardinha (Brazil), Zareng blanc (French Guiana)

***Triportheus signatus* (Garman, 1890)**

Chalcinus angulatus signatus Garman, 1890: 4. Type locality: Rio Puty [Parnaíba River basin, Piauí, Brazil]. Syntypes: MCZ 21267 (17).

Maximum length: 15.8 cm SL

Distribution: South America: Parnaíba River basin and some northerly coastal drainages in Brazil.

Countries: Brazil

***Triportheus trifurcatus* (Castelnau, 1855)**

Chalcinus trifurcatus Castelnau, 1855: 70, pl. 37 (fig. 1). Type locality: l'Araguay [Brazil]. Holotype: MNHN A.9837. Possibly a synonym of *Triportheus angulatus* (Spix & Agassiz, 1829) (Garman, 1890: 3).

Maximum length: 16.5 cm SL

Distribution: South America: Tocantins-Araguaia River basin.

Countries: Brazil

Species inquirendae

Chalcinus auritus Valenciennes in Cuvier & Valenciennes, 1850: 262. Type locality: l'Amazone [Brazil]. Types unknown.

Chalcinus muellerii De Filippi, 1853: 165. Type locality: Rio Napo. Holotype: MZUT 160. Name emended as *Chalcinus muellerii*. Possibly a synonym of *Triportheus angulatus* (Spix & Agassiz, 1829) (Garman, 1890: 3).

Chalcinus knerii Steindachner, 1876b: 98, pl. 12 (fig. 4). Type locality: Amazonestrom (bei Teffé?) [Brazil]. Possibly a synonym of *Triportheus albus* Cope, 1872 (Garman, 1890: 6). Syntypes not found at NMW.

TUCANOICHTHYS

Tucanoichthys Géry & Römer, 1997: 66. Type species: *Tucanoichthys tucano* Géry & Römer, 1997. Type by original designation. Gender: masculine.

***Tucanoichthys tucano* Géry & Römer, 1997**

Tucanoichthys tucano Géry & Römer, 1997: 66, fig. 1. Type locality: brook emptying into Igarapé Yavuari, a tributary of Rio Uaupés, upper Rio Negro basin, Amazonas, Brazil, 0°14'31"N, 68°03'48"W. Holotype: MZUSP 51321.

Maximum length: 1.655 cm SL

Distribution: South America: Uaupés River in upper Negro River basin.

Countries: Brazil

TYTTOBRYCON

Tyttobrycon Géry, 1973: 117. Type species: *Tyttobrycon xerui* Géry, 1973. Type by original designation. Gender: masculine.

***Tyttobrycon dorsimaculatus* Géry, 1973**

Tyttobrycon dorsimaculatus Géry, 1973: 118, fig. 20. Type locality: "Hoffmann Lagune" on the rio Chaparé, tributary of the rio Mamoré (into rio Madeira) below Todos Santos, Central Bolivia, approximately 16°45'S. and 65°07'. Holotype: Museum A. Koenig, uncat.

Maximum length: 1.95 cm SL

Distribution: South America: Chapare River basin.

Countries: Bolivia

***Tyttobrycon hamatus* Géry, 1973**

Tyttobrycon hamatus Géry, 1973: 129, fig. 31. Type locality: Upper Amazon basin, Loreto District of Peru, in some tributary of the Marañon not far from Iquitos (precise locality unknown). Holotype: MHNG 2172.30.

Maximum length: 1.69 cm SL

Distribution: South America: Amazon River basin.

Countries: Peru

***Tyttobrycon spinosus* Géry, 1973**

Tyttobrycon spinosus Géry, 1973: 121, fig. 23. Type locality: brook between upper rios Chaparé and Chimoré (or Ichilo), tributaries of the rio Mamoré (into rio Madeira), east of Todos Santos, Central Bolivia, approximately 16°47'S and 65°W. Holotype: Museum A. Koenig, uncat.

Maximum length: 2.05 cm SL

Distribution: South America: Mamoré River basin.

Countries: Bolivia

***Tyttobrycon xeruii* Géry, 1973**

Tyttobrycon xeruii Géry, 1973: 126, fig. 27. Type locality: Middle rio Negro basin, rio Novo, tributary of the rio Xeruii [Brazil]. Holotype: MHNG 2229.10.

Maximum length: 2.26 cm SL

Distribution: South America: Negro River basin.

Countries: Brazil

XENAGONIATES

Xenagoniates Myers, 1942: 90. Type species: *Xenagoniates bondi* Myers, 1942. Type by original designation. Gender: masculine.

***Xenagoniates bondi* Myers, 1942**

Xenagoniates bondi Myers, 1942: 90, fig. 1. Type locality: Rio Amana, 6 km. east of Santa Barbara and 35 km. west of Maturin, Venezuela. Holotype: SU 36486.

Maximum length: 6 cm SL

Distribution: South America: Orinoco River basin and coastal drainages of Venezuela and Colombia.

Countries: Colombia, Venezuela

Remarks and references: See Taphorn (1992: 355-356) for notes on ecology of the species.

Common names: Long-finned glass tetra (USA)

GENUS INQUIRENDUM

Gnathoplax Myers, 1960: 209. Type species: *Exodon guyanensis* Puyo, 1948. Type by original designation. Gender: feminine.

SPECIES INQUIRENDAE

Astyanax notemigonoides Fowler, 1911b: 506, fig. 4. Type locality: Affluent of the Chimbo River near Bucay, Province of Guayas, Ecuador. Holotype: ANSP 39110.

Astyanax scierus Fowler, 1911b: 509, fig. 5. Type locality: Affluent of the Chimbo River near Bucay, Province of Guayas, Ecuador. Holotype: ANSP 39065.

Chalceus fasciatus Jardine & Schomburgk in Schomburgk, 1841: 215. Type locality: Rio Padauri...also in the Curantu. Holotype: ?.

Chalceus latus Jardine & Schomburgk in Schomburgk, 1841: 214. Type locality: Padauri, a tributary of the Rio Negro. Holotype: ?.

Chalceus taeniatus Jardine & Schomburgk in Schomburgk, 1841: 210. Type locality: River Essequibo...Rios Negro and Branco. Holotype: ?.

Characinus curimata La Cepède, 1803: 271. Type locality: Surinam. Holotype: ?.

Characinus piabucu La Cepède, 1803: 269. Type locality: South America. Holotype: ?.

Charax cyprinoides Meuschen, 1778: 38. [Not available, published in a rejected work (Opinion 260)].

Charax fasciata Swainson, 1839: 222. Type locality: ?. Holotype: ? [Based on Cuvier & Valenciennes, 1839 pl. 144].

Charax gracilis Gronow in Gray, 1854: 154. Type locality: Tropical America. Holotype: ?.

Charax leucometopon Zuiew, 1786: 275. Type locality: ?. Holotype: ?.

Charax notatus Meuschen, 1778: 38. Type locality: ?. Holotype: ? [Not available, published in a rejected work (Opinion 260)].

Charax serratus Gronow in Gray, 1854: 155. Type locality: Surinam. Holotype: ?.

Ctenobrycon multifasciatus Steindachner in Eigenmann, 1910: 435. [Not available, name and locality but no description; a supposed Steindachner species, but no reference cited].

Exodon guyanensis Puyo, 1948: 78, fig. 1. Type locality: not specified [French Guiana]. Three syntypes probably lost. Neotype designation by Géry (1959c: 347) invalid (ICZN Art. 75.2).

Knodus albolineatus Holly, 1929: 117. Type locality: Piquirão, Amazonas, Brazil. Holotype: ?.

Hyphessobrycon latus Fowler, 1941: 185, fig. 95. Type locality: Forteleza, Ceará [= Fortaleza, Ceará, Brazil]. Holotype: ANSP 69578. Apparently a Cheirodontinae (H.A. Britski, pers. comm.)

Salmo (dentado) denticulosus Larrañaga, 1923: 378. Type Locality: Uruguay. Holotype: ?.

Salmo denticulosus vel *26-radiatus* Larrañaga, 1923: 388. Type-locality: Uruguay. Holotype: ?.

Salmo ovatus Larrañaga, 1923: 388. Type locality; Uruguay. Holotype: ?.

Salmo sachicanga Kner, 1860: 51. Not available, name mentioned in passing under *Cynopotamus humeralis* Valenciennes.

Salmo sau-à Netterer in Kner, 1859: 174: Type locality: Cuiaba und Gujana. Holotype: ?.

Salmo 30-radiatus Larrañaga, 1923: 388. Type-locality: Uruguay. Holotype: ?.

Tetragonopterus (Astyanax) riveti Pellegrin, 1907: 25. Type locality: Rio Pove, Santo Domingo de los Colorados (560 mètres d'altitud, versant du Pacifique) [Équateur]. Holotype: MNHN 1904-22.

Tetragonopterus anomalus Steindachner, 1891a: 173. Type locality: Río Paraná at Corrientes, Argentina. Holotype: NMW 57643.

Tetragonopterus artedii Valenciennes in Cuvier & Valenciennes, 1850: 128. Type locality: not stated in original description. Syntypes: MNHN (ex. "Cabinet du Stathouder"; "Musée de Leyde").

Tetragonopterus astictus Ulrey, 1894: 611. Type locality: Brazil. Holotype: whereabouts unknown.

Tetragonopterus branickii Steindachner, 1879c: 151. Type locality: Zurumilla [Ecuador]. Syntypes: NMW 57258 (2).

Tetragonopterus fischeri Steindachner, 1879c: 151. Type locality: Río Mamoni, Panama.

Tetragonopterus fuscoauratus Castelnau, 1855: 66, pl. 33 (fig. 2). Type locality: environs de Bahia [Brazil]. Syntypes: MNHN A-9821 (8).

Tetragonopterus gibbosus Steindachner, 1877: 562, pl. 1 (fig. 1). Type locality: Parahyaba [Brazil]. Holotype: ?

Tetragonopterus (Hemibrycon) trinitatis Lütken, 1875b: 234. Type locality: Trinidad Island, West Indies.

Tetragonopterus huberi Steindachner, 1909: 172. Type locality: Purus, Amazonas [Brazil]. Holotype: ?

Tetragonopterus microstoma Günther, 1864: 323. Type locality: Bahia [Brazil].

Tetragonopterus ortonii Gill, 1870: 92. Type locality: Unlisted locality from "Maranon, or Upper Amazon, and Río Napo Rivers".

Tetragonopterus ortonii Gill in Cope, 1870: 566. [Name only, not available].

Tetragonopterus rhomboidalis Posada, 1909: 302. Type locality: Medellín, Colombia. No types known.

Tetragonopterus rufipes Valenciennes, 1842: no p., pl. 11 (fig. 1). Type locality: Not listed in original description (plate) [Buenos Aires, Argentina]. Syntypes: MNHN A-9808 (3).

Tetragonopterus santaremensis Ulrey, 1894: 610. Type locality: Santarém [Brazil]. Syntypes: 10 specimens, SU 2167 (2).

Tetragonopterus sardina Posada, 1909: 302. Type locality: Medellín, Colombia. No types known.

Tetragonopterus sawa Castelnau, 1855: 65, pl. 33 (fig. 1). Type locality: rio Crixas qui se jette dans L'Araguay [Brazil]. Holo-

type: MNHN A.9819.

Tetragonopterus schomburgkii Valenciennes in Cuvier & Valenciennes, 1850: 137. Type locality: Essequibo [Guyana]. Holotype: MNHN A.9812 (poor condition).

References

- Ahl, E. 1923. *Hemigrammus caudovittatus* sp. n. Wochenschrift Aquar.-Terr., 20 (17): 261.
- Ahl, E. 1924. Ueber eine farbenprächtige Neuheit, *Hemigrammus rhodostomus* E. Ahl. sp. n. Wochenschrift Aquar.-Terr., 21 (18): 405.
- Ahl, E. 1928. Zwei neue südamerikanische Fische der Familie Characinidae. Zool. Anz., 77: 319-321.
- Ahl, E. 1931. Neue Süßwasserfische aus dem Stromgebiet des Amazonenstromes. Sitzungsber. Ges. Naturf. Freunde Berlin, 1931: 206-211.
- Ahl, E. 1932. Beschreibung eines neuen Characiniden aus dem Amazonenstrom. Sitzungsber. Ges. Naturf. Freunde Berlin, 1932: 124-126.
- Ahl, E. 1934. Beschreibungen zweier neuer Süßwasserfische aus Südamerika. Sitzungsber. Ges. Naturf. Freunde Berlin, 1934: 238-241.
- Ahl, E. 1935. Beschreibung eines neuen Characiniden aus Südamerika. Sitzungsber. Ges. Naturf. Freunde Berlin, 1935: 46-49.
- Ahl, E. 1936. Beschreibung neuer Fische der Familie Characidae aus Südamerika. Zool. Anz., 114 (1/2): 19-26.
- Ahl, E. 1937a. Über einen neuen südamerikanischen Characiniden der Gattung *Hyphessobrycon*. Zool. Anz., 120 (9/10): 235-236.
- Ahl, E. 1937b. Zwei neue Süßwasserfische aus Südamerika. Sitzungsber. Ges. Naturf. Freunde Berlin, 1937: 445-447.
- Almirón, A.E., J.R. Casciotta, M.M. Azpelicueta and A.L. Cione. 2001. A new species of *Hypobrycon* (Characiformes: Characidae) from Uruguay basin in Misiones, Argentina. Neotrópica, 47: 33-40.
- Alvarez, J. 1946. Revisión del género *Anoptichthys* con descripción de una especie nueva (Pisc., Characidae). An. Esc. Nac. Cienc. Biol. Mexico, 4 (2-3, for 1945): 263-282.
- Alvarez, J. 1947. Descripción de *Anoptichthys hubbsi* caracinido ciego de la cueva de los Sabinos, S.L.P. Rev. Soc. Mex. Hist. Nat., 8 (1-4): 215-219.
- Anonymous. 1958. New imports. Trop. Fish Hobbyist, 7 (2): 235-236.
- Araújo-Lima, C., L.P.S. Portugal and E. Ferreira. 1986. Fish-macrophyte relationships in the Anavilhanas Archipelago, a blackwater system in central Amazon. J. Fish Biol., 29 (1): 1-11.
- Azpelicueta, M.M. and A.E. Almirón. 2001. A new species of *Bryconamericus* (Characiformes, Characidae) from Paraná basin in Misiones, Argentina. Revue Suisse de Zoologie, 108 (2): 275-281.
- Azpelicueta, M.M., A.E. Almirón and J.R. Casciotta. 2002. *Astyanax paris*: a new species from the río Uruguay basin of Argentina (Characiformes, Characidae). Copeia, 2002 (4): 1052-1056.
- Baird, S.F. and C.F. Girard. 1854. Descriptions of new species of fishes collected in Texas, New Mexico and Sonora, by Mr. John H. Clark, on the U. S. and Mexican Boundary Survey, and in Texas by Capt. Stewart Van Vliet, U.S.A. Proc. Acad. Nat. Sci. Philadelphia, 7: 24-29.
- Bart, H.L., Jr. and M.S. Taylor. 1993. Type specimens of fishes in the Tulane University Museum of Natural History. Tulane Stud. Zool. Bot., 29 (1): 29-72.
- Benine, R.C. 2002. *Moenkhausia levidorsa*, a new species from Rio Aripuanã, Amazon Basin, Brazil (Characiformes: Characidae). Ichthyol. Explor. Freshwaters, 13 (4): 289-294.
- Berg, C. 1901. Comunicaciones ictiológicas. IV. Commun. Mus. Nac. Buenos Aires, 1 (9): 293-311.
- Bizerril, C.R.S.F. 1994. Análise taxonômica e biogeográfica da ictiofauna de água doce do leste brasileiro. Acta Biologica Leopoldensia, 16 (1): 51-80.
- Bizerril, C.R.S.F. and R.M.C. Araujo. 1992. Description d'une nouvelle espèce du genre *Bryconamericus* (Characidae, Tetragonopterinae) du Brésil oriental. Rev. Fr. Aquariol., 19 (3): 65-68.
- Bizerril, C.R.S.F. and P.R. Peres-Neto. 1995. Redescription of *Bryconamericus microcephalus* (Ribeiro, 1908) and description of a new species of *Bryconamericus* (Characidae, Tetragonopterinae) from eastern Brazil. Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre, 8: 13-25.
- Bloch, M.E. 1794. Naturgeschichte der ausländischen Fische. Berlin. Vol. 8. iv + 174 p., pls. 361-396.
- Bloch, M.E. 1795-1797. Ichthyologie, ou Histoire naturelle, générale et particulière des poissons. Avec des figures enluminées dessinées d'après nature. In 12 parts. Berlin.
- Bocourt, F. 1868. Note sur les poissons du genre Tétragonoptère provenant du Mexique et du Guatemala. Ann. Sci. Nat. (Zool.) (Sér. 5), 9: 62.
- Böhlke, J.E. 1952. Studies on fishes of the family Characidae. No. 1. A new genus of Cheirodontine characids from the Canal de Casiquiare and adjacent waters in Venezuela and northern Brazil. Ann. Mag. Nat. Hist. (Ser. 12), 5 (56): 775-777.
- Böhlke, J.E. 1953a. A minute new herring-like characid fish genus adapted for plankton feeding, from the Rio Negro. Stanford Ichthyol. Bull., 5 (2): 168-170.
- Böhlke, J.E. 1953b. Studies on fishes of the family Characidae. No. 4 [sic 5]. A review of the genus *Microschemobrycon* with descriptions of two new species. Ann. Mag. Nat. Hist. (Ser. 12), 6 (71): 841-849, pl. 20.
- Böhlke, J.E. 1955. Studies on fishes of the family Characidae.-- No. 8. The description of a new *Hemigrammus* from the Rio Negro of Brazil. Trans. Kans. Acad. Sci., 58 (1): 229-236.
- Böhlke, J.E. 1958a. Studies on fishes of the family Characidae. No. 16.--A new *Hyphessobrycon* from Costa Rica. Bull. Fla. State Mus. Biol. Sci., 3 (4): 173-178.
- Böhlke, J.E. 1958b. Studies on fishes on the family Characidae.-- No. 14. A report on several extensive recent collections from Ecuador. Proc. Acad. Nat. Sci. Philadelphia, 110: 1-121, pls. 1-7.
- Böhlke, J.E. and W.G. Saul. 1975. The characid fish genus *Creagrudite* Myers a synonym of *Creagrutus* Günther, with the description of a new species from Amazonian Ecuador. Proc. Acad. Nat. Sci. Philadelphia, 127 (3): 25-28.
- Boulenger, G.A. 1887a. An account of the fishes collected by Mr. C. Buckley in eastern Ecuador. Proc. Zool. Soc. London, 1887 (2): 274-283, pls. 20-24.
- Boulenger, G.A. 1887b. Descriptions of new South-American characinoid fishes. Ann. Mag. Nat. Hist. (Ser. 5), 19 (111): 172-174.
- Boulenger, G.A. 1892. On some new or little-known fishes obtained by Dr. J. W. Evans and Mr. Spencer Moore during their recent expedition to the Province of Matto Grosso, Brazil. Ann. Mag. Nat. Hist. (Ser. 6), 10 (55): 9-12, pls. 1-2.
- Boulenger, G.A. 1895. [Abstract of a report on a large collection of fishes formed by Dr. C. Ternetz in Matto Grosso and Paraguay, with descriptions of new species.]. Proc. Zool. Soc. London, 1895 (3): 523-529.
- Boulenger, G.A. 1898. Viaggio del Dr. Enrico Festa nell' Ecuador e regioni vicine. Poissons de l'Équateur. [Part I]. Boll. Mus. Zool. Anat. Comp. Torino, 13 (329): 1-13.
- Boulenger, G.A. 1900. Viaggio del Dr. A. Borelli nel Matto Grosso e nel Paraguay. III. Liste des poissons recueillis à Urucum et à Carandasiño, près de Corumbà. Boll. Mus. Zool. Anat. Comp. Torino, 15 (370): 1-4.
- Braga, L. 1998. Una nueva especie de *Bryconamericus* (Ostariophysi, Characidae) del río Uruguay-i, Argentina. Hidrobiología, 8 (3): 21-29.
- Braga, L. 2000. Redescription of *Bryconamericus rubropictus* (Berg) n. comb. (Ostariophysi, Characidae) and reference to its

Check List of the Freshwater Fishes of South and Central America

- secondary sexual dimorphism. Rev. Mus. Argentino Cienc. Nat., n.s., 2(2): 145-150.
- Britski, H.A. 1964. Sobre uma nova espécie de *Astyanax* do Rio Mogi-Guaçu (Pisces, Characidae). Pap. Dep. Zool. Sec. Agric. (São Paulo), 16 (21): 213-215.
- Britski, H.A. 1969. Lista dos tipos de peixes das coleções do Departamento de Zoologia da Secretaria da Agricultura de São Paulo. Pap. Avulsos Dep. Zool. (São Paulo), 22 (19): 197-215.
- Britski, H.A. and K.Z.S. Silimon. 2001. Descrição de uma nova espécie de *Moenkhausia* da bacia do rio Paraguai (Teleostei: Ostariophysi: Characiformes). Com. Mus. Ciênc. PUCRS, ser. Zool., 14(2): 111-120.
- Britski, H.A., K.Z.S. Silimon and B.S. Lopes. 1999. Peixes do Pantanal. Manual de identificação. Embrapa. Serviço de Produção - SPI, Brasília, DF. 184 p.
- Brittan, M.R. and J.E. Böhlke. 1965. A new blind characid fish from southeastern Brazil. Not. Nat. (Philadelphia), no. 380: 1-4.
- Brown, F.M. 1941. A gazetteer of entomological stations in Ecuador. Ann. Entom. Soc. America, 34 (4): 809-851.
- Burgess, W.E. 1993. *Hyphessobrycon pyrrhonotus*, a new species of bleeding heart tetra (Teleostei: Characidae) from the Rio Erere, Brazil. Trop. Fish Hobbyist, 42 (1): 156-160.
- Burt, A., D.L. Kramer, K. Nakatsuru and C. Spry. 1988. The tempo of reproduction in *Hyphessobrycon pulchripinnis* (Characidae), with a discussion on the biology of "multiple spawning" in fishes. Environ. Biol. Fish., 22: 15-27.
- Bussing, W.A. 1967. New species and new records of Costa Rican freshwater fishes with a tentative list of species. Rev. Biol. Trop., 14 (2): 205-249.
- Bussing, W.A. 1987. Peces de las aguas continentales de Costa Rica. Editorial de la Universidad de Costa Rica. 271 p.
- Campos, A.A. 1945. Sobre os Caracídios do Rio Mogi-guaçu (Estado de São Paulo). Arq. Zool. (São Paulo), 4 (11): 431-483.
- Campos, A.A. and E. Trewawas. 1949. On the genus *Oligosarcus* and subgenus *Paroligosarcus*. Ann. Mag. Nat. Hist. (Ser. 12), 2: 157-160.
- Casatti, L. and R.M.C. Castro. 1998. A fish community of the São Francisco River headwater riffles, southeastern Brazil. Ichthyol. Explor. Freshwaters, 9: 229-242.
- Casciotta, J.R., M.M. Azpelicueta and A. Almirón. 2002. *Bryconamericus uporas* sp.n. (Characiformes, Characidae), a new species from the río Uruguay basin, in Argentina. Rev. Suisse Zool., 109: 155-165.
- Castelnau, F.L. 1855. Poissons. xii + 112 p., 50 pls. In: Animaux nouveaux or rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847. Chez P. Bertrand, Paris.
- Castro, R.M.C. 1981. *Engraulisoma taeniatum*, um novo gênero e espécie de Characidae da bacia do Rio Paraguai (Pisces, Ostariophysi). Pap. Avulsos Dep. Zool. (São Paulo), 34 (11): 135-139.
- Castro, R.M.C. and R.P. Vari. 1990. *Moojenichthys* Miranda Ribeiro (Pisces: Ostariophysi: Characidae), a phylogenetic reappraisal and redescription. Proc. Biol. Soc. Washington, 103 (3): 525-542.
- Chernoff, B. and A. Machado-Allison. 1990. Characid fishes of the genus *Ceratobranchia*, with descriptions of new species from Venezuela and Peru. Proc. Acad. Nat. Sci. Philadelphia, 142: 261-290.
- Chernoff, B. and A. Machado-Allison, 1999. *Bryconops colaroja* and *B. colanegra*, two new species from the Cuyuní and Caroní drainages of South America (Teleostei: Characiformes). Ichthyol. Explor. Freshwaters, 10: 355-370.
- Chernoff, B., A. Machado-Allison, P.A. Buckup and R. Royero L. 1994. Systematic status and neotype designation for *Autanichthys giacopinii* Fernández-Yépez with comments on the morphology of *Bryconops melanurus* (Bloch). Copeia, 1994 (1): 238-242.
- Chernoff, B., A. Machado-Allison, F. Provenzano, P.W. Willink and P. Petry. 2002. *Bryconops imitator*, a new species from the Río Caura basin of Venezuela (Teleostei: Characiformes). Ichthyol. Explor. Freshwaters, 13 (3): 193-202.
- Contreras-Balderas, S. and R. Rivera-Teillery. 1985. *Bramocharax (Catemaco) caballeroi* subgén. et sp. nov., del lago de Catemaco, Veracruz, Mexico. Inst. Inv., Cient., U.A.N.L., Mexico, 2 (1): 7-29.
- Cope, E.D. 1870. Contribution to the ichthyology of the Marañon. Proc. Am. Philos. Soc., 11: 559-570.
- Cope, E.D. 1872a. Ninth contribution to the herpetology of tropical America. Proc. Acad. Nat. Sci. Philadelphia, 23: 200-224.
- Cope, E.D. 1872b. On the fishes of the Ambyiacu River. Proc. Acad. Nat. Sci. Philadelphia, 23: 250-294, pls.
- Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. Proc. Am. Philos. Soc., 17 (101): 673-701.
- Cope, E.D. 1894. On the fishes obtained by the Naturalist Expedition in Rio Grande do Sul. Proc. Am. Philos. Soc., 33: 84-108, pls. 4-9.
- Costa, W.J.E.M. 1994. Description of two new species of the genus *Moenkhausia* (Characiformes: Characidae) from the central Brazil. Zool. Anz., 232 (1-2): 21-29.
- Costa, W.J.E.M. 1995. Description of a new species of the genus *Astyanax* (Characiformes: Characidae) from the Rio Araguaia basin, Brazil. Rev. Suisse Zool., 102 (1): 257-262.
- Costa, W.J.E.M. and J. Géry. 1994. Two new species of the genus *Hyphessobrycon* (Characiformes: Characidae) from the rio Xingú basin, central Brazil. Rev. Fr. Aquariol., 20 (3, for 1993): 71-76.
- Cuvier, G. 1816. Le Règne Animal distribué d'après son organisation pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Les reptiles, les poissons, les mollusques et les annélides. Edition 1. xviii + 532 p., [pls. 9-10, in v. 4].
- Cuvier, G. 1818. Sur les poissons du sous-genre *Mylètes*. Mem. Mus. Natl. Hist. Nat., 4: 444-456, pls. 21-22.
- Cuvier, G. 1819. Sur les poissons du sous-genre *Hydrocyon*, sur deux nouvelles espèces de *Chalceus*, sur trois nouvelles espèces de *Serrasalmes*, et sur l'Argentina glossodonta de Forskahl, qui est l'*Albula gonorrhynchus* de Bloch. Mem. Mus. Natl. Hist. Nat., 5: 351-379, pls. 26-28.
- Cuvier, G. 1829. Le règne animal, distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Edition 2. xviii + 532.
- Cuvier, G. and A. Valenciennes. 1850. Histoire naturelle des poissons. Tome vingt-deuxième. Suite du livre vingt-deuxième. Suite de la famille des Salmonoïdes. Table générale de l'Histoire Naturelle des Poissons. Ch. Pitois, & V.^c Levrault, Paris & Strasbourg. xx + 1 + 532 + 91 p., pls. 634-650.
- Dahl, G. 1943. New or rare fishes of the family Characinidae from the Magdalena system. K. Fysiogr. Sällsk. Lund Förh., 12 (18): 215-220.
- Dahl, G. 1960a. New fresh-water fishes from western Colombia. Caldasia, 8 (39): 451-484.
- Dahl, G. 1960b. Una especie nueva del genero *Creagrutus* Guenther del norte de Colombia. Caldasia, 8 (38): 353-358.
- Dahl, G. 1971. Los peces del norte de Colombia. Instituto de Desarrollo de los Recursos Naturales Renovables (INDERENA), Bogota. xvii + 391 p.
- Dahl, G. and F. Medem. 1964. Informe sobre la fauna acuatica del Rio Sinu. I Parte. Los Peces y la Pesca del Rio Sinu. Corporacion Autonoma Regional de los Valles del Magdalena y del Sinu -CVM-. Departamento de Investigaciones Ictiologicas y Faunisticas. 109 p.
- De Filippi, F. 1853. Nouvelles espèces de poissons. Rev. Mag. Zool. (Ser. 2), 5: 164-171.
- Devincenzi, G.J. 1925. El primer ensayo sobre Ictiología del

Check List of the Freshwater Fishes of South and Central America

- Uruguay. La clase "Peces" de la zoología de don Dámaso A. Larrañaga. An. Mus. Nac. Hist. Nat. Montevideo (Ser. 2), 6: 295-323.
- Durbin, M.L. 1909. Reports on the expedition to British Guiana of the Indiana University and the Carnegie Museum, 1908. Report No. 2. A new genus and twelve new species of tetragonopterid characins. Ann. Carnegie Mus., 6 (1): 55-72.
- Eigenmann, C.H. 1893. Catalogue of the fresh-water fishes of Central America and southern Mexico. Proc. U. S. Natl. Mus., 16 (925): 53-60.
- Eigenmann, C.H. 1903. New genera of South American fresh-water fishes, and new names for some old genera. Smithsonian Misc. Collect., 45: 144-148.
- Eigenmann, C.H. 1908. Preliminary descriptions of new genera and species of tetragonopterid characins. (Zoölogical Results of the Thayer Brazilian expedition.). Bull. Mus. Comp. Zool., 52 (6): 91-106.
- Eigenmann, C.H. 1909a. Reports on the expedition to British Guiana of the Indiana University and the Carnegie Museum, 1908. Report no. 1. Some new genera and species of fishes from British Guiana. Ann. Carnegie Mus., 6 (1): 4-54.
- Eigenmann, C.H. 1909b. Reports on the Princeton University expeditions to Patagonia, 1896-1899. III. The fresh water fishes of Patagonia and an examination of the Archiplata Archhelenis Theory. Princeton Univ., 3 (3): 225-374.
- Eigenmann, C.H. 1910. Catalogue of the fresh-water fishes of tropical and south temperate America. Pp. 375-511. In: Reports of the Princeton University expeditions to Patagonia 1896-1899. Zoology.
- Eigenmann, C.H. 1911a. Descriptions of two new tetragonopterid fishes in the British Museum. Ann. Mag. Nat. Hist. (Ser. 8), 7 (38): 215-216.
- Eigenmann, C.H. 1911b. New characins in the collection of the Carnegie Museum. Ann. Carnegie Mus., 8 (1): 164-180, pls. 4-9.
- Eigenmann, C.H. 1912a. Some results from an ichthyological reconnaissance of Colombia, South America. Part I. Indiana Univ. Studies, no. 16 [sic, no. 8]: 1-27.
- Eigenmann, C.H. 1912b. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. 1913. Some results from an ichthyological reconnaissance of Colombia, South America. Part II. Indiana Univ. Studies, no. 18: 1-32.
- Eigenmann, C.H. 1914. Some results from studies of South American fishes. IV. New genera and species of South American fishes. Indiana Univ. Studies, no. 20: 44-48.
- Eigenmann, C.H. 1915. The Cheirodontinae, a subfamily of minute characid fishes of South America. Mem. Carnegie Mus., 7 (1): 1-99, pls. 1-17.
- Eigenmann, C.H. 1917. The American Characidae [Part 1]. Mem. Mus. Comp. Zool., 43 (1): 1-102, 16 pls.
- Eigenmann, C.H. 1918. The American Characidae [Part 2]. Mem. Mus. Comp. Zool., 43 (2): 103-208.
- Eigenmann, C.H. 1920. The fishes of Lake Valencia, Caracas, and of the Rio Tuy at El Concejo, Venezuela. Indiana Univ. Studies, 7 (44): 1-13.
- Eigenmann, C.H. 1921. The American Characidae. Mem. Mus. Comp. Zool., 43 (3): 209-310, 28 pls.
- Eigenmann, C.H. 1922a. Peces Colombianos de las cordilleras y de los llanos al oriente de Bogota. Bol. Soc. Colomb. Cien. Nat., no. 66 [for 1920]: 159-168.
- Eigenmann, C.H. 1922b. The fishes of western South America, Part I. The fresh-water fishes of northwestern South America, including Colombia, Panama, and the Pacific slopes of Ecuador and Peru, together with an appendix upon the fishes of the Rio Meta in Colombia. Mem. Carnegie Mus., 9 (1): 1-346, pls. 1-38.
- Eigenmann, C.H. 1927. The American Characidae. Mem. Mus. Comp. Zool., 43 (4): 311-428, 24 pls.
- Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II.- The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. Univ. Kentucky. xv + 494 p, pls. 1-22.
- Eigenmann, C.H. and A.W. Henn. 1914. On new species of fishes from Colombia, Ecuador, and Brazil. Indiana Univ. Studies, no. 24: 231-234.
- Eigenmann, C.H. and A.W. Henn. 1916. Description of three new species of characid fishes. Ann. Carnegie Mus., 10 (1/2): 87-90, pl. 17.
- Eigenmann, C.H., A.W. Henn and C. Wilson. 1914. New fishes from western Colombia, Ecuador, and Peru. Indiana Univ. Studies, no. 19: 1-15.
- Eigenmann, C.H. and C.H. Kennedy. 1903. On a collection of fishes from Paraguay, with a synopsis of the American genera of cichlids. Proc. Acad. Nat. Sci. Philadelphia, 55: 497-537.
- Eigenmann, C.H., W.L. McAtee and D.P. Ward. 1907. On further collections of fishes from Paraguay. Ann. Carnegie Mus., 4 (2): 110-157, pls. 31-45.
- Eigenmann, C.H. and G.S. Myers. 1929. The American Characidae, Part 5. Mem. Mus. Comp. Zool., 43 (5): 429-558, 11 pls.
- Eigenmann, C.H. and A.A. Norris. 1900. Sobre alguns peixes de S. Paulo, Brazil. Rev. Mus. Paulista, 4: 349-362.
- Eigenmann, C.H. and F. Ogle. 1907. An annotated list of characin fishes in the United States National Museum and the Museum of Indiana University, with descriptions of new species. Proc. U. S. Natl. Mus., 33 (1556): 1-36.
- Ellis, M.D. 1911. On the species of *Hasemanina*, *Hyphessobrycon*, and *Hemigrammus* collected by J. D. Haseman for the Carnegie Museum. Ann. Carnegie Mus., 8 (1): 148-163, pls. 1-3.
- Espinosa Pérez, H., M.T. Gaspar Dillanes and P. Fuentes Mata. 1993. Listados faunísticos de México. III. Los peces dulceacuicolas Mexicanos. Univ. Nacional Autónoma de México. 98 p. + map.
- Evermann, B.W. and W.C. Kendall. 1906. Notes on a collection of fishes from Argentina, South America, with descriptions of three new species. Proc. U. S. Natl. Mus., 31 (1482): 67-108.
- Fernández, L.A. and C. Butí. 1996. Nuevas localidades para peces de agua dulce de la República Argentina. Acta Zool. Lilloana, 43 (2): 251-272.
- Fernández-Yépez, A. 1949. *Ramirezella newboldi* nuevo género y especie de pez Tetragonopteridae colectado en Venezuela. Evencias No. 6: [1-3].
- Fernández-Yépez, A. 1950. Algunos peces del Rio Autana. Noved. Cient. Mus. Hist. Nat. La Salle (Ser. Zool.), no. 2: 1-18, pls. 1-3.
- Fernández-Yépez, A. 1972. Análisis ictiológico del complejo hidrográfico (04) "Río Yaracuy". Direccion de Obras Hidraulicas, Ministerio de Obras Publicas, Republica de Venezuela. 1-25, pls. 1-41.
- Fink, W.L. 1976. A new genus and species of characid fish from the Bayano River Basin, Panamá (Pisces: Cypriniformes). Proc. Biol. Soc. Washington, 88 (30): 331-344.
- Fink, W.L. 1979. A new species of *Moenkhausia* from the Mato Grosso region of Brazil (Pisces: Characidae). Breviora, no. 450: 1-12.
- Fink, W.L. and S.H. Weitzman. 1974. The so-called Cheirodontin fishes of Central America with descriptions of two new species (Pisces: Characidae). Smithsonian Contrib. Zool., no. 172: i-iii + 1-46.
- Flecker, A.S., D.C. Taphorn, J.A. Lovell and B.P. Feifarek. 1991. Drift of characin larvae, *Bryconamericus deuteronoïdes*, during the dry season from Andean piedmont streams. Env. Biol. Fishes, 31: 197-202.
- Fowler, H.W. 1906. Further knowledge of some heterognathus fishes. Part I. Proc. Acad. Nat. Sci. Philadelphia, 58: 293-351.

Check List of the Freshwater Fishes of South and Central America

- Fowler, H.W. 1907. Further knowledge of some heterognathous fishes. Part II. Proc. Acad. Nat. Sci. Philadelphia, 58: 431-483.
- Fowler, H.W. 1911a. Some fishes from Venezuela. Proc. Acad. Nat. Sci. Philadelphia, 63: 419-437.
- Fowler, H.W. 1911b. New fresh-water fishes from western Ecuador. Proc. Acad. Nat. Sci. Philadelphia, 63: 493-520.
- Fowler, H.W. 1913. Fishes from the Madeira River, Brazil. Proc. Acad. Nat. Sci. Philadelphia, 65: 517-579.
- Fowler, H.W. 1914. Fishes from the Rupununi River, British Guiana. Proc. Acad. Nat. Sci. Philadelphia, 66: 229-284.
- Fowler, H.W. 1918. A new characin from Paraguay. Proc. Acad. Nat. Sci. Philadelphia, 70: 141-143.
- Fowler, H.W. 1926. Fishes from Florida, Brazil, Bolivia, Argentina, and Chile. Proc. Acad. Nat. Sci. Philadelphia, 78: 249-285.
- Fowler, H.W. 1932. Zoological results of the Matto Grosso Expedition to Brazil in 1931.--I. Fresh water fishes. Proc. Acad. Nat. Sci. Philadelphia, 84: 343-377.
- Fowler, H.W. 1940. Zoological results of the second Bolivian expedition for the Academy of Natural Sciences of Philadelphia, 1936-1937. Part I.--The fishes. Proc. Acad. Nat. Sci. Philadelphia, 92: 43-103.
- Fowler, H.W. 1941. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. Proc. Acad. Nat. Sci. Philadelphia, 93: 123-199.
- Fowler, H.W. 1943a. A collection of fresh-water fishes from Colombia, obtained chiefly by Brother Nicéforo Maria. Proc. Acad. Nat. Sci. Philadelphia, 95: 223-266.
- Fowler, H.W. 1943b. Description of a new South American characin referred to *Hemigrammus*. Fish Culturist, 22 (5): 33-34.
- Fowler, H.W. 1943c. Notes and descriptions of new or little known fishes from Uruguay. Proc. Acad. Nat. Sci. Philadelphia, 95: 311-334.
- Fowler, H.W. 1943d. Two new characins from eastern Ecuador. Not. Nat. (Philadelphia), no. 119: 1-5.
- Fowler, H.W. 1943e. Zoological results of the second Bolivian expedition for the Academy of Natural Sciences of Philadelphia, 1936-1937. Part II.--Additional new fishes. Not. Nat. (Philadelphia), no. 120: 1-7.
- Fowler, H.W. 1944. Fresh-water fishes from northwestern Colombia. Proc. Acad. Nat. Sci. Philadelphia, 96: 227-248.
- Fowler, H.W. 1945a. Account of a new characin obtained in South America (*Hyphessobrycon melasemeion*). Fish Culturist, 24 (8): 57-59.
- Fowler, H.W. 1945b. Colombian zoological survey. Pt. I.--The freshwater fishes obtained in 1945. Proc. Acad. Nat. Sci. Philadelphia, 97: 93-135.
- Fowler, H.W. 1945c. Descriptions of seven new fresh-water fishes from Peru. Not. Nat. (Philadelphia), no. 159: 1-11.
- Fowler, H.W. 1945d. Descriptions of two new fresh-water fishes from Colombia. Not. Nat. (Philadelphia), no. 158: 1-11.
- Fowler, H.W. 1946. Description of a new South American characin (*Cheirodon pallidifrons* new species). Fish Culturist, 26 (1): 1-2.
- Fowler, H.W. 1949a. Description of a new genus and species of characin (*Pristicharax hanseni*) from Goiaz, Brazil. Not. Nat. (Philadelphia), no. 216: 1-4.
- Fowler, H.W. 1949b. Description of a new minute characin (*Hyphessobrycon thompsoni*). Fish Culturist, 28 (10): 73-74.
- Garman, S. 1890. On the species of the genus *Chalcinus* in the Museum of Comparative Zoology at Cambridge, Mass., U.S.A. Bull. Essex Inst., 22 (1-3): 1-7.
- Garavella, J.C., C.S. Pavanelli and H.I. Suzuki. 1997. Caracterização da ictiofauna do rio Iguaçú. Pp. 61-84. In: A.A. Agostinho and L.C. Gomes (eds.). Reservatório de Segredo: bases ecológicas para o manejo. EDUEM, Maringá.
- Géry, J. 1959a. Contributions a L'Etude des Poissons Characoides (Ostariophysi). (IV). Nouvelles espèces de Guyane Française du genre *Hemigrammus* (Tetragonopterinae) avec une liste critique des formes recensees. Bull. Mensuel Soc. Linn. Lyon, 28 (8): 248-260.
- Géry, J. 1959b. Contributions to the study of the characoid fishes, 1. *Thayeria ifati* n. sp. of Guiana, with considerations on the evolution of the genus. Senckenb. Biol., 40 (3/4): 127-133.
- Géry, J. 1959c. Contributions a l'étude des Poissons Characoides (Ostariophysi) (II.) *Roeboexodon* gen. n. de Guyane, redescription de *R. guyanensis* (Puyo, 1948) et relations probables avec les formes voisnes. Bull. Mus. Natl. Hist. Nat. (Sér. 2), 31 (4): 345-352.
- Géry, J. 1960a. Contributions to the study of characoid fishes. 11. The generic position of *Hyphessobrycon innesi* and *Chairodon axelrodi*, with a review of the morphological affinities of some Cheirodontinae (Pisces - Cypriniformes). Bull. Aquatic Biol., 2 (12): 1-18.
- Géry, J. 1960b. Contributions to the study of the characoid fishes, No. 6. New Cheirodontinae from French Guiana. Senckenb. Biol., 41 (1/2): 15-39, pl. 2.
- Géry, J. 1961a. *Hemigrammus pulcher haraldi* a new subspecies of a well-known aquarium tetra. Trop. Fish Hobbyist, 10: 42-51.
- Géry, J. 1961b. The Savannah tetra: *Hyphessobrycon stegemanni* sp. nov. Trop. Fish Hobbyist 9 (9): 7-13.
- Géry, J. 1961c. Three new South-American characids. Trop. Fish Hobbyist 9 (9): 26-46.
- Géry, J. 1961d. Notes on the ichthyology of Surinam and other Guianas. 7. *Hyphessobrycon georgetti* sp. nov., a dwarf species from southern Surinam. Bull. Aquatic Biol., 2 (22): 121-128.
- Géry, J. 1962. Notes on the ichthyology of Surinam and other Guianas. 10. The distribution pattern of the genus *Hemibrycon*, with a description of a new species from Surinam and an incursion into ecotaxonomy. Bull. Aquatic Biol., 3 (28, for 196): 65-80.
- Géry, J. 1963a. *Hyphessobrycon simulans* a new neon tetra. Trop. Fish Hobbyist, 11 (8): 13-16, 70-72.
- Géry, J. 1963b. Three new tetras from the upper Rio Negro near Tapurucuara. Trop. Fish Hobbyist, 12 (3): 9-15, 57-63.
- Géry, J. 1964a. Poissons characoides de l'Amazonie péruvienne. Beitr. Neotrop. Fauna, 4 (1): 1-44.
- Géry, J. 1964b. Poissons characoides nouveaux ou non signalés de l'Ilha do Bananal, Brésil. Vie Milieu Suppl., no. 17: 447-471, pls. 1-4.
- Géry, J. 1964c. Preliminary description of seven new species and two new genera of characoid fishes from the Upper Rio Meta in Colombia. Trop. Fish Hobbyist, 13 (4): 25-32, 41-48.
- Géry, J. 1964d. Two new tetras from the Lower Amazon Basin. Trop. Fish Hobbyist, 12 (7): 13-15, 59-60.
- Géry, J. 1964e. Upper Amazonian characoid fishes collected by Mr. Jack Roberts. Trop. Fish Hobbyist, 13 (4): 21-32, 53-67.
- Géry, J. 1965a. A new genus from Brazil--*Brittanichthys*. Trop. Fish Hobbyist, 13 (6): 13-24, 61-69.
- Géry, J. 1965b. Notes on characoid fishes collected in Surinam by Mr. H. P. Pijpers, with descriptions of new forms. Bijdr. Dierkd., 35: 101-126, pls. 1-2.
- Géry, J. 1965c. Poissons characoides sud-américains du Senckenberg Muséum, II. Characidae et Crenuchidae de l'Igarapé Préto (Haute Amazonie). Senckenb. Biol., 46 (1): 11-45, pls. 1-4.
- Géry, J. 1966a. *Axelrodia riesei*, a new characoid fish from Upper Rio Méta in Colombia. (With remarks concerning the genus *Axelrodia* and a description of a similar, sympatric, *Hyphessobrycon-species*.) Ichthyol. Aquarium J., 37 (3): 111-120.
- Géry, J. 1966b. *Hyphessobrycon vilmae* sp. nov., a new tetra from the upper Juruena, Brazil, with keys to the heterorhabdus-like species. Ichthyol. Aquarium J., 37 (2): 63-70.
- Géry, J. 1966c. A review of certain Tetragonopterinae (Characoides), with the description of two new genera. Ichthyol. Aquarium J., 37 (5): 211-236.
- Géry, J. 1972a. Contribution à l'étude des poissons characoides de l'Équateur. Avec une révision du genre *Pseudochalceus* et la description d'un nouveau genre endémique du Rio Cauca en

Check List of the Freshwater Fishes of South and Central America

- Colombie. Acta Humboldt. (Ser. Geol. Palaeontol. Biol.), no. 2: 1-110, pls. 1-8.
- Géry, J. 1972b. Corrected and supplemented descriptions of certain characoid fishes described by Henry W. Fowler, with revisions of several of their genera. Stud. Neotrop. Fauna, 7: 1-35.
- Géry, J. 1972c. Remarques sur quelques poissons characoïdes de la Colombie et de l'Equateur, avec la description d'une nouvelle espèce de *Pseudochalceus*. Rev. Suisse Zool., 79 (2): 931-945.
- Géry, J. 1973. New and little-known Aphroditeina (Pisces, Characoidei) from the Amazon Basin. Stud. Neotrop. Fauna, 8: 81-137.
- Géry, J. 1977. Characoids of the world. TFH Publ. Neptune City, NJ. 672 p.
- Géry, J. 1980a. Rediscovery of the lemon tetra, *Hyphessobrycon pulchripinnis*. Tropical Fish Hobbyist, 28 (11): 35-40.
- Géry, J. 1980b. Un nouveau Poisson characoïde occupant la niche des mangeurs d'écailles dans le haut rio Tapajoz, Brésil: *Bryconoxodon juruena* n. g. sp. Rev. Fr. Aquariol., 7 (1): 1-8.
- Géry, J. 1992. Description de deux nouvelles espèces proches de *Moehknausia lepidura* (Kner) (Poissons, Characiformes, Tetragonopterinae), avec une revue du groupe. Rev. Fr. Aquariol., 19 (3): 69-78.
- Géry, J. and H. Boutière. 1964. *Petitella georgiae* gen. et sp. nov. (Pisces, Cypriniformes, Characoidei). Vie Milieu Suppl., 17: 473-484, tab. 1.
- Géry, J. and W.J. Junk. 1977. *Inpaichthys kerri* n. g. n. sp., um novo peixe caracóideo do alto rio Aripuanã, Mato Grosso, Brasil. Acta Amazonica, 7 (3): 417-422 + foldout table.
- Géry, J. and L. Lauzanne. 1990. Les types des espèces du genre *Salminus* Agassiz, 1829 (Ostariophysi, Characidae) du Museum National d'Histoire Naturelle de Paris. Cybium, 14 (2): 113-124.
- Géry, J. and V. Mahnert. 1986. A new rummy-nose tetra from the Rio Negro, Brazil: *Hemigrammus bleheri* n. sp. (Characidae, Tetragonopterinae), with comments on *Paracheirodon*. Trop. Fish Hobbyist, 34 (11): 37, 40-41, 44-45, 48-49, 52.
- Géry, J. and V. Mahnert. 1993. *Hyphessobrycon pytai*, n. sp., une nouvelle espèce endémique du bassin du Rio Monday au Paraguay (Pisces, Ostariophysi, Characidae). Rev. Fr. Aquariol., 20 (2): 33-36.
- Géry, J., P. Planquette and P.-Y. Le Bail. 1988. Un nouveau Tetragonopterinae (Pisces, Characoidei, Characidae) de la Guyane: *Astyanax leopoldi* sp. n. Rev. Fr. Aquariol., 15 (1): 9-12.
- Géry, J., P. Planquette and P.-Y. Le Bail. 1991. Faune characoïde (poissons ostariophysaires) de l'Oyapock, l'Approuague et la rivière de Kaw (Guyane Française). Cybium, 15 (1, suppl.): 1-69, pls. 1-20.
- Géry, J., P. Planquette and P.-Y. Le Bail. 1995. Une espèce nouvelle de *Moenkhausia* de la Guyane (Teleostei, Ostariophysi, Carchacidae), à écailles nombreuses. Rev. Fr. Aquariol., 22 (3-4): 67-70.
- Géry, J., P. Planquette and P.-Y. Le Bail. 1996. Nouvelles espèces guyanaises d'*Astyanax* S.L. (Teleostei, Characiformes, Characidae) à épines pelviennes, avec une introduction concernant le groupe. Cybium, 20 (1): 3-36.
- Géry, J. and J.-F. Renno. 1989. Un nouveau poisson characiforme (Ostariophysaires) de la Guyane: *Creagrutus planquettei* sp. n. Rev. Fr. Aquariol., 16 (1): 1-5.
- Géry, J. and U. Römer. 1997. *Tucanoichthys tucano* gen. n. sp. n., a new miniature characid fish (Teleostei: Characiformes: Characidae) from the Rio Uaupes basin in Brazil. Aqua, J. Ichthy. Aquat. Biol., 2 (4): 65-72.
- Géry, J. and A. Uj. 1987a. Ein neuer Tetra (Characoidea, Characidae, Tetragonopterinae) aus dem unteren Amazonasgebiet: *Hyphessobrycon werneri* n. sp. Aquar. Terrar. Z., 40 (12): 546-550.
- Géry, J. and A. Uj. 1987b. The ember tetra: a new pygmy characid tetra from the Rio das Mortes, Brazil, *Hyphessobrycon amandae* sp. n. (Pisces, Characoidei). Trop. Fish Hobbyist, 35 (5): 58-61, 65.
- Gilbert, C.R. 1974. Recent fishes. Pp. 110-115. In: C. R. Gilbert (ed.), Catalogue of type specimens in the Department of Natural Sciences, Florida State Museum. Bull. Fla. State Mus. Biol. Sci., 18 (2).
- Gill, T.N. 1858. Synopsis of the fresh water fishes of the western portion of the island of Trinidad, W. I. Ann. Lyc. Nat. Hist. N. Y., 6 (10-13): 363-430.
- Gill, T.N. 1870. On some new species of fishes obtained by Prof. Orton from the Marañon, or Upper Amazon, and Napo Rivers. Proc. Acad. Nat. Sci. Philadelphia, 22: 92-96.
- Gill, T. and J.F. Bransford. 1877. Synopsis of the fishes of Lake Nicaragua. Proc. Acad. Nat. Sci. Philadelphia, 29: 172-191.
- Godoy, M.P. 1971. Descoberta do gênero *Hemibrycon* Günther, 1864 na bacia do rio Mogi Guassu (Rio Paraná, bacia superior). I: Descrição de *Hemibrycon marciae* sp. n. (Pisces, Characidae, Heterognathi). Rev. Bras. Biol., 31 (2): 153-159.
- Godoy, M.P. 1987. Peixes do estado de Santa Catarina. Editora da UFSC, Florianópolis. 571p.
- Gomes, A.L. 1947. A small collection of fishes from Rio Grande do Sul, Brazil. Misc. Publ. Mus. Zool. Univ. Mich., no. 67: 1-39, pls. 1-3.
- Gray, J.E. 1854. Catalogue of fish collected and described by Laurence Theodore Gronow, now in the British Museum. London. vii + 196 p.
- Greenfield, D.W. and J.E. Thomerson. 1997. Fishes of the continental waters of Belize. University Press of Florida, Gainesville. xxii + 311 p.
- Grey, M. 1947. Catalogue of type specimens of fishes in Chicago Natural History Museum. Fieldiana Zool., 32 (3): 109-205.
- Günther, A. 1859. List of the cold-blooded vertebrata collected by Mr. Fraser in the Andes of western Ecuador. Proc. Zool. Soc. London, 1859 (pt 1): 89-93.
- Günther, A. 1860a. On new reptiles and fishes from Mexico. Proc. Zool. Soc. London, 1860 (2): 316-319.
- Günther, A. 1860b. Second list of cold-blooded vertebrata collected by Mr. Fraser in the Andes of western Ecuador. Proc. Zool. Soc. London, 1859 (3): 402-420.
- Günther, A. 1864. Catalogue of the fishes in the British Museum vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiatidae in the collection of the British Museum. xxii + 455 p.
- Günther, A. 1866. Remarks on some fishes from the river Amazon in the British Museum. Ann. Mag. Nat. Hist. (Ser. 3), 18 (103): 30-31.
- Günther, A. 1868. Diagnoses of some new freshwater fishes from Surinam and Brazil, in the collection of the British Museum. Ann. Mag. Nat. Hist. (Ser. 4), 1 (6): 475-481.
- Günther, A. 1874. Descriptions of new species of fishes in the British Museum [Continued]. Ann. Mag. Nat. Hist. (Ser. 4), 14 (84): 453-455.
- Günther, A. 1876. Remarks on fishes, with descriptions of new species in the British Museum, chiefly from southern seas. Ann. Mag. Nat. Hist. (Ser. 4), 17 (101): 389-402.
- Günther, A. 1880. A contribution to the knowledge of the fish fauna of the Rio de la Plata. Ann. Mag. Nat. Hist. (Ser. 5), 6 (31): 7-13, pl. 2.
- Harold, A.S. and R.P. Vari. 1994. Systematics of the trans-Andean species of *Creagrutus* (Ostariophysi: Characiformes: Characidae). Smithson. Contrib. Zool., no. 551: i-iii, 1-31.
- Harold, A.S., R.P. Vari, A. Machado-Allison and F. Provenzano. 1994. *Creagrutus hysginus* (Teleostei: Characiformes), a new species of characid from northeastern Venezuela, Sucre State. Copeia, 1994 (4): 975-979.
- Hensel, R.F. 1870. Beiträge zur Kenntniss der Wirbelthiere Südbrasilens. (Fortsetzung). Arch. Naturgeschichte, 36 (1): 50-91.

Check List of the Freshwater Fishes of South and Central America

- Hildebrand, S.F. 1938. A new catalogue of the fresh-water fishes of Panama. Field Mus. Nat. Hist. Publ. Zool. Ser., 22 (4): 219-359.
- Hoedeman, J.J. 1956. *Hyphessobrycon rubrostigma*, neue Species. Eine höchst interessante und farbenfreudige Form der *callistus*-Gruppe aus Kolumbien. Aquar. Terrar. Z., 9 (12): 312-313.
- Hoedeman, J.J. 1957. *Hyphessobrycon griemi*, eine farbenprächtige Neuheit der *Bifasciatus*-Gruppe aus Gojas. Aquar. Terrar. Z., 10 (4): 87-89.
- Holly, M. 1929. Einige neue Fischformen aus Brasilien. Anz. Akad. Wiss. Wien, 66: 117-120.
- Holmberg, E.L. 1891. Sobre algunos peces nuevos ó poco conocidos de la República Argentina. Rev. Argent. Hist. Nat. Buenos Aires, 1: 180-193.
- Howes, G.J. 1982. Review of the genus *Brycon* (Teleostei: Characoidei). Bull. Br. Mus. (Nat. Hist.) Zool., 43 (1): 1-47.
- Hubbs, C.L. 1936. XVII. Fishes of the Yucatan Peninsula. Carnegie Inst. Washington Publ., no. 457: 157-287, pls. 1-15.
- Hubbs, C.L. and W.T. Innes. 1936. The first known blind fish of the family Characidae: a new genus from Mexico. Occas. Pap. Mus. Zool. Univ. Mich., no. 342: 1-7, pl. 1.
- Humboldt, F.H.A. von, and A. Valenciennes. 1821. Recherches sur les poissons fluviatiles de l'Amérique Équinoxiale. Pp. 145-216, pls. 45-52. In: Voyage de Humboldt et Bonpland, Deuxième partie. Observations de Zoologie et d'Anatomie comparée. Paris.
- Inger, R.F. 1956. Notes on a collection of fishes from southeastern Venezuela. Fieldiana, Zool., 34: 425-440.
- Jégu, M., G.M. Santos and E. Ferreira. 1991. Une nouvelle espèce de *Bryconexodon* (Pisces, Characidae) décrite du bassin du Trombetas (Parà, Brésil). J. Nat. Hist., 25 (3): 773-782.
- Jenyns, L. 1840-42. Part IV, Fish. In: C. Darwin (ed.), The zoology of the voyage of H. M. S. Beagle, under the command of Captain FitzRoy, R. N., during the years 1832 to 1836. Smith, Elder, and Co., London. xvi + 172 p., pls. 1-29. [Issued in 4 parts, from 1840 to 1842.]
- Kner, R. 1858a. Beiträge zur Familie der Characinen. Sitzungsber. Akad. Wiss. Wien, 30 (13): 75-80.
- Kner, R. 1858b. Zur Familie der Characinen. Sitzungsber. Akad. Wiss. Wien, 32 (22): 163-168.
- Kner, R. 1859. Zur Familie der Characinen. II. Folge der Ichthyologischen Beiträge. Denkschr. Akad. Wiss. Wien, 17: 137-182, pls. 1-9.
- Kner, R. 1860. Zur Familie der Characinen. III. Folge Der Ichthyologischen Beiträge. Denkschr. Akad. Wiss. Wien, 18: 9-62, pls. 1-8.
- Kner, R. 1863. Eine Uebersicht der ichthyologischen Ausbeute des Herrn Professors Dr. Mor. Wagner in Central-Amerika. Sitzungsber. Konigl. Bayer. Akad. Wiss. Muenchen, 2: 220-230.
- Kner, R. and F. Steindachner. 1864. Neue Gattungen und Arten von Fischen aus Central-Amerika; gesammelt von Prof. Moritz Wagner. Abh. Bayer. Akad. Wiss., 10: 1-61, pls. 1-6.
- Knöppel, H.-A., W. Junk and J. Géry. 1968. *Bryconops* (*Creocharanes*) *inpaí*, a new characoid fish from the central Amazon region, with a view of the genus *Bryconops*. Amazoniana, 1 (3): 231-246.
- Kramer, D.L. 1978. Reproductive seasonality in the fishes of a tropical stream. Ecology, 59(5): 976-985.
- La Cépède, B.G.E. 1803. Histoire naturelle des poissons, vol. 5. lxxviii + 803 p. + index, pls. 1-21.
- Ladiges, W. 1938. Drei neue Fische der Gattungen *Hyphessobrycon* und *Hemigrammus* aus dem peruanischen Teil des Amazonas. Zool. Anz., 124 (3-4): 49-52.
- Ladiges, W. 1951. *Thayeria sanctaemariae* spec. nov. Zool. Anz., 146 (5-6): 128-130.
- Ladiges, W., G. von Wahlert and E. Mohr. 1958. Die Typen und Typoide der Fischsammlung des Hamburgischen Zoologischen Staatsinstituts und Zoologischen Museums. Mitt. Hamburg. Zool. Inst., 56: 155-167.
- Larrañaga, D.A. 1923. Escritos de Don Dámaso Antonio Larrañaga. Los Publica el Instituto Histórico y Geográfico del Uruguay. Edición Nacional. 512 p.
- Lasso, C.A. 1990. Los peces de la Gran Sabana, Alto Caroni, Venezuela. Memoria, Sociedad de Ciencias Naturales La Salle, 49/50: 209-285.
- Lee, D.S., C.R. Gilbert and others. 1980. Atlas of North American freshwater fishes. Publication 1980-12 of the North Carolina Biological Survey. x + 854 p.
- Lima, F.C.T. and P. Gerhard. 2001. A new *Hyphessobrycon* (Characiformes: Characidae) from Chapada Diamantina, Bahia, Brazil, with notes on its natural history. Ichthyological Exploration of Freshwaters, 12 (1): 105-114.
- Lima, F.C.T. and J. Géry. 2001. Correction of the type locality of *Hyphessobrycon stegemanni* Géry and *Knodus savannensis* Géry (Teleostei: Characiformes: Characidae). Comunicações do Museu de Ciências da PUCRS, Série Zoologia, 14 (1): 95-97.
- Lima, F.C.T. and M. Toledo-Piza. 2001. New species of *Moenkhausia* (Characiformes: Characidae) from the Rio Negro of Brazil. Copeia, 2001 (4): 1058-1063.
- Lima, S.M.Q. and W.J.E.M. Costa. 2001. *Hyphessobrycon itaparicensis* (Characiformes: Characidae): a new tetragonopterine fish from a coastal island of northeastern Brazil. Cybium, 25 (3): 234-237.
- Linnaeus, C. 1758. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Editio decima, reformata. Tomus I. Holmiae. ii + 824 p.
- Lozano-Vilano, M. de L. and S. Contreras-Balderas. 1990. *Astyanax armandoi* n. sp. from Chiapas, Mexico (Pisces, Ostariophysi: Characidae) with a comparison to the nominal species *A. aeneus* and *A. mexicanus*. Univ. Cienc., 7 (14): 95-107.
- Lucena, Z.M.S. and C.A.S. Lucena. 1990. Sobre a localidade-tipo das espécies de peixes descritas por Steindachner (1907). Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre, 3 (3): 99-101.
- Lucena, Z.M.S. and C.A.S. Lucena. 1992. Revisão das espécies do gênero *Deuterodon* Eigenmann, 1907 dos sistemas costeiros do sul do Brasil com a descrição de quatro espécies novas (Ostariophysi, Characiformes, Characidae). Commun. Mus. Ciênc. PUCRS (Serie Zool.), 5 (1-12): 123-168.
- Lütken, C.F. 1875a. Characinae novae Brasiliae centralis a clarissimo J. Reinhardt in provincia Minas-Geraes circa oppidulum Lagoa Santa in lacu ejusdem nominis, flumine Rio das Velhas et rivulis affluentibus collectae, secundum caracteres essentialia breviter descriptae. Overs. Danske Vidensk. Selsk. Forhandl Kjobenhavn, 1874 (3): 127-143.
- Lütken, C.F. 1875b. Velhas-Flodens Fiske. Et Bidrag til Brasiliens Ichthyologi; efter Professor J. Reinhardts Indsamlinger og Optegnelser. K. Danske Vidensk. Selsk. Skr., Raekke 5, 12 (2): 121-253, + 2 unnum. + I-XXI, pls. 1-5.
- Machado-Allison, A., P.A. Buckup B. Chernoff and R. Royero. 1993. Las especies del genero *Bryconops* Kner, 1858 en Venezuela (Teleostei, Characiformes). Acta Biol. Venez., 14 (3): 1-20.
- Machado-Allison, A. and B. Chernoff, 1997. *Bryconops disruptus* (Characiformes -- Characidae), una nueva especie de pez de la cuenca del río Negro en Brazil y Venezuela. Acta Biol. Venez., 17 (2): 67-75.
- Mahnert, V. 1976. Catalogue des types de poissons, amphibiens, et reptiles du Muséum d'Histoire naturelle de Genève. Rev. Suisse Zool., 83 (2): 471-496.
- Mahnert, V. and J. Géry. 1987. Deux nouvelles espèces du genre *Hyphessobrycon* (Pisces, Ostariophysi, Characidae) du Paraguay: *H. guarani* n. sp. et *H. procerus* n. sp. Bonner Zool. Beitr., 38 (4): 307-314.
- Mahnert, V. and J. Géry. 1988. Les genres *Piabarchus* Myers et *Creagrutus* Günther du Paraguay, avec la description de deux nouvelles espèces (Pisces, Ostariophysi, Characidae). Rev. Fr. Aquariol., 15 (1): 1-8.

Check List of the Freshwater Fishes of South and Central America

- Malabarba, L.R. 1987. *Astyanax alburnus* (Hensel, 1870), a senior synonym of *Astyanax hasemani* Eigenmann, 1914 (Teleostei, Characidae). *Comun. Mus. Ciênc. PUCRS*, no. 41: 125-130.
- Malabarba, L.R. 1989. Histórico sistemático e lista comentada das espécies de peixes de água doce do sistema da Laguna dos Patos, Rio Grande do Sul, Brasil. *Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre*, 2 (8): 107-179.
- Malabarba, L.R. 1998. Monophyly of the Cheirodontinae, Characters and major clades (Ostariophysi: Characidae). Pp. 193-234 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). *Phylogeny and classification of Neotropical fishes*. Edipucrs, Porto Alegre.
- Malabarba, L.R. and A. Kindel. 1995. A new species of the genus *Bryconamericus* Eigenmann, 1907, from southern Brazil (Ostariophysi: Characidae). *Proc. Biol. Soc. Washington*, 108 (4): 679-686.
- Malabarba, M.C.S.L. and L.R. Malabarba. 1994. *Hypobrycon maromba*, a new genus and species of characiform fish from the upper rio Uruguai, Brazil (Ostariophysi: Characidae). *Ichthyol. Explor. Freshwaters*, 5 (1): 19-24.
- Meek, S.E. 1904. The fresh-water fishes of Mexico north of the isthmus of Tehuantepec. *Field Columbian Mus. Zool. Ser.*, 5: i-lxiii + 1-252, pls. 1-17.
- Meek, S.E. 1907. Synopsis of the fishes of the great lakes of Nicaragua. *Field Columbian Mus. Zool. Ser.*, 7 (4): 97-132.
- Meek, S.E. 1909. New species of fishes from tropical America. *Field Columbian Mus. Zool. Ser.*, 7 (7): 207-211.
- Meek, S.E. 1912. New species of fishes from Costa Rica. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 10 (7): 69-75.
- Meek, S.E. 1914. An annotated list of fishes known to occur in the fresh-waters of Costa Rica. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 10 (10): 101-134.
- Meek, S.E. and S.F. Hildebrand. 1912. Descriptions of new fishes from Panama. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 10 (6): 67-68.
- Meek, S.E. and S.F. Hildebrand. 1913. New species of fishes from Panama. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 10 (8): 77-91.
- Meek, S.E. and S.F. Hildebrand. 1916. The fishes of the fresh waters of Panama. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 10 (15): 1-374, pls. 6-32.
- Meinken, H. 1938. *Hasemania marginata* n. spec. *Wochenschrift Aquar.-Terr.*, 35: 225-226.
- Meinken, H. 1958. Mitteilungen der Fischbestimmungsstelle des VDA, XXX. *Hemigrammus ocellifer ocellifer* Steindachner und *Hemigrammus ocellifer falsus* n. subsp. *Aquar. Terrar. Z.*, 11 (8): 230-232.
- Meinken, H. 1959. Zur Kenntnis von *Hemigrammus ocellifer* Steindachner 1883 und *Hemigrammus ocellifer falsus* subsp. nov. (Pisces; Characidae, Tetragonopterinae). *Int. Rev. Hydrobiol.*, 44 (2): 303-307.
- Meinken, H. 1975. *Microschemobrycon meyburgi* n.sp. aus dem Rio Xeriuini. *Senckenb. Biol.*, 56 (4/6): 217-220.
- Menezes, N.A. 1969. Systematics and evolution of the tribe Acestorhynchini (Pisces, Characidae). *Arq. Zool. (São Paulo)*, 18 (1-2): 1-150.
- Menezes, N.A. 1987. Tres especies novas de *Oligosarcus* Günther, 1864 e redefinição taxonomica das demais especies do genero (Osteichthyes, Teleostei, Characidae). *Bol. Zool.*, 11: 1-39.
- Menezes, N.A., O. Froehlich, O. Oyakawa, P.W. Willik, A. Machado-Allison and B. Chernoff. 2000. Fishes collected and species new to science for each region sampled by the AquaRAP expedition to the Pantanal, Mato Grosso do Sul, Brasil, from August 25 to September 9, 1998. Pp. 291-296. In: P.W. Willik, B. Chernoff, L.E. Alonso, J.R. Montambault and R. Lourival (eds.), *A biological assessment of the aquatic ecosystems of the Pantanal, Mato Grosso do Sul, Brasil*.
- Menezes, N.A. and J. Géry. 1983. Seven new acestorhynchin characid species (Osteichthyes, Ostariophysi, Characiformes) with comments on the systematics of the group. *Rev. Suisse Zool.*, 90 (3): 563-592.
- Meuschen, F.C. 1778. *Museum Gronovianum. Sive, Index rerum naturalium, tam mammalium, amphibiorum, piscium, insectorum, ... Lugundi Batavorum*, T. Haak, J. Meerburg.
- Miquelarena, A.M. and A.E. Aquino. 1995. Situación taxonomica y geografica de *Bryconamericus thomasi* Fowler, 1940 (Teleostei, Characidae). *Rev. Bras. Biologia*, 55 (4): 559-569.
- Miquelarena, A.M. and A.E. Aquino. 1999. Taxonomic status and geographic distribution of *Bryconamericus eigenmanni* Evermann & Kendall, 1906 (Characiformes: Characidae). *Proc. Biol. Soc. Washington*, 112(3): 523-530.
- Miquelarena, A.M., R.C. Menni, H.L. López and J.R. Casciotta. 1980. Descripción de *Hyphessobrycon igneus* sp. nov. (Characidae Tetragonopterinae) y nuevas localidades para peces de agua dulce de la republica Argentina. III. *Neotropica (La Plata)*, 26 (76): 237-245.
- Miquelarena, A.M. and L.C. Protogino. 1996. Una nueva especie de *Oligosarcus* (Teleostei, Characidae) de la cuenca del Río Paraná, Misiones, Argentina. *Iheringia, Ser. Zool.*, Porto Alegre, no. 80: 111-116.
- Miquelarena, A.M., L.C. Protogino, R. Filiberto and H.L. López. 2002. A new species of *Bryconamericus* (Characiformes: Characidae) from the Cuña-Pirú creek in north-eastern Argentina, with comments on accompanying fishes. *Aqua, Journal of Ichthyology and Aquatic Biology*, 6, (2): 69-82.
- Miranda Ribeiro, A. 1908. Peixes da Ribeira. Resultados de excursão do Sr. Ricardo Krone, membro correspondente do Museu Nacional do Rio de Janeiro. *Kosmos, Rio de Janeiro [Rev. Art. Sci. Litt.]*, 5 (2): [1-5].
- Miranda Ribeiro, P. 1941. Notas para o estudo dos Caracínideos Brasileiros (Peixes -- genero *Chalcinus* Cuv. & Val. 1849). *Pap. Avulsos Dep. Zool. (São Paulo)*, 1 (18): 159-174.
- Miranda Ribeiro, P. 1944. Nova espécie para o gênero *Astyanacinus* Eigenmann, 1907 (Pisces -- Characínidae). *Bol. Mus. Nac., Zool. (Brasil)*, no. 29: 1-3.
- Miranda Ribeiro, P. 1953. Tipos das espécies e subespécies do Prof. Alípio de Miranda Ribeiro depositados no Museu Nacional. *Arq. Mus. Nac. Rio de Janeiro*, 42: 389-417.
- Miranda Ribeiro, P. 1956. On a new genus and a new species of South American fishes. *Int. Congr. Zool.*, 14 (1953): 546-547.
- Moreira, C.R., M.I. Landim and W.J.E.M. Costa. 2002. *Hyphessobrycon heliacus*, a new characid fish (Ostariophysi: Characiformes) from the upper rio Tapajós basin, central Brazil. *Copeia*, 2002 (2): 428-432.
- Moreira, C.R., F.C.T. Lima and W.J.E.M. Costa. 2002. *Hyphessobrycon moniliger*, a new characid fish from rio Tocantins basin, Central Brazil (Ostariophysi: Characiformes). *Ichthyol. Explor. Freshwaters*, 13 (1): 73-80.
- Müller, J. and F.H. Troschel. 1844. Synopsis generum et specierum familiae Characinarum. (Prodromus descriptionis novorum generum et specierum). *Arch. Naturgeschichte*, 10 (1): 81-99 + Zu pag. 99.
- Müller, J. and F.H. Troschel. 1845. *Horae Ichthyologicae. Beschreibung und Abbildung neuer Fische. Die Familie der Characinen. Erstes und Zweites Heft. Berlin*. 40 p., 11 pls.
- Myers, G.S. 1924. A new characin fish from Rio de Janeiro. *Fish Culturist*, 4: 330-331.
- Myers, G.S. 1926. Eine neue Characindengattung der Unterfamilie Cheirodontinae aus Rio de Janeiro, Brasilien. *Blätt. Aquar. Terrarienkunde*, 37 (24): 1-2.
- Myers, G.S. 1927. Descriptions of new South American freshwater fishes collected by Dr. Carl Ternetz. *Bull. Mus. Comp. Zool.*, 68 (3): 107-135.
- Myers, G.S. 1928. New fresh-water fishes from Peru, Venezuela, and Brazil. *Ann. Mag. Nat. Hist. (Ser. 10)*, 2 (7): 83-90.
- Myers, G.S. 1930. Fishes from the upper Rio Meta Basin, Colombia. *Proc. Biol. Soc. Washington*, 43: 65-71.
- Myers, G.S. 1936. A new characid fish of the genus *Hyphessobrycon* from the Peruvian Amazon. *Proc. Biol. Soc. Washington*,

Check List of the Freshwater Fishes of South and Central America

- 49: 97-98.
- Myers, G.S. 1942. Studies on South American fresh-water fishes. I. Stanford Ichthyol. Bull., 2 (4): 89-114.
- Myers, G.S. 1944. *Rhinobrycon negrensis*, a new genus and species of characid fishes from the Rio Negro, Brazil. Proc. California Acad. Sci. (Ser. 4), 23 (39): 587-590.
- Myers, G.S. 1960. The South American characid genera *Exodon*, *Gnathoplax* and *Roeboexodon*, with notes on the ecology and taxonomy of characid fishes. Stanford Ichthyol. Bull., 7 (4): 206-211.
- Myers, G.S. and S.H. Weitzman. 1956. Two new Brazilian fresh water fishes. Stanford Ichthyol. Bull., 7 (1): 1-4.
- Nakashima, S. 1941. Algunos peces del Orient peruano. Bol. Mus. Hist. Nat. "Javier Prado" Lima, 5 (16): 61-78.
- Norman, J.R. 1926. Descriptions of nine new freshwater fishes from French Guiana and Brazil. Ann. Mag. Nat. Hist. (Ser. 9), 18 (103): 91-97.
- Ortega, H. 1991. Adiciones y correcciones a la lista anotada de los peces continentales del Peru. Publ. Mus. Hist. nat. UNMSM (A), 39: 1-6.
- Ortubay, S. and V. Cussac. 2000. Threatened fishes of the world: *Gymnocharacinus bergi* Steindachner, 1903 (Characidae). Environmental Biology of Fishes, 58: 144.
- Paepke, H.-J. 1995. Über das Leben und Werk von Ernst Ahl. Mitt. Zool. Mus. Berlin, 71 (1): 79-101.
- Page, L.M. and B.M. Burr. 1991. A field guide to freshwater fishes. North America. North of Mexico. The Peterson Field Guide Series. Boston. Xii + 432 p.
- Pearson, N.E. 1924. The fishes of the eastern slope of the Andes. I. The fishes of the Rio Beni basin, Bolivia, collected by the Mulford expedition. Indiana Univ. Studies, 11 (64): 1-83, pls. 1-12.
- Pellegrin, J. 1907. Characínidés américains nouveaux. Bull. Mus. Natl. Hist. Nat., 13 (1): 25-27.
- Pellegrin, J. 1908. Characínidés américains nouveaux de la collection du Muséum d'histoire naturelle. Bull. Mus. Natl. Hist. Nat., 14 (7): 342-347.
- Perugia, A. 1891. Appunti sopra alcuni pesci sud-americani conservati nel Museo Civico di Storia Naturale di Genova. Ann. Mus. Civ. Stor. Nat. Genova (Ser. 2a), 10: 605-657.
- Planquette, P., P. Keith and P.-Y. Le Bail. 1996. Atlas des poissons d'eau douce de Guyane (Tome 1). Muséum National d'Historie Naturelle, Ministère de l'Environnement. 431 p.
- Posada, A. 1909. Los peces. Pp. 285-322. In: Estudios científicos del doctor Andres Posada con algunos otros escritos suyos sobre diversos temas. Medellin, Colombia. 432p.
- Puyo, J. 1948. Deux poissons de la Guyane. Bull. Soc. Hist. Nat. Toulouse, 83 (1-2): 78-82.
- Quoy, J.R.C. and J.P. Gaimard. 1824-25. Description des Poissons. Chapter IX. In: Freycinet, L. de, Voyage autour du Monde...exécuté sur les corvettes de L. M. "L'Uranie" et "La Physicienne," pendant les années 1817, 1818, 1819 et 1820. Paris. 192-401 [1-328 in 1824; 329-616 in 1825], Atlas pls. 43-65.
- Regan, C.T. 1906. On the fresh-water fishes of the island of Trinidad, based on the collection, notes, and sketches, made by Mr. Lechmere Guppy, Junr. Proc. Zool. Soc. London, 1906 (2): 378-393, pls. 21-25.
- Regan, C.T. 1907. Descriptions of two new characínid fishes from South America. Ann. Mag. Nat. Hist. (Ser. 7), 20 (119): 402-403.
- Regan, C.T. 1908a. A collection of freshwater fishes made by Mr. C. F. Underwood in Costa Rica. Ann. Mag. Nat. Hist. (Ser. 8), 2 (11): 455-464.
- Regan, C.T. 1908. Pisces. Part 193 [1906-08]: 1-203, 25 pls. In: F.D. Godman and O. Salvin (eds.), Biologia Central-Americana. London. [Individual signatures dated to month and year; Characidae accounts date to 1908].
- Regan, C.T. 1913. The fishes of the San Juan River, Colombia. Ann. Mag. Nat. Hist. (Ser. 8), 12 (71): 462-473.
- Reinhardt, J.T. 1867. Om trende, formeentligt ubeskrevne fisk af characínernes eller Karpelaxenes familie. Overs. Danske Vidensk. Selsk. Forhandl Kjobenhavn, 1866: 49-68, pls. 1-2.
- Ringuelet, R.A., A.M. Miquelarena and R.C. Menni. 1978. Presencia en los alrededores de la plata de *Characidium (Jobertina) rachowi* y de *Hyphessobrycon meridionalis* sp. nov. (Osteichthyes, Tetragonopteridae). Limnobiós, 1 (7): 242-257.
- Román-Valencia, C. 2001. Descripción de una nueva especie de *Bryconamericus* (Ostariophysi, Characidae) del alto río Suárez, Cuenca del Magdalena, Colombia. Boll. Mus. Reg. Sci. Nat. Torino, 18: 469-476.
- Román-Valencia, C. 2002. Revisión sistemática de las especies del género *Bryconamericus* (Teleostei: Characidae) de Centroamérica. Revista de Biología Tropical, 50 (1): 173-192.
- Román-Valencia, C. and A. Muñoz. 2001. Ecología trófica y reproductiva de *Bryconamericus caucanus* (Pisces: Characidae). Boll. Mus. Reg. Sci. Nat. Torino, 18: 459-467.
- Romero, A. and A. McLeran. 2000. Threatened fishes of the world: *Stygichthys typhlops* Brittan & Bohlke, 1965 (Characidae). Env. Biol. Fishes, 57: 270.
- Rosen, D.E. 1970. A new tetragonopterine characid fish from Guatemala. Am. Mus. Novit., no. 2435: 1-17.
- Rosen, D.E. 1972. Origin of the characid fish genus *Bramocharax* and a description of a second, more primitive, species in Guatemala. Am. Mus. Novit., no. 2500: 1-21.
- Sabaj, M.H., K.S. Cummings and L.M. Page. 1997. Annotated catalog of type specimens in the Illinois Natural History Survey fish collection. Illinois Nat. Hist. Surv. Bull., 35 (5): 249-300.
- Schomburgk, R.H. 1841. The Natural history of fishes of Guiana.-- Part I. In: W. Jardine (ed.), The Naturalists' Library. Vol. 3. W. H. Lizars, Edinburgh. 263 p., pls. 1-30.
- Schultz, L.P. 1944. The fishes of the family Characínidae from Venezuela, with descriptions of seventeen new forms. Proc. U. S. Natl. Mus., 95 (3181): 235-367.
- Schultz, L.P. 1956. The amazing new fish called the scarlet characin. Trop. Fish Hobbyist, 4 (4): 41-43.
- Schultz, L.P. 1966. *Pseudochalceus kyburzi* a new characid fish from Colombia. Ichthyol. Aquarium J., 37 (1): 25-30.
- Schultz, L.P. and H.R. Axelrod. 1955. The golden tetra, a new species of *Hemigrammus* from British Guiana. Trop. Fish Hobbyist, 3 (3): 4-7.
- Seegers, L. and J. Géry. 1989. Neue oder seltene Salmmler aus Maranhão, Brasilien. Die Aquarein und Terrarien Zeitschrift, 42 (6): 363-365.
- Silva, J.F.P. and L.M. Malabarba. 1996. Description of a new species of *Hypobrycon* from the upper Rio Uruguai, Brazil (Ostariophysi: Characidae). Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre, 9: 45-53.
- Spix, J.B. von, and L. Agassiz. 1829-31. Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXVII-MDCCCXX jussu et auspiciis Maximiliani Josephi I.... colleget et pingendso curavit Dr J. B. de Spix.... Monachii. Part 1: i-xvi + i-ii + 1-82, Pls. 1-48; part 2: 83-138, pls. 49-101.
- Steindachner, F. 1867. Ichthyologische Notizen (VI). Sitzungsber. Akad. Wiss. Wien, 56: 307-376, pls. 1-3.
- Steindachner, F. 1876a. Ichthyologische Beiträge (IV). Sitzungsber. Akad. Wiss. Wien, 72: 551-616, pl. 1-13.
- Steindachner, F. 1876b. Ichthyologische Beiträge (V). Sitzungsber. Akad. Wiss. Wien, 74: 49-240, pls. 1-15.
- Steindachner, F. 1877. Die Süßwasserfische des südöstlichen Brasilien (III). Sitzungsber. Akad. Wiss. Wien, 74: 559-694, pls. 1-13.
- Steindachner, F. 1878. Zur Fischfauna des Magdalenen-Stromes. Anz. Akad. Wiss. Wien, 15 (12): 88-91.
- Steindachner, F. 1879a. Ichthyologische Beiträge (VIII). Sitzungsber. Akad. Wiss. Wien, 80: 119-191, pls. 1-3.
- Steindachner, F. 1879b. Zur Fisch-fauna des Magdalenen-Stromes. Denkschr. Akad. Wiss. Wien, 39: 19-78, pls. 1-15.

Check List of the Freshwater Fishes of South and Central America

- Steindachner, F. 1879c. Beiträge zur Kenntniss der Süßwasserfische Südamerikas. Anz. Akad. Wiss. Wien, 16 (15): 149-152.
- Steindachner, F. 1880. Zur Fisch-Fauna des Cauca und der Flüsse bei Guayaquil. Denkschr. Akad. Wiss. Wien, 42: 55-104, pls. 1-9.
- Steindachner, F. 1882a. Beiträge zur Kenntniss der Flussfische Südamerika's (IV). Anz. Akad. Wiss. Wien, 19 (19): 175-180.
- Steindachner, F. 1882b. Beiträge zur Kenntniss der Flussfische Südamerikas. IV. Denkschr. Akad. Wiss. Wien, 46 (in 1883): 1-44, pls. 1-7.
- Steindachner, F. 1891a. Fische von dem canarischen Archipel, aus den Flüssen Südamerika's und von Madagascar unter dem Titel: 'Ichthyologische Beiträge' (XV). Anz. Akad. Wiss. Wien, 28: 172-174.
- Steindachner, F. 1891b. Ichthyological Beiträge (XV). Akad. Wiss. Wien, 100 (5): 343-374, pls. 1-3.
- Steindachner, F. 1903a. Über einige neue Fisch- und Reptilienarten des k. k. naturhistorischen Hofmuseums. Anz. Akad. Wiss. Wien, 40 (3): 17-18.
- Steindachner, F. 1903b. Über einige neue Reptilien- und Fischarten des Hofmuseums in Wien. Sitzungsber. Akad. Wiss. Wien, 112: 1-8, 1 pl.
- Steindachner, F. 1907. Ueber einige Fischarten aus dem Flusse Cubatã im Staate Santa Catharina bei Theresopolis (Brasilien). Sitzungsber. Akad. Wiss. Wien, 116: 475-492, 2 pls.
- Steindachner, F. 1908. Über eine im Rio Juraguá bei Joinville im Staate S. Catharina (Brasilien) vorkommende noch unbeschriebene *Pseudochalceus*-Art, *Ch. affinis*, sowie über eine neue Characinegattung und -art, *Joinvillea rosae*, von gleichem Fundorte. Anz. Akad. Wiss. Wien, 45 (5): 28-31.
- Steindachner, F. 1909. Über eine neue *Tetragonopterus*-Art aus dem Amazonasgebiet (Rio Purus): *Tetragonopterus huberi* n. sp. Anz. Akad. Wiss. Wien, 46 (21): 172-173.
- Steindachner, F. 1915a. Beiträge zur Kenntniss der Flussfische Südamerikas. V. Denkschr. Akad. Wiss. Wien, 93: 15-106.
- Steindachner, F. 1915b. Ichthyologische Beiträge (XVIII). Anz. Akad. Wiss. Wien, 52 (27): 346-349.
- Steindachner, F. 1917. Beiträge zur Kenntnis der Flussfische Südamerikas V. Denkschr. Akad. Wiss. Wien, 93: 15-106, pls. 1-13.
- Swainson, W. 1839. The natural history and classification of fishes, amphibians, & reptiles, or monocardian animals. London. Nat. Hist. & Class. vol. 2. vi + 448 p.
- Taphorn, D.C. 1992. The characiform fishes of the Apure River drainage, Venezuela. BioLlania Edición Especial - No. 4. Monografías Científicas del Museo de Ciencias Naturales, UNELLEZ -- Guanara, estado Portuguesa, Venezuela. 537 p.
- Tortonese, E. 1940. Elenco dei tipi esistenti nella collezione ittologica del R. Museo di Torino. Boll. Mus. Zool. Anat. Comp. Torino (Ser. 3), 48 (111): 133-144.
- Tortonese, E. 1942. Ricerche ed osservazioni sui Caracidi delle sottofamiglie Tetragonopterinae, Glandulocaudinae e Stethaprioninae (Teleostei Plectospondyli). Boll. Mus. Zool. Anat. Comp. Torino (Ser. 4), 49 (117): 11-86, pls. 1-5.
- Tortonese, E. 1961. Catalogo dei tipi de pesci del Museo Civico di Storia Naturale di Genova. (Parte I). Ann. Mus. Civ. Stor. Nat. 'Giacomo Doria', 72: 179-191.
- Travassos, H. 1957. Sobre o gênero *Deuterodon* Eigenmann, 1907 (Characoidei - Tetragonopteridae). An. Acad. Bras. Cienc., 29 (1): 73-101.
- Travassos, H. 1959. A new species of characid fish from Trinidad, *Aphyocharax axelrodi*. Trop. Fish Hobbyist, 7 (7): 5-7, 48-49.
- Travassos, H. 1960a. *Hyphessobrycon haraldschultzi* new species. Trop. Fish Hobbyist, 8 (6): 5-7.
- Travassos, H. 1960b. Notas ictiológicas. X. "*Astyanax saltor*" sp. n., do estado do Pará, Brasil (Actinopterygii, Cypriniformes, Characoidei). Rev. Bras. Biol., 20 (1): 17-20.
- Travassos, H. 1964. Sobre alguns peixes do Estado do Pará, Brasil. An. Acad. Bras. Cienc., 36 (4): 539-548.
- Uj, A. and J. Géry. 1989. Deux nouvelles espèces de tetras (poissons characoïdes, Characidae auct., Tetragonopterinae) du Paraguay: *Hyphessobrycon arianae* n. sp. et *Hemigrammus mahneri* n. sp. Rev. Suisse Zool., 96 (1): 147-159.
- Ulrey, A.B. 1894. Preliminary descriptions of some new South American Characinidae. Am. Nat., 28 (331): 610-611.
- Ulrey, A.B. 1895. The South American Characinidae collected by Charles Frederick Hartt. Ann. N. Y. Acad. Sci., 8: 257-300.
- Valenciennes, A. 1834-42. Poissons [plates]. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Paris, Bertrand et Levrault.
- Vanni, S. 1991. Cataloghi del Museo Zoologico "La Specola" dell'Università di Firenze. VIII. Osteichthyes: Tipi. Atti Soc. Toscana Sci. Nat. Pisa Ser. B, no. 96: 219-229.
- Vari, R.P. 1978. The genus *Leptagoniates* (Pisces: Characoidei) with a description of a new species from Bolivia. Proc. Biol. Soc. Washington, 91 (1): 184-190.
- Vari, R.P. 1986. *Serrabrycon magoi*, a new genus and species of scale-eating characid (Pisces: Characiformes) from the Upper Río Negro. Proc. Biol. Soc. Washington, 99 (2): 328-334.
- Vari, R.P. and A.S. Harold. 2001. Phylogenetic study of the Neotropical fish genera *Creagrutus* Günther and *Piabina* Reinhardt (Teleostei: Ostariophysi: Characiformes), with a revision of the cis-Andean species. Smithsonian Contributions to Zoology, 613: 1-239.
- Vari, R.P., A.S. Harold, C.A. Lasso and A. Machado-Allison. 1993. *Creagrutus lepidus*, a new species from the Río Aroa system, Yaracuy State, Venezuela (Teleostei: Characiformes: Characidae). Ichthyol. Explor. Freshwaters, 4 (4): 351-355.
- Vari, R.P., A.S. Harold and H. Ortega. 1995. *Creagrutus kunturus*, a new species from western Amazonian Peru and Ecuador (Teleostei: Characiformes: Characidae). Ichthyol. Explor. Freshwaters, 6 (4): 289-296.
- Vari, R.P., A.S. Harold and D.C. Taphorn. 1994. *Creagrutus melasma*, a new species of characid fish (Teleostei: Characiformes) from upland streams of northern Venezuela. Proc. Biol. Soc. Washington, 107 (1): 90-96.
- Vari, R.P. and D.J. Siebert. 1990. A new, unusually sexually dimorphic species of *Bryconamericus* (Pisces: Ostariophysi: Characidae) from the Peruvian Amazon. Proc. Biol. Soc. Washington, 103 (3): 516-524.
- Weitzman, M.J. 1984. *Hyphessobrycon elachys*, a new miniature characid from eastern Paraguay (Pisces: Characiformes). Proc. Biol. Soc. Washington, 98 (4): 799-808.
- Weitzman, M.J. and R.P. Vari. 1986. *Astyanax scologaster*, a new characid (Pisces: Ostariophysi) from the Rio Negro, South America. Proc. Biol. Soc. Washington, 99 (4): 709-716.
- Weitzman, S.H. 1957. A new species of characid fish, blackline -- *Thayeria*. Aquarium J., 28 (11): 390-392.
- Weitzman, S.H. 1977a. *Hyphessobrycon socolofi*, a new species of characid fish (Teleostei: Characidae) from the Rio Negro of Brazil. Proc. Biol. Soc. Washington, 90 (2): 326-347.
- Weitzman, S.H. 1977b. A new species of characid fish *Hyphessobrycon diancistrus*, from the Rio Vichada River drainage, Colombia, South America (Teleostei: Characidae). Proc. Biol. Soc. Washington, 90 (2): 348-357.
- Weitzman, S.H. and C.A.G. Cruz. 1981. The South American fish genus *Rachoviscus*, with a description of a new species (Teleostei: Characidae). Proc. Biol. Soc. Washington, 93 (4): 997-1015.
- Weitzman, S.H. and W.L. Fink. 1971. A new species of characid fish of the genus *Nematobrycon* from the Rio Calima of Colombia. Beaufortia, 19 (248): 57-77.
- Weitzman, S.H., N.A. Menezes and H.A. Britski. 1986. *Nematobrycon venustus*, a new genus and species of fish from the Rio Jequitinhonha, Minas Gerais, Brazil. Proc. Biol. Soc. Washing-

Check List of the Freshwater Fishes of South and Central America

- ton, 99 (2): 335-346.
- Weitzman, S.H., N.A. Menezes and M.J. Weitzman. 1988. Phylogenetic biogeography of the Glandulocaudini (Teleostei: Characiformes: Characidae) with comments on the distribution of other freshwater fishes in eastern and southeastern Brazil. Pp. 379-427. In: P.E. Vanzolini and W.R. Heyer (eds.), Proceeding of a workshop on Neotropical distribution patterns. Academia Brasileira de Ciências, Rio de Janeiro.
- Weitzman, S.H. and L. Palmer. 1997a. A new species of *Hyphessobrycon* (Teleostei: Characidae) from the Neblina region of Venezuela and Brazil, with comments on the putative 'rosy tetra clade'. *Ichthyol. Explor. Freshwaters*, 7 (3): 209-242.
- Weitzman, S.H. and L. Palmer. 1997b. The Sickletfin or Roberts' Tetra identified as *Hyphessobrycon bentosi*. *Tropical Fish Hobbyist*, 46 (2): 150-159.
- Weitzman, S.H. and L. Palmer. 1997c. The common Serpa Tetra of aquarists, identified as *Hyphessobrycon eques* (Steindachner, 1882). *Tropical Fish Hobbyist*, 45 (9): 140-150.
- Weitzman, S.H. and L. Palmer. 1997d. The rosy tetra, *Hyphessobrycon rosaceus*, its identification and brief history as an aquarium fish. *Tropical Fish Hobbyist*, 45 (11): 158-166.
- Weitzman, S.H. and L. Palmer. 1998. Phantom tetras: a brief account of their ichthyological and aquarium history. *Tropical Fish Hobbyist*, 46(11): 124-132.
- Weitzman, S.H. and R.P. Vari. 1987. Two new species and a new genus of miniature characid fishes (Teleostei: Characiformes) from northern South America. *Proc. Biol. Soc. Washington*, 100 (3): 640-652.
- Wilkins, H. 1977. Die Typen der Ichthyologischen Sammlung des Zoologischen Instituts und Zoologischen Museums der Universität Hamburg (ZMH). *Mitt. Hamb. Zool. Mus. Inst.*, 74: 155-163.
- Wilkins, H. and R. Dohse. 1993. Die Typen der Ichthyologischen Sammlung des Zoologischen Instituts und Zoologischen Museums der Universität Hamburg (ZMH) Teil IV. *Mitt. Hamb. Zool. Mus. Inst.*, 90: 401-426.
- Zarske, A. and J. Géry. 1995. Zum Status der von E. Ahl aufgestellten Salmmler-taxa (Teleostei: Characidae). *Mitt. Zool. Mus. Berlin*, 71 (1): 103-120.
- Zarske, A. and J. Géry. 1997. *Hyphessobrycon frankei* sp.n. -- Beschreibung eines neuen Salmmlers aus dem Einzugsgebiet des Río Ucayali in Peru (Teleostei: Characidae: Tetragonopterinae). *Die Aquar. Terr. Zeitschr.*, 50 (5): 308-312.
- Zarske, A. and J. Géry. 1998. *Hyphessobrycon amapaensis* spec. nov., eine neue und mutmassliche Stellvertreterart von *Hyphessobrycon heterorhabdus* (Ulrey, 1894) aus dem Bundesstaat Amapa in Brasilien (Teleostei: Characiformes: Characidae). *Zool. Abhand. Staatl. Mus. Tierk. Dresden*, 50 (1): 19-26.
- Zarske, A. and J. Géry. 1999. *Hasemaniania crenuchoides*, spec. nov. -- ein neuer Salmmler aus dem Bundesstaat Goias, Brasilien. *Spixiana*, 22 (1): 91-96.
- Zarske, A. and J. Géry. 2001. Der Blaurote Kolumbien-Salmmler. *Hyphessobrycon columbianus* n. sp. -- ein neuer Salmmler (Teleostei, Characiformes, Characidae) aus dem kolumbianischen Darien. *Das Aquarium*, 391: 23.
- Zarske, A. and J. Géry. 2002a. *Hemigrammus neptunus* sp. n. - eine neue Salmer-Art (Teleostei, Characiformes, Characidae) aus dem Einzugsgebiet des Río Manuripi in Bolivien (Departamento Pando). *Zoologische Abhandlungen*, 52:23-34.
- Zarske, A. and J. Géry. 2002b. *Moenkhausia dorsinuda* sp. n. - ein neuer interessanter Salmmler (Teleostei, Characiformes, Characidae) aus dem Einzugsgebiet des Río Iténez in Bolivien. *Zoologische Abhandlungen*, 52:11-21.
- Zuiew, B. 1786. *Descrictui Characis leucometopontes*. *Nova Acta Acad. Petropol.*, 4: 275.

Subfamily Agoniatinae (Characins)

Flávio C.T. Lima and Angela Zanata

The subfamily Agoniatinae includes two species of elongated, medium-sized fishes, which resemble clupeiform fishes in the shape of body and in coloration. They possess a combination of unusual features in Characidae, such as a well-developed coracoid bone, conic teeth alternating with canine teeth on the dentary and tricuspidate teeth on the premaxilla. Relationships of the genus were unknown until Zanata (2000) provided compelling evidence that *Agoniat*es is closely related to *Triporth*eus and *Lignobry*con.

Both *Agoniat*es species occurs primarily in the Amazon basin (*Agoniat*es *halecin*us was also recorded from Guyana). *Agoniat*es *halecin*us was reported as being piscivore (Goulding et al., 1988, as *Agoniat*es sp.). Zarske and Géry (1997) recently reviewed the genus, recognizing two valid species: *Agoniat*es *halecin*us, widespread in Amazon basin, and *A. anch*ovia, apparently occurring primarily in the upper Amazon. *Agoniat*es species have no special economic interest, except for being occasionally used as food.

AGONIATES

*Agoniat*es Müller & Troschel, 1845: 33. Type species: *Agoniat*es *halecin*us Müller & Troschel, 1845. Type by monotypy. Gender: masculine.

*Agoniat*es *anch*ovia Eigenmann, 1914

*Agoniat*es *anch*ovia Eigenmann, 1914: 46. Type locality: Villa Bela [Beni River, upper Amazon River basin, Bolivia]. Holotype: FMNH 56401 [ex CM 5216].

*Agoniat*es *ladig*esi Géry, 1963: 266, fig. 1. Type locality: Amazon zone péruvienne, district de Loreto entre Iquitos et Leticia. Holotype: ZMH 1565.

Maximum length: 14.8 cm SL

Distribution: South America: Beni River; Trombetas, Tapajós, Negro, and Solimões River basins; Amazon River basin in Peru; Napo River basin.

Countries: Bolivia, Brazil, Ecuador, Peru

Remarks and references: For a recent redescription of the species and comparison with *A. halecin*us, see Zarske & Géry (1997).

Common names: Mojarita (Peru), Sardina (Ecuador)

*Agoniat*es *halecin*us Müller & Troschel, 1845

*Agoniat*es *halecin*us Müller & Troschel, 1845: 33, pl. 7 (fig. 2). Type locality: Guiana. Holotype: ZMB 3618.

Maximum length: 21.5 cm SL

Distribution: South America: Essequibo, Branco, Araguari, Capim, Tocantins, Xingu, Tapajós, Trombetas, Negro, Casiquiare, and Tefé River basins.

Countries: Brazil, Guyana, Venezuela

Remarks and references: For a recent redescription of the species and comparison with *A. anch*ovia, see Zarske & Géry (1997).

Common names: Maiaca (Brazil)

References

- Eigenmann, C.H. 1914. Some results from studies of South American fishes. IV. New genera and species of South American fishes. Indiana Univ. Studies, no. 20: 44-48.
- Géry, J. 1963. Essai sur les affinités phylogénétiques des *Agoniat*es et l'origine des Characidae, à propos de la description d'une forme nouvelle de l'Amazonie péruvienne: *Agoniat*es *ladig*esi. Mitt. Hamb. Zool. Mus. Inst., 60 [for 1962]: 265-284, 1 pl.
- Müller, J. and F.H. Troschel. 1845. Horae Ichthyologicae. Beschreibung und Abbildung neuer Fische. Die Familie der Characinen. Erstes und Zweites Heft. Berlin. 40 p., 11 pls.
- Zanata, A.M. 2000. Estudo das relações filogenéticas do gênero *Brycon* Muller & Troschel, 1844 (Characidae; Characiformes). Unpublished doctoral thesis, Instituto de Biociências, Universidade de São Paulo, São Paulo, 358 p.
- Zarske, A. and J. Géry. 1997. Rediscovery of *Agoniat*es *halecin*us Müller & Troschel, 1845, with a supplementary description of *Agoniat*es *anch*ovia Eigenmann, 1914, and a definition of the genus (Teleostei: Ostariophysi: Characiformes: Characidae). Zool. Abhand. Staat. Mus. Tierk. Dresden, 49: 173-184.

Subfamily Clupeacharacinae (Characins)

Flávio C. T. Lima

The subfamily Clupeacharacinae is monotypic, including only *Clupeacharax anchoveoides* Pearson. This small-sized characid fish displays a striking combination of features, such as an elongated body, a well-developed coracoid bone, the presence of a mid-ventral keel, a long anal fin with its origin anterior to the dorsal fin, and the dentary and premaxilla with tri- to pentacuspoid teeth. Its relationships are unknown, but Castro (1981) and Castro & Vari (1990) suggested that it might be related to the characid genus *Engraulisoma* Castro. This rare fish is known from a handful of localities in the upper Amazon basin, Paraguay and Paraná rivers. Nothing is known about its ecology.

CLUPEACHARAX

Clupeacharax Pearson, 1924: 46. Type species: *Clupeacharax anchoveoides* Pearson, 1924. Type by monotypy. Gender: masculine.

Clupeacharax anchoveoides Pearson, 1924

Clupeacharax anchoveoides Pearson, 1924: 47, pls. 7 (fig. 3).
Type locality: Cachuela Esperanza [upper Beni River, Bolivia].
Holotype: CAS 41312 [ex IU 17356].

Maximum length: 6.55 cm SL

Distribution: South America: Upper Amazon River basin; Paraná River basin in Corrientes Province; Paraguay River basin..

Countries: Argentina, Bolivia, Brazil, Ecuador, Peru

Remarks and references: See Castro & Vari (1990: 530) for comments on its possible relationships.

References

- Castro, R.M.C. 1981. *Engraulisoma taeniatum*, um novo gênero e espécie de Characidae da bacia do Rio Paraguai (Pisces, Ostariophysii). Pap. Avulsos Dep. Zool. (São Paulo), 34 (11): 135-139.
- Castro, R.M.C. and R.P. Vari. 1990. *Moojenichthys* Miranda Ribeiro (Pisces: Ostariophysii: Characidae), a phylogenetic reappraisal and redescription. Proc. Biol. Soc. Washington, 103 (3): 525-542.
- Pearson, N.E. 1924. The fishes of the eastern slope of the Andes. I. The fishes of the Rio Beni basin, Bolivia, collected by the Mulford expedition. Indiana Univ. Studies, 11 (64): 1-83, pls. 1-12.

Subfamily Iguanodectinae (Characins, tetras)

Cristiano Moreira

The Iguanodectinae is a small characid subfamily composed of 11 valid species in two genera, *Iguanodectes* Cope and *Piabucus* Oken. Fishes of this subfamily are characterized by elongated bodies, with basally-contracted, multicuspid teeth, gill-membranes united and free from the isthmus, the posterior end of the maxilla not extending to the eye, the dorsal-fin origin generally posterior to the middle of the body (located at middle of the body in *Iguanodectes geisleri*), and anal fin long (except for *I. geisleri*). Moreover, some characters of the internal morphology are also diagnostic, such as the presence of a process on the internal face of the dentary, the first proximal anal-fin pterygiophore expanded and recurved posteriorly (except in *I. geisleri*), and the anterior portion of the posterior chamber of the swimbladder thinner than its posterior portion. The genus *Piabucus* is distinguished from *Iguanodectes* by the presence of a long pectoral fin, and a well-developed pectoral keel.

The subfamily is distributed in the Amazon (including its main tributaries), Orinoco, Paraguay, and Tocantins river basins, as well as the coastal drainages from the Gulf of Pária (Venezuela) to immediately south of the mouth of the Amazon River (including Capim River basin). The group is well studied taxonomically (Böhlke, 1954; Géry, 1970 and 1993; Vari, 1977), although some species remain to be described. Despite of some characters proposed as supporting the monophyly of the Iguanodectinae (Vari, 1977), hypotheses on the phylogenetic relationships of the Iguanodectinae with other groups of the Characiformes are still very tentative (Lucena, 1993), and nothing is known about the phylogenetic relationships among its species. *Iguanodectes* species are probably primarily herbivorous, feeding occasionally on allochthonous insects (Knöppel, 1970; Goulding et al. 1988; pers. obs.). Besides that, little information is known on their ecology. Some of its species are used as ornamental fishes.

IGUANODECTES

Iguanodectes Cope, 1872: 260. Type species: *Iguanodectes tenuis* Cope, 1872. Type by monotypy. Gender: masculine. Revised by Géry (1970). New additional species and geographic distribution by Géry (1993).

Piabucidium Myers, in Eigenmann & Myers, 1929: 496. Type species: *Piabuca spilurus* Günther, 1864. Type by original designation. Gender: neuter.

Iguanobrycon Géry, 1970: 424. Type species: *Iguanodectes geisleri* Géry, 1970. Type by original designation. Gender: masculine.

***Iguanodectes adujai* Géry, 1970**

Iguanodectes adujai Géry, 1970: 419, fig. 2 (no. 2). Type locality: Rio Adujá, Rio Itú, (affluent du Rio Negro moyen) [Itu River, tributary of Araçá River, Negro River basin, Amazonas, Brazil]. Holotype: MHNG 2229.06 [ex Géry coll. 0616].

Maximum length: 6.2 cm SL

Distribution: South America: Negro and Orinoco River basins.

Countries: Brazil, Venezuela

***Iguanodectes geisleri* Géry, 1970**

Iguanodectes geisleri Géry, 1970: 422, fig. 2 (no. 4). Type locality: Igarapé de Paricá, Rio Jufaris (approximativement 1°05' Lat. S. et 62°10' Long. O.), affluent du cours moyen du Rio Negro [Jufari River, tributary of Negro River, Amazonas, Brazil]. Holotype: MHNG 2229.02 [ex Géry coll. 0617].

Maximum length: 5.52 cm SL

Distribution: South America: Madeira, Negro, and Orinoco River basins.

Countries: Brazil, Venezuela

***Iguanodectes gracilis* Géry, 1993**

Iguanodectes gracilis Géry, 1993: 100, fig. 7. Type locality: Rio

Mamolé, affluent of Rio Cuiuni, bassin du Rio Negro moyen [near Barcelos, Amazonas, Brazil]. Holotype: MZUSP 45682.

Maximum length: 4.64 cm SL

Distribution: South America: Negro River basin.

Countries: Brazil

***Iguanodectes polylepis* Géry, 1993**

Iguanodectes polylepis Géry, 1993: 103, fig. 10. Type locality: Affluent du Rio Ituxiou (ou Pixuna), bassin du Rio Purus à l'O de Humaitá [Ituxi ou Ipixuna River (Paraná Pixuna), tributary of the Purus River, Amazonas, Brazil]. Holotype: MZUSP 45684.

Maximum length: 8.45 cm SL

Distribution: South America: Madeira and Purus River basins.

Countries: Brazil

***Iguanodectes purusii* (Steindachner, 1908)**

Piabuca purusii Steindachner, 1908: 63. Type locality: Rio Purús [Brazil]. Holotype: NMW 56584.

Maximum length: 7.5 cm SL

Distribution: South America: Amazon, Guaporé, Madeira, Pastaza, and Purus River basins.

Countries: Brazil, Peru

Remarks and references: Géry (1970 and 1993) transferred to *Iguanodectes*. See Géry (1993) for redescription.

***Iguanodectes rachovii* Regan, 1912**

Iguanodectes rachovii Regan, 1912: 682. Type locality: The Amazon at Manãos [Manaus, Amazonas, Brazil]. Syntypes: BMNH 1912.3.1.38-39 (4).

Maximum length: 6.21 cm SL

Distribution: South America: Amazon River from Manaus to Belém, and coastal rivers close to Belém (north and south of the mouth of the Amazon River, including the Capim River).

Countries: Brazil

Remarks and references: Included in the synonymy of *Iguanodectes tenuis* (synonym of *Iguanodectes spilurus*) by Eigenmann and Myers (1929: 494) and subsequently reaffirmed by Böhlke (1954: 98 and 100). Revalidation is based on personal examination of the types of *Iguanodectes rachovii* and *Iguanodectes spilurus*.

***Iguanodectes spilurus* (Günther, 1864)**

Piabuca spilurus Günther, 1864: 344. Type locality: River Cupai [Cupari River, Tapajós River basin, Pará, Brazil]. Holotype: BMNH 1853.3.19.70.

Iguanodectes tenuis Cope, 1872: 260. Type locality: The Ambyiacu river...near Pebas, in Eastern Ecuador, some distance east of the Napo [depto. of Loreto, Peru]. Holotype: lost.

Maximum length: 10.15 cm SL

Distribution: South America: Amazon, Essequibo, Orinoco, and Tocantins River basins.

Countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Venezuela

Remarks and references: Transferred from *Piabucus* and considered as senior synonym of *Iguanodectes tenuis* by Böhlke (1954). See Weber (1992: 29) for the correction of the type locality.

Common names: Mojarita (Peru), Sardina, Sardinita (Venezuela)

***Iguanodectes variatus* Géry, 1993**

Iguanodectes variatus Géry, 1993: 101, fig. 8. Type locality: Igarapé Jaturana, 5 km em amont de Samuel, Rio Guaporé, Território de Rondonia, Brésil [5 km from Samuel dam/fall, Madeira River, Rondônia, Brazil]. Holotype: MZUSP 45683.

Maximum length: 10.3 cm SL

Distribution: South America: Branco, Guaporé, Trombetas, and Urubu River basins.

Countries: Brazil

PIABUCUS

Piabucus Oken, 1817: 1183. Type species: *Salmo argentinus* Linnaeus, 1766. Type by subsequent designation by Eigenmann 1910: 440. Gender: masculine. Revised by Böhlke (1954).

Piabuca Müller & Troschel, 1844: 84. Type species: *Salmo argentinus* Linnaeus, 1766. Type by monotypy. Gender: masculine.

***Piabucus caudomaculatus* Vari, 1977**

Piabucus caudomaculatus Vari, 1977: 2, fig. 1. Type locality: Rio Matucare, a small muddy stream (1 m. wide, flow 3m³ per sec.) just above its junction with the Rio Mamoré at Puerto Siles, Department of Beni, Bolivia (approx. lat. 12°49'S, long. 65°04'W). Holotype: AMNH 32490.

Maximum length: 9.6 cm SL

Distribution: South America: Mamoré River basin.

Countries: Bolivia

***Piabucus dentatus* (Koelreuter, 1763)**

Trutta dentata Koelreuter, 1763: 413, fig. 4. Type locality: unknown. No types known.

Salmo argentinus Linnaeus, 1766: 511. Type locality: Brasilia [=Brazil]. No types known.

Maximum length: 12.9 cm SL

Distribution: South America: Coastal drainages from Paría Gulf in Venezuela to south of the mouth of the Amazon River, including the lower Amazon basin. Erroneously cited from Peru by Eigenmann (1910).

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela

Common names: Bongoni (Brazil), Sardine (French Guiana)

***Piabucus melanostomus* Holmberg, 1891**

Piabuca melanostoma Holmberg, 1891: 192. Type locality: República Argentina, Cuenca del Plata, Rio Paraguay, Formosa (Chaco), III-IV, 1885 (Solari); Paraguay, Asuncion, IV, 85 (Sola-

ri). Holotype: Unknown.

Maximum length: 10.52 cm SL

Distribution: South America: Madeira and Paraguay River basins.

Countries: Argentina, Bolivia, Brazil, Paraguay, Peru

Common names: Mojarita boca negra (Peru)

References

Böhlke, J. 1954. Studies on fishes of the family Characidae. No. 6. A synopsis of the Iguanodectinae. Ann. Mag. Nat. Hist. London (Ser. 12), 7: 97-104.

Cope, E.D. 1872. On the fishes of the Ambyiacu River. Proc. Acad. Nat. Sci. Philadelphia, 23: 250-294, pls.

Eigenmann, C.H. 1910. Catalogue of the fresh-water fishes of tropical and south temperate America. Pp. 375-511. In: Reports of the Princeton University expeditions to Patagonia 1896-1899. Zoology. vol. 3 (pt 4).

Eigenmann, C.H. and G.S. Myers. 1929. The American Characidae. Part 5. Mem. Mus. Comp. Zool., 43(5): 429-558.

Géry, J. 1970. Le genre *Iguanodectes* Cope (Pisces, Characoidei). Amazoniana, 2(4): 417-433.

Géry, J. 1993. Description de trois espèces nouvelles du genre *Iguanodectes* (Pisces, Characiformes, Characidae), avec quelques données récentes sur les autres espèces. Rev. Fr. Aquariol., 19(4, for 1992): 97-105.

Goulding, M., M. Leal Carvalho and E.G. Ferreira. 1988. Rio Negro, rich life in poor water. Amazonian diversity and food-chain ecology as seen through fish communities. SPB Academic Publishing, The Hague. 200 p.

Günther, A. 1864. Catalogue of the fishes in the British Museum, vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiatidae in the collection of the British Museum. Trustees, London. xxii + 455 p.

Holmberg, E.L. 1891. Sobre algunos peces nuevos ó poco conocidos de la República Argentina. Rev. Argent. Hist. Nat. Buenos Aires, 1: 180-193.

Knöppel, H.-A. 1970. Food of Central Amazonian fishes. Contribution to the nutrient-ecology of Amazonian rainforest-streams. Amazonia, 2 (3): 257-352.

Koelreuter, J.G. 1763. Piscium rariorum e Museo Petropolitano exceptorum descriptiones. Novi Comment. Acad. Sci. Imp. Petropol., 8 (for 1761): 337-430.

Linnaeus, C. 1766. Systema naturae sive regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. 12th ed. Laurentii Salvii, Holmiae. 532 p.

Lucena, C.A.S. 1993. Estudo filogenético da família Characidae com uma discussão dos grupos naturais propostos (Teleostei, Ostariophysi, Characiformes). Ph.D. Thesis, Universidade de São Paulo. 158 p.

Müller, J. and F.H. Troschel. 1844. Synopsis generum et specierum familiae Characinorum. (Prodromus descriptionis novorum generum et specierum). Arch. Naturgeschichte, 10(1): 81-99 + Zu pag. 99 (foldout).

Oken, L. 1817. Cuviers und Okens Zoologien neben einander gestellt. Isis [Oken]: 8 (144-148): col. 1145-1184 (incl. 1779-1782, sic 1179-1182).

Regan, C.T. 1912. Description of a new characid fish from the Amazon. Ann. Mag. Nat. Hist. (Ser. 8), 9 (54): 682-683.

Steindachner, F. 1908. Über drei neue Characinen und drei Siluroiden aus dem Stromgebiete des Amazonas innerhalb Brasiliens. Anz. Akad. Wiss. Wien, 45 (6): 61-69.

Vari, R.P. 1977. Notes on the characoid subfamily Iguanodectinae, with a description of a new species. Am. Mus. Novit., no. 2612: 1-6.

Weber, C. 1992. Révision du genre *Pterygoplichthys* sensu lato (Pisces, Siluriformes, Loricariidae). Rev. Fr. Aquariol., 19 (1-2): 1-36.

Subfamily Bryconinae (Characins, tetras)

Flávio C. T. Lima

The subfamily Bryconinae includes about 40 valid species, plus several undescribed. The delimitation of the subfamily followed here is based mainly in Zanata (2000). That author did not find evidence for a close relationship between *Brycon* species and genera that were previously considered putatively related (e.g. *Salminus*, *Chalceus* or *Triportheus*). On the other hand, two monotypic genera are herein included in Bryconinae: *Chilobrycon* Géry & Rham and *Henochilus* Garman. The first genus was considered to be part of the Bryconinae when first proposed (Géry & Rham, 1981). *Chilobrycon* was examined by Zanata (2000), who concluded that it is very probably a synonym of *Brycon*. Zanata (2000), however, preferred not to synonymize *Chilobrycon* with *Brycon* until a more encompassing analysis of the species of *Brycon* was available. *Henochilus* was considered to be species of Cheirodontinae (e.g. Géry, 1977), but recently Malabarba (1998) excluded *Henochilus* and several other genera from a rediagnosed Cheirodontinae. Following the rediscovery of *Henochilus wheatlandii* (Vieira et al., 2000), I was able to examine a specimen of the species. *Henochilus wheatlandii* is strikingly similar to *Chilobrycon deuterodon*, sharing with it the absence of the upper lip and the spatulated, trilobated teeth (compare figs. 3 and 4 of Géry & Rham [1981], with figs. 1 and 2 of Vieira et al. [2000]). Therefore, we consider *Henochilus* as being a species of the Bryconinae. An objective analysis of the problem must, however, await a detailed comparison among *Chilobrycon*, *Henochilus* and the remaining members of the Bryconinae.

The species of the subfamily Bryconinae are medium to large-sized characid fishes, reaching a maximum standard length from 15 cm (*Brycon pesu*) to about 70 cm (*Brycon orbygnianus* and *Brycon amazonicus*). The Bryconinae could not be diagnosed by a unique set of characters, but the combination of three (rarely four) rows of teeth on the premaxilla, the presence of larger teeth in the inner row of the premaxilla, and the presence of a symphyseal tooth behind the main dentary tooth row are uncommon among the remaining Characidae. The Bryconinae occurs from southern Mexico to Panama, across the trans-Andean South American river basins from northern Peru to the Maracaibo system in Venezuela, and in cis-Andean South America in all major river drainages and most Atlantic and Caribbean coastal river basins. The genus *Brycon* is particularly diverse in the rivers of Panama, and in the trans-Andean river basins of Colombia and Ecuador. The systematics of the genus is still very confusing. Species occurring in Panama and trans-Andean rivers of northern South America were studied in some detail by Eigenmann (1922), Hildebrand (1938), and Dahl (1971), and were consequently better known than the species occurring in the cis-Andean river basins, which never received a comprehensive treatment. Howes (1982) and Géry & Mahnert (1992) provided the most recent and useful accounts on the systematics of the genus. The cis-Andean species of the genus *Brycon* are being reviewed by the author, and the synonymy proposed below for those species is a result of this ongoing revisionary study.

Members of the genus *Brycon* are important food fishes throughout Central and South America. Species of the genus are important in commercial fisheries in many river systems and are also being cultivated in several South American countries. *Brycon* species are omnivorous, relying more heavily on allochthonous items, such as fallen fruits, seeds, and insects (see Goulding, 1980; Horn, 1997; Sabino & Sazima, 1999; and Lima & Castro, 2000, for a short review). Some species are known to perform long-range reproductive migrations (Godoy, 1975; Goulding, 1980). *Brycon petrosus* and *B. guatemalensis* were reported to make terrestrial spawning (Kramer, 1978; Bussing, 1993). In the rivers of eastern Brazil, *Brycon* species are becoming very rare due to the severe anthropogenic disturbances (Lima & Castro, 2000).

BRYCON

Brycon Müller & Troschel, 1844: 90. Type species: *Brycon falcatulus* Müller & Troschel, 1844. Type by subsequent designation. Gender: masculine.

Chalcinopsis Kner, 1863: 226. Type species: *Chalcinopsis striatulus* Kner, 1863. Type by subsequent designation. Gender: feminine.

Megalobrycon Günther, 1869: 423. Type species: *Megalobrycon cephalus* Günther, 1869. Type by monotypy. Gender: masculine.

Catabasis Eigenmann & Norris, 1900: 358. Type species: *Catabasis acuminatus* Eigenmann & Norris, 1900. Type by original designation. Gender: feminine.

Bryconodon Eigenmann, 1903: 146. Type species: *Brycon orthotaenia* Günther, 1864. Type by original designation. Gender: masculine.

Othonophanes Eigenmann, 1903: 145. Type species: *Brycon labiatus* Steindachner, 1879. Type by original designation. Gender: masculine.

Holobrycon Eigenmann, 1909: 33. Type species: *Brycon pesu* Müller & Troschel, 1845. Type by original designation. Gender: masculine.

Triurobrycon Eigenmann, 1909: 33. Type species: *Brycon lundii* Lütken, 1875. Type by original designation. Gender: masculine.

***Brycon alburnus* (Günther, 1860)**

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- Chalceus alburnus* Günther, 1860: 419. Type locality: Western Andes of Ecuador. Syntypes: BMNH 1860.6.16: 167; 180; 201-202; 204 (5).
- Brycon acutus* Böhlke, 1958: 67, pl. 4 (fig. 1). Type locality: Near the mouth of Río Quinindé at 60 m [Ecuador]. Holotype: SU 49757.
- Maximum length: 32.6 cm SL
Distribution: South America: Trans-Andean river basins of Ecuador.
Countries: Ecuador
Remarks and references: See Howes (1982: 6-8) for taxonomic remarks.
Common names: Sábalo (Ecuador)
- Brycon amazonicus* (Spix & Agassiz, 1829)**
Chalceus amazonicus Spix & Agassiz, 1829: 68, pl. 35. Type locality: In fluvio Amazonum [=Amazon River, Brazil]. Holotype probably lost (Kottelat, 1988).
- Chalceus carpophaga* Valenciennes, in Cuvier & Valenciennes, 1850: 252. Type locality: l'Esséquibo (restricted by Géry & Mahnert, 1992: 816). Lectotype: MNHN A.9832, designated by Géry & Mahnert (1992: 816).
- Brycon longiceps* Steindachner, 1879: 150. Type locality: Orinoco bei Ciudad Bolívar [Venezuela]. Syntypes: NMW 62944 (3).
- Brycon siebenthalae* Eigenmann, 1912: 372, pl. 54 (fig. 3). Type locality: Mud Creek, Aruka River [Guyana]. Holotype: FMNH 53353.
- Brycon pellegrini* Holly, 1929: 208. Type locality: Manaos [Brazil]. Holotype: NMW 8963.
- Maximum length: 46.2 cm SL
Distribution: South America: Amazon River and its main tributaries in Brazil; Orinoco and Essequibo River basins.
Countries: Brazil, Colombia, Guyana, Venezuela
Remarks and references: Synonym above is based on Lima (2001). Important food fish.
Common names: Bocón (Colombia, Venezuela), Jatuarana (Brazil), Matrinchá (Brazil), Palambra (Venezuela), Yamú (Colombia)
- Brycon argenteus* Meek & Hildebrand, 1913**
Brycon argenteus Meek & Hildebrand, 1913: 84. Type locality: Río Aruza, Aruza, Panama. Holotype: FMNH 7588.
- Maximum length: 23 cm SL
Distribution: Central America: Pacific and Atlantic slopes of Panama.
Countries: Panama
Remarks and references: See Meek (1938) for taxonomic remarks.
Common names: Sábalo pipon (Panama)
- Brycon atrocaudatus* (Kner, 1863)**
Chalceus atrocaudatus Kner, 1863: 227, fig. 14. Type locality: Westabhänge der Andes in Staate Ecuador [Ecuador]. Holotype: whereabouts unknown (perhaps NMW).
- Brycon scapularis* Fowler, 1911: 502, fig. 3. Type locality: Affluent of the Chimbo River near Bucay, Province of Guayas, Ecuador. Holotype: ANSP 39105.
- Brycon ecuadoriensis* Eigenmann & Henn, in Eigenmann, 1918: 687. Type locality: Río Barranca Alta from Naranjito, Ecuador. Holotype: CAS 39436.
- Maximum length: 27.3 cm SL
Distribution: South America: Trans-Andean river basins in Peru and Ecuador.
Countries: Ecuador, Peru
Remarks and references: See Howes (1982: 10) for taxonomic remarks.
Common names: Cascafe (Peru), Sábalo (Ecuador)
- Brycon behreae* Hildebrand, 1938**
Brycon behreae Hildebrand, 1938: 278, fig. 5. Type locality: Río Chiriquí del Tíre, above Caldera, Pacific slope, western Panama. Holotype: CAS 5582.
- Maximum length: 26.5 cm SL
Distribution: Central America: Chiriquí del Tíre and Chagres River basins, Pacific and Atlantic slopes of Panama; Quepos, Pacific slope of Costa Rica.
Countries: Costa Rica, Panama
Common names: Machaca (Costa Rica), Sábalo (Costa Rica), Sábalo pipon (Panama)
- Brycon bicolor* Pellegrin, 1909**
Brycon bicolor Pellegrin, 1909: 12. Type locality: Orénoque [Venezuela]. Syntypes: MNHN 87746 (1), MNHN 87747 (1), MNHN 87748 (1).
- Maximum length: 11.85 cm SL
Distribution: South America: Orinoco River basin.
Countries: Venezuela
Remarks and references: Possibly a synonym of *Brycon melanopterus* (Lima, 2001). See remarks on taxonomy and ecology by Taphorn (1992: 128-129).
Common names: Bocón (Venezuela), Palambra (Venezuela)
- Brycon cephalus* (Günther, 1869)**
Megalobrycon cephalus Günther, 1869: 423, fig. 1. Type locality: Upper Amazon [Peru]. Syntypes: BMNH 1869.5.21.1, BMNH 1869.5.21.2.
- Brycon capito* Cope, 1872: 261. Type locality: Ambyiacu [Peru]. Holotype: ANSP 8058.
- Megalobrycon erythropterus* Cope, 1872: 263, pl. 10 (fig. 2). Type locality: Ambyiacu [Peru]. Holotype: ANSP (not found).
- Brycon siebenthalae iquitensis* Nakashima, 1941: 69, fig. Type locality: Cercanías del Puerto de Iquitos [Peru]. Type material lost (H. Ortega, pers. comm.).
- Maximum length: 22 cm SL
Distribution: South America: Upper Amazon River basin in Peru and Bolivia.
Countries: Bolivia, Peru
Remarks and references: See Géry & Mahnert (1992: 800) for taxonomic remarks on the species (as *Brycon erythropterus*). Synonym above is based on personal observation. Food fish.
Common names: Sábalo cola roja (Peru)
- Brycon chagrensis* (Kner, 1863)**
Chalcinopsis chagrensis Kner, 1863: 226, fig. 13. Type locality: Río Chagres an der Nordseite von Panama. Syntypes: NMW 62661 (2), NMW 22106 (1).
- Maximum length: 50 cm SL
Distribution: Central America: Chagres River basin, Atlantic slope of Panama.
Countries: Panama
Common names: Sábalo pipon (Panama)
- Brycon coquenani* Steindachner, 1915**
Brycon coquenani Steindachner, 1915: 37, pl. 1 (fig. 1). Type locality: Coquenánflusse in Venezuela. Syntypes: NMW 62703 (12).
- Maximum length: 17.06 cm SL
Distribution: South America: Kuquenán River, upper Caroní River in Orinoco River basin.
Countries: Venezuela
Common names: Aruma (Venezuela)
- Brycon coxeyi* Fowler, 1943**
Brycon coxeyi Fowler, 1943: 3, fig. 2. Type locality: Hacienda las mascotas, mouth of Río Pastaza, basin of the Río Marañón, Ecuador. Holotype: ANSP 70156.
- Maximum length: 16.8 cm SL
Distribution: South America: Upper Pastaza River basin.
Countries: Ecuador
Remarks and references: The type locality given by Fowler (1943)

is not in accordance with the original label of the holotype (M.H. Sabaj, pers.comm.) or the information given by Brown (1941: 834) on the position of the Hacienda Mascota (see also Böhlke, 1958: 24-25). Type locality should be amended to "Ecuador, Napo-Pastaza, Hacienda Mascota, río Topo, a tributary of río Pastaza, 1°25'S, 78°11'W."

Common names: Sábalo (Ecuador)

***Brycon dentex* Günther, 1860**

Brycon dentex Günther, 1860: 240. Type locality: Freshwaters of Esmeraldas [Ecuador]. Syntypes: BMNH 1860.6.16.156-159 (4). Maximum length: 34 cm SL
Distribution: South America: Trans-Andean river basins of Ecuador.

Countries: Ecuador

Remarks and references: See Howes (1982: 21, 24) for taxonomic remarks.

Common names: Sábalo (Ecuador)

***Brycon devillei* (Castelnau, 1855)**

Chalceus devillei Castelnau, 1855: 69, pl. 36 (fig. 2). Type locality: Bahia [Brazil]. Holotype: MNHN 4517.
Maximum length: 14.3 cm SL

Distribution: South America: Bahia State (exact locality unknown).

Countries: Brazil

***Brycon falcatus* Müller & Troschel, 1844**

Brycon falcatus Müller & Troschel, 1844: 90. Type locality: Guyana; Surinam. Syntypes: ZMB 3601 (2), ZMB 3602 (1), ZMB 3603 (1). Mention of BMNH 1969.12.12.1-3(3) as being part of syntype series in Eschmeyer (1998: 58) is incorrect.

Brycon schomburgkii Müller & Troschel, 1844: 91. Type locality: Guiana. Holotype: ZMB 3604.

Brycon brevicauda Günther, 1864: 335. Type locality: Rio Jocintins, River Capin [Pará, Brazil]. Syntypes: BMNH 1864.4.20.13, BMNH 1849.9.8.42, BMNH 1849.9.8.49.

Brycon stübelii Steindachner, 1882: 176. Type locality: Amazonenstrom, later Rio Amazonas (Iquitos) [Peru]. Holotype: MTD F380.

Brycon matrinchao Fowler, 1941: 192, fig. 102. Type locality: Rio Parahyba, Therezina, Piauí [=Parnaíba River, Teresina, Piauí, Brazil]. Holotype: ANSP 69619.

Maximum length: 37 cm TL

Distribution: South America: Rivers in Guyana, Suriname and French Guiana. Amazon and Orinoco River basins.

Countries: Brazil, Colombia, French Guiana, Guyana, Peru, Suriname, Venezuela

Remarks and references: See Planquette et al. (1996: 226-227) for a short redescription, and Howes (1982: 26, 28) for miscellaneous notes. Synonym above is based on Lima (2001). Food fish.

Common names: Maloko (French Guiana), Matrinchã (Brazil), Mbooko (French Guiana), Moloko blanc (French Guiana), Molo-koimo (French Guiana), Sábalo (Peru)

***Brycon ferox* Steindachner, 1877**

Brycon ferox Steindachner, 1877: 583, pl. 4 (fig. 2). Type locality: Rio Mucuri [eastern Brazil]. Syntypes: NMW 62930 (1), NMW 62937 (2).

Maximum length: 31 cm SL

Distribution: South America: Mucuri River basin.

Countries: Brazil

Remarks and references: See Lima & Castro (2000: 156-157, 161) for notes on taxonomy and ecology. Food fish.

Common names: Piabanha (Brazil)

***Brycon fowleri* Dahl, 1955**

Brycon fowleri Dahl, 1955: 19. Type locality: Chibogadó, Colombia. Holotype: Lost (Cala, 1981, 1987).

Maximum length: 30 cm TL

Distribution: South America: Sinu River basin.

Countries: Colombia

Remarks and references: See Dahl (1971: 125) for notes on ecology. Food fish.

Common names: Sabaleta (Colombia)

***Brycon guatemalensis* Regan, 1908**

Brycon guatemalensis Regan, 1908: 168. Type locality: Guatemala, Río Chisoy, Río Usumancita, Río Motagua and Lake Yzabal. Syntypes: BMNH 1864.1.26.226-9 (4), BMNH 1864.1.26.387 (1), BMNH 1869.2.23.8 (1), BMNH 1865.4.29.40 (1).

Maximum length: 50 cm SL

Distribution: North and Central America: Atlantic slope from Grijalva River, Mexico to eastern Panama; in the Pacific slope, only in Choluteca River basin of Honduras.

Countries: Belize, Costa Rica, Guatemala, Honduras, Mexico, Nicaragua, Panama

Remarks and references: See Howes (1982: 29-30) for remarks on taxonomy, Burcham (1988), Bussing (1993), and Horn (1997) for observations on ecology of the species. Food fish.

Common names: Machaca (Costa Rica), Sabaleta (Costa Rica)

***Brycon henni* Eigenmann, 1913**

Brycon henni Eigenmann, 1913: 26. Type locality: Caldas [Colombia]. Holotype: FMNH 56384.

Maximum length: 35 cm SL

Distribution: South America: Trans-Andean river basins of Colombia.

Countries: Colombia

Remarks and references: See Dahl (1971: 124-125) for notes on ecology.

Common names: Sabaleta (Colombia)

***Brycon hilarii* (Valenciennes, 1850)**

Chalceus hilarii Valenciennes, in Cuvier & Valenciennes, 1850: 246. Type locality: Río San Francisco [Brazil] (restricted by Géry & Mahnert, 1992: 815). Type locality probably very erroneous. Lectotype: MNHN A.8616-81-25-71, designated by Géry and Mahnert (1992: 815).

?*Brycon melanoxanthus* Kner, 1860: 12. Type locality: Río Guaporé. Not available, name mentioned in passing under *Chalceus orbignianus* Valenciennes.

Brycon microlepis Perugia, 1897: 149. Type locality: Puerto 14 de Mayo, dipartimento di Bahia Negra, nel Chaco boreale [Paraguay River, Paraguay]. Holotype: MSNG 36916.

Maximum length: 41.5 cm SL

Distribution: South America: Paraguay River basin.

Countries: Brazil, Paraguay

Remarks and references: See Géry & Mahnert (1992: 803-803-806) for notes on taxonomy; Sabino & Sazima (1999) for notes on natural history. Synonym above is based on Lima (2001). Food fish.

Common names: Piraputanga (Brazil)

***Brycon insignis* Steindachner, 1877**

Brycon insignis Steindachner, 1877: 587, pl. 4 (fig. 1). Type locality: Rio Parahyba bei Campos und Mendez; Rio Jequitinhonha [Brazil]. Syntypes not yet found in NMW (Eschmeyer, 1998: 779).

Catabasis acuminatus Eigenmann & Norris, 1900: 358. Type locality: Rio Tieté [upper Paraná River, São Paulo, Brazil]. Holotype: CAS 11894. Type locality very probably erroneous (holotype was probably collected in the Paraíba do Sul River; see Howes, 1982: 4).

Megalobrycon piabanha Miranda Ribeiro, 1902: 5. Type locality: Cataguazes, rio Pomba [Paraíba do Sul River basin, Minas Gerais, Brazil]. Holotype: MNRJ (not found).

Maximum length: 36.9 cm SL

Distribution: South America: Paraíba do Sul River basin.

Countries: Brazil

Remarks and references: Synonym above is based on Lima (2001).

Common names: Piabanha (Brazil)

***Brycon labiatus* Steindachner, 1879**

Brycon labiatus Steindachner, 1879: 195. Type locality: der Cauca, der grösste Nebenfluss des Magdalenan-Stromes [Colombia].

Holotype: NMW.

Distribution: South America: Magdalena River basin.

Countries: Colombia

***Brycon medemi* Dahl, 1960**

Brycon medemi Dahl, 1960: 461, fig. Type locality: Quebrada La Noche, upper Atrato [Colombia]. Holotype: ICNMFN 41.

Maximum length: 15 cm SL

Distribution: South America: Atrato River basin.

Countries: Colombia

***Brycon meeki* Eigenmann & Hildebrand, 1918**

Brycon meeki Eigenmann & Hildebrand, in Eigenmann, 1918: 688.

Type locality: Ríos San Juan, Dagua, Patia, western Colombia. Syntypes: CAS 61208 (2), CAS 61209 (12), CAS 61217 (24), CAS 61214 (40), CAS 13460 (2), CAS 13467 (1), CAS 39437 (12), CAS 13461 (3), CAS 54945 (33), CAS 18537 (25), CAS 61210 (33), CAS 61211 (38), CAS 61215 (13), CAS 61218 (24), CAS 18542 (9), CAS 61212 (1). Contrary to that stated by Eschmeyer (1998: 1044), Eigenmann (1922) did not select a lectotype for the species.

Brycon juanensis Rendahl, 1941: 10, fig. 2. Type locality: Río San Juan, Cabeceras [Pacific slope of Colombia]. Holotype: NRM 10688.

Brycon juradoensis Fowler, 1944: 232, fig. 6. Type locality: Río Juradó, Chocó Province, Colombia. Holotype: ANSP 71426.

Brycon tovari Dahl, 1960: 465, fig. Type locality: Mouth of Río Sandó, tributary to the Baudó [Colombia]. Holotype: ICNMFN 110.

Maximum length: 32.2 cm SL

Distribution: South America: Trans-Andean river basins of Colombia.

Countries: Colombia

***Brycon melanopterus* (Cope, 1872)**

Megalobrycon melanopterus Cope, 1872: 262, pl. 13 (fig. 1). Type locality: Ambyiacu [Peru]. Holotype: ANSP 8035.

Maximum length: 30 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil, Ecuador, Peru

Remarks and references: See Goulding (1980: 73-75) for notes on ecology.

Common names: Jatuarana (Brazil), Matrinchão (Brazil), Sábalo (Ecuador), Sábalo cola negra (Peru)

***Brycon moorei* Steindachner, 1878**

Brycon moorei Steindachner, 1878: 91. Type locality: Cienaga, Magdalenan-Strom [Colombia].

Othonophanes bolivarensis Dahl, 1943: 216, fig. Type locality: Pool communicating with Río Batatal (also called Río Uré) tributary to Río San Jorge, Magdalena system. Altitude approximately 800 m. Municipal of Ayapel, department of Bolívar, Republic of Colombia. Holotype: ZMUL.

Maximum length: 50 cm SL

Distribution: South America: Magdalena River basin.

Countries: Colombia

Remarks and references: See Dahl (1971: 123-124) for notes on ecology. Food fish.

Common names: Dorada (Colombia), Dorada playera (Colombia), Mueluda (Colombia), Sardinata (Colombia)

***Brycon nattereri* Günther, 1864**

Brycon nattereri Günther, 1864: 334. Type locality: Irisanga [up-

per Paraná River basin, São Paulo, Brazil]. Holotype: NMW 18396.

Brycon reinhardti Lütken, 1875: 134. Type locality: Flumine Rio das Velhas [Minas Gerais, Brazil]. Syntypes: SMNS 2049, BMNH 1878.1.10.36, ZMUC 216, 222, 224-225, MNHN 9589, ZMB 9194 (1), NMW 59761 (2).

Maximum length: 28.98 cm SL

Distribution: South America: Upper Paraná and São Francisco River basins.

Countries: Brazil

Remarks and references: Synonym above is based on Lima (2001).

Common names: Pirapitinga (Brazil)

***Brycon obscurus* Hildebrand, 1938**

Brycon obscurus Hildebrand, 1938: 283, fig. 6. Type locality: Creek in El Valle, Pacific slope, Panama. Holotype: USNM 106512.

Maximum length: 9.6 cm SL

Distribution: Central America: Pacific slope of Panama.

Countries: Panama

Common names: Sábalo pipon (Panama)

***Brycon oligolepis* Regan, 1913**

Brycon oligolepis Regan, 1913: 462. Type locality: Río Condoto and western Ecuador. Syntypes: BMNH 1913.10.1.8-9 (2).

Maximum length: 24.1 cm SL

Distribution: South America: Trans-Andean river basins in Ecuador and Colombia.

Countries: Colombia, Ecuador

Remarks and references: See Howes (1982: 37-38) for notes on taxonomy.

Common names: Sábalo (Ecuador)

***Brycon opalinus* (Cuvier, 1819)**

Chalceus opalinus Cuvier, 1819: 351, pl. 26 (fig. 1). Type locality: Brésil [restricted by Eigenmann (1921: 294-5) to Rio de Janeiro]. Holotype: MNHN A.8613 (dry).

Brycon bahiensis Günther, 1864: 334. Type locality: Bahia [Brazil]. Holotype: BMNH 1862.11.23.26.

Maximum length: 26.3 cm SL

Distribution: South America: Paraíba do Sul River basin.

Countries: Brazil

Remarks and references: Synonym above is based on Lima (2001). Food fish.

Common names: Pirapitinga (Brazil)

***Brycon orbignyanus* (Valenciennes, 1850)**

Chalceus rodopterus Valenciennes, in Cuvier & Valenciennes, 1850: 249. Type locality: Buénos-Ayres [Argentina]. Syntypes: MNHN A.9834 (2).

Chalceus orbignyanus Valenciennes, in Cuvier & Valenciennes, 1850: 249. Type locality: Buénos-Ayres, la Plata. Lectotype: MNHN A9835, designated by Géry and Mahnert (1992: 811).

Brycon lineatus Steindachner, 1866: 19. Type locality: La Plata-Strom [Argentina]. Holotype: NMW 62943.

Brycon travassosi Campos, 1950: 141, fig. 1. Type locality: Rio Bodoquena, Est. Mato Grosso [Brazil]. Holotype: MZUSP 3811.

Maximum length: 79.5 cm TL

Distribution: South America: La Plata River basin.

Countries: Argentina, Brazil, Uruguay

Remarks and references: See Géry & Mahnert (1992: 806-811) for notes on taxonomy and synonym. Synonymy based on Lima (2001). Food fish.

Common names: Bracanjuba (Brazil), Piracanjuba (Brazil), Piracanjuba (Brazil), Pirapitá (Argentina, Uruguay), Pracanjuba (Brazil), Salmão-crioulo (Brazil), Salmón (Argentina, Uruguay), Salmón criollo (Argentina, Uruguay), Salmón del Paraná (Argentina), Salmonete (Argentina)

***Brycon orthotaenia* Günther, 1864**

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- Brycon orthotaenia* Günther, 1864: 335. Type locality: River Cipo [São Francisco River basin, Minas Gerais, Brazil]. Holotype: BMNH 1861.5.16.71 (half skin).
- Brycon lundii* Lütken, 1875: 135. Type locality: Fluminense Rio das Velhas [Brazil]. Syntypes: ZMUC 227 (1), ZMUC 228-229 (skulls), ZMUC 232 (1).
Maximum length: 33 cm SL
Distribution: South America: São Francisco River basin.
Countries: Brazil
Remarks and references: Synonymy based on Lima (2001).
Common names: Matrinchã (Brazil)
- Brycon pesu* Müller & Troschel, 1845**
Brycon pesu Müller & Troschel, 1845: 16, 30, pl. 7 (fig. 1). Type locality: Guiana. Holotype: ZMB 3605.
Maximum length: 12 cm SL
Distribution: South America: Amazon River basin; rivers from Guyana, Suriname, and French Guiana; Orinoco River basin.
Countries: Brazil, Ecuador, French Guiana, Guyana, Peru, Suriname, Venezuela
Common names: Abongoni (French Guiana), Pesu (Guyana), Sabalito (Peru), Sábalo (Ecuador), Tolobouga (French Guiana)
- Brycon petrosus* Meek & Hildebrand, 1913**
Brycon petrosus Meek & Hildebrand, 1913: 84. Type locality: Upper Chagres [Panama]. Holotype: FMNH 7589.
Maximum length: 28.5 cm SL
Distribution: Central America: Atlantic and Pacific slopes of Panama.
Countries: Panama
Remarks and references: See Hildebrand (1938: 282-283) for notes on taxonomy, and Kramer (1978a,b) for observations on reproduction.
Common names: Sábalo pipon (Panama)
- Brycon polylepis* Mosco Morales, 1988**
Brycon polylepis Mosco Morales, 1988: 9, fig. 2. Type locality: Río Yasa, afluente del Río Negro, estación biomédica Kasmera, Sierra de Perijá, zona de reserva de los indios Pariríes, Estado Zulia, Venezuela. Holotype: MBLUZ 1273.
Maximum length: 22.37 cm SL
Distribution: South America: Lake Maracaibo basin.
Countries: Venezuela
Common names: Palambra, diénton (Venezuela)
- Brycon posadae* Fowler, 1945**
Brycon posadae Fowler, 1945: 103, fig. 5. Type locality: Ricaurte, on the Río Guebo, tributary of the Río Mira, Nariño, at 3000 feet elevation, Pacific Slope of Colombia. Holotype: ANSP 71695.
Maximum length: 14.8 cm SL
Distribution: South America: Trans-Andean river basins of Ecuador and Colombia.
Countries: Colombia, Ecuador
- Brycon rubricauda* Steindachner, 1879**
Brycon rubricauda Steindachner, 1879: 195. Type locality: Der Cauca, der grösste nebenfluss des Magdalena-Stromes [Colombia]. Holotype: NMW.
Chalceus rodopterus Posada, 1909: 303. Type locality: Medellín, Colombia. Homonym of *Chalceus rodopterus* Valenciennes, 1850.
Maximum length: 35 cm SL
Distribution: South America: Magdalena River basin.
Countries: Colombia
Remarks and references: See Dahl (1971: 123-124) for notes on ecology and economic importance. Food fish.
Common names: Sabaleta (Colombia), Sardinata (Colombia)
- Brycon sinuensis* Dahl, 1955**
Brycon moorei sinuensis Dahl, 1955: 18, fig. Type locality: Specimens from Lorica, Cereté, Betancí, Tierra Alta and the mouth of Nain [Colombia]. Syntypes: Lost (Cala, 1981, 1987).
Maximum length: 18 cm SL
Distribution: South America: Sinu River basin.
Countries: Colombia
Remarks and references: See Dahl (1971: 124) for notes on ecology and economic importance. Food fish.
Common names: Charúa (Colombia), Dorada (Colombia), Mulata (Colombia)
- Brycon stolzmanni* Steindachner, 1879**
Brycon stolzmanni Steindachner, 1879: 152. Type locality: Chota [Marañón River, Amazon system, Peru]. Syntypes: (2) NMW.
Maximum length: 20.6 cm SL
Distribution: South America: Upper Marañón River basin.
Countries: Peru
Common names: Sábalo (Peru)
- Brycon striatulus* (Kner, 1863)**
Chalcinopsis striatulus Kner, 1863: 226, fig. 12. Type locality: Panama.
Maximum length: 36.5 cm SL
Distribution: Central America: Pacific slope of Panama.
Countries: Panama
Remarks and references: See Hildebrand (1938: 276-278) for taxonomic remarks. Food fish.
Common names: Sábalo pipon (Panama)
- Brycon unicolor* Mosco Morales, 1988**
Brycon unicolor Mosco Morales, 1988: 16, fig. 4. Type locality: Lagunas de piscicultura del Centro de Aprendizaje Agropecuaria Don Bosco, Carrasquero, Estado Zulia, Venezuela. Holotype: MBLUZ 1254.
Maximum length: 34.55 cm SL
Distribution: South America: Lake Maracaibo basin.
Countries: Venezuela
- Brycon vermelha* Lima & Castro, 2000**
Brycon vermelha Lima & Castro, 2000: 156, fig. 1. Type locality: Brazil. Minas Gerais, município de Carlos Chagas, rio Mucuri, approximately 9 km W of village of Presidente Pena, along a dirt road on Fazenda Gavião (17°42'S 40°58'W). Holotype: MZUSP 53303.
Maximum length: 39.5 cm SL
Distribution: South America: Mucuri River basin.
Countries: Brazil
Remarks and references: Food fish.
Common names: Vermelha (Brazil)
- Brycon whitei* Myers & Weitzman, 1960**
Brycon whitei Myers & Weitzman, 1960: 99, fig. 1. Type locality: Vicinity of Los Micos, and the north end of the Cordillera Macarena, at approximately 3°20'N, 73°56'W. This locality is the headwaters of the Río Guaviare (Río Orinoco system) just east of the Cordillera Oriental in Colombia. Holotype: SU 48818.
Maximum length: 38 cm SL
Distribution: South America: Upper Orinoco River basin.
Countries: Colombia, Venezuela
Remarks and references: See Taphorn (1992: 131-132) and Lilyestrom & Taphorn (1983) for notes on ecology. Food fish.
Common names: Bocón (Colombia, Venezuela), Palambra (Venezuela)
- Species inquirendae***
Chalceus labrosus Jardine & Schomburgk in Schomburgk, 1841: 212, pl. 13 (fig. 1). Type locality: River Paduirí [Guyana].
Chalceus flavicollis Posada, 1909: 303. Type locality: Cauca [Colombia]. No types known.

CHILOBRYCON

Chilobrycon Géry & de Rham, 1981: 7. Type species: *Chilobrycon deuterodon* Géry & de Rham, 1981. Type by original designation. Gender: masculine.

***Chilobrycon deuterodon* Géry & de Rham, 1981**

Chilobrycon deuterodon Géry & de Rham, 1981: 8, fig. 3. Type locality: Nord du Péron, Département Tumbès, Río Trapazol, petite rivière affluente du Río Tumbès. Holotype: MHNG 2045.13.

Maximum length: 10.8 cm SL

Distribution: South America: Tumbes River, Pacific slope of northern Peru.

Countries: Peru

HENOCHILUS

Henochilus Garman, 1890: 49. Type species: *Henochilus wheatlandii* Garman, 1890. Type by monotypy. Gender: masculine.

***Henochilus wheatlandii* Garman, 1890**

Henochilus wheatlandii Garman, 1890: pl. 1. Type locality: Santa Clara on the Rio Mucury, Brazil. Holotype: MCZ 21109.

Maximum length: 41.3 cm SL

Distribution: South America: Mucuri and Doce River basins.

Countries: Brazil

Remarks and references: Vieira et al. (2000) rediscovered and provided habitat information on the species. These authors put in doubt the correctness of the type-locality. Threatened species (Vieira et al., 2000; Vieira & Alves, 2001).

Common names: Andirá (Brazil)

References

- Böhlke, J.E. 1958. Studies on fishes on the family Characidae.-- No. 14. A report on several extensive recent collections from Ecuador. Proc. Acad. Nat. Sci. Philadelphia, 110: 1-121, pls. 1-7.
- Brown, F.M. 1941. A gazetteer of entomological stations in Ecuador. Ann. Entom. Soc. America, 34 (4): 809-851.
- Burcham, J. 1988. Fish communities and environmental characteristics of two lowland streams in Costa Rica. Revista de Biología Tropical, 36 (2A): 273-285.
- Bussing, W.A. 1987. Peces de las aguas continentales de Costa Rica. Editorial de la Universidad de Costa Rica. 271 p.
- Bussing, W.A. 1993. Fish communities and environmental characteristics of a tropical rain forest river in Costa Rica. Revista de Biología Tropical, 41 (3): 791-809.
- Cala, P. 1981. Catalogo de los ejemplares tipos en la colección de peces del Instituto de Ciencias Naturales. Museo de Historia Natural de la Universidad Nacional de Colombia. Lozania, 34: 1-5.
- Campos, A.A. 1950. Sobre a subfamília Bryconinae. Espécies existentes na coleção de peixes do departamento de zoologia de São Paulo. Pap. Avulsos Dep. Zool. (São Paulo) 9 (10): 137-143.
- Castelnau, F.L. 1855. Poissons. xii + 112 p., 50 pls. In: Animaux nouveaux or rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847. Chez P. Bertrand, Paris.
- Cope, E.D. 1872. On the fishes of the Ambyiacu River. Proc. Acad. Nat. Sci. Philadelphia, 23: 250-294, pls.
- Cuvier, G. 1819. Sur les poissons du sous-genre *Hydrocyon*, sur deux nouvelles espèces de *Chalceus*, sur trois nouvelles espèces du *Serrasalmes*, et sur l'*Argentina glossodonta* de Forskahl, qui est l'*Albula gonorhynchus* de Bloch. Mem. Mus. Natl. Hist. Nat., 5: 351-379, pls. 26-28.
- Cuvier, G. 1829. Le règne animal, distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Edition 2. xviii + 532 p.
- Cuvier, G. and A. Valenciennes. 1850. Histoire naturelle des poissons. Tome vingt-deuxième. Suite du livre vingt-deuxième. Suite de la famille des Salmonoides. Table générale de l'Histoire Naturelle des Poissons. Ch. Pitois, & V.^e Levrault, Paris & Strasbourg. xx + 1 + 532 + 91 p., pls. 634-650.
- Dahl, G. 1943. New or rare fishes of the family Characinae from the Magdalena system. K. Fysiogr. Sällsk. Lund Förh., 12 (18): 215-220.
- Dahl, G. 1955. An ichthyological reconnaissance of the Sinu River. Revista Linneana, 1 (1): 11-19.
- Dahl, G. 1960. New fresh-water fishes from western Colombia. Caldasia, 8 (39): 451-484.
- Dahl, G. 1971. Los peces del norte de Colombia. Instituto de Desarrollo de los Recursos Naturales Renovables (INDERENA), Bogota. xvii + 391 p.
- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. 1913. Some results from an ichthyological reconnaissance of Colombia, South America. Part II. Indiana Univ. Studies, no. 18: 1-32.
- Eigenmann, C.H. 1918. Eighteen new species of fishes from northwestern South America. Proc. Am. Philos. Soc., 56 (7): 673-689.
- Eigenmann, C.H. 1922. The fishes of western South America, Part I. The fresh-water fishes of northwestern South America, including Colombia, Panama, and the Pacific slopes of Ecuador and Peru, together with an appendix upon the fishes of the Rio Meta in Colombia. Mem. Carnegie Mus., 9 (1): 1-346, pls. 1-38.
- Eigenmann, C.H. and A.A. Norris. 1900. Sobre alguns peixes de S. Paulo, Brazil. Rev. Mus. Paulista, 4: 349-362.
- Eschmeyer, W.N. (ed.). 1998. Catalog of Fishes. California Academy of Sciences, San Francisco.
- Fowler, H.W. 1911. New fresh-water fishes from western Ecuador. Proc. Acad. Nat. Sci. Philadelphia, 63: 493-520.
- Fowler, H.W. 1941. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. Proc. Acad. Nat. Sci. Philadelphia, 93: 123-199.
- Fowler, H.W. 1943. Two new characins from eastern Ecuador. Not. Nat. (Philadelphia), no. 119: 1-5.
- Fowler, H.W. 1944. Fresh-water fishes from northwestern Colombia. Proc. Acad. Nat. Sci. Philadelphia, 96: 227-248.
- Fowler, H.W. 1945. Colombian zoological survey. Pt. I.--The freshwater fishes obtained in 1945. Proc. Acad. Nat. Sci. Philadelphia, 97: 93-135.
- Garman, S. 1890. On a genus and species of the characines (*Henochilus wheatlandii*, gen. n. et sp. n.). Bull. Essex Inst., 22: 49-52, pl. 1.
- Géry, J. and V. Mahnert. 1992. Notes que quelques *Brycon* des bassins de l'Amazone du Parana, Paraguay et du sud-est Brésilien (Pisces, Characiformes, Characidae). Revue Suisse Zool., 99 (4): 743-819.
- Géry, J. and P. de Rham. 1981. Un nouveau Poisson characidé endémique du bassin du Río Tumbès au nord du Pérou, *Chilobrycon deuterodon* n. g. sp. (Characoidei). Rev. Fr. Aquariol., 8 (1): 7-12.
- Godoy, M.P. 1975. Peixes do Brasil. Subordem Characoidei. Bacia do Rio Mogi Guassu. Vol. II. Ed. Franciscana, Piracicaba.
- Goulding, M. 1980. The fishes and the forest: explorations in Amazonian natural history. University of California Press, Berkeley. 280 p.
- Günther, A. 1860a. Second list of cold-blooded vertebrata collected by Mr. Fraser in the Andes of western Ecuador. Proc. Zool. Soc. London, 1859 (3): 402-420.
- Günther, A. 1860b. Third list of cold-blooded vertebrata collected

Check List of the Freshwater Fishes of South and Central America

- by Mr. Fraser in Ecuador. Proc. Zool. Soc. London, 1860 (2): 233-240, pl. 10.
- Günther, A. 1864. Catalogue of the fishes in the British Museum, vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiatidae in the collection of the British Museum. Trustees, London. xxii + 455.
- Günther, A. 1869. Descriptions of some species of fishes from the Peruvian Amazons. Proc. Zool. Soc. London, 1869 (2): 423-429.
- Hildebrand, S.F. 1938. A new catalogue of the fresh-water fishes of Panama. Field Mus. Nat. Hist. Publ. Zool. Ser., 22 (4): 219-359.
- Holly, M. 1929. Eine noch nicht beschriebene Characiniden-Species aus Brasilien. Anz. Akad. Wiss. Wien, 66: 208-209.
- Horn, M.H. 1997. Evidence for dispersal of fig seeds by the fruit-eating characid fish *Brycon guatemalensis* Regan in a Costa Rican tropical rain forest. Oecologia, 109: 259-264.
- Howes, G.J. 1982. Review of the genus *Brycon* (Teleostei: Characoidei). Bull. Br. Mus. (Nat. Hist.) Zool., 43 (1): 1-47.
- Kner, R. 1860. Zur Familie der Characinen. III. Folge Der Ichthyologischen Beiträge. Denkschr. Akad. Wiss. Wien, 18: 9-62, pls. 1-8.
- Kner, R. 1863. Eine Uebersicht der ichthyologischen Ausbeute des Herrn Professors Dr. Mor. Wagner in Central-Amerika. Sitzungsber. Konigl. Bayer. Akad. Wiss. Muenchen, 2: 220-230.
- Kner, R. and F. Steindachner. 1864. Neue Gattungen und Arten von Fischen aus Central-Amerika; gesammelt von Prof. Moritz Wagner. Abh. Bayer. Akad. Wiss., 10: 1-61, pls. 1-6.
- Kramer, D.L. 1978a. Reproductive seasonality in the fishes of a tropical stream. Ecology, 59 (5): 976-985.
- Kramer, D.L. 1978b. Terrestrial group spawning of *Brycon petrosus* (Pisces: Characidae) in Panama. Copeia, 1978 (3): 536-537.
- Lilyestrom, C. and D. Taphorn. 1983. Aspectos sobre la biología y conservación de la palambra (*Brycon whitei*) Myers y Weitzmann, 1960. Revista Unellez de Ciencia y Tecnología, 1 (1): 53-59.
- Lima, F.C.T. 2001. Revisão taxonômica do gênero *Brycon* Mueller & Troschel, 1844, dos rios da América do Sul cisandina (Pisces, Ostariophysi, Characiformes, Characidae). Unpublished M. Sc. Dissertation, Instituto de Biociências, Universidade de São Paulo, São Paulo. 312 p.
- Lima, F.C.T. and R.M.C. Castro. 2000. *Brycon vermelha*, a new species of characid fish from the Rio Mucuri, a coastal river of eastern Brazil (Ostariophysi: Characiformes). Ichthyol. Explor. Freshwaters, 11(2): 155-162.
- Lütken, C.F. 1875a. Characinae novae Brasiliae centralis a clarissimo J. Reinhardt in provincia Minas-Geraes circa oppidulum Lagoa Santa in lacu ejusdem nominis, flumine Rio das Velhas et rivulis affluentibus collectae, secundum caracteres essentialia breviter descriptae. Overs. Danske Vidensk. Selsk. Forhandl Kjobenhavn, 1874 (3): 127-143.
- Lütken, C.F. 1875b. Velhas-Flodens Fiske. Et Bidrag til Brasiliens Ichthyologi; efter Professor J. Reinhardts Indsamlinger og Optegnelser. K. Danske Vidensk. Selsk. Skr., Raekke 5, 12 (2): 121-253, + 2 unnum., + I-XXI, pls. 1-5.
- Malabarba, L.R. 1998. Monophyly of the Cheirodontinae, characters and major clades (Ostariophysi: Characidae). Pp. 193-233 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). Phylogeny and classification of Neotropical fishes. Edipucrs, Porto Alegre.
- Meek, S.E. and S.F. Hildebrand. 1913. New species of fishes from Panama. Field Mus. Nat. Hist. Publ. Zool. Ser., 10 (8): 77-91.
- Miller, R.R. 1966. Geographical distribution of Central American freshwater fishes. Copeia. 1966.
- Miranda Ribeiro, A. 1902. Oito especies de peixes do Rio Pomba. Bol. Soc. Nac. Agric., Rio de Janeiro, 1902: 1-8.
- Miranda Ribeiro, A. 1906. Genus *Megalobrycon*, Gnthr. Sen enumeratio systematica hujus generis Characinidarum specierum. Arq. Mus. Nac. Rio de Janeiro, 13: 1-8, 1 pl.
- Mosco Morales, J. 1988. Dos nuevas especies de *Brycon* (Pisces: Characidae) de la Cuenca del Lago de Maracaibo, Venezuela. Anartia, no. 1: 1-23.
- Müller, J. and F.H. Troschel. 1844. Synopsis generum et specierum familiae Characinarum. (Prodromus descriptionis novorum generum et specierum). Arch. Naturgeschichte, 10 (1): 81-99 + Zu pag. 99 (foldout).
- Müller, J. and F.H. Troschel. 1845. Horae Ichthyologicae. Beschreibung und Abbildung neuer Fische. Die Familie der Characinen. Erstes und Zweites Heft. Berlin. 40 p., 11pls.
- Myers, G.S. and S.H. Weitzman. 1960. Two new fishes collected by General Thomas D. White in eastern Colombia. Stanford Ichthyol. Bull., 7 (4): 98-109.
- Nakashima, S. 1941. Algunos peces del Orient peruano. Bol. Mus. Hist. Nat. "Javier Prado" Lima, 5 (16): 61-78.
- Pellegrin, J. 1909. Characinidés américains nouveaux de la collection du Muséum d'Histoire naturelle. Bull. Mus. Natl. Hist. Nat., 15 (1): 12-14.
- Perugia, A. 1897. Di alcuni pesci raccolti nell' alto Paraguay dal Cav. Guido Boggiani. Ann. Mus. Civ. Stor. Nat. Genova (Ser. 2a), 18: 147-150.
- Planquette, P., P. Keith and P.-Y. Le Bail. 1996. Atlas des poissons d'eau douce de Guyane (Tome 1). Muséum National d'Histoire Naturelle, Ministère de l'Environnement. 431 p.
- Posada, A. 1909. Los peces. Pp. 285-322. In: Estudios científicos del doctor Andres Posada con algunos otros escritos suyos sobre diversos temas. Medellin, Colombia. 432 p.
- Regan, C.T. 1908. Pisces. Part 193 [1906-08]: 1-203, 25 pls. In: F.D. Godman and O. Salvin (eds.), Biologia Central-Americana. London. [Individual signatures dated to month and year; Characidae accounts date to 1908].
- Regan, C.T. 1913. The fishes of the San Juan River, Colombia. Ann. Mag. Nat. Hist. (Ser. 8), 12 (71): 462-473.
- Rendahl, H. 1941. Fische aus dem pazifischen Abflussgebiet Kolumbiens. Ark. Zool., 33 A (4): 1-15.
- Sabino, J. and I. Sazima. 1999. Association between fruit-eating fish and foraging monkeys in western Brazil. Ichthyol. Explor. Freshwaters, 10 (4): 309-312.
- Spix, J.B. von, and L. Agassiz. 1829-31. Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXXVII-MDCCCXXX jussu et auspiciis Maximiliani Josephi I.... colleget et pingendo curavit Dr J. B. de Spix.... Monachii. Part 1: i-xvi + i-ii + 1-82, Pls. 1-48; part 2: 83-138, pls. 49-101.
- Steindachner, F. 1866a. Fortsetzung der ichthyologische Notizen. Anzeiger K. Akad. Wiss. Wien, 3: 19-20.
- Steindachner, F. 1866b. Ichthyologische Notizen (III). Über einige neue Fischarten aus Südamerika. Sitzungsber. Akad. Wiss. Wien, 53: 208-214, pls. 1-2.
- Steindachner, F. 1866c. New fishes from South America. Ann. Mag. Nat. Hist. (Ser. 3), 17: 311-312.
- Steindachner, F. 1877. Die Süßwasserfische des südöstlichen Brasiliens (III). Sitzungsber. Akad. Wiss. Wien, 74: 559-694, pls. 1-13.
- Steindachner, F. 1878. Zur Fischfauna des Magdalenen-Stromes. Anz. Akad. Wiss. Wien, 15 (12): 88-91.
- Steindachner, F. 1879a. Beiträge zur Kenntniss der Flussfische Südamerika's. Denkschr. Akad. Wiss. Wien, 41: 151-179, pls. 1-4.
- Steindachner, F. 1879b. Beiträge zur Kenntniss der Süßwasserfische Südamerikas. Anz. Akad. Wiss. Wien, 16 (15): 149-152.
- Steindachner, F. 1879c. Ichthyologische Beiträge (VIII). Anz. Akad. Wiss. Wien, 16 (18): 194-195.
- Steindachner, F. 1879d. Ichthyologische Beiträge (VIII). Sitzungsber. Akad. Wiss. Wien, 80: 119-191, pls. 1-3.
- Steindachner, F. 1879e. Zur Fisch-fauna des Magdalenen-Stromes. Denkschr. Akad. Wiss. Wien, 39: 19-78, pls. 1-15.
- Steindachner, F. 1882a. Beiträge zur Kenntniss der Flussfische Südamerika's (IV). Anz. Akad. Wiss. Wien, 19 (19): 175-180.

Check List of the Freshwater Fishes of South and Central America

- Steindachner, F. 1882b. Beiträge zur Kenntniss der Flussfische Südamerikas. IV. Denkschr. Akad. Wiss. Wien, 46 (in 1883): 1-44, pls. 1-7.
- Steindachner, F. 1915a. Beiträge zur Kenntnis der Flussfische Südamerikas V. Anz. Akad. Wiss. Wien, 52 (18): 217-219.
- Steindachner, F. 1915b. Beiträge zur Kenntniss der Flussfische Südamerikas. V. Denkschr. Akad. Wiss. Wien, 93: 15-106.
- Steindachner, F. 1917. Beiträge zur Kenntnis der Flussfische Südamerikas V. Denkschr. Akad. Wiss. Wien, 93: 15-106, pls. 1-13.
- Taphorn, D.C. 1992. The characiform fishes of the Apure River drainage, Venezuela. BioLlania Edición Especial - No. 4. Monografías Científicas del Museo de Ciencias Naturales, UNELLEZ -- Guanara, estado Portuguesa, Venezuela. 537 p.
- Vieira, F., C.B.M. Alves and G.B. Santos. 2000. Rediscovery and first record of *Henochilus wheatlandii* (Teleostei: Characiformes) a rare Neotropical fish, in rio Doce basin of southeastern Brazil. Ichthyol. Explor. Freshwaters, 11 (3): 201-206.
- Vieira, F. and C.B.M. Alves. 2001. Threatened fishes of the world: *Henochilus wheatlandii* Garman, 1890 (Characidae). Environmental Biology of Fishes, 62: 414.
- Zanata, A.M. 2000. Estudo das relações filogenéticas do gênero *Brycon* Muller & Troschel, 1844 (Characidae; Characiformes). Unpublished doctoral thesis, Instituto de Biociências, Universidade de São Paulo, São Paulo, 358 p.

Subfamily Serrasalminae (Pacus and piranhas)

Michel Jégu

Serrasalminae have a deep, laterally compressed body with a series of mid-ventral abdominal spines and, except in *Colossoma*, *Piaractus*, and *Mylossoma*, an anteriorly-directed spine just before the dorsal fin. Some species possess only one row of teeth on each jaw. These teeth are interlocking, sharp and pointed; tricuspid in *Pygocentrus*, *Pristobrycon* and *Serrasalmus*, pentacuspoid in *Pygopristis*. Teeth are mammiliform and pointed out of the mouth in *Catoprion*. All other species have two rows of teeth on the upper jaw and often a pair of conical teeth just behind the main row of the lower jaw. In *Acnodon*, *Colossoma*, *Piaractus*, *Metynnis*, *Myleus*, *Mylossoma*, and *Utiaritichthys*, teeth are molariform, heavily attached to the jaw, and mainly used to grind fruits and seeds. In *Mylesinus*, *Ossubtus* and *Tometes*, teeth are incisiform and tricuspid, weakly attached to the jaw and mainly used to cut leaves. During breeding period, *Acnodon*, *Metynnis*, *Myleus*, *Mylesinus*, *Ossubtus*, *Tometes*, and *Utiaritichthys* exhibit sexual dimorphism in the form of a supplementary lobe of the anal fin, dorsal fin rays elongated into long filaments or a red pattern on the body.

During the two last decades, several works were devoted to species or generic revisions (Géry, 1986, Machado-Allison & Fink, 1991, Machado-Allison & Castillo, 1992, Fink, 1993, Fink & Zelditch, 1997, Zarske & Géry, 1999), to regional revisions (Géry, 1972, Jégu & Santos, 1988a, Machado-Allison & Fink, 1996, Géry, Manhart & Dlouhy, 1987, Britski, Silomon & Lopes, 1999) and to the description of new taxon (Fink & Machado-Allison, 1992, 2001, Jégu 1992, Jégu & Santos 1988b, 1990, Machado-Allison, Fink, Lopez Rojas & Rodenas, 1993, Merckx, Jégu & Santos, 2000). Recent works on anatomy, morphology and biological development (Machado-Allison 1982, 1986, Machado-Allison, Fink & Antonio, 1989, Fink & Zelditch, 1996) made very important progress in Serrasalminae systematics (Machado-Allison, 1983, 1985, Machado-Allison, Fink & Antonio, 1989). New data from cytotaxonomy (Porto et al., 1989, 1992), host-parasites relationships (Van Every & Kritsky, 1992), shape analysis (Fink & Zelditch, 1996) and molecular data (Orti et al., 1996) have been applied to the study of the phylogenetic relationships within Serrasalminae.

Serrasalminae include 80 valid species, (of which 8 are Incertae Sedis), and 15 genera. *Serrasalmus* (28 species), *Myleus* (15 species) and *Metynnis* (11 species) are the largest genera, whereas *Catoprion*, *Colossoma*, *Ossubtus*, *Pygopristis*, and *Tometes* are each monotypic. The longest species of Serrasalminae, reaching about 70 to 80 cm in standard length, belong to *Colossoma* and *Piaractus* and the shortest species reach about 18 to 20 cm SL. The primary body-shape variability concerns body depth, which varies from one-third to greater than 100 % standard length.

The distribution of Serrasalminae is strictly Neotropical and their presence everywhere else in the world is the result of introduction. The Amazon basin harbors all the serrasalmin genera but only six occur in Paraguay-Paraná basin and three in São Francisco basin. Distribution areas of *Acnodon*, *Colossoma*, *Mylesinus*, *Ossubtus*, *Pristobrycon*, *Pygopristis*, *Utiaritichthys*, and *Tometes* are limited to Amazon basin, Orinoco basin and coastal drainages of the Guianas. Serrasalmine species occur in all freshwater biotopes, except in very narrow forest brooks and benthic areas of deep rivers.

The development of commercial fisheries and farming of serrasalmines has resulted in an increase of knowledge on biology of commercial species (Araujo Lima & Goulding, 1997), on growth biology (Loubens & Panfili, 1997, 2001, Le Comte et al., 1993), on respiratory metabolism (Almeida-Val et al., 1992), on foods habits (Boujard et al., 1990, Santos et al., 1997, Leite & Araujo Lima, 2000), on reproduction biology (Le Bail et al., 1989, Lamas & Godinho, 1996, Viera et al., 1999), on parasitology (Kritsky et al., 1996, 1997, Thatcher, 1991, 1993) and on cytogenetic (Cestari & Galetti Jr., 1992, Nakayama et al., 2000, 2001).

This subfamily has been well studied in the floodplains and easily accessible areas along the main rivers. During the past thirty years, surveys in more difficult areas, such as rapids of the headwater streams, have broadened the known distribution of poorly known species or genera and led to the discovery of additional species. Several undescribed species of Guiana and the Central Brazilian shields can be found in museum collections and additional ones are likely to be captured. New techniques, such as cytogenetics or population genetics, may reveal new data on species distinctiveness and distribution limits in supposedly well-known areas.

Colossoma, *Piaractus* and *Mylossoma* species are widely regarded as a high-quality food fish in South America. These are the most important species of the subfamily in commercial fishing and in farming.

Tometes, *Mylesinus* and some *Myleus* species are among the most important fishes for Amerindian people of the Guianian

Shield. *Metynnis* species are recognized as aquarium fishes. Victims of their bad reputation, piranhas, mainly *Serrasalmus* and *Pygocentrus* species, are caught and dried to be sold as souvenirs.

ACNODON

Acnodon Eigenmann, 1903: 147. Type species: *Myleus oligacanthus* Müller & Troschel, 1844. Type by original designation. Gender: masculine.

Acnodon normani Gosline, 1951

Acnodon normani Gosline, 1951: 43, pl. 3; fig. 5b. Type locality: Rio Santa Teresa, a western tributary of the upper Rio Tocantins, State of Goiaz, Brazil. Holotype: CAS 20223.

Maximum length: 13.5 cm SL

Distribution: South America: Amazon, Xingu and Tocantins River basins.

Countries: Brazil

Remarks and references: See Leite & Jégu (1990) for food habits.

Common names: Pacu (Brazil)

Acnodon oligacanthus (Müller & Trochel, 1844)

Myleus oligacanthus Müller & Troschel, 1844: 98. Type locality: Surinam. Holotype: ZMB 3635. Appeared with more details in Müller & Troschel (1845: 40, pl. 8, fig. 4).

Maximum length: 20 cm TL

Distribution: South America: North Guiana Shield rivers.

Countries: French Guiana, Guyana, Suriname

Remarks and references: See Géry (1972: 197-203, figs. 30-33) for detailed description on allometry. See Planquette et al. (1996) and Ouboter & Mol (1993) for detail distribution.

Common names: Agouéti (French Guiana), Apinpélé (French Guiana), Laku (French Guiana), Pakusin (French Guiana), Stone fisi (French Guiana)

Acnodon senai Jégu & Santos, 1990

Acnodon senai Jégu & Santos, 1990: 195, fig. 6D. Type locality: Plage à la pointe de l'île de Carapatinho, rio Jari, Amapá, Brésil (0°35'45"S, 52°38'20"W) [= Beach at downstream Carapatinho Island, Jari River, Amapá, Brazil]. Holotype: INPA 2680.

Maximum length: 13.2 cm SL

Distribution: South America: Jari River basin.

Countries: Brazil

Remarks and references: See Leite & Jégu (1990) for food habits.

CATOPRION

Catoprion Müller & Troschel, 1844: 96. Type species: *Serrasalmus mento* Cuvier, 1819. Type by monotypy. Gender: masculine.

Catoprion mento (Cuvier, 1819)

Serrasalmus mento Cuvier, 1819: 369, pl. 28 (fig. 3). Type locality: Venu de Lisbonne, probablement du Brésil. Holotype: MNHN A.9869 (poor condition).

Mylesinus macropterus Ulrey, 1894: 611. Type locality: Brazil. CU 3267 Originally described on a single specimen as above, later described as new based on two specimens in Ulrey (1895: 296).

Maximum length: 15 cm SL

Distribution: South America: Amazon, Orinoco, Essequibo, and upper Paraguay River basins.

Countries: Bolivia, Brazil, Colombia, Guyana, Venezuela

Remarks and references: See Nelson (1961: 610) for swim bladder morphology. See Viera & Géry (1979) and Sazima (1983) for scale-eating.

Common names: Catirina (Brazil), Pacu-piranha (Brazil), Palometa caribe (Venezuela)

COLOSSOMA

Colossoma Eigenmann & Kennedy, 1903: 530. Type species: *Myletes oculus* Cope, 1872. Type by original designation (in

footnote) Gender: neuter. Also appeared in Eigenmann (1903: 148).

Waiteina Fowler, 1907: 473. Type species: *Myletes nigripinnis* Cope, 1878. Type by original designation. Gender: feminine. See Machado-Allison (1982: 42) and (Géry 1986: 99) for synonymy.

Melloina Campos, 1946: 219. Type species: *Melloina tambaqui* Campos, 1946. Type by original designation. Gender: feminine.

Colossoma macropomum (Cuvier, 1818)

Myletes macropomus Cuvier, 1818: 453, pl. 21 (fig. 3). Type locality: très probablement originaire des rivières du Brésil. Holotype: MNHN A.8626 (dry).

Salmo tambaqui Kner, 1860: 21. Not available, mentioned in passing under *Myletes macropomus* Cuvier.

Myletes oculus Cope, 1872: 268, pl. 12 (fig. 2). Type locality: Río Ambyiacu, Peru. Lectotype: ANSP 7991, designated by Fowler (1907: 472).

Myletes nigripinnis Cope, 1878: 693. Type locality: probably from Nauta, Peruvian Amazon, Peru. Lectotype: ANSP 21124, designated by Fowler (1907: 473, fig. 55).

Melloina tambaqui Campos, 1946: 220, fig. 3. Type locality: Rio Tapajós, Taperinha, Pará, Brazil. Holotype: MPEG unnumbered. Maximum length: 99.5 cm TL

Distribution: South America: Amazon and Orinoco basins as wild form; pisciculture form largely distributed in South America.

Countries: Bolivia, Brazil, Colombia, Cuba (introduced), Dominican Republic (introduced), Honduras (introduced), Jamaica (introduced), Panama (introduced), Peru, Venezuela

Remarks and references: See Machado-Allison (1982: 42), Géry (1986: 97) and Machado-Allison (1986: 2) for detailed description. See Goulding & Carvalho (1982) and Araujo Lima & Goulding (1997) for general biology and management. See Loubens & Panfili (1997) for growth biology.

Common names: Bocó (Brazil), Cachama (Venezuela), Cachama negra (Colombia, Venezuela), Gamitana (Colombia), Pacu (Bolivia), Ruelo (Brazil), Tambaqui (Brazil)

METYNNIS

Metynnis Cope, 1878: 692. Type species: *Metynnis luna* Cope, 1878. Type by monotypy. Gender: .

Myleocollops Eigenmann, 1903: 147. Type species: *Metynnis goeldii* Eigenmann, 1903. Type by original designation. Gender: masculine. Proposed as subgenus of *Metynnis*.

Sealeina Fowler, 1907: 478. Type species: *Myletes lippincottianus* Cope, 1870. Type by original designation. Gender: feminine.

Metynnis altidorsalis Ahl, 1923

Metynnis altidorsalis Ahl, 1923a: 22. Type locality: Paramaribo, Suriname. Holotype: ZMB 19626.

Maximum length: 11.2 cm SL

Distribution: South America: North and eastern Guiana Shield rivers.

Countries: French Guiana, Guyana, Suriname

Metynnis argenteus Ahl, 1923

Metynnis argenteus Ahl, 1923a: 24. Type locality: Rio Tapajós, b. Borin [= b. Borim, Amazon system, Brazil]. Holotype: ZMB 20676. Holotype figured in Zarske & Géry 1999: fig. 25. See Zarske & Géry (1999: 200) for detailed description.

Metynnis eigenmanni Ahl, 1923a: 25. Type locality: Rio Tapajós, b. Borin [= near by Borim, Amazon system, Brazil]. Holotype: ZMB 20677. Holotype figured in Zarske & Géry (1999: fig. 26). See Zarske & Géry (1999: 201, 213) for detailed description and synonymy.

Maximum length: 14 cm TL

Distribution: South America: Tapajós River basin.

Countries: Brazil

Common names: Pacu (Brazil), Pacu-marreca (Brazil)

***Metynnis fasciatus* Ahl, 1931**

Metynnis fasciatus Ahl, 1931: 407, fig. p. 409. Type locality: Rio Capiuru, Amazon system, Brazil. Holotype: ZMB lost.

Maximum length: 5.8 cm SL

Distribution: South America: Capiuru River basin in middle Amazon River drainage.

Countries: Brazil

Remarks and references: See Zarske & Géry (1999: 211) for detailed description.

Common names: Pacu (Brazil), Pacu-marreca (Brazil)

***Metynnis guaporensis* Eigenmann, 1915**

Metynnis guaporensis Eigenmann, 1915: 267, pl. 54. Type locality: Rio Guaporé at Maciél, Brazil. Holotype: FMNH 56913 [ex CM 5729].

Maximum length: 15.4 cm SL

Distribution: South America: Guaporé River basin.

Countries: Bolivia (?), Brazil

Remarks and references: See Zarske & Géry (1999: 192) for detailed description.

Common names: Pacu (Brazil), Pacu-marreca (Brazil), Pacupeba (Bolivia)

***Metynnis hypsauchen* (Müller & Troschel, 1844)**

Myletes hypsauchen Müller & Troschel, 1844: 97. Type locality: Guiana. Lectotype: ZMH H 2865, designated by Géry (1972: 190). Appeared in more detail in Müller & Troschel (1845: 38, pl. 10 (fig. 1)). Lectotype figured in Zarske & Géry (1999: fig. 1).

Metynnis calichromus schreitmülleri Ahl, in Schreitmüller & Ahl, 1923: 265, fig. 1. Type locality: Amazon R., South America. Holotype: ZMB 20664. Holotype figured in Zarske & Géry (1999: fig. 21).

Metynnis calichromus Ahl, 1923a: 18, fig. 1. Type locality: Lago de Faro, Jamunda, lower Amazon, Brazil. Holotype: ZMB 20674. Holotype figured in Zarske & Géry (1999: fig. 22).

Metynnis ehrhardti Ahl, 1927: 273. Type locality: Mundurucú, Rio Manacapuru, Solimoes, Amazonas, Brazil. Lectotype: ZMB 23685, designated by Zarske & Géry (1999: 210). Paralectotype figured in Zarske & Géry (1999: fig. 33).

Maximum length: 15 cm TL

Distribution: South America: Amazon and Paraguay River basins, north Guiana Shield rivers.

Countries: Bolivia, Brazil, Guyana, Peru

Remarks and references: See in Zarske & Géry (1999) for detailed description and synonymy.

Common names: Pacu (Brazil), Pacu-marreca (Brazil), Pacupeba (Bolivia), Palometa (Peru, Venezuela)

***Metynnis lippincottianus* (Cope, 1870)**

Myletes lippincottianus Cope, 1870: 561, fig. on p. 561. Type locality: Pará, Brazil. Syntypes: ANSP 8024. Fowler (1907: 478) redescribed the species as *Sealina lippincottianus* Fowler, 1907, from one specimen designed as cotype. Mentioned as syntype in Böhlke (1984: 49) and Zarske & Géry (1999: 179). Syntype figured in Zarske & Géry (1999: fig. 8).

Myletes (Myleus) orbicularis Steindachner, 1908b: 364. Type locality: Santarem, Amazon basin, Brazil. Lectotype: NMW 56428, designated and figured in Zarske & Géry (1999: 188, fig. 16). Paralectotypes are from Parnaíba River at Victoria and Santa Filomena, Lake on Medonho River, Brazil.

Metynnis goeldii Eigenmann, 1903: 147. Type locality: Brazil. No types known. Based on *Myletes lippincottianus* of Ulrey (1895: 299).

Metynnis roosevelti Eigenmann, 1915: 268, pl. 55. Type locality:

Manaus, Brazil. Holotype: FMNH 56925 [ex CM 5740, smallest of 3].

Metynnis snethlageae Ahl, 1923a: 30. Type locality: don Aquarium, Zoo, Berlin, probably from Amazon basin. Holotype: ZMB 19722. Holotype figured in Zarske & Géry (1999: fig. 31).

Metynnis anisurus Ahl, 1923a: 27, fig. 2. Type locality: Rio Tapajós, b. Borin [= near by Borim, Tapajós River, Amazon system, Brazil]. Holotype: ZMB 20678. Holotype figured in Zarske & Géry (1999: fig. 28).

Metynnis heinrothi Ahl, 1923a: 29, fig. 3. Type locality: don Aquarium, Zoo, Berlin, probably from Amazon basin. Holotype: ZMB 20662. Holotype figured in Zarske & Géry 1999: fig. 30.

Metynnis seitzii Ahl, 1923a: 28. Type locality: don Aquarium, Zoo, Berlin, probably from Amazon basin. Holotype: ZMB 20663. Holotype figured in Zarske & Géry (1999: fig. 29).

Metynnis dungerni Ahl, 1923b: 108. Type locality: Amazon R. at Pará, Brazil. Holotype: ZMB 23683. Holotype figured in Zarske & Géry (1999: fig. 31).

Maximum length: 13 cm TL

Distribution: South America: Amazon River basin, northeastern Guiana Shield rivers.

Countries: Brazil, French Guiana

Remarks and references: See Zarske & Géry (1999) for detailed description and synonymy.

Common names: Lime (French Guiana), Pacu (Brazil), Pacu-marreca (Brazil), San sou (French Guiana), Yaya kumarou (French Guiana), Yaya soley (French Guiana)

***Metynnis luna* Cope, 1878**

Metynnis luna Cope, 1878: 692. Type locality: Amazon R. basin, Peru. Holotype: ANSP 21443. Type illustrated by Fowler (1907: 479, fig. 58.)

Maximum length: 7.9 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Peru

Common names: Palometa (Peru)

***Metynnis maculatus* (Kner, 1858)**

Serrasalmus maculatus Kner, 1858: 164. Type locality: Rio Guaporé [Mato Grosso, Brazil]. Lectotype: NMW 56396, designated and figured in Zarske & Géry (1999: 176, fig. 5). BMNH 1928.1.24.10, listed as syntype in Eschmeyer (1998) but not mentioned by Zarske & Géry (1999: 176). Appeared in more detail in Kner (1860: 26, pl. 2, fig. 5).

Maximum length: 18 cm TL

Distribution: South America: Amazon and Paraguay River basins.

Countries: Bolivia (?), Brazil, Paraguay (?), Peru (?)

Remarks and references: See Zarske & Géry (1999: 176) for detailed description.

Common names: *Metynnis manchada* (Peru), *Pacu peva* (Brazil), *Palometa* (Peru), *Palometa moteada* (Peru)

***Metynnis mola* Eigenmann & Kennedy, 1903**

Metynnis mola Eigenmann & Kennedy, 1903: 528. Type locality: Arroyo Trementina, Paraguay. Holotype: CAS 60784 [ex IU 10049]. Zarske & Géry (1999: 187) mentioned ZMB 16978 (1), ZMB 16979 (1) and FMNH 52575 without type status. Holotype figured in Zarske & Géry (1999: fig. 14).

Maximum length: 15 cm TL

Distribution: South America: Paraguay-Paraná River basin.

Countries: Brazil, Paraguay

Remarks and references: See Zarske & Géry (1999: 186) for detailed description.

Common names: *Pacu peva* (Brazil)

***Metynnis orinocensis* (Steindachner, 1908)**

Myletes (Myleus) orinocensis Steindachner, 1908b: 365. Type locality: Río Orinoco at Ciudad Bolívar, Venezuela. Types probably lost.

Distribution: South America: Orinoco River basin.
 Remarks and references: See Zarske & Géry (1999: 192) for detailed description of topotype specimens
 Countries: Venezuela

***Metynnis otuquensis* Ahl, 1923**

Metynnis otuquensis Ahl, 1923a: 26. Type locality: Bahia Negra, Río Otuquis, Bolivia or Paraguay. Holotype: ZMB 16980. Holotype figured in Zarske & Géry (1999, fig. 27).

Maximum length: 8.7 cm SL

Distribution: South America: Otuquis River in Paraguay River basin.

Countries: Bolivia, Paraguay

Remarks and references: See Zarske & Géry (1999: 202) for detailed description.

MYLESINUS

Mylesinus Valenciennes, in Cuvier & Valenciennes, 1850: 234. Type species: *Mylesinus schomburgkii* Valenciennes, 1850. Type by monotypy. Gender: masculine.

***Mylesinus paraschomburgkii* Jégu, Santos & Ferreira, 1989**

Mylesinus paraschomburgkii Jégu, Santos & Ferreira, 1989: 53, pl. 1 (fig. a). Type locality: Rio Trombetas, en aval de Cachoeira Vira-Mundo, PA [Pará, Brazil]. Holotype: INPA 1226.

Maximum length: 35 cm SL

Distribution: South America: Left tributaries of the lower Amazon River, Araguari River.

Countries: Brazil

Remarks and references: See Thatcher & Jégu (1996) for intestinal parasitology. See Santos, Pinto & Jégu (1997) for food habits. See Jégu, Belmont-Jégu & Zuanon (1992) for distribution pattern.

Common names: Pacu (Brazil), Pacu cana (Brazil)

***Mylesinus paucisquamatus* Jégu & Santos, 1988**

Mylesinus paucisquamatus Jégu & Santos, 1988b: 332, pl. 1 (fig. a). Type locality: Jatobal, Rio Tocantins [Pará, Brazil]. Holotype: INPA 1808.

Maximum length: 22 cm SL

Distribution: South America: Tocantins River basin.

Countries: Brazil

Common names: Curupeté (Brazil)

***Mylesinus schomburgkii* Valenciennes, 1850**

Mylesinus schomburgkii Valenciennes, in Cuvier & Valenciennes, 1850: 235, pl. 644. Type locality: not mentioned in the original description [Essequibo River, Guyana following Bertin (1948)]. Holotype: MNHN A.9855 (head).

Distribution: South America: Essequibo and Orinoco River basins.

Countries: Guyana, Venezuela

Remarks and references: Species only known from Essequibo river by the type specimen.

Common names: Surapira (Venezuela)

MYLEUS

Myleus Müller & Troschel, 1844: 98. Type species: *Myleus setiger* Müller & Troschel, 1844. Type by subsequent designation by Eigenmann 1910: 443. Gender: masculine.

Myloplus Gill, 1896: 214. Type species: *Myletes asterias* Müller & Troschel, 1844. Type by subsequent designation by Jordan (1920: 467). Gender: masculine. Proposed as a subgenus of *Myletes*. Treated by Müller & Troschel 1844, not *Myletes* Cuvier, type species *Salmo niloticus*.

Orthomyleus Eigenmann, 1903: 148. Type species: *Myletes ellipticus* Günther, 1864. Type by original designation. Gender: masculine.

Paramyloplus Norman, 1929: 828. Type species: *Paramyloplus ternetzi* Norman, 1929. Type by monotypy. Gender: masculine.
Prosomyleus Géry, 1972: 182. Type species: *Myletes rhomboidalis* Cuvier, 1818. Type by original designation. Gender: masculine.

***Myleus altipinnis* (Valenciennes, 1850)**

Tometes altipinnis Valenciennes in Cuvier & Valenciennes, 1850: 230. p. 643. Type locality: Rio São Francisco, Brazil. Holotype: MNHN A.8652 (dry).

Distribution: South America: São Francisco River basin.

Countries: Brazil

***Myleus arnoldi* (Ahl, 1936)**

Myloplus arnoldi Ahl, 1936: 25. Type locality: Amazon R. Syntypes: ZMB 20812 (1).

Maximum length: 15.7 cm SL

Distribution: South America: Amazon, Xingu, and Tocantins River basins.

Countries: Brazil

Common names: Pacu branco (Brazil)

***Myleus asterias* (Müller & Troschel, 1844)**

Myletes asterias Müller & Troschel, 1844: 98. Type locality: Essequibo R., Guyana. Syntypes: ZMB 3646 (1), ZMB 3645 (1), BMNH 1971.5.10.61-62 (2). Appeared in more detail in Müller & Troschel (1845: 36, pl. 10, fig. 2).

Myletes ellipticus Günther, 1864: 375. Type locality: Essequibo River, Guyana. Syntypes: BMNH 1971.5.10.63 (1), BMNH 1864.1.21.33 (1).

Myleus gurupyensis Steindachner, 1911: 342. Type locality: Rio Gurupi at Chatão, Brazil. Syntypes: (2) NMW 10589 (1). Only one syntype found at NMW in August 1999.

Myloplus schulzei Ahl, 1938: 191. Type locality: South America. Holotype: ZMB 20814.

Tomete maculatus Campos, 1944: 211, fig. p. 214. Type locality: Amazon R., Brazil. Holotype: MZUSP 3356.

Maximum length: 25 cm TL

Distribution: South America: Amazon River basin, north and eastern Guiana Shield rivers.

Countries: Brazil, Guyana

Common names: Pacu (Brazil), Pacu branco (Brazil)

***Myleus knerii* (Steindachner, 1881)**

Myletes knerii Steindachner, 1881: 127, pl. 7 (fig. 2). Type locality: Maroni R., Guiana. Holotype: NMW 56394.

Maximum length: 12.1 cm SL

Distribution: South America: Maroni River basin.

Countries: French Guiana

Remarks and references: Species only known by type specimen.

***Myleus levis* Eigenmann & McAtee, 1907**

Myleus levis Eigenmann & McAtee, in Eigenmann, McAtee & Ward, 1907: 142, pl. 42 (fig. 2). Type locality: Bahia Negra, Paraguay. Holotype: CAS 62107 [ex IU 10156].

Distribution: South America: Paraguay-Paraná River basin.

Countries: Brazil, Paraguay

Remarks and references: Synonymy with *Myleus tiete* (Eigenmann & Norris, 1900) is mentioned by Gosline (1951: 42).

Common names: Coxa de negro (Brazil), Pacu peva (Brazil), Palometa (Peru)

***Myleus lobatus* (Valenciennes, 1850)**

Myletes lobatus Valenciennes, in Cuvier & Valenciennes, 1850: 212. Type locality: Fleuve Amazone, Brésil. Syntypes: MNHN 5244 (the two other syntypes are lost).

Myletes discoideus Kner, 1860: 30. Type locality: Bananeira, Rio Branco, Mato Grosso, Brazil. Syntypes: NMW 16407 (1, dry). Erroneous Syntype designation of NMW 92799 by Eschmeyer (1998). Name first used in Kner (1858: 165).

Myletes parma Günther, 1864: 374. Type locality: Rio Capin, Para

state, Brazil. Syntypes: BMNH 1869.11.8.32-33 (2).
 Maximum length: 24.5 cm SL
 Distribution: South America: Amazon and Orinoco River basins.
 Countries: Brazil, Peru, Venezuela
 Remarks and references: Synonymy above is based on personal observation and examination of types.

***Myleus micans* (Lütken, 1875)**

Myletes (Tometes) micans Lütken, 1875a: 137. Type locality: Rio das Velhas and Rio Taquaruçu, Rio São Francisco basin, Brazil. Syntypes: ZMUC 260 (1), ZMUC 261 (1). Also described in Lütken (1875c: 241; XVIII and figured p. 243).
 Maximum length: 27.6 cm SL
 Distribution: South America: São Francisco River basin.
 Countries: Brazil
 Common names: Pacu (Brazil)

***Myleus rhomboidalis* (Cuvier, 1818)**

Myletes rhomboidalis Cuvier, 1818: 449, pl. 22 (fig. 3). Type locality:...du Brésil ou de Lisbonne à notre Muséum. Holotype: lost.
Myletes latus Müller & Troschel, 1844: 97. Type locality: Essequibo Riv., Guyana. Specimens mentioned: ZMB 3643 (1), ZMB 3644 (1). Described as synonym of *Tetragonopterus latus* Jardine & Schomburgk, in Schomburgk, 1841.
Salmo pacupeba Kner, 1860: 23. Not available, name mentioned in passing under *Myletes rhomboidalis* Cuvier; from Maribitanos, Paraná River, Brazil.
 Maximum length: 37 cm SL
 Distribution: South America: Amazon River basin; north and eastern Guiana Shield rivers.
 Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela
 Remarks and references: Specimens mentioned by Valenciennes, (in Cuvier & Valenciennes, 1850: 211) and Bertin (1948: 26) are not types, all collected after original description by Cuvier (1818). See Boujard et al. (1990) for details on foods habits. See Le Comte et al. (1993) for details on growth biology. Synonymy above is based on personal observation and examination of types.
 Common names: Asitau (French Guiana), Beagba (French Guiana), Kambai (French Guiana), Koumarou (French Guiana), Kumalu (French Guiana), Pacu (Brazil), Palometa (Venezuela), Pampano (Venezuela), Weti koemaloe (French Guiana)

***Myleus rubripinnis* (Müller & Troschel, 1844)**

Myletes rubripinnis Müller & Troschel, 1844: 97. Type locality: Essequibo River, Guyana. Syntypes: ZMB 3636 (1), ZMB 3637 (1), ZMB 23686 (1), BMNH 1971.1.5.10.64 (1). Appeared in more detail in Müller & Troschel (1845: 38, pl. 9, fig. 3).
Myletes luna Valenciennes, in Cuvier & Valenciennes, 1850: 221. Type locality: Cayenne, French Guiana; Indies. Lectotype: MNHN A 9870, designated by Géry (1972: 163).
 Maximum length: 30 cm SL
 Distribution: South America: Amazon and Orinoco River basins; north and eastern Guiana Shield rivers.
 Countries: Brazil, Colombia, Ecuador, French Guiana, Guyana, Peru, Suriname, Venezuela
 Common names: Gancho rojo (Colombia), Garopa (Colombia), Mabé (French Guiana), Pacu (Brazil), Pacu branco (Brazil), Pakoesi (French Guiana), Pakousi (French Guiana), Palometa (Venezuela), Pampano (Venezuela), Pasina tanakem (French Guiana), Pasina tikolokem (French Guiana), Poukoupitane (French Guiana), Yapinan (French Guiana)

***Myleus schomburgkii* (Jardine & Schomburgk, 1841)**

Tetragonopterus schomburgkii Jardine & Schomburgk, in Schomburgk, 1841: 243, pl. 22. Type locality: Rio Negro, Brazil. No type preserved.
Myletes schomburgkii Valenciennes, in Cuvier & Valenciennes, 1850: 212. Type locality: Surinam. No type known.

Myletes palometa Valenciennes, in Cuvier & Valenciennes, 1850: 214. Type locality: "Haut Orénoque... confluent du rio Jao" [Venezuela]. No type. Described from Humboldt (in Humboldt & Valenciennes 1821: 177) and Jardine & Schomburgk (in Schomburgk 1841: pl. 22).

Maximum length: 42 cm SL
 Distribution: South America: Middle and lower Amazon River basin, Nanay River, upper Orinoco River basin, Suriname (?).
 Countries: Brazil, Peru, Suriname (?), Venezuela
 Remarks and references: The locality "Surinam" mentioned by Valenciennes in Cuvier & Valenciennes (1850: 214) for *Myletes schomburgkii* is doubtful. No specimen from Guianas was seen in collections.
 Common names: Pacu (Brazil), Pacu cadete (Brazil), Pacu ferrado (Brazil), Pacu jumento (Brazil), Palometa (Venezuela), Pampano (Venezuela)

***Myleus setiger* Müller & Troschel, 1844**

Myleus setiger Müller & Troschel, 1844: 98. Type locality: Essequibo R., Guyana. Syntypes: ZMB 3634 (1), BMNH 1971-5-10.65 (1). Appeared in more detail in Müller & Troschel (1845: 39, pl. 11, fig. 1).
Myletes divaricatus Valenciennes, in Cuvier & Valenciennes, 1850: 215. Type locality: Essequibo River, Guyana. Holotype: MNHN A 8629 (dry).
Myletes doidyxodon Valenciennes, in Cuvier & Valenciennes, 1850: 222. Type locality: Amazon R. Holotype: MNHN A 9868.
Myletes filusus Kner, 1860: 27. Not available, name mentioned in synonymy of *Myleus setiger* Müller & Troschel, 1844; from Mato Grosso, Brazil.
 Maximum length: 27 cm SL
 Distribution: South America: Tributaries of low and middle Amazon River, Orinoco basin, upper Orinoco River and tributaries, north and eastern Guiana Shield rivers.
 Countries: Brazil, Guyana, Suriname, Venezuela
 Remarks and references: Recent observations indicate that *Myleus setiger* Müller & Troschel, 1844, differs from *Myletes pacu* Jardine & Schomburgk, 1841 by the number of anal rays. Synonymy above is based on personal observation and examination of types.
 Common names: Pacu (Brazil), Pacu dente-seco (Brazil), Palometa (Peru)

***Myleus ternetzi* (Norman, 1929)**

Paramyloplus ternetzi Norman, 1929: 828, pl. 1. Type locality: Maparú Rapids, Approuague R., French Guiana. Syntypes: BMNH 1926.3.2.551-552 (2).
Myleus (Paramyloplus) ternetzi goslinei Géry, 1972: 171, pl. 4 (figs. 1-2). Type locality: Brokopondo, Suriname R., Suriname. Holotype: RMNH 26467. See Géry, Planquette & Le Bail (1991: 36) for synonymy.
 Maximum length: 23.1 cm SL
 Distribution: South America: East and northeast Guiana Shield rivers.
 Countries: Brazil, French Guiana, Suriname
 Remarks and references: See Le Bail et al. (1989) for reproductive biology.
 Common names: Mabé (French Guiana), Mambe (French Guiana), Pakoesi (French Guiana), Pakousi (French Guiana), Pasina taliliman (French Guiana), Pasina tetakloyem (French Guiana)

***Myleus tiete* (Eigenmann & Norris, 1900)**

Myletes tiete Eigenmann & Norris, 1900: 359. Type locality: Piracicaba, São Paulo, Brazil. Holotype: not found.
 Maximum length: 15.2 cm SL
 Distribution: South America: Paraguay-Paraná River basin.
 Countries: Argentina (?), Brazil, Paraguay
 Common names: Pacu peva (Brazil)

***Myleus torquatus* (Kner, 1858)**

Myletes torquatus Kner, 1858: 164. Type locality: Rio Branco, Marabitanos [Negro River basin, Amazonas, Brazil]. Syntypes: (3) NMW 5640 (1), NMW 56449 (1). Appeared in more detail in Kner (1860: 24, pl. 1, fig. 4). Only two syntypes found at the NMW on August 1999.

Distribution: South America: Amazon, Negro and Orinoco River basins.

Countries: Brazil, Venezuela

Common names: Pacu branco (Brazil), Palometa (Venezuela), Pampano (Venezuela)

Species inquirenda

Myletes pacu Jardine & Schomburgk, in Schomburgk, 1841: 236, pl. 20. Type locality: Essequibo R., Guyana. No types known.

MYLOSSOMA

Mylossoma Eigenmann & Kennedy, 1903: 530. Type species: *Myletes albiscopus* Cope, 1872. Type by original designation (in footnote). Gender: neuter. Revised by Machado-Allison and Castillo (1992).

Starksina Fowler, 1907: 476. Type species: *Myletes herniarius* Cope, 1872. Type by original designation. Gender: feminine. See Machado-Allison & Castillo (1992: 4) for synonymy.

***Mylossoma acanthogaster* (Valenciennes, 1850)**

Myletes acanthogaster Valenciennes, in Cuvier & Valenciennes, 1850: 209. Type locality: Lagune de Maracaibo, Venezuela. Holotype: MNHN A.1065 (dry).

Maximum length: 28.5 cm SL

Distribution: South America: Lake Maracaibo basin.

Countries: Venezuela

Remarks and references: See Machado-Allison & Castillo (1992: 17) for detailed morphology.

Common names: Palometa (Venezuela)

***Mylossoma aureum* (Agassiz, 1829)**

Myletes aureus Agassiz, in Spix & Agassiz, 1829: 74, pl. 31. Type locality: Equatorial rivers of Brazil. Potential syntypes: MHNN 787 (1), MHNN 788 (2) according to Kottelat (1984: 146; 1988: 84). Named as *Tetragonopterus aureus* Spix on plate. See Kottelat (1988: 79) for detail on authorship.

Myletes herniarius Cope, 1872: 268, pl. 12 (fig. 3). Type locality: Río Ambyiacu, Peru. Lectotype: ANSP 8025, designated by Fowler (1907: 476). Figured as holotype and paratype in Böhlke (1984: 48). Lectotype illustrated by Fowler (1907: fig. 58) according to Böhlke (1984: 48). See Machado-Allison & Castillo (1992: 17) for synonymy.

Mylossoma ventriosa Norman, 1929: 815, fig. 20. Type locality: Solimoes, Amazon R. Holotype: BMNH 1923.10.28.263. See Machado-Allison & Castillo (1992: 17) for synonymy.

Maximum length: 20 cm TL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Bolivia, Brazil, Colombia, Ecuador, Peru, Venezuela

Remarks and references: See Nelson (1961: 609) for swim bladder morphology. See Machado-Allison & Castillo (1992: 17) for detailed morphology. See Leite & Araujo Lima (2000) for larval diet.

Common names: Garopita (Colombia), Pacu comum (Brazil), Pacu manteiga (Brazil), Pacupeba (Bolivia), Palometa (Peru), Palometa de rio (Venezuela)

***Mylossoma duriventre* (Cuvier, 1818)**

Myletes duriventris Cuvier, 1818: 451, pl. 22 (fig. 2). Type locality: Brazil. Holotype: MNHN A 9891. Valenciennes in Cuvier & Valenciennes (1850: 206) specifies that "M. Cuvier a fait connaître, d'après un animal empaillé, une espèce" MNHN A 9864 and MNHN A 9780 (captured in 1847 by Castelnau), are incorrectly considered as paratypes by Bertin (1948: 28).

Myletes orbignyianus Valenciennes in Cuvier & Valenciennes, 1850: 220. Type locality: Corrientes, Rio Paraná, Brazil. Lectotype: MNHN A 9863, designated by Géry et al. (1987: 444). See Machado-Allison & Castillo (1992: 19) for synonymy.

Myletes albiscopus Cope, 1872: 267, pl. 12 (fig. 1). Type locality: Río Ambyiacu, Peru. Lectotype: ANSP 8021, designated by Fowler (1907: 475). Appeared first as name only in Cope (1871: 55). See Machado-Allison & Castillo (1992: 19) for synonymy.

Metynnis unimaculatus Steindachner, 1908a: 326. Type locality: Lake at Rio Medonho, trib. of Rio Parnahyba north of Santa Filomena, Brazil. Syntypes: NMW 56451 (3). See Zarske & Géry (1999: 188) for synonymy.

Mylosoma ocellatum Eigenmann, 1915: 265. Type locality: Villa Hays, Paraguay. Holotype: FMNH 56816 [ex CM 5629]. See Géry et al., (1987: 443) and Machado-Allison & Castillo (1992: 19) for synonymy.

Salmo 30-radiatus Larrañaga, 1923: 388. Type locality: Uruguay. No type known.

Mylossoma argenteum Ahl, 1928: 192. Type locality: Amazon R. Syntypes: ZMB 20854 (2). Appeared first in Ahl (1928) as above, then in Ahl (1929: 273).

Mylossoma paraguayensis Norman, 1929: 814, fig. 19. Type locality: Río Paraguay. Syntypes: BMNH 1895.5.17.254-255 (2), BMNH 1910.5.26.47-48 (2), BMNH 1910.5.26.46 (1). See Géry et al., (1987: 443) for synonymy with *Mylossoma duriventris orbignyianum* and Machado-Allison & Castillo (1992: 19) for synonymy with *Mylossoma duriventris* Cuvier, 1818.

Maximum length: 25 cm SL

Distribution: South America: Amazon, Orinoco, and Paraguay-Paraná River basins.

Countries: Argentina, Bolivia, Brazil, Colombia, Ecuador, Paraguay, Peru, Venezuela

Remarks and references: See Machado-Allison & Castillo (1992: 19) for detailed morphology. See Leite & Araujo Lima (2000) for larval diet.

Common names: Garopa (Colombia), Pacu comum (Brazil), Pacu manteiga (Brazil), Pacu peva (Brazil), Pacupeba (Bolivia), Palometa (Peru, Venezuela)

OSSUBTUS

Ossubtus Jégu, 1992: 240. Type species: *Ossubtus xinguense* Jégu, 1992. Type by original designation. Gender: neuter.

***Ossubtus xinguense* Jégu, 1992**

Ossubtus xinguense Jégu, 1992: 240, fig. 4a. Type locality: Altamira, Rio Xingu, Pará, Brésil. Holotype: INPA 6535.

Maximum length: 17.6 cm SL

Distribution: South America: Xingu River basin.

Countries: Brazil

PIARACTUS

Piaractus Eigenmann, 1903: 148. Type species: *Myletes brachypomus* Cuvier, 1818. Type by original designation. Gender: masculine.

Reganina Fowler, 1907: 475. Type species: *Myletes bidens* Spix & Agassiz, 1829. Type by original designation. Gender: feminine. See Machado-Allison (1982: 46) for synonymy.

***Piaractus brachypomus* (Cuvier, 1818)**

Myletes brachypomus Cuvier, 1818: 452, pl. 22 (fig. 1). Type locality: Brésil. Holotype: MNHN A.8627 (dry).

Myletes paco Humboldt, in Humboldt & Valenciennes, 1821: 175, pl. 47 (fig. 2). Type locality: Upper Río Marañon, Amazon R. basin. No types known. See Machado-Allison (1982: 47) for synonymy.

Myletes bidens Spix & Agassiz, 1829: 75, pl. 32. Type locality: Rivers of equatorial Brazil. Lectotype: MHNN 789, designated by Géry (1986: 98). See Kottelat (1988: 79) for detail on author-

ship.

Wateina fowleri Campos, 1946: 219, fig. 2. Type locality: Rio Tapajós, Amazon basin, Pará, Brazil. Holotype: MZUSP 3572. See Machado-Allison (1982: 48) for synonymy.

Maximum length: 71 cm TL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Bolivia, Brazil, Colombia, Peru, Venezuela

Remarks and references: See Loubens & Panfili (2001: 51) for growth biology.

Common names: Caranha (Brazil), Morocoto (Venezuela), Paco (Colombia, Peru), Pirapitinga (Brazil), Tambaqui (Bolivia, Brazil)

***Piaractus mesopotamicus* (Holmberg, 1887)**

Myletes edulis Castelnau, 1855: 68. Type locality: Paraguay. No types known. Nomen nudum according to Géry 1986: 102.

Myletes (Myleus) mesopotamicus Holmberg, 1887: 387. Type locality: Rio Parana, Uruguay. No type known. Appeared in more detail in Holmberg (1891: 193). Holmberg (1882) citation listed as name only by Fowler, not investigated.

Myletes mitrei Berg, 1895: 149. Type locality: San Pedro, Río Paraná, Buenos Aires, Argentina. Syntypes: BMNH 1928.1.25.6-7 (2). See Géry (1986: 102) for synonymy based on principle of priority.

Colosoma canterai Devincenzi, in Devincenzi & Teague, 1942: 74, text-fig. Type locality: Río Uruguay, Uruguay. Holotype: whereabouts unknown.

Maximum length: 40.5 cm SL

Distribution: South America: Paraguay-Paraná River basin.

Countries: Argentina, Bolivia, Brazil, Paraguay, Uruguay

Remarks and references: See Géry (1986: 102) for more detail.

Common names: Caranha (Brazil), Pacu (Brazil), Pacu caranha (Brazil)

PRISTOBRYCON

Pristobrycon Eigenmann, 1915: 245. Type species: *Serrasalmo (Pygocentrus) calmoni* Steindachner, 1908. Type by original designation. Gender: masculine. See Machado-Allison (1985) for generic status and phylogenetic relationships.

***Pristobrycon aureus* (Spix & Agassiz, 1829)**

Serrasalmo aureus Spix & Agassiz, 1829: 72, pl. 29. Type locality: Equatorial lakes and rivers of Brazil. No types known according to Kottelat (1988). See Kottelat (1988: 79) for details on authorship.

Salmo erythrophthalmus Kner, 1860: 43. Not available, name mentioned in passing under *Serrasalmo aureus* Spix, from Vaupé River, Mato Grosso, Brazil.

Serrasalmo gymnogenys Günther, 1864: 371. Type locality: Guyana and River Capim, Brazil. Syntypes: (3) BMNH 1849.11.3.33 (1), BMNH 1971.5.10.59 (1).

Distribution: South America: Lower portion of tributaries of lower Amazon River, Guyana rivers.

Countries: Brazil, Guyana

Common names: Piranha (Brazil)

***Pristobrycon calmoni* (Steindachner, 1908)**

Serrasalmo (Pygocentrus) calmoni Steindachner, 1908b: 361. Type locality: Rio Pará, Brazil. Syntypes: lost

Pygocentrus bilineatus Eigenmann, 1909: 47. Type locality: Aruka R., Guyana. Holotype: FMNH 58075 [ex CM 1072]. See Machado-Allison & Fink (1996: 20) for synonymy.

Serrasalmus coccogenis Fowler, 1911: 428, fig. 4. Type locality: La Pedrita, Caño Uracoa, Venezuela. Holotype: ANSP 37870. See Machado-Allison & Fink (1996: 20) for current synonymy.

Pygopristis gibbosus Starks, 1913: 17, pl. 3. Type locality: Market at Pará, Brazil. Holotype: SU 22226. See Jégu & Santos (1988a: 243) for synonymy.

Maximum length: 15 cm TL

Distribution: South America: Lower and middle Amazon and Orinoco River basins; coastal rivers of Guyana.

Countries: Brazil, Guyana, Venezuela

Remarks and references: See Jégu & Santos (1988a: 243) and Machado-Allison & Fink (1996: 20) for detailed description. See Machado-Allison & Fink (1996: 21) for distribution in Venezuela.

Common names: Caribito (Venezuela), Piranha (Brazil), Piranha branca (Brazil)

***Pristobrycon careospinus* Fink & Machado-Allison, 1992**

Pristobrycon careospinus Fink & Machado-Allison, 1992: 69, fig. 20. Type locality: El Loro lagoon, Atabapo Riv., 1 km from San Fernando de Atabapo, Venezuela, 4°00'N, 67°50'W. Holotype: MBUCV 8145.

Maximum length: 11.05 cm SL

Distribution: South America: Atabapo River in Orinoco River basin.

Countries: Venezuela

Common names: Caribe (Venezuela)

***Pristobrycon maculipinnis* Fink & Machado-Allison, 1992**

Pristobrycon maculipinnis Fink & Machado-Allison, 1992: 66, fig. 19. Type locality: Caño Doyotomoni, trib. of Pamoni Riv., 4 km south of the confluence with Casiquiare Riv., Venezuela, 2°48'N, 64°54'W. Holotype: MBUCV 16421.

Maximum length: 24.8 cm SL

Distribution: South America: Blackwater areas in a tributary of the Casiquiare River and a tributary of the Atabapo River.

Countries: Venezuela

Remarks and references: See Machado-Allison & Fink (1996: 31) for distribution in Venezuela.

Common names: Caribe (Venezuela)

***Pristobrycon striolatus* (Steindachner, 1908)**

Serrasalmo scapularis Günther, 1864: 368. Type locality: Esse-quiho R., Guyana. Syntypes: BMNH 1971.5.10.58 (1), BMNH 1964.1.21.34-36 (3). Norman (1929: 793) reduced the syntypes at BMNH 1964.1.21.34-36 (3). See Géry (1976: 53) for synonymy.

Serrasalmo (Pygocentrus) striolatus Steindachner, 1908b: 360. Type locality: Rio Pará, Brazil. Syntypes: NMW 10583 (1), NMW 10584 (1)

Pristobrycon baratai Campos, 1946: 218, fig. 1. Type locality: Rio Tapajós, Santarém, Pará, Brazil. Holotype: MZUSP [ex DZSASP] 3630. See Géry (1976: 53) for synonymy.

Pygopristis antoni Fernández-Yépez, 1965b: [1], fig. 1. Type locality: Río San José, Estado Guárico, Venezuela. Holotype: MACLPI 65635-A. See Machado-Allison et al. (1989: 146) for synonymy.

Maximum length: 15 cm TL

Distribution: South America: Amazon and Orinoco River basins; north and eastern Guiana Shield rivers.

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela

Remarks and references: See Machado-Allison et al., (1989: 146), Fink (1993: 671) and Machado-Allison & Fink (1996: 27) for further detail on genus status. See Machado-Allison & Fink (1996: 26) for distribution in Venezuela. See Nico & Taphorn (1988: 317) for food habits.

Common names: Caribito (Venezuela), Ipilay (French Guiana), Jetudo (Venezuela), Pêne nipima (French Guiana), Pilay (French Guiana), Pílin (French Guiana), Piranha (Brazil), Piranha mafura (Brazil), Piray (French Guiana), Pireng (French Guiana), Poson cizo (French Guiana)

PYGOCENTRUS

Pygocentrus Müller & Troschel, 1844: 94. Type species: *Serrasalmo piraya* Cuvier, 1819. Type by subsequent designation by Eigenmann (1910: 442). Gender: masculine. See Machado-Allison (1985) for generic status and phylogenetic relationships. Genus revised by Machado-Allison and Fink (1991) and Fink (1993).

Gastropriestis Eigenmann, 1915: 238. Type species: *Serrasalmo (Pygocentrus) ternetzi* Steindachner, 1908. Type by original designation. Gender: feminine.

Rooseveltiella Eigenmann, 1915: 240. Type species: *Pygocentrus nattereri* Kner, 1858. Type by original designation. Gender: feminine. Preoccupied by *Rooseveltiella* Fox, in Siphonoptera; replaced by *Taddyella* Ihering, 1928

Taddyella Ihering, 1928: 45. Type species: *Pygocentrus nattereri* Kner, 1858. Type by being a replacement name. Gender: feminine. Replacement for *Rooseveltiella* Eigenmann, 1915, preoccupied by *Rooseveltiella* Fox, 1914, in Siphonoptera.

***Pygocentrus cariba* (Humboldt & Valenciennes, 1821)**

Serrasalmo albus, dorso Humboldt & Valenciennes, 1821: 173. Not available; should have been *Serrasalmo Cariba, albus...* according to Fink (1993: 669).

Serrasalmo cariba Humboldt & Valenciennes, 1821: 216, pl. 47 (fig. 1). Type locality: Apuré and Orinoco rivers, South America. No types known. Name available from plate and caption on p. 216. Description is on p. 173, as *Serrasalmo albus, dorso*; if *albus* is regarded as an available name, Fink (1993: 669) serves as first reviser selecting *cariba*.

Serrasalmus caribe Valenciennes in Cuvier & Valenciennes, 1850: 279. Type locality: Orinoco [Venezuela]. ZMUC 517 (1) Appeared first as *Serrasalmo cariba* Humboldt (in Humboldt & Valenciennes 1821: pl. 27, fig. 1). See Fink (1993: 684) for synonymy.

Serrasalmo (Pygocentrus) notatus Lütken, 1875b: 238. Type locality: Caracas, Venezuela. Syntypes: ZMUC 517 (1) Puerto Cabello.

Pygocentrus stigmaterythraeus Fowler, 1911: 424, fig. 3. Type locality: La Pedrita, Caño Uracoa, Venezuela. Holotype: ANSP 37868. Types figured as *Serrasalmus coccogenis* in Machado-Allison & Fink 1996: 148. See Fink (1993: 684) and Machado-Allison & Fink (1996: 20) for synonymy.

Maximum length: 27.9 cm TL

Distribution: South America: Widely distributed in the Orinoco River basin lowlands and tributaries.

Countries: Colombia, Venezuela

Remarks and references: Valid as *Pygocentrus caribe* in Machado-Allison & Fink (1991: 122). Synonymy of *Pygocentrus cariba* (Humboldt & Valenciennes 1821) in Fink (1993: 684). See Nico & Taphorn (1988: 314) for food habits. See Machado-Allison & Fink (1996: 39) for distribution in Venezuela.

Common names: Capaburro (Venezuela), Caribe colorado (Venezuela), Piraña (Colombia)

***Pygocentrus nattereri* Kner, 1858**

Pygocentrus nattereri Kner, 1858: 166. Type locality: Cuiabá and Mato Grosso, Brazil. Syntypes: NMW 10585 (1), NMW 105587 (1), MNW 16167 (1, dry). Appeared in more detail in Kner (1860: 28, pl. 3, fig. 8). See Fink (1993: 672) for type locality comments.

Pygocentrus altus Gill, 1870: 93. Type locality: Río Marañón or Río Napo, Amazon system, Peru or Ecuador. Holotype: USNM 21432. See Fink (1993: 679) for synonymy.

Serrasalmo (Pygocentrus) ternetzi Steindachner, 1908b: 359. Type locality: Río Paraguay at Descalvados, Mato Grosso, Brazil. Holotype: lost according to Fink (1993: 671). See Fink (1993: 679) for synonymy.

Maximum length: 33.3 cm SL

Distribution: South America: Amazon River basin, Paraguay-Paraná River basin, northeastern Brazilian coastal rivers, Essequibo River basin.

Countries: Argentina, Bolivia, Brazil, Colombia, Ecuador, Guyana, Paraguay, Peru, Uruguay

Remarks and references: Recent observation reveal NMW 16167 dry specimen as possible syntype. See Fink & Zelditch (1997: 179) for taxonomic status. See Zbinden (1973) and Sazima and Machado (1990) for details on behaviour.

Common names: Palometa (Bolivia), Paña (Peru), Piraña (Colombia), Piranha caju (Brazil), Piranha vermelha (Brazil)

***Pygocentrus palometa* Valenciennes, 1850**

Pygocentrus palometa Valenciennes, in Cuvier & Valenciennes, 1850: 296. Type locality: Río Apuré, Río Guarico, Lower Río Orinoco, Venezuela. No types mentioned. Nomen dubium.

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Remarks and references: Doubtful species because too brief description, no specimen mentioned and no drawn representation.

***Pygocentrus piraya* (Cuvier, 1819)**

Serrasalmus piraya Cuvier, 1819: 368, pl. 28 (fig. 4). Type locality: Brazil. Holotype: MNHN A.8630 (dry, missing from 1988).

Serrasalmo piranha Agassiz, in Spix & Agassiz, 1829: 71, pl. 28.

Type locality: Rio São Francisco lakes, Brazil. No type known. See Fink (1993: 670) for synonymy.

Serrasalmo ferox Swainson, 1838: 254. Type locality: No type locality known. Based on *Serrasalmo piranha* Agassiz, 1829, pl. 28.

Pygocentrus bidorsalis Kner, 1860: 36. Not available, name mentioned in text under *Pygocentrus piraya* Müller and Troschel, 1848.

Maximum length: 34 cm SL

Distribution: South America: São Francisco River basin.

Countries: Brazil

Remarks and references: See Fink (1993) for detailed description.

Common names: Piranha (Brazil)

PYGOPRISTIS

Pygopristsis Müller & Troschel, 1844: 95. Type species: *Pygopristsis fumarius* Müller & Troschel, 1844. Type by subsequent designation. Gender: feminine. See Machado-Allison (1985) for generic status and phylogenetic relationships.

***Pygopristsis denticulata* (Cuvier, 1819)**

Serrasalmus denticulatus Cuvier, 1819: 371. Type locality: unknown. Type lost. Described from a small skeleton.

Serrasalmus punctatus Jardine & Schomburgk in Schomburgk, 1841: 223, pl. 17. Type locality: Guyana. No types known. See Machado-Allison & Fink (1996: 13) for synonymy.

Pygopristsis fumarius Müller & Troschel, 1844: 95. Type locality: Guiana. Syntypes: ZMB 3622 (2), ZMB 6252 (2). Appeared with more details in Müller & Troschel 1845: 35, pl. 9 (fig. 2). See Machado-Allison & Fink (1996: 13) for synonymy.

Maximum length: 20 cm TL

Distribution: South America: Orinoco River basin, north and eastern Guiana Shield rivers; tributaries of the lower Amazon River.

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela

Remarks and references: See Géry (1972: 209), Jégu & Santos (1988a: 242) and Machado-Allison & Fink (1996: 13) for detailed morphology. See Machado-Allison & Fink (1996: 14) for distribution in Venezuela.

Common names: Palometa caribe (Venezuela), Pilin (French Guiana), Piranha (Brazil), Piray (French Guiana), Pireng (French Guiana), Poson sizo (French Guiana)

SERRASALMUS

Serrasalmus La Cepède, 1803: 283. Type species: *Salmo rhombus* Linnaeus, 1766. Type by monotypy. Gender: masculine. See Machado-Allison (1985) for generic status and phylogenetic relationships.

Serrasalmo Duméril, 1806: 342. Type species: *Salmo rhombus* Linnaeus, 1766. Type by subsequent designation by Fowler (1950: 279). Gender: masculine. Perhaps not intended as a new name -- *Serrasalmo* La Cepède in parentheses; apparently can be regarded as an incorrect subsequent spelling.

***Serrasalmus altispinis* Merckx, Jégu & Santos, 2000**

Serrasalmus altispinis Merckx, Jégu & Santos, 2000: 191, fig. 4b. Type locality: Rapides Quarenta Ilhas, Fl. Pitinga, Bassin de l'Uatumã, Amazonas, Brésil. Holotype: INPA 14434.

Maximum length: 19 cm SL

Distribution: South America: Amazon River basin, Uatumã River.

Countries: Brazil

Common names: Piranha (Brazil)

***Serrasalmus altuvei* Ramírez, 1965**

Serrasalmus altuvei Ramírez, 1965a: 1, fig. (p. 3). Type locality: El Polvero, Río San José, Edo. Guárico, Venezuela. Holotype: MAC 65639. Holotype missing according to Jégu & Santos (1987: 408).

Maximum length: 17.3 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Remarks and references: See Machado-Allison & Fink (1996: 55) and Fink & Machado-Allison (2001: 11) for distribution. See Nico & Taphorn (1988: 317) for food habits.

Common names: Caribe azul (Venezuela)

***Serrasalmus brandti* (Lütken, 1875)**

Serrasalmo brandtii Lütken, 1875a: 137. Type locality: Lagoa Santa, Minas Gerais, Brazil. Syntypes: NMW 5708 (2), ZMB 9195 (2), USNM 44964 (1), ZMUC 268 (1), ZMUC 269 (1), ZMUC 273 (1), ZMUC 276a (1), ZMUC 279 (1), ZMUC 280 (1), ZMUC 290 (1), ZMUC 295 (1), ZMUC 297 (1), ZMUC 278 (1, skel). Also described in Lütken (1875c: 237), Lütken (1875c: XVIII and figured p. 238).

Maximum length: 21.2 cm SL

Distribution: South America: São Francisco River basin.

Countries: Brazil

Common names: Pirambeba (Brazil)

***Serrasalmus compressus* Jégu, Leão & Santos, 1991**

Serrasalmus compressus Jégu, Leão & Santos, 1991: 102, fig. 2b. Type locality: Laguna Mocovi, río Mocovi, affluent Mamoré, province du Béni, Bolivie Holotype: MNHN 1986-615.

Maximum length: 19 cm SL

Distribution: South America: Middle Amazon River basin.

Countries: Bolivia, Brazil, Peru

Remarks and references: See Jégu et al. (1991: 107) for fertility rate.

Common names: Piraña (Bolivia), Piranha (Brazil)

***Serrasalmus eigenmanni* Norman, 1929**

Serrasalmus eigenmanni Norman, 1929: 804, fig. 16. Type locality: Rockstone, Guyana. Holotype: BMNH 1911.10.31.496.

Maximum length: 18 cm SL

Distribution: South America: Amazon River basin, north and eastern Guiana Shield rivers.

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela

Remarks and references: See Machado-Allison & Fink (1996: 86) for distribution in Venezuela.

Common names: Ipilay (French Guiana), Pêne nipima (French Guiana), Piranha (Brazil), Piranha branca (Brazil), Piray coupeur (French Guiana), Pireng (French Guiana), Poson sizo (French

Guiana), Umayka kaigwa (French Guiana)

***Serrasalmus elongatus* Kner, 1858**

Serrasalmus elongatus Kner, 1858: 167. Type locality: Rio Guapore, Mato Grosso, Brazil. Possible syntypes: NMW 18903 (1), NMW 904 (1), NMW 57016 (1), NMW 16343 (1, dry), NMW 16345 (1, dry), NMW 16240 (1, dry). More detailed description in Kner (1860: 44, pl. 5, fig. 12).

Serrasalmus pingke Fernández-Yépez, 1951: [1], fig. on third unnumbered page. Type locality: Río Apure, La Defensa, suroeste de San Fernando de Apure, Estado Apure, Venezuela. Holotype: MHNLS 1903 [ex AFY 51060]. According to Machado-Allison & Fink (1996: 67), current holotype number is MCNLS 1021. See Machado-Allison & Fink (1996: 67) for synonymy.

Maximum length: 30 cm TL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Bolivia, Brazil, Ecuador, Peru, Venezuela

Remarks and references: See Machado-Allison & Fink (1996: 70) for distribution in Venezuela. See Nico & Taphorn (1988: 316) for food habits.

Common names: Caribe pinche (Venezuela), Paña (Peru), Piraña (Bolivia), Piranha comprida (Brazil), Piranha mucura (Brazil)

***Serrasalmus geryi* Jégu & Santos, 1988**

Serrasalmus geryi Jégu & Santos, 1988a: 248, pl. 8 (fig. 2). Type locality: Araguacema, Rio Araguaia [Brazil]. Holotype: INPA 999.

Maximum length: 18.1 cm SL

Distribution: South America: Tocantins River basin.

Countries: Brazil

***Serrasalmus gibbus* Castelnau, 1855**

Serrasalmus gibbus Castelnau, 1855: 71, pl. 38 (fig. 1). Type locality: Rio Araguay, Brazil. Holotype: MNHN A.8648 (dry).

Maximum length: 21 cm SL

Distribution: South America: Tocantins River basin.

Countries: Brazil

Remarks and references: See Jégu & Santos (1988a: 253) for detailed description.

Common names: Piranha (Brazil)

***Serrasalmus gouldingi* Fink & Machado-Allison, 1992**

Serrasalmus gouldingi Fink & Machado-Allison, 1992: 58, fig. 13. Type locality: Anavilhanas, R. Negro, Brazil, 2°50'S, 61°00'W. Holotype: MZUSP 42363.

Maximum length: 27.94 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Brazil, Venezuela

Remarks and references: See Machado-Allison & Fink (1996: 77) for distribution in Venezuela.

Common names: Caribe negro (Venezuela), Fula preto (Brazil), Piranha (Brazil)

***Serrasalmus hastatus* Fink & Machado-Allison, 2001**

Serrasalmus hastatus Fink & Machado-Allison, 2001: 4, fig. 2. Type locality: Beach, Marara, Rio Branco, Brazil. Holotype: MZUSP 66893.

Maximum length: 15.45 cm SL

Distribution: South America: Negro River basin.

Countries: Brazil

Remarks and references: See Jégu et al. (1991: 107) for fertility rate under *Serrasalmus altuvei*.

Common names: Piranha (Brazil)

***Serrasalmus hollandi* Eigenmann, 1915**

Serrasalmo hollandi Eigenmann, 1915: 251, pl. 48. Type locality: Rio Guaporé at Maciél, Brazil. Holotype: FMNH 56978 [ex CM 5792].

Maximum length: 18.5 cm SL

Distribution: South America: Madeira River basin, and ? Guyana rivers.

Countries: Bolivia, Guyana (?)

Common names: Piraña (Bolivia)

***Serrasalmus humeralis* Valenciennes, 1850**

Serrasalmus humeralis Valenciennes in Cuvier & Valenciennes, 1850: 279. Type locality: Amazone [Brazil]. (erroneous locality; according to Castelnau (1855: 71, pl. 37 fig. 2), from Araguay [= Araguaia riv. Tocantins basin]). Holotype: MNHN A.9735.

Salmo tizoura Kner, 1860: 40. Not available, name mentioned in passing under *Serrasalmus humeralis* Valenciennes; from Paraguay River. Also mentioned in Kner (1860: 41) in passing under *Serrasalmus marginatus* Valenciennes, 1837 in d'Orbigny (1847).

Serrasalmus iridopsis Cope, 1872: 268, pl. 9 (fig. 2). Type locality: Río Ambyiacu, Peru. Holotype: ANSP 7913. Questionably a synonym of *Serrasalmus humeralis* (Valenciennes, 1850) in Géry (1977: 283).

Maximum length: 20 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil, Peru

Remarks and references: See Jégu & Santos 1988a: 246 for detailed description and validation.

Common names: Piranha (Brazil)

***Serrasalmus irritans* Peters, 1877**

Serrasalmus irritans Peters, 1877: 472. Type locality: San Fernando Apure, Venezuela. Holotype: ZMB 10045.

Serrasalmus fernandezii Fernández-Yépez, 1965a: [1], fig. Type locality: El Polvero, Río San José, Estado Guárico, Venezuela. Holotype: MACLPI 65637. See Machado-Allison & Fink (1996: 78) for synonymy.

Maximum length: 13.8 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Remarks and references: See Machado-Allison & Fink (1996: 82) for distribution in Venezuela. See Nico & Taphorn (1988: 314) for food habits.

Common names: Caribe pinche (Venezuela)

***Serrasalmus maculatus* Kner, 1858**

Serrasalmus maculatus Kner, 1858: 166. Type locality: Mato Grosso, Brazil. Lectotype: NMW 17995 (1), designated and figured by Jégu & Santos (2001: 125). More detailed description in Kner (1860: 41, pl. 4, fig. 10). See Jégu & Santos (2001: 129) for detailed morphology.

Pygocentrus melanurus Kner, 1860: 42. Not available, name mentioned in passing under *Serrasalmus maculatus* Kner.

Serrasalmus aesopus Cope, 1872: 269. Type locality: Marañon between mouths of Río Negro, Brazil and Río Huallaga, Peru. Holotype: ANSP 7914.

Maximum length: 20.2 cm SL

Distribution: South America: Amazon and Paraguay-Paraná River basins.

Countries: Argentina, Bolivia, Brazil, Colombia, Paraguay, Peru, Uruguay

Remarks and references: Eschmeyer's (1998: 994) syntype report of BMNH 1928.1.24.10 for *Myletes maculatus* Kner 1858 currently placed under *Metynnis*, is erroneous. Syntype reports of NMW 57058 collected from the Negro River, Brazil are erroneous. See Jégu & Santos (2001) for detailed morphology and distribution. See Santos et al. (1994) and Nakayama et al. (2000) for cytogenetic study.

Common names: Catirina (Brazil), Paña (Peru), Pirambeba (Brazil), Piraña (Colombia), Piranha (Brazil), Piranha amarela (Brazil), Piranha mafura (Brazil)

***Serrasalmus manueli* (Fernández-Yépez & Ramírez,**

1967)

Pygocentrus manueli Fernández-Yépez & Ramírez, 1967: 11, fig. 4. Type locality: Río Paraguaza, afluyente de la Margen Derecha del Orinoco medio [Venezuela]. Holotype: MACLPI 57247.

Maximum length: 36 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Brazil, Venezuela

Remarks and references: See Machado-Allison & Fink (1996: 71) for detailed morphology. See Machado-Allison & Fink (1996: 74) for distribution in Venezuela.

Common names: Caribe cachamero (Venezuela), Caribe parguase-ro (Venezuela), Piranha (Brazil)

***Serrasalmus marginatus* Valenciennes, 1837**

Serrasalmus marginatus Valenciennes, 1837 in d'Orbigny, 1847: 10. Type locality: Río Paraná, Brazil. Syntypes: MNHN A.9734 (3). Name available from plate, description by Valenciennes in d'Orbigny (1847: 10).

Maximum length: 22.1 cm SL

Distribution: South America: Paraguay-Paraná River basin.

Countries: Argentina, Brazil, Paraguay, Uruguay

Common names: Catirina (Brazil), Pirambeba (Brazil), Piranha (Brazil)

***Serrasalmus medinai* Ramírez, 1965**

Serrasalmus medinai Ramírez, 1965b: 1, fig. on p. 2. Type locality: El Polvero, Río San José, Guárico, Venezuela. Holotype: MAC 65622.

Maximum length: 14.8 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Remarks and references: See Machado-Allison et al. (1993: 50) and Machado-Allison & Fink (1996: 60) for detailed description. See Machado-Allison & Fink (1996: 62) for distribution in Venezuela.

Common names: Caribe morichalero (Venezuela)

***Serrasalmus nalseni* Fernández-Yépez, 1969**

Serrasalmus nalseni Fernández-Yépez, 1969: unnumbered p. 3. Type locality: Río Uracoa, entre Temblador y Barrancas [Venezuela]. Holotype: MACLPI 68697-A.

Maximum length: 12.6 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Remarks and references: See Machado-Allison & Fink (1996: 87) for detailed description.

Common names: Caribe pintado (Venezuela)

***Serrasalmus neveriensis* Machado-Allison, Fink, López Rojas & Rodenas, 1993**

Serrasalmus neveriensis Machado-Allison, Fink, López Rojas & Rodenas, 1993: 48, fig. 4. Type locality: Río Querechual, trib. Río Neveri, Querechual, Anzoátegui, Venezuela. Holotype: MBUCV 15439.

Maximum length: 18 cm SL

Distribution: South America: Coastal rivers of Venezuela.

Countries: Venezuela

Remarks and references: See Machado-Allison & Fink (1996: 42) for distribution in Venezuela.

***Serrasalmus nigricans* (Agassiz, 1829)**

Serrasalmus nigricans Agassiz, in Spix & Agassiz, 1829: 72, pl. 30. Type locality: Equatorial rivers of Brazil. No types known according to Kottelat (1988). See Kottelat (1988: 79) for details on authorship.

Distribution: South America: Amazon River basin.

Countries: Brazil

***Serrasalmus rhombeus* (Linnaeus, 1766)**

Salmo rhombeus Linnaeus, 1766: 514. Type locality: Suriname. Neotype: RMNH 26192, selected by Géry (1972: 228).

Serrasalmus niger Jardine & Schomburgk, in Schomburgk, 1841: 225, pl. 18. Type locality: Guyana. No type known. See Fink (1993: 679) for synonymy.

Serrasalmo immaculatus Cope, 1878: 692. Type locality: Peruvian Amazon. Lectotype: ANSP 21503, designated by Fowler (1907: 471, fig. 54).

?*Serrasalmo (Serrasalmo) paraense* Steindachner, 1908b: 362. Type locality: Rio Pará, Brazil. Syntypes: NMW 57067 (1), NMW 10587 (1).

Serrasalmo humeralis gracilior Eigenmann, 1915: 257, fig. 9. Type locality: Rio Guaporé at Maciél, Brazil. Syntypes: FMNH 56977 [ex CM 5791] (2 of 3 specimens). Henn (1928: 69) reports 2 syntypes in CM 5791, and Ibarra & Stewart (1987: 79) point out 3 specimens in FMNH 56977. See Norman (1929: 800) for synonymy.

Serrasalmus boekeri Ahl, 1931: 406, fig. p. 408. Type locality: Amazon R. Holotype: ZMB (not found).

Serrasalmus (Taddyella) normani Géry, 1963: 614, fig. 4. Type locality: Suriname, Paramaribo area. Holotype: ZMH H1601. See Géry (1972: 228) for synonymy.

Maximum length: 41.5 cm SL

Distribution: South America: Amazon and Orinoco River basins, north and eastern Guiana Shield rivers, northeastern Brazilian coastal rivers.

Countries: Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Peru, Suriname, Venezuela

Remarks and references: See Géry (1972: 227) and Merckx et al. (2000: 185) for detailed description. See Jégu & Keith (1999) and Machado-Allison & Fink (1996: 58) for detailed distribution. See Nico & Taphorn (1988: 316) for food habits. See Cohen et al. (1999) for detailed pattern activity. Nakayama et al. (2001) for cytogenetic study.

Common names: Caribe pinche (Venezuela), Ibab (French Guiana), Paña (Peru), Pêne (French Guiana), Pilay (French Guiana), Pilin (French Guiana), Piraña negra (Colombia), Piranha preta (Brazil), Piray de nuit (French Guiana), Pireng (French Guiana), Poson sizo (French Guiana)

***Serrasalmus sanchezi* Géry, 1964**

Serrasalmus (Serrasalmus) sanchezi Géry, 1964: 27, fig. 22. Type locality: "Caño Yarina", on edge of Río Pacaya, trib. of Puinahua Canal, branch of lower Río Ucayali, Peru. Holotype: ZFMK 1216.

Maximum length: 11.4 cm SL

Distribution: South America: Ucayali River basin.

Countries: Peru

Common names: Paña (Peru)

***Serrasalmus serrulatus* (Valenciennes, 1850)**

Pygopristis serrulatus Valenciennes in Cuvier & Valenciennes, 1850: 300. Type locality: Amazon basin, Brazil in Castelnau 1855: 74, also Araguay [= Araguaia Riv., Tocantins Basin]. Holotype: MNHN A.9898.

Maximum length: 19 cm SL

Distribution: South America: Amazon River basin, ? Essequibo River basin.

Countries: Brazil, Guyana (?), Peru

Common names: Paña (Peru), Piranha (Brazil)

***Serrasalmus spilopleura* Kner, 1858**

Serrasalmus spilopleura Kner, 1858: 166. Type locality: Mato Grosso, Rio Guapore, Bogota, Brazil. Lectotype: NMW 57085, designated and figured by Jégu & Santos (2001: 122). More detailed description in Kner (1860: 43, pl. 5, fig. 11).

Pygocentrus dulcis Kner, 1860: 44. Not available, name mentioned in passing under *Serrasalmo spilopleura* Kner.

Maximum length: 21 cm SL

Distribution: South America: Guaporé River basin.

Countries: Brazil

Remarks and references: See Jégu & Santos (2001: 133) for detailed morphology and distribution.

Species inquirendae

Serrasalmo emarginatus Jardine in Schomburgk, 1841: 231, pl. 19. Type locality: Essequibo River, Guyana. No type known.

Serrasalmo scotopterus Jardine in Schomburgk, 1841: 233. Type locality: Rio Branco, South America. No type known.

Serrasalmo stagnatilis Jardine & Schomburgk in Schomburgk, 1841: 222. Type locality: Upper Essequibo R., Guyana.

Serrasalmo undulatus Jardine & Schomburgk in Schomburgk, 1841: 232. Type locality: Rio Padauri.

TOMETES

Tometes Valenciennes, in Cuvier & Valenciennes, 1850: 226. Type species: *Tometes trilobatus* Valenciennes, 1850. Type by subsequent designation by Jordan (1919: 242). Gender: masculine.

***Tometes makue* Jégu, Santos & Belmont-Jégu, 2002**

Tometes makue Jégu, Santos & Belmont-Jégu, 2002: 254, fig. 2a. Type locality: Brésil: Amazonas: Ile d'Acara, en aval de São Gabriel da Cachoeira, rio Negro. Holotype: INPA 7344.

Maximum length: 30.5cm SL

Distribution: South America: Middle and upper Negro River and Orinoco River basins.

Countries: Brazil, Venezuela

***Tometes trilobatus* Valenciennes, 1850**

Tometes unilobatus Valenciennes, in Cuvier & Valenciennes, 1850: 228. Type locality: Cayenne, French Guiana. Holotype: MNHN A.8651 (dry).

Tometes trilobatus Valenciennes, in Cuvier & Valenciennes, 1850: 226. Type locality: Cayenne, French Guiana. Syntypes: MNHN A.8650 (1, dry) and MNHN A.8649 (1, dry) - holotype designation of MNHN A 8650 in Bertin (1948: 27) is erroneous.

Maximum length: 43 cm SL

Distribution: South America: Northeastern Guiana Shield rivers.

Countries: Brazil, French Guiana

Remarks and references: Synonymy above is based on personal observation and types examination.

Common names: Baka kumalu (French Guiana), Kumaru (French Guiana), Pacu (Brazil), Pakou (French Guiana)

UTIARITICHTHYS

Utiaritchthys Miranda Ribeiro, 1937: 58. Type species: *Utiaritchthys sennaebregai* Miranda Ribeiro, 1937. Type by monotypy. Gender: masculine.

***Utiaritchthys longidorsalis* Jégu, Tito de Morais, & Santos, 1992**

Utiaritchthys longidorsalis Jégu, Tito de Morais & Santos, 1992: 114, fig. 7a. Type locality: Rio Aripuana, 3 km from above the Dardanellos Fall, Madeira basin, 60°40'W, 9°10'S, Brazil. Holotype: INPA 3638.

Maximum length: 20.3 cm SL

Distribution: South America: Madeira River basin.

Countries: Brazil

***Utiaritchthys sennaebregai* Miranda Ribeiro, 1937**

Utiaritchthys sennae-bragai Miranda Ribeiro, 1937: 58. Type locality: Upstream of Salto Utiarity, 13°S, 58°15'W, Affluent of Rio Papagaio, Mato Grosso, Brazil. Lectotype: MNRJ 12154 [ex MNRJ 3407A], designated by Miranda Ribeiro (1953: 397).

Maximum length: 25 cm TL

Distribution: South America: Right tributaries of middle and lower

Amazon River, Orinoco River basin.
Countries: Brazil, Venezuela
Common names: Pacu (Brazil)

SPECIES INQUIRENDA

Tetragonopterus latus Jardine in Schomburgk, 1841: 241. Type locality: Rivers of Guiana [Guyana]. No type known.

References

- Ahl, E. 1923a. Eine Revision de Characiniden-Gattung *Metynnis*. In: Ichthyologische Mitteilungen, I. Mitt. Zool. Mus. Berlin, 11(1): 15-31.
- Ahl, E. 1923b. Neue südamerikanische Fische aus dem Zool. Museum Berlin. Sitzungsber. Ges. Naturf. Freunde Berlin, 1923: 106-109.
- Ahl, E. 1927. Über einen neuen südamerikanischen Characiniden der Gattung *Metynnis*. Zool. Anz., 69: 273-274.
- Ahl, E. 1928. Fischbestimmungsstelle. Das Aquarium: 192-194.
- Ahl, E. 1929. Beschreibung eine neuen südamerikanischen Characinidenart der Gattung *Mylossoma*. Zool. Anz., 81 (1/2): 273-274.
- Ahl, E. 1931. Diagnosen einiger neuer südamerikanischer Süßwasserfische. Sitzungsber. Ges. Naturf. Freunde Berlin: 405-409.
- Ahl, E. 1936. Beschreibung neuer Fische der Familie Characidae aus Südamerika. Zool. Anz., 114 (1/2): 19-26.
- Ahl, E. 1938. Beschreibung eines neuen Characiniden der Gattung *Myloplus* aus Südamerika. Zool. Anz., 124: 190-191.
- Almeida-Val, V.M.F., M.N.P. Silva, M.C.M. Caraciolo, L.S.B. Mesquita, I.P. Farias and A.L. Val. 1992. LDH isozymes in amazon fish -- 3. Distribution patterns and functional properties in Serrasalminae (Teleostei: Ostariophysi). Comp. Biochem. Physiol., B., 103B (1): 119-125.
- Araujo Lima, C.A.R.M. and M. Goulding. 1997. So fruitful a fish: ecology, conservation, and aquaculture of the Amazon's Tambaquí. Columbia University Press, New York. 191 p.
- Berg, C. 1895. Sobre peces de agua dulce nuevos ó poco conocidos de la República Argentina. An. Mus. Nac. Hist. Nat. Buenos Aires, 4: 121-165, pls. 2-3.
- Bertin, L. 1948. Catalogue des types de poissons du Muséum national d'Histoire Naturelle. 3e partie. Ostariophysaires (Characiniformes, Gymnotiformes). 49 p.
- Böhlke, E.B. 1984. Catalog of type specimens in the ichthyological collection of the Academy of Natural Sciences of Philadelphia. Acad. Nat. Sci. Philad. Spec. Publ., 14: i-viii + 1-246.
- Boujard, T., D. Sabatier, R. Rojas-Beltran, M.-F. Prévost and J.-F. Renno. 1990. The food habits of three allochthonous feeding Characoids in French Guiana. Rev. Ecol. (Terre Vie), 45: 247-258.
- Britski, H., K.Z. de S. de Silomon and B.S. Lopes. 1999. Peixes do Pantanal. Manual de identificação. Brasília: Embrapa-SPI; Corumbá: Embrapa-CPAP. 184 p.
- Campos, A.A. 1944. Peixes da subfamília *Mylinae* existentes na coleção do departamento de zoologia da Secretaria da Agricultura de São Paulo. Pap. Avulsos Dep. Zool. (São Paulo), 4 (14): 197-212.
- Campos, A.A. 1946. Novo gênero e novas espécies de Caracídios do baixo amazonas. Pap. Avulsos Dep. Zool. (São Paulo), 7 (17): 217-220, 1 pl.
- Castelnau, F.L. 1855. Poissons. xii + 112 p., 50 pls. In: Animaux nouveaux or rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847. Chez P. Bertrand, Paris.
- Cestari, M.M. and P.M. Galetti, Jr. 1992. Chromosome studies of *Serrasalmus spilopleura* (Characidae, Serrasalminae) from the Paraná-Paraguay rivers: evolutionary and cytotoxic considerations. Copeia, 1992 (1): 108-112.
- Cohen, M.A., W.R.C. Beaumont and N.C. Thorp. 1999. Movement and activity patterns of the black piranha. Environ. Biol. Fish., 54: 45-52.
- Cope, E.D. 1870. Contribution to the ichthyology of the Marañon. Proc. Am. Philos. Soc., 11: 559-570.
- Cope, E.D. 1871. [Fishes from the Amazon above the mouth of the Rio Negro.]. Proc. Acad. Nat. Sci. Philadelphia, 23: 55.
- Cope, E.D. 1872. On the fishes of the Ambyacu River. Proc. Acad. Nat. Sci. Philadelphia, 23: 250-294, pls.
- Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. Proc. Am. Philos. Soc., 17 (101): 673-701.
- Cuvier, G. 1818. Sur les poissons du sous-genre *Mylètes*. Mem. Mus. Natl. Hist. Nat., 4: 444-456, pls. 21-22.
- Cuvier, G. 1819. Sur les poissons du sous-genre *Hydrocyon*, sur deux nouvelles espèces de *Chalceus*, sur trois nouvelles espèces de *Serrasalmes*, et sur l'*Argentina glossodonta* de Forskahl, qui est l'*Albula gonorhynchus* de Bloch. Mem. Mus. Natl. Hist. Nat., 5: 351-379, pls. 26-28.
- Cuvier, G. and A. Valenciennes. 1850. Histoire naturelle des poissons. Tome vingt-deuxième. Suite du livre vingt-deuxième. Suite de la famille des Salmonoïdes. Table générale de l'Histoire Naturelle des Poissons. Ch. Pitois, & V.° Levraut, Paris & Strasbourg. xx + 1 + 532 + 91 p., pls. 634-650.
- Devincenzi, G.J. and G.W. Teague. 1942. Ictiofauna del Rio Uruguay medio. An. Mus. Nac. Hist. Nat. Montevideo, (Ser. 2) 5 (4): 1-100 + index + i-viii, pls. 1-6.
- D'Orbigny A. 1847. Voyage dans l'Amérique méridionale... exécuté pendant les années 1826 à 1833. Tome cinquième, 2^{ème} Partie: Poissons par M. Valenciennes, 1847: 5 - 11, pl. 1-16.
- Duméril, A.M.C. 1806. Zoologie analytique ou méthode naturelle de classification des animaux. Paris. xxxiii + 344 p.
- Eigenmann, C.H. 1903. New genera of South-american freshwater fishes, and new names for old genera. Smithson. Misc. Collect. (Quarterly), 45: 144-148.
- Eigenmann, C.H. 1909. Reports on the expedition to British Guiana of the Indiana University and the Carnegie Museum, 1908. Report no. 1. Some new genera and species of fishes from British Guiana. Ann. Carnegie Mus., 6 (1): 4-54.
- Eigenmann, C.H. 1910. Catalogue of the fresh-water fishes of tropical and south temperate America. Pp. 375-511. In: Reports of the Princeton University expeditions to Patagonia 1896-1899. Zoology.
- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus. 5(1): p i-xxii + 1-578.
- Eigenmann, C.H. 1915. The Serrasalminae and Mylinae. Ann. Carnegie Mus., 9 (3-4): 226-272, pls. 44-58.
- Eigenmann, C.H. and C.H. Kennedy. 1903. On a collection of fishes from Paraguay, with a synopsis of the American genera of cichlids. Proc. Acad. Nat. Sci. Philadelphia, 55: 497-537.
- Eigenmann, C.H., W.L. McAtee and D.P. Ward. 1907. On further collections of fishes from Paraguay. Ann. Carnegie Mus., 4 (2): 110-157, pls. 31-45.
- Eigenmann, C.H. and A.A. Norris 1900. Sobre alguns peixes de S. Paulo, Brazil. Rev. Mus. Paulista, 4: 349-362.
- Eschmeyer, W.N. (ed.) 1998. Catalog of fishes. California Academy of Sciences. San Francisco.
- Fernández-Yépez, A. 1951. *Serrasalmus pingke*, un nuevo Serrasalmido para la fauna Neotropical. Esencias, 12: [1-3].
- Fernández-Yépez, A. 1965a. Un nuevo pez del género *Serrasalmus* colectado en Venezuela. Evencias 16: [1-4].
- Fernández-Yépez, A. 1965b. *Pygopristis antoni* nuevo serrasalmido colectado en Venezuela. Evencias 17: [1-4].
- Fernández-Yépez, A. 1969. Contribucion al conocimiento de los serrasálmidos. Evenicas 23: [1-4].

Check List of the Freshwater Fishes of South and Central America

- Fernández-Yépez, A. and M.V. Ramírez. 1967. Los Caribes (serrasalmidos) de Venezuela y las pesquerías. Privately published. 25 p.
- Fink, W.L. 1993. Revision of the piranha genus *Pygocentrus* (Teleostei, Characiformes). *Copeia*, 1993 (3): 665-687.
- Fink, W.L. and A. Machado-Allison. 1992. Three new species of piranhas from Brazil and Venezuela (Teleostei: Characiformes). *Ichthyol. Explor. Freshwaters*, 3 (1): 55-71.
- Fink, W.L. and A. Machado-Allison. 2001. *Serrasalmus hastatus*, a new species of piranha from Brazil, with comments on *Serrasalmus altuvei* and *Serrasalmus compressus* (Teleostei, Characiformes). *Occasional Papers of the Museum of Zoology of the University of Michigan*, 730: 1-18.
- Fink, W.L. and M.L. Zelditch. 1996. Historical patterns of developmental integration in piranhas. *Am. Zool.*, 36 (1): 61-69.
- Fink, W.L. and M.L. Zelditch. 1997. Shape analysis and taxonomic status of *Pygocentrus* piranhas (Ostariophysi, Characiformes) from the Paraguay and Paraná River basins of South America. *Copeia*, 1997 (1): 179-182.
- Fowler, H.W. 1907. Further knowledge of some heterognathous fishes. Part II. *Proc. Acad. Nat. Sci. Philadelphia*, 58: 431-483.
- Fowler, H.W. 1911. Some fishes from Venezuela. *Proc. Acad. Nat. Sci. Philadelphia*, 63: 419-437.
- Fowler, H.W. 1950. Os peixes de água doce do Brasil. *Arq. Zool. Estado Sao Paulo*, 6: 205-404.
- Géry, J. 1963. Contributions a l'étude des poissons Characoïdes - 27: systématique et évolution de quelques piranhas (*Serrasalmus*). *Vie Milieu*, 14 (3): 597-617.
- Géry, J. 1964. Poissons characoïdes de l'Amazonie péruvienne. *Beitr. Neotrop. Fauna*, 4 (1): 1-44.
- Géry, J. 1972. Poissons characoïdes des Guyanes. I. Généralités. II. Famille des Serrasalmidae. *Zool. Verh. (Leiden)*, 122: 1-250, pls. 1-16.
- Géry, J. 1976. Les genres de Serrasalmidae (Pisces, Characoidei). *Bull. Zool. Mus. Amsterdam*, 5(6): 47-54.
- Géry, J. 1977. Characoids of the world. T.F.H. Publications, Neptune City, New Jersey. 672 p.
- Géry, J. 1986. Notes de characologie néotropical. 1. Progrès dans la systématique des genres *Colossoma* et *Piaractus*. *Rev. Fr. Aquariol.*, 12(4): 97-102.
- Géry, J., V. Mahnert and C. Dlouhy. 1987. Characoid fishes non Characidae from Paraguay (Pisces, Ostariophysi). *Rev Suisse Zool.*, 94(2): 357-464.
- Géry, J., P. Planquette and P.-Y. Le Bail. 1991. Faune characoïde (poissons ostariophysaires) de l'Oyapock, l'Approuague et la rivière de Kaw (Guyane Française). *Cybium*, 15 (1, suppl.): 1-69, pls. 1-20.
- Gill, T.N. 1870. On some new species of fishes obtained by Prof. Orton from the Marañon, or Upper Amazon, and Napo Rivers. *Proc. Acad. Nat. Sci. Philadelphia*, 22: 92-96.
- Gill, T.N. 1896. Note on the fishes of the genus *Characinus*. *Proc. U.S. Natl. Mus.*, 18 (1058): 213-215.
- Gosline, W.A. 1951. Notes on the characid fishes of the subfamily Serrasalminae. *Proc. California Acad. Sci. (Ser. 4)*, 27 (2): 17-64.
- Goulding, M. and M.L. Carvalho. 1982. Life history and management of the Tambaqui (*Colossoma macropomum*, Characidae): an important Amazonian food fish. *Rev. Bras. Zool.*, 1 (2): 107-133.
- Günther, A. 1864. Catalogue of the fishes in the British Museum. Vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomatidae in the collection of the British Museum. Trustees, London. xxii + 455 p.
- Henn, A.W. 1928. List of types of fishes in the collection of the Carnegie Museum on September 1, 1928. *Ann. Carnegie Mus.*, 19 (4): 51-99.
- Holmberg, E.L. 1887. Viagem a Misiones. *Bol. Acad. Nac. Cienc.*, 10: 1-391.
- Holmberg, E.L. 1891. Sobre algunos peces nuevos ó poco conocidos de la República Argentina. *Rev. Argent. Hist. Nat. Buenos Aires*, 1: 180-193.
- Humboldt, F.H.A. von, and A. Valenciennes. 1821. Recherches sur les poissons fluviatiles de l'Amérique Équinoxiale. Pp. 145-216, pls. 45-52. In: Voyage de Humboldt et Bonpland, Deuxième partie. Observations de Zoologie et d'Anatomie comparée. Paris.
- Ibarra, M. and D.J. Stewart. 1987. Catalogue of type specimens of Recent fishes in Field Museum of Natural History. *Fieldiana Zool. (N. S.)*, 35: 1-112.
- Ihering, H. von 1928. *Taddyella* nom. nov. pro. *Rooseveltiella* Eig. 1915. *Bol. Biol., Trab. Lab. Parasit. Fac. Med., São Paulo*, 12(47): 45.
- Jégu, M. 1992. *Ossubtus xinguense*, nouveaux genre et espèce du Rio Xingu, Amazonie, Brésil (Teleostei: Serrasalmidae). *Ichthyol. Explor. Freshwater*, 3 (3): 235-252.
- Jégu, M., E. Belmont-Jégu and J. Zuanon. 1992. Sur la présence de *Mylesinus paraschomburgkii* Jégu et al., 1989 (Characiformes, Serrasalmidae) dans le Bassin du Rio Jari (Brésil, Amapá). *Cybium*, 16 (1): 13-19.
- Jégu, M. and P. Keith, 1999. Le bas Oyapock limite septentrionale ou simple étape dans la progression de la faune des poissons d'Amazonie occidentale. *C. R. Acad. Sci. (Ser. 3) (Sci. Vie/Life Sci.)*, 322(12): 1133-1143.
- Jégu, M., E.L.M. Leão and G.M. Santos. 1991. *Serrasalmus compressus*, une espèce nouvelle du Rio Madeira, Amazonie (Pisces: Serrasalmidae). *Ichthyol. Explor. Freshwaters*, 2 (2): 97-108.
- Jégu, M. and G.M. Santos. 1987. Sur la présence de *Serrasalmus altuvei* Ramírez, 1965 (Pisces, Serrasalmidae) dans le cours inférieur du rio negro (Amazonas, Brésil). *Cybium*, 11(4): 403-411.
- Jégu, M. and G.M. Santos. 1988a. Le genre *Serrasalmus* (Pisces, Serrasalmidae) dans le bas Tocantins (Brésil, Parà), avec la description d'une espèce nouvelle, *S. geryi*, du bassin Araguaia-Tocantins. *Rev. Hydrobiol. Trop.*, 21 (3): 239-274.
- Jégu, M. and G.M. Santos. 1988b. Une nouvelle espèce du genre *Mylesinus* (Pisces, Serrasalmidae), *M. paucisquamatus*, décrite du bassin du Rio Tocantins (Amazonie, Brésil). *Cybium*, 12 (4): 331-341.
- Jégu, M. and G.M. Santos. 1990. Description d'*Acnodon senai* n. sp. du Rio Jari (Brésil, Amapá) et redescription d'*A. normani* (Teleostei, Serrasalmidae). *Cybium*, 14 (3): 187-206.
- Jégu, M. and G.M. Santos. 2001. Mise au point à propos de *Serrasalmus spilopleura* Kner, 1858 et réhabilitation de *S. maculatus* Kner, 1858 (Characidae: Serrasalminae). *Cybium* 25(2): 119-143.
- Jégu, M., G.M. Santos and E. Ferreira. 1989. Une nouvelle espèce du genre *Mylesinus* (Pisces, Serrasalmidae), *M. paraschomburgkii*, décrite des bassins du Trombetas et du Uatuma (Brésil, Amazonie). *Rev. Hydrobiol. Trop.*, 22 (1): 49-62.
- Jégu, M., G. M. Santos and E. Belmont-Jégu. 2002. *Tomestes makue* n. sp. (Characidae: Serrasalminae), une nouvelle espèce du bouclier Guyanais décrite des bassins du Rio Negro (Brésil) et de l'Orénoque (Venezuela). *Cybium* 2002, 26 (4) : 253-274.
- Jégu, M., L. Tito de Morais and G.M. Santos. 1992. Redescription des types d'*Utiaritchthys sennaebraigai* Miranda Ribeiro, 1937 et description d'une nouvelle espèce du bassin amazonien, *U. longidorsalis* (Characiformes, Serrasalmidae). *Cybium*, 16 (2): 105-120.
- Jordan, D.S. 1919. The genera of fishes, part II, from Agassiz to Bleeker, 1833-1858, twenty-six years, with the accepted type of each. A contribution to the stability of scientific nomenclature. Leland Stanford Jr. Univ. Publ., Univ. Ser. 36: i-ix + 163-284 + i-xiii.
- Jordan, D.S. 1920. The genera of fishes, part IV, from 1881 to 1920, thirty-nine years, with the accepted type of each. A con-

Check List of the Freshwater Fishes of South and Central America

- tribution to the stability of scientific nomenclature. Leland Stanford Jr. Univ. Ser., 44: 411-576 + i-xviii.
- Kner, R. 1858. Zur Familie der Characinen. Sitzungsber. Akad. Wiss. Wien, 32 (22): 163-168.
- Kner, R. 1860. Zur Familie der Characinen. III. Folge Der Ichthyologischen Beiträge. Denkschr. Akad. Wiss. Wien, 18: 9-62, pls. 1-8.
- Kottelat, M. 1984. Catalogue des types du Musée d'Historie Naturelle de Neuchâtel. I. Pisces. Bull. Soc. Neuchâteloise Sci. Nat., 07: 143-153.
- Kottelat, M. 1988. Authorship, dates of publication, status and types of Spix and Agassiz's Brazilian fishes. Spixiana, 11 (1): 69-93.
- Kritsky, D.C., W.A. Boeger and M. Jégu. 1996. Neotropical Monogenoidea. 28. Ancyrocephalinae (Dactylogyridae) of piranha and their relatives (Teleostei, Serrasalminidae) from Brazil and French Guiana: species of *Notozothecium* Boeger and Kritsky, 1988 and *Mymarothecium* gen. n. Journal of the Helminthological Society of Washington, 63 (2): 153-175.
- Kritsky, D.C., W.A. Boeger and M. Jégu. 1997. Neotropical Monogenoidea. 29. Ancyrocephalinae (Dactylogyridae) of piranha and their relatives (Teleostei, Serrasalminidae) from Brazil: species of *Amphithecium* Boeger and Kritsky, 1988, *Heterothecium* gen. n. and *Pithanothecium* gen. n. Journal of the Helminthological Society of Washington, 64 (1): 25-54.
- La Cepède, B.G.E. 1803. Histoire naturelle des poissons. Vol. 5. lxxviii + 803 p. + index, Pls. 1-21.
- Lamas, I.R. and A.L. Godinho. 1996. Reproduction in the piranha *Serrasalmus spilopleura*, a Neotropical fish with an unusual pattern of sexual maturity. Environ. Biol. Fish., 45(2): 161-168.
- Larrañaga, D.A. 1923. Escritos de Don Dámaso Antonio Larrañaga. vol. 2. Los Publica el Instituto Histórico y Geográfico del Uruguay. Edición Nacional. 512 p.
- Le Bail, P.-Y., A. Margeridon, C. Cauty, P. Planquette, E. Prevost and M. Loir. 1989. Reproductive biology of *Myleus ternetzi*. Aquat. Living Resour., 2(3): 175-183.
- Le Comte, F., T. Boujard, F. J. Meunier, J.-F. Renno & R. Rojas-Beltran. 1993. The growth of *Myleus rhomboidalis* (Cuvier, 1817) (Characiformes, Serrasalminidae) in two rivers of French Guiana. Rev. Ecol. (Terre Vie), 48: 421-435.
- Leite, R.G. and C.A.R.M. Araujo Lima. 2000. The larval diet of *Mylossoma aureum* and *M. duriventre* in central Amazon. Acta Amazonica, 30 (1): 129-147.
- Leite, R.G. and M. Jégu. 1990. Régime alimentaire de deux espèces d'*Acnodon* (Characiformes, Serrasalminidae) et habitudes alimentaires lépidophages de *A. normani*. Cybium, 14(4): 187-206.
- Linnaeus, C. 1766. Systema naturae sive regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. 12th ed. Laurentii Salvii, Holmiae. 532 p.
- Loubens, G. and J. Panfili. 1997. Biologie de *Colossoma macropomum* (Teleostei: Serrasalminidae) dans le bassin du Mamoré (Amazonie bolivienne). Ichthyol. Explor. Freshwaters, 8 (1): 1-22.
- Loubens, G. and J. Panfili. 2001. Biologie de *Piaractus brachyomus* (Teleostei: Serrasalminidae) dans le bassin du Mamoré (Amazonie bolivienne). Ichthyol. Explor. Freshwat., 12(1): 51-64.
- Lütken, C.F. 1875a. Characinae novae Brasiliae centralis a clarissimo J. Reinhardt in provincia Minas-Geraes circa oppidulum Lagoa Santa in lacu ejusdem nominis, flumine Rio das Velhas et rivulis affluentibus collectae, secundum caracteres essentialia breviter descriptae. Overs. Danske Vidensk. Selsk. Forhandl Kjobenhavn, 1874 (3): 127-143.
- Lütken, C.F. 1875b. Ichthyographiske bidrage. III. Nogle nye eller mindre fuldstaendigt kjendte, mellem- eller sydamerikanske Karpelax (Characiner). Vidensk. Medd. Naturh. Foren. København, 1874: 220-240.
- Lütken, C.F. 1875c. Velhas-Flodens Fiske. Et Bidrag til Brasiliens Ichthyologi; efter Professor J. Reinhardts Indsamlinger og Optegnelser. K. Danske Vidensk. Selsk. Skr., Raekke 5, 12 (2): 121-253, + 2 unnum., + I-XXI, pls. 1-5.
- Machado-Allison, A. 1982. Studies on the subfamily Serrasalminae (Teleostei, Characidae): Part 1. Comparative study of the juveniles of the genera *Colossoma* and *Piaractus* from Venezuela. Acta Biol. Venez., 11 (3): 1-101.
- Machado-Allison, A. 1983. Estudios sobre la sistemática de la subfamilia Serrasalminae (Teleostei, Characidae). Parte 2: Discusión sobre la condición monofiletica de la subfamilia. Acta Biol. Venez., 11 (4): 145-195.
- Machado-Allison, A. 1985. Estudios sobre la sistemática de la subfamilia Serrasalminae. Parte 3: sobre el estatus genérico y relaciones filogenéticas de los géneros *Pygopristis*, *Pygocentrus*, *Pristobrycon* y *Serrasalmus* (Teleostei - Characidae - Serrasalminae). Acta Biol. Venez., 12 (3): 19-42.
- Machado-Allison, A. 1986. Comparative osteology of the neurocranium and branchicranium in the genera of the Serrasalminae (Teleostei-Characidae). Acta Biol. Venez. 12 (Suppl. 2): 1-75.
- Machado-Allison, A. and O. Castillo. 1992. Estudios sobre la sistemática de la subfamilia Serrasalminae. IV. El género *Mylossoma*: bases para la revisión del grupo en América del Sur. Acta Biol. Venez., 13 (3-4): 1-34.
- Machado-Allison, A. and W.L. Fink. 1991. Notas sobre la sistemática del género *Serrasalmus* y géneros relacionados. Parte II: el género *Pygocentrus* en Venezuela. Acta Biol. Venez., 13 (1-2): 109-135.
- Machado-Allison, A. and W.L. Fink. 1996. Los peces caribes de Venezuela. Diagnósis, claves, aspectos ecológicos y evolutivos. Colección monografías 52. Universidade central de Venezuela, Caracas. 149 p.
- Machado-Allison, A., W.L. Fink and M.E. Antonio. 1989. Revisión del Género *Serrasalmus* La Cepède 1803, y géneros relacionados en Venezuela: 1. Notas sobre la morfología y sistemática de *Pristobrycon striolatus* (Steindachner, 1908). Acta Biol. Venez., 12 (3-4): 140-171.
- Machado-Allison, A., W.L. Fink, H. López Rojas and R. Rodenas. 1993. *Serrasalmus neveriensis* a new species of piranha of Venezuela and redescription of *Serrasalmus medinae* Ramírez, 1965. Acta Biol. Venez., 14 (4): 45-60.
- Merckx, A., M. Jégu and G.M. Santos. 2000. Une nouvelle espèce de *Serrasalmus* (Teleostei: Characidae: Serrasalminae), *S. altispinis* n. sp., décrite du rio Uatumã (Amazonas, Brésil) avec une description complémentaire de *S. rhombeus* (Linnaeus, 1766) du plateau Guyanais. Cybium, 24 (2): 181-201.
- Miranda Ribeiro, A. 1937. Considerações preliminares sobre a zoogeografia Brasileira. IV. O Campo, Rio de Janeiro, 8: 58-59.
- Miranda Ribeiro, P. 1953. Tipos das espécies e subespécies do Prof. Alipio de Miranda Ribeiro depositados no Museu Nacional. Arq. Mus. Nac. Rio de Janeiro, 42: 389-417.
- Müller, J. and F.H. Troschel. 1844. Synopsis generum et specierum familiae Characinarum. (Prodromus descriptionis novorum generum et specierum). Arch. Naturgeschichte, 10 (pt 1): 81-99 + Zu pag. 99 (foldout).
- Müller, J. and F.H. Troschel. 1845. Horae Ichthyologicae. Beschreibung und Abbildung neuer Fische. Die Familie der Characinen. Erstes und Zweites Heft. Berlin. 40 p., 11 pls.
- Nakayama, C.M., M. Jégu, J.I.R. Porto and E. Feldberg. 2001. Karyological evidence for a cryptic species of piranha within *Serrasalmus rhombeus* (Characidae, Serrasalminae) in the Amazon. Copeia, 2001 (3): 866-869.
- Nakayama, C.M., J.I.R. Porto and E. Feldberg. 2000. Ocorrência de dois citótipos em *Serrasalmus spilopleura* Kner, 1858 (Characiformes, Serrasalminidae) da região de confluência dos rios Negro e Solimões, Amazonas. Brasil. Acta Amazonica, 30 (1): 149-154.
- Nelson, E.M. 1961. The swim bladder in the Serrasalminae with notes on additional morphological features. Feldiana Zool. 39

Check List of the Freshwater Fishes of South and Central America

- (56): 603-624.
- Nico, L.G. and D.C. Taphorn. 1988. Food habits of piranhas in the Low Llanos of Venezuela. *Biotropica*, 20 (4): 311-321.
- Norman, J.R. 1929. The South American characid fishes of the subfamily Serrasalmoninae, with a revision of the genus *Serrasalmus*, La Cepède. *Proc. Zool. Soc. London*, 1928 (4): 781-829, pl. 1.
- Orti, G., P. Petry, J.I.R. Porto, M. Jégu and A. Meyer. 1996. Patterns of nucleotide change in mitochondrial ribosomal RNA genes and the phylogeny of piranhas. *J. Mol. Evol.*, 42 (2): 169-182.
- Ouboter, P.E. and J.H.A. Mol. 1993. The fishfauna of Suriname. Pp. 133-144. In: P.E. Ouboter (ed.), *Freshwater ecosystems of Suriname*. Kluwer Academic Publishers.
- Peters, W.C.H. 1877. Über die von Dr. C. Sachs in Venezuela gesammelten Fische. *Monatsb. Akad. Wiss. Berlin*, 1877: 469-473.
- Planquette, P., P. Keith and P.-Y. Le Bail. 1996. Atlas des poissons d'eau douce de Guyane (Tome 1). *Muséum National d'Histoire Naturelle, Ministère de l'Environnement*. 431p.
- Porto, J.I.R., E. Feldberg, C.M. Nakayama and J.D.N. Falcão 1992. A checklist of chromosome numbers and karyotypes of Amazonian freshwater fishes. *Rev. Hydrobiol. Trop.*, 25 (4): 287-299.
- Porto, J.I.R., E. Feldberg, C.M. Nakayama and M. Jégu. 1989. Análise cariotípica na família Serrasalminidae (Ostaryophysi, Characiformes): aspectos evolutivos. *Ciencia e Cultura (Suppl.)*, 41: 714.
- Ramírez, M.V. 1965a. *Serrasalmus altuvei* un nuevo Serrasalminido para la fauna Neotropical. *Esencias*, 14: 1-4.
- Ramírez, M.V. 1965b. *Serrasalmus medinai* un nuevo serrasalminido procedente de Venezuela. *Esencias*, 15: 1-4.
- Santos, G.M., S.S. Pinto and M. Jégu. 1997. Alimentação do pacu-cana *Mylesinus paraschomburgkii* (Teleostei, Serrasalminidae) em rios da Amazônia brasileira. *Rev. Bras. Biol.*, 57 (2): 311-315.
- Santos, I.C.M., H.F. Julio, Jr. and S.J. Santos. 1994. Chromosome study of two species of the genus *Serrasalmus* (Characidae, Serrasalminae) from the Paraná River. *Cytologia*, 59: 175-181.
- Sazima, I. 1983. Scale-eating in characoids and other fishes. *Environ. Biol. Fish.*, 9,(2): 87-101
- Sazima, I. and F. A. Machado. 1990. Underwater observations of piranhas in western Brazil. *Environ. Biol. Fish.*, 28: 17-31.
- Schomburgk, R.H. 1841. The Natural history of fishes of Guiana.-- Part I. In: W.Jardine (ed.), *The Naturalists' Library*. Vol. 3. W. H. Lizars, Edinburgh. 263 p., pls. 1-30.
- Schreitmüller, W. and E. Ahl. 1923. *Metynnis calichromis schreitmülleri* E. Ahl. *Wochenschrift Aquar.-Terr.*, 19 (14): 265-266.
- Spix, J.B. von, and L. Agassiz. 1829-31. *Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXVII-MDCCCXX jussu et auspiciis Maximiliani Josephi I... colleget et pingendo curavit Dr J. B. de Spix...* Monachii. Part 1: i-xvi + i-ii + 1-82, Pls. 1-48; part 2: 83-138, pls. 49-101.
- Starks, E.C. 1913. The fishes of the Stanford expedition to Brazil. Stanford Univ. Publ., Univ. Ser. 77 p., 15 pls.
- Steindachner, F. 1881. Beiträge zur Kenntniss der Flussfische Südamerikas. II. *Denkschr. Akad. Wiss. Wien*, 43: 103-146, pls. 1-7.
- Steindachner, F. 1908a. Über eine neue *Metynnis*-Art (Fam. Characidae) aus einer Lagune am Rio Medonho. *Anz. Akad. Wiss. Wien*, 45 (17): 326-327.
- Steindachner, F. 1908b. Über sechs neue *Serrasalmo*- und *Myletes*-Arten aus Südamerika. *Anz. Akad. Wiss. Wien*, 45 (18): 359-367.
- Steindachner, F. 1911. Über eine neue brasilianische *Myleus*-Art und gibt eine neuerliche Beschreibung von *Retroculus lapidifer* Casteln. nach Exemplaren beiderlei Geschlechter. *Anz. Akad. Wiss. Wien*, 48 (16): 342-347.
- Swainson, W. 1838. The natural history and classification of fishes, amphibians, & reptiles, or monocardian animals. Vol. 1. London. vi + 368 p.
- Thatcher, V.E. 1991. Amazon fish Parasites. *Amazoniana*, 11 (3/4): 263 -571.
- Thatcher, V.E. 1993. Trematodeos Neotropicais. Instituto Nacional de Pesquisas de Amazonia, Manaus. xii + 553 p.
- Thatcher, V.E. and M. Jégu 1996. Intestinal helminths as population markers of the Amazonian fish *Mylesinus paraschomburgkii*, with description of five new genera and seven species of trematodes. *Amazoniana*, 14 (1/2): 143 - 155.
- Travassos, H. 1952a. Catálogo dos gêneros e subgêneros da subordem Characoidei (Actinopterygii - Cypriniformes). *Dusenias*, 3 (2): 141[77] - 180 [116].
- Travassos, H. 1952b. Catálogo dos gêneros e subgêneros da subordem Characoidei (Actinopterygii - Cypriniformes). *Dusenias*, 3 (3): 225 [127]- 250[142].
- Ulrey, A.B. 1894. Preliminary descriptions of some new South American Characinidae. *Am. Nat.*, 28 (331): 610-611.
- Ulrey, A.B. 1895. The South American Characinidae collected by Charles Frederick Hartt. *Ann. N. Y. Acad. Sci.*, 8: 257-300.
- Van Every, L.R. and D.C. Kritsky. 1992. Neotropical Monogenoidea. 18. *Anacanthorus* Mizelle and Price, 1965 (Dactylogyridae, Anacanthorinae) of piranha (Characoidea, Serrasalminidae) from the central Amazon, their phylogeny, and aspects of host-parasite coevolution. *Journ. Helminth. Soc. Washington*, 59 (1): 52-75.
- Viera, I. and J. Géry. 1979. Crescimento diferencial e nutrição em *Catoprion mento* (Characoidei). *Peixe lepidófago da Amazônia*. *Acta Amazonica*, 9 (1): 143-146.
- Viera, E.F., V.J. Isaac and N.N. Fabre. 1999. Biologia reprodutiva do tambaqui, *Colossoma macropomum* Cuvier, 1818 (Teleostei, Serrasalminidae), no baixo Amazonas, Brasil. *Acta Amazonica*, 29 (4): 625-63.
- Zarske, A. and J. Géry. 1999. Revision of the Neotropical genus *Metynnis* Cope, 1878. 1. Evaluation of the type specimens of the nominal species (Teleostei: Characiformes: Serrasalminidae). *Zool. Abhand. Dresden*, 50(2): 169-216.
- Zbinden, K. 1973. Verhaltensstudien an *Serrasalmus nattereri*. *Rev. Suisse Zool.*, 80 (2): 521-522.

Subfamily Aphyocharacinae (Characins)

Rosana S. Lima

The subfamily Aphyocharacinae was proposed by Eigenmann (1909) to include fishes with a single series of well developed teeth on the premaxilla, mandible and maxilla. They were also characterized by having large parietal and frontal fontanelles, gill-membranes free from isthmus and from each other, and adipose fin always present. It included six genera: *Coeurichthys*, *Odontostilbe*, *Holoshesthes*, *Cheirodon*, *Aphyocharax* and *Holoprion*. However, since that time, this subfamily has been successively considered as valid or included in the Cheirodontinae. Nowadays the Aphyocharacinae is apparently a monophyletic group that comprises only one genus, *Aphyocharax*, and is defined by the reduction of the second infraorbital and the development of its third and fourth infraorbital bones, which together cover the whole cheek. They are usually small, except for *A. dentatus* and *A. alburnus*, which can reach almost 70 and 80 mm standard length, respectively. They have an incomplete lateral line and a short anal fin (12–22 rays). Males exhibit sexual hooks on all or on the first ventral- and anal-fin rays. The maxilla can be short or very short in *A. rathbuni*, forming a small mouth with only a few teeth on the proximal portion of the bone; or the maxilla can be longer, reaching almost the vertical through the middle of the eye and the third infraorbital, and is completely toothed. The mouth is terminal or superior. The teeth are always tricuspid, the median cusp much bigger than the others.

There are 10 valid species attributed to *Aphyocharax*. Many species have been described by aquarists, based in one or two specimens, and this contributes to the high number of species in this group. Twenty two species were originally described as belonging to the genus *Aphyocharax*, three were first placed in the genus *Cheirodon*, one in *Notropocharax*, and one in *Phoxinopsis*. The last review was by Eigenmann (1915), and now the genus is being subject of my PhD Thesis at the University of São Paulo.

They inhabit the Amazon, Guianas, and La Plata River basins. In alcohol they can exhibit a humeral spot, and fins plain or with dark spots or bands. They are known by aquarists as bloodfins because most species have dorsal, ventral, anal or caudal fins bright red in life.

APHYOCHARAX

Aphyocharax Günther, 1868a: 480. Type species: *Aphyocharax pusillus* Günther, 1868. Type by monotypy. Gender: masculine. Also published as new in Günther (1868b: 245).

Holoprion Eigenmann, 1903: 145. Type species: *Chirodon agassizii* Steindachner, 1882. Type by original designation. Gender: masculine.

Phoxinopsis Regan, 1907: 262. Type species: *Phoxinopsis typicus* Regan, 1907. Type by monotypy. Gender: feminine. The type species, *Phoxinopsis typicus* Regan, is a junior synonym of *Aphyocharax anisitsi* - see Malabarba (1998: 229) and Weitzman & Malabarba (1999) for comments.

Notropocharax Marini, Nichols & La Monte, 1933: 6. Type species: *Notropocharax difficilis* Marini, Nichols & La Monte, 1933. Type by monotypy. Gender: masculine.

Aphyocharax agassizii (Steindachner, 1882)

Chirodon agassizii Steindachner, 1882a: 180. Type locality: Jatuarana [Brazil]. Syntypes: NMW 62686 (2). Species later described in more detail in Steindachner (1882b: 38).

Maximum length: 3.32 cm SL

Distribution: South America: Amazon River basin in Brazil.

Countries: Brazil

Remarks and references: Known only from the syntypes.

Aphyocharax alburnus (Günther, 1869)

Chirodon alburnus Günther, 1869: 424. fig. 2. Type locality: Amazon River (Upper Amazons) [Peru]. Syntypes: BMNH 1869.5.21.10-13 (4).

Aphyocharax avary Fowler, 1913: 532. fig. 8. Type locality: Madeira River, about 200 miles east of Long. 62°20'W., Brazil. Holotype: ANSP 39217.

Maximum length: 8 cm

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil, Peru

Remarks and references: recent redescription and ecological observations in Taphorn (1992: 107-109).

Common names: Bloodfin tetra (USA), Sardinita coliroja (Venezuela)

Aphyocharax anisitsi Eigenmann & Kennedy, 1903

Aphyocharax anisitsi Eigenmann & Kennedy, 1903: 517. Type locality: Asuncion [Paraguay]. Holotype: CAS 59697 [ex IU 10028].

Phoxinopsis typicus Regan, 1907: 262. fig. 2. Type locality: aquarium fishes from Argentina. Holotype: BMNH 1907.6.28.51. See Malabarba (1998: 229) and Weitzman & Malabarba (1999) for comments.

Aphyocharax rubropinnis Pappenheim, 1922: 36. Type locality: Rosario, Argentina. Syntypes: ZMB 20497 (4).

Aphyocharax affinis Ahl, 1923: 33. Type locality: Unknown. Lectotype: ZMB 31645, designated by Zarske & Géry (1995: 103).

Aphyocharax ipacarayensis Ahl, 1923: 32. Type locality: Laguna Ipacaray, Paraguay. Holotype: ZMB 20605 [or 23605].

Maximum length: 5.5 cm TL

Distribution: South America: Paraná River basin.

Countries: Argentina, Brazil, Paraguay

Common names: Bloodfin (USA), True bloodfin (USA)

***Aphyocharax colifax* Taphorn & Thomerson, 1991**

Aphyocharax colifax Taphorn & Thomerson, 1991: 113. fig. 1. Type locality: Venezuela, Estado Bolívar, Distrito Heres, parte media del Río Oris, un afluente del Río Paraguá, en el Campamento Turumbán de la CVG (aprox. 06°18'N, 63°54'W). Holotype: MCNG 17127.

Maximum length: 5.02 cm

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Common names: Aletas de sangre (Venezuela)

***Aphyocharax dentatus* Eigenmann & Kennedy, 1903**

Aphyocharax dentatus Eigenmann & Kennedy, 1903: 516. Type locality: Laguna, Río Paraguay, Asuncion [Paraguay]. Holotype: CAS 59722 [ex IU 10032].

Aphyocharax pappenheimi Ahl, 1923: 33. Type locality: Asuncion, Paraguay. Lectotype: ZMB 23607, designated by Zarske & Géry (1995: 107).

Notropocharax difficilis Marini, Nichols & La Monte, 1933: 6, fig. 3. Type locality: Rio Mogy-Guassú, southeastern Brazil [São Paulo]. Holotype: AMNH 12247.

Aphyocharax nasutus Ahl, 1936: 20. Type locality: Rosario de Sante Fé, Argentinien. Lectotype: ZMB 20795, designated by Zarske & Géry (1995: 106).

Maximum length: 6.9 cm SL

Distribution: South America: Paraguay River basin.

Countries: Brazil, Paraguay

***Aphyocharax erythrurus* Eigenmann, 1912**

Aphyocharax erythrurus Eigenmann, 1912: 313. pl. 44 fig. 4. Type locality: Rockstone sand-bank [Guyana]. Holotype: FMNH 53579 [ex CM 1879].

Maximum length: 5.8 cm

Distribution: South America: Essequibo River basin.

Countries: Guyana

Common names: Flame tail tetra (USA)

***Aphyocharax gracilis* Fowler, 1940**

Aphyocharax gracilis Fowler, 1940: 61. fig. 17. Type locality: Río Pilcomayo, Villa Montes, Bolivia. Holotype: ANSP 68864.

Maximum length: 5.4 cm SL

Distribution: South America: Paraguay River basin.

Countries: Bolivia

***Aphyocharax nattereri* (Steindachner, 1882)**

Chirodon nattereri Steindachner, 1882a: 180. Type locality: Villa Bella [now Parintins, AM, Amazon basin, Brazil]. Species described in abstract only, not included in main work (Steindachner 1882b); may be based on same specimens as *Chirodon pulcher* that is found in main work but not in Steindachner (1882a).

Chirodon pulcher Steindachner, 1882b: 39. Type locality: Villa Bella, Amazonenstrom [now Parintins, AM, Amazon basin, Brazil]. Syntypes: (several) NMW 62541-42 (6, 4), 77969 (3). Species not included in original abstract (Steindachner, 1882a); is possibly based on the same specimens as *Chirodon nattereri* described in abstract but not covered in the main work (Steindachner, 1882b).

Cheirodon steindachneri Eigenmann & Eigenmann, 1891: 54. Type locality: The authors proposed this new name as a replacement name for *Cheirodon pulcher* Steindachner, that would be secondarily preoccupied by *Tetragonopterus pulcher* Gill, 1883, when both were in the genus *Cheirodon*.

Aphyocharax paraguayensis Eigenmann, 1915: 33. fig. 10; pl. 2 (fig. 2). Type locality: Cáceres, Río Paraguay [Mato Grosso, Brazil]. Holotype: FMNH 57922 [ex CM 6906].

Maximum length: 3.1 cm SL

Distribution: South America: Amazon and Paraguay River basins.

Countries: Bolivia, Brazil, Paraguay

Common names: Dawn tetra (USA), White spot tetra (USA)

***Aphyocharax pusillus* Günther, 1868**

Aphyocharax pusillus Günther, 1868a: 480. Type locality: Huallaga and Xeberos [Amazon basin, Peru]. Syntypes: BMNH 1867. Also published as new in Günther (1868b: 245).

Maximum length: 6.35 cm SL

Distribution: South America: Amazon River basin.

Countries: Peru

***Aphyocharax rathbuni* Eigenmann, 1907**

Aphyocharax rathbuni Eigenmann in Eigenmann & Ogle, 1907: 10. Type locality: Arroyo Chagalalina, Paraguay basin. Holotype: CAS 76467 [ex IU 10025].

Aphyocharax stramineus Eigenmann in Eigenmann & Ogle, 1907: 11. Type locality: Arroyo Trementina [Paraguay]. Holotype: CAS 76472 [ex IU 10030].

Maximum length: 2.69 cm SL

Distribution: South America: Paraguay River basin.

Countries: Paraguay

Common names: Rathbun's bloodfin (USA)

References

- Ahl, E. 1923. Einige neue Characiniden der Gattung *Aphyocharax*. In: Ichthyologische Mitteilungen, II. Mitt. Zool. Mus. Berlin, 11 (1): 32-35.
- Ahl, E. 1936. Beschreibung neuer Fische der Familie Characidae aus Südamerika. Zool. Anz., 114 (1/2): 19-26.
- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. 1915. The Cheirodontinae, a subfamily of minute characid fishes of South America. Mem. Carnegie Mus., 7 (1): 1-99, pls. 1-17.
- Eigenmann, C.H. and R.S. Eigenmann. 1891. A catalogue of the fresh-water fishes of South America. Proc. U. S. Natl. Mus., 14 (842): 1-81.
- Eigenmann, C.H. and C.H. Kennedy. 1903. On a collection of fishes from Paraguay, with a synopsis of the American genera of cichlids. Proc. Acad. Nat. Sci. Philadelphia, 55: 497-537.
- Eigenmann, C.H. and F. Ogle. 1907. An annotated list of characin fishes in the United States National Museum and the Museum of Indiana University, with descriptions of new species. Proc. U. S. Natl. Mus., 33 (1556): 1-36.
- Fernández, L.A. and C. Butí. 1996. Nuevas localidades para peces de agua dulce de la República Argentina. Acta Zool. Lilloana, 43 (2): 251-272.
- Fowler, H.W. 1913. Fishes from the Madeira River, Brazil. Proc. Acad. Nat. Sci. Philadelphia, 65: 517-579.
- Fowler, H.W. 1940. Zoological results of the second Bolivian expedition for the Academy of Natural Sciences of Philadelphia, 1936-1937. Part I.--The fishes. Proc. Acad. Nat. Sci. Philadelphia, 92: 43-103.
- Günther, A. 1868a. Diagnoses of some new freshwater fishes from Surinam and Brazil, in the collection of the British Museum. Ann. Mag. Nat. Hist. (Ser. 4), 1 (6): 475-481.
- Günther, A. 1868b. Descriptions of freshwater fishes from Surinam and Brazil. Proc. Zool. Soc. London, 1868 (2): 229-247, pls. 20-22.
- Günther, A. 1869. Descriptions of some species of fishes from the Peruvian Amazons. Proc. Zool. Soc. London, 1869 (2): 423-429.
- Marini, T.L., J.T. Nichols and F.R. La Monte. 1933. Six new eastern South American fishes examined in the American Museum of Natural History. Am. Mus. Novit., no. 618: 1-7.
- Nichols, J.T. 1915. A new characin fish from Brazil. Bull. Am.

Check List of the Freshwater Fishes of South and Central America

- Mus. Nat. Hist., 34 (5): 127-128.
- Paepke, H.-J. 1995. Über das Leben und Werk von Ernst Ahl. Mitt. Zool. Mus. Berlin, 71 (1): 79-101.
- Pappenheim, P. 1922. Diagnose einer neuen Characiniden-Art aus Südamerika, *Aphyocharax rubropinnis* sp. n. Sitzungsber. Ges. Naturf. Freunde Berlin, 1921: 36-37.
- Pearson, N.E. 1924. The fishes of the eastern slope of the Andes. I. The fishes of the Rio Beni basin, Bolivia, collected by the Mulford Expedition. Indiana Univ. Studies, 11 (64): 1-83.
- Regan, C.T. 1907. Descriptions of two new characinid fishes from Argentina. Ann. Mag. Nat. Hist. (Ser. 7), 19 (111): 261-262.
- Steindachner, F. 1882a. Beiträge zur Kenntniss der Flussfische Südamerikas (IV). Anz. Akad. Wiss. Wien, 19 (19): 175-180.
- Steindachner, F. 1882b. Beiträge zur Kenntniss der Flussfische Südamerikas. IV. Denkschr. Akad. Wiss. Wien, 46 (in 1883): 1-44, pls. 1-7.
- Taphorn, D.C. 1992. The characiform fishes of the Apure River drainage, Venezuela. BioLlania Edición Especial -- No. 4. Monografías Científicas del Museo de Ciencias Naturales, UNELLEZ -- Guanara, estado Portuguesa, Venezuela. 537 p.
- Taphorn, D.C. and J.E. Thomerson. 1991. Un characido nuevo, *Aphyocharax colifax*, de las cuencas de los rios Caroni y Caura en Venezuela. Rev. Unellez Cien. Tec., 4 (1-2 for 1986): 113-115.
- Ulrey, A.B. 1895. The South American Characinidae collected by Charles Frederic Hartt. Ann. N. Y. Acad. Sci., 8: 233 - 300.
- Zarske, A. and J. Géry. 1995. Zum Status der von E. Ahl aufgestellten Salmner-taxa (Teleostei: Characidae). Mitt. Zool. Mus. Berlin, 71 (1): 103-120.

Subfamily Characinae (Characins, tetras)

Carlos A. S. Lucena and Naércio A. Menezes

The subfamily Characinae includes a number of characid genera whose phylogenetic relationships have not been adequately studied. The only work showing that the subfamily might be monophyletic is that of Lucena (1998) and the following characteristics are based on a morphological survey of the included genera. The body is relatively deep especially anteriorly where a predorsal gibbosity is typical of most genera (except *Priocharax*, *Hoplocharax*, *Gnathocharax*, *Lonchogenys*, *Heterocharax*, *Phenacogaster*, and *Acestrocephalus*). There are more than 20 conical teeth on the maxilla (except in *Roeboides*), a pseudotympanum is present in front of the first pleural rib (except in *Gnathocharax*, *Hoplocharax*, and *Lonchogenys*) and a larval pectoral fin is retained in specimens up to 41.0 mm SL (except in *Gnathocharax*, *Heterocharax*, *Hoplocharax*, and *Lonchogenys*).

Twelve genera and 70 species are currently recognized but the number of species might increase considerably when population samples in museums are adequately studied. The subfamily is represented in practically all cis- and trans-Andean drainages from the Pacific coast of southern Mexico to the la Plata basin in South America. It is absent from the Pacific coastal drainages south of the Cayapas River in Ecuador.

The size ranges from 17.0 mm SL in miniature species of the genus *Priocharax* up to 240.0 mm SL in specimens of the genus *Cynopotamus*. Most species include fishes and insects (both adults and larvae) in their diets, but species of *Roeboides* have typical scale-eating behavior feeding on scales. For this they have mamilliform specialized teeth outside the mouth pointing forward to remove scales from other fishes (see Sazima, 1984 and Sazima & Machado, 1982 for details).

ACANTHOCHARAX

Acanthocharax Eigenmann, 1912: 404. Type species: *Acanthocharax microlepis* Eigenmann, 1912. Type by original designation. Gender: masculine.

***Acanthocharax microlepis* Eigenmann, 1912**

Acanthocharax microlepis Eigenmann, 1912: 405, pl. 61 (fig. 1). Type locality: Tumatumari [Guyana]. Holotype: FMNH 54475. Maximum length: 8.5 cm SL. Distribution: South America: Essequibo River basin. Countries: Guyana. Remarks and references: No recent work.

ACESTROCEPHALUS

Acestrocephalus Eigenmann, 1910: 447. Type species: *Xiphorhamphus anomalus* Steindachner, 1880. Type by original designation. Gender: masculine. Revised by Menezes (1976), with species descriptions and geographical distributions.

***Acestrocephalus anomalus* (Steindachner, 1880)**

Xiphorhamphus anomalus Steindachner, 1880: 84. Type locality: Río Cauca, Colombia. Holotype: NMW 57983. Maximum length: 20 cm SL. Distribution: South America: Magdalena River basin. Countries: Colombia. Remarks and references: See Menezes (1976: 37) for detailed description. Common names: Cachás (Colombia)

***Acestrocephalus boehlkei* Menezes, 1977**

Acestrocephalus boehlkei Menezes, 1977: 186, fig. 1. Type locality: Río Punino, tributary of Río Payamino (Napo River system), above Coca, Ecuador. Holotype: MCZ 51473. Maximum length: 13.5 cm SL

Distribution: South America: Upper Amazon River basin. Countries: Ecuador, Peru, Venezuela

***Acestrocephalus ginesi* Lasso & Taphorn, 2000**

Acestrocephalus ginesi Lasso & Taphorn, 2000: 443, fig. 1. Type locality: Venezuela, Apure State, Río Cinaruco, playa en frente de Laguna Larga, Distrito Muñoz (06°33'45"N- 67°24'W). Holotype: MCNG 34681. Maximum length: 13.5 cm SL. Distribution: South America: Orinoco River basin. Countries: Venezuela. Remarks and references: See Lasso & Taphorn (2000: 443) for detailed description.

***Acestrocephalus sardina* (Fowler, 1913)**

Charax sardina Fowler, 1913: 566, fig. 21. Type locality: Madeira River, about 200 miles east of W. Long 60°20'W, Brazil. Holotype: ANSP 39307. Maximum length: 10.2 cm SL. Distribution: South America: Madeira and Das Mortes River basin. Countries: Brazil. Remarks and references: See Menezes (1976: 39) for detailed description.

CHARAX

Charax Gronow, 1763: 123. Type species: not mentioned. Gender: masculine. *Charax* Scopoli, 1777: 455. Type species: *Salmo gibbosus* Linnaeus, 1758. Type by subsequent designation. Gender: masculine. Revised by Lucena (1987). *Characinus* La Cépède, 1803: 269. Type species: *Salmo gibbosus* Linnaeus, 1758. Type by subsequent designation. Gender: masculine. *Epicyrthus* Müller & Troschel, 1844: 17. Type species: *Salmo*

gibbosus Linnaeus, 1758. Type by monotypy. Gender: masculine.

Anacyrtus Günther, 1864: 345. Type species: *Salmo gibbosus* Linnaeus, 1758. Type by being a replacement name. Gender: masculine.

Asiphonichthys Cope, 1894: 67. Type species: *Asiphonichthys stenopterus* Cope, 1894. Type by monotypy. Gender: masculine.

Moralesia Fowler, 1943: 96. Type species: *Anacyrtus tectifer* Cope, 1870. Type by original designation. Gender: feminine.

Charaxodon Fernández-Yépez, 1947: no page number. Type species: *Charax metae* Eigenmann, 1922. Type by original designation. Gender: masculine.

Moralesicus Fowler, 1958: 9. Type species: *Anacyrtus tectifer* Cope, 1870. Type by being a replacement name. Gender: masculine.

***Charax apurensis* Lucena, 1987**

Charax apurensis Lucena, 1987: 30, fig. 2. Type locality: rio el Canito, onde é atravessado pela estrada que une San Fernando a Cunaviche (07°28'N 067°39'W), Estado de Apure, Venezuela. Holotype: MBUCV-V-15400.

Maximum length: 11.8 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

***Charax caudimaculatus* Lucena, 1987**

Charax caudimaculatus Lucena, 1987: 32, fig. 3. Type locality: Laguna Chica, Reserva Natural de Tambopatá (12°50'30"S 069°17'30"W), Madre de Dios, Peru. Holotype: USNM 280291.

Maximum length: 9.7 cm SL

Distribution: South America: Madeira River basin.

Countries: Brazil, Peru

Common names: Saicanga (Mato Grosso, Brazil)

***Charax condei* (Géry & Knöppel, 1976)**

Asiphonichthys condei Géry & Knöppel, 1976: 48, fig. 2. Type locality: rio Tarumazinho, affluent de la rive gauche du bas rio Negro au-dessus de Manaus [Brazil]. Holotype: particular collection of J. Gery, number 728.

Maximum length: 5.38 cm SL

Distribution: South America: Negro River basin.

Countries: Brazil

***Charax gibbosus* (Linnaeus, 1758)**

Salmo gibbosus Linnaeus, 1758: 311. Type locality: Surinam. Holotype: BMNH 1853.11.12.35 (left halfskin).

Cynopotamus gibbosus Valenciennes, in Cuvier & Valenciennes, 1850: 321, pl. 645. Type locality: Mana, Essequibo, Amazon. Holotype: ?

Maximum length: 12.5 cm SL

Distribution: South America: Essequibo River basin; coastal rivers of Suriname.

Countries: Guyana, Suriname

***Charax hemigrammus* (Eigenmann, 1912)**

Asiphonichthys hemigrammus Eigenmann, 1912: 403, pl. 60 (fig. 4). Type locality: Gluck Island [Guyana]. Holotype: FMNH 53665.

Maximum length: 3.3 cm SL

Distribution: South America: Muiá Lake, Amazon and Essequibo River basins.

Countries: Brazil, Guyana

***Charax leticiae* Lucena, 1987**

Charax leticiae Lucena, 1987: 40, fig. 7. Type locality: Igarapé Urubu, perto do posto de Trocara, Rio Tocantins, Pará, Brazil. Holotype: MZUSP 28660.

Maximum length: 10 cm SL

Distribution: South America: Tocantins and upper Paraguay River basins.

Countries: Brazil, Paraguay

***Charax macrolepis* (Kner, 1858)**

Epicyrthus macrolepis Kner, 1858: 167. Type locality: Rio Guaporé, Cujaba, Caiçara, Marabitanos, Surinam; ohne Provinziannamen. Lectotype: NMW 62668-6 (78 mm), designated by Lucena (1987: 42).

Maximum length: 9.5 cm SL

Distribution: South America: Guaporé River basin, upper Madeira River drainage.

Countries: Brazil

***Charax metae* Eigenmann, 1922**

Charax metae Eigenmann, 1922: 238, pl. 25 (fig. 1). Type locality: Barrigón [Meta River, Orinoco System, Colombia]. Holotype: CAS 41300.

Maximum length: 11 cm SL

Distribution: South America: Upper Meta River basin.

Countries: Colombia, Venezuela

***Charax michaeli* Lucena, 1989**

Charax michaeli Lucena, 1989: 98, fig. 2. Type locality: Igarapé do Cujobim, rio Branco (em face de l'île de Maraca), Roraima, Brazil. Holotype: MZUSP 37276.

Maximum length: 11.3 cm SL

Distribution: South America: Branco River basin.

Countries: Brazil

***Charax niger* Lucena, 1989**

Charax niger Lucena, 1989: 99, fig. 3. Type locality: Rio Amapá (canal do rio), Cachoeira Grande, Amapá, Brazil. Holotype: MZUSP 33422.

Maximum length: 12.8 cm SL

Distribution: South America: Coastal rivers of Amapá State.

Countries: Brazil

***Charax notulatus* Lucena, 1987**

Charax notulatus Lucena, 1987: 46, fig. 10. Type locality: pequeno córrego próximo a desembocadura do córrego Socoroco, rio Orinoco, Venezuela. Holotype: MBUCV-V-15000.

Maximum length: 6.3 cm SL

Distribution: South America: Lower Orinoco River basin.

Countries: Venezuela

***Charax pauciradiatus* (Günther, 1864)**

Anacyrtus pauciradiatus Günther, 1864: 346. Type locality: River Capin [Pará State, Brazil]. Syntypes: BMNH 1849.11.8.47, 1849.11.8.51.

Maximum length: 10.1 cm SL

Distribution: South America: Lower Amazon River basin.

Countries: Brazil

***Charax rupununi* Eigenmann, 1912**

Charax rupununi Eigenmann, 1912: 402. Type locality: Rupununi [Guyana]. Holotype: FMNH 53663.

Maximum length: 4.5 cm SL

Distribution: South America: Jacaré Lake, Essequibo and Trombetas River basins.

Countries: Brazil, Guyana

***Charax stenopterus* (Cope, 1894)**

Asiphonichthys stenopterus Cope, 1894: 67. Type locality: Upper Jacuhy River, Rio Grande do Sul [Brazil]. Holotype: ANSP 21559.

Maximum length: 9.4 cm SL

Distribution: South America: Paraguay and Uruguay River basins and eastern rivers of Rio Grande do Sul State and Uruguay.

Countries: Argentina, Brazil, Paraguay, Uruguay

Remarks and references: See Lucena (1987) for populational analysis.

Common names: Corcunda (Brazil), Lambari-vidro (Brazil)

***Charax tectifer* (Cope, 1870)**

Anacyrtus tectifer Cope, 1870: 565. Type locality: Pebas, Ecuador [actually Pebas, Peru]. Holotype: ANSP 8175.

Anacyrtus sanguineus Cope, 1872: 266, pl. 9 (fig. 1). Type locality: Ambyiacu [Peru]. Lectotype: ANSP 8176, designated by Fowler (1907: 453).

Maximum length: 10 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

***Charax unimaculatus* Lucena, 1989**

Charax unimaculatus Lucena, 1989: 101, fig. 4. Type locality: Lago Manacapuru, Amazonia, Brazil. Holotype: MZUSP 6534.

Maximum length: 8.6 cm SL

Distribution: South America: Middle Amazon River basin.

Countries: Brazil

CYNOPOTAMUS

Cynopotamus Valenciennes, in Cuvier & Valenciennes, 1850: 317. Type species: *Hydrocyon argenteus* Valenciennes, 1836. Type by subsequent designation by Eigenmann (1912: 403). Gender: masculine. Revised by Menezes (1976), with species descriptions and geographical distributions.

Cyrtocharax Fowler, 1907: 454. Type species: *Anacyrtus limaesquamis* Cope, 1878. Type by original designation. Gender: masculine.

Hybocharax Géry & Vu-Tân-Tuê, 1963: 240. Type species: *Cynopotamus bipunctatus* Pellegrin, 1909. Type by original designation. Gender: masculine.

***Cynopotamus amazonus* (Günther, 1868)**

Anacyrtus (Cynopotamus) amazonum Günther, 1868b: 481. Type locality: Xeberos, Peru. Syntypes: BMNH 1867.6.13.69-70 (2).

Anacyrtus limaesquamis Cope, 1878: 686. Type locality: Pebas, Peru. Lectotype: ANSP 21460, designated by Fowler (1907: 454).

Maximum length: 17 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

Remarks and references: See Menezes (1976: 28) for detailed description.

Common names: Cacunda (Pará, Brazil)

***Cynopotamus argenteus* (Valenciennes, 1836)**

Hydrocyon argenteum Valenciennes, 1836: pl. 9 (fig. 1). Type locality: Buenos Aires, Argentina. Holotype: MNHN A.9846.

Characinus squamosus Eigenmann & Kennedy, 1903: 525. Type locality: Laguna Pasito, Paraguay. Holotype: CAS 27615.

Charax caliurus Eigenmann & Kennedy, in Eigenmann, McAtee & Ward, 1907: 142, pl. 43 (fig. 1). Type locality: Laguna Pasito, Paraguay. Holotype: CAS 15682.

Maximum length: 21 cm SL

Distribution: South America: Paraguay, lower Paraná, and Uruguay River basins.

Countries: Argentina, Brazil, Paraguay, Uruguay

Remarks and references: See Menezes (1976: 23) for detailed description.

Common names: Dientudo jorobado (Argentina, Uruguay), Saicanga (Mato Grosso, Brazil)

***Cynopotamus atratoensis* (Eigenmann, 1907)**

Charax atratoensis Eigenmann, in Eigenmann & Ogle, 1907: 33, fig. 8. Type locality: Truando, Colombia. Holotype: USNM 1664.

Maximum length: 35 cm SL

Distribution: South America: Atrato and Sinu River basins.

Countries: Colombia

Remarks and references: See Menezes (1976: 36) for detailed description.

Common names: Cachana (Colombia)

***Cynopotamus bipunctatus* Pellegrin, 1909**

Cynopotamus bipunctatus Pellegrin, 1909: 13. Type locality: Embruchure du Suripa, Venezuela. Holotype: MNHN 1898-21.

Maximum length: 17.5 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Remarks and references: See Menezes (1976: 31) for detailed description.

Common names: Dientón (Venezuela), Jibao (Venezuela)

***Cynopotamus essequibensis* Eigenmann, 1912**

Cynopotamus essequibensis Eigenmann, 1912: 403. Type locality: Potaro Landing, Guyana. Holotype: FMNH 53673.

Maximum length: 16 cm SL

Distribution: South America: Coastal drainages of Amapá State, Guyana, Suriname, and French Guiana.

Countries: Brazil, French Guiana, Guyana, Suriname

Remarks and references: See Menezes (1976: 30) for detailed description.

***Cynopotamus gouldingi* Menezes, 1987**

Cynopotamus gouldingi Menezes, 1987: 2, fig. 1. Type locality: Rio Madeira at Calama, Territory of Rondônia, Brazil. Holotype: MZUSP 35474.

Maximum length: 16.5 cm SL

Distribution: South America: Madeira River basin.

Countries: Brazil

***Cynopotamus juruena* Menezes, 1987**

Cynopotamus juruena Menezes, 1987: 3, fig. 2. Type locality: Upper Rio Juruena, Mato Grosso, Brazil. Holotype: MZUSP 35475.

Maximum length: 8.5 cm SL

Distribution: South America: Juruena River basin.

Countries: Brazil

***Cynopotamus kincaidi* (Schultz, 1950)**

Cyrtocharax kincaidi Schultz, 1950: 60. Type locality: Paraguay. Holotype: USNM 1694.

Maximum length: 17.4 cm SL

Distribution: South America: Paraguay River basin.

Countries: Brazil, Paraguay

Remarks and references: See Menezes (1976: 26) for detailed description.

Common names: Saicanga (Mato Grosso, Brazil)

***Cynopotamus magdalena* (Steindachner, 1879)**

Anacyrtus (Cynopotamus) magdalena Steindachner, 1879a: 78, pl. 12 (fig. 2). Type locality: Magdalenaen-Stromes, Colombia. Syntypes: NMW 62501-02, 62504-05, 77769.

Maximum length: 40 cm SL

Distribution: South America: Magdalena and Cauca River basins.

Countries: Colombia

Remarks and references: See Menezes (1976: 32) for detailed description.

Common names: Chachás (Colombia), Chango (Colombia)

***Cynopotamus tocantinensis* Menezes, 1987**

Cynopotamus tocantinensis Menezes, 1987: 5, fig. 3. Type locality: Igarapé Pojuca, Rio Itacaiunas, Serra dos Carajás, Pará, Brazil. Holotype: MZUSP 35492.

Maximum length: 21 cm SL

Distribution: South America: Tocantins River basin.

Countries: Brazil

Common names: Cacunda (Brazil)

***Cynopotamus venezuelae* (Schultz, 1944)**

Cyrtocharax magdalenae venezuelae Schultz, 1944: 298, fig. 37.
Type locality: Río Negro below mouth of Río Yasa, Lake Maracaibo basin, Venezuela. Holotype: USNM 1213490.

Maximum length: 23.7 cm SL

Distribution: South America: Lake Maracaibo basin.

Countries: Venezuela

Remarks and references: See Menezes (1976: 34) for detailed description.

GALEOCHARAX

Galeocharax Fowler, 1910: 790. Type species: *Cynopotamus gulo* Cope, 1870. Type by original designation. Gender: masculine. Revised by Menezes (1976), with species descriptions and geographical distributions.

***Galeocharax gulo* (Cope, 1870)**

Cynopotamus gulo Cope, 1870: 565. Type locality: Pebas, Eastern Peru. Syntypes: ANSP 8053 (Böhlke holotype), ANSP 8054-55.

Charax goeldii Fowler, 1913: 568, fig. 22. Type locality: Tributary of the Madeira River near Porto Velho, Brazil. Holotype: ANSP 39308.

Maximum length: 22 cm SL

Distribution: South America: Amazon and São Francisco River basins.

Countries: Brazil, Peru

Remarks and references: See Menezes (1976: 43) for detailed description.

Common names: Cacunda (Amazonas and Pará, Brazil)

***Galeocharax humeralis* (Valenciennes, 1834)**

Hydrocyon humeralis Valenciennes, 1834: pl. 11 (fig. 2). Type locality: America Meridionalis. Holotype: MNHN A.9848.

Maximum length: 13.7 cm SL

Distribution: South America: Paraguay and lower Paraná River basins.

Countries: Argentina, Brazil, Paraguay, Uruguay

Remarks and references: See Menezes (1976: 41) for detailed description.

Common names: Dientudo (Argentina, Uruguay), Saicanga (Mato Grosso, Brazil)

***Galeocharax knerii* (Steindachner, 1879)**

Anacyrtus (Cynopotamus) knerii Steindachner, 1879b: 65. Type locality: Cuiabá, Río Paraguay, Irisanga, Brazil. Holotype: NMW (uncat.). Holotype in NMW, designated and selected but not catalogued and type locality restricted to Oriçanga, Mogi-Guacu River, São Paulo. See Menezes (1976: 45) for detailed description.

Maximum length: 22 cm SL

Distribution: South America: Upper Paraná River basin.

Countries: Brazil

Remarks and references: See Menezes (1976: 45) for detailed description.

Common names: Peixe-cadela (São Paulo, Brazil), Peixe-cigarra (São Paulo, Brazil)

GNATHOCHARAX

Gnathocharax Fowler, 1913: 560. Type species: *Gnathocharax steindachneri* Fowler, 1913. Type by original designation. Gender: masculine.

***Gnathocharax steindachneri* Fowler, 1913**

Gnathocharax steindachneri Fowler, 1913: 561, fig. 19. Type locality: Igarapé de Candelaria, tributary of Madeira River, and approximately two miles distant, in Lat. S. 8°45', W Long 63°54', Brazil. Holotype: ANSP 39309.

Maximum length: 5 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Brazil, Guyana, Venezuela

Remarks and references: See Böhlke (1955) for studies of population variation.

HETEROCHARAX

Heterocharax Eigenmann, 1912: 405. Type species: *Heterocharax macrolepis* Eigenmann, 1912. Type by original designation. Gender: masculine. Revised by Toledo-Piza (2000).

***Heterocharax leptogrammus* Toledo-Piza, 2000**

Heterocharax leptogrammus Toledo-Piza, 2000: 301, fig. 13. Type locality: rio Arirará, near mouth, Amazonas, Brazil, 0°20'S 63°40'W. Holotype: MZUSP 29229.

Maximum length: 3.39 cm SL

Distribution: South America: Negro River and upper portion of Orinoco River basin.

Countries: Brazil, Venezuela

***Heterocharax macrolepis* Eigenmann, 1912**

Heterocharax macrolepis Eigenmann, 1912: 406, pl. 61 (fig. 2). Type locality: Rockstone [Guyana]. Holotype: FMNH 53669.

Maximum length: 4.75 cm SL

Distribution: South America: Essequibo and Demarara River basins; Amazon River basin and tributaries between Tapajós and Tefé Rivers; upper Amazon River basin, Orinoco River basin.

Countries: Brazil, Ecuador, Guyana, Peru, Venezuela

***Heterocharax virgulatus* Toledo-Piza, 2000**

Heterocharax virgulatus Toledo-Piza, 2000: 298, fig. 10. Type locality: rio Negro at confluence with rio Urubaxi, Amazonas, 0°35'S 64°45'W.

Maximum length: 4.14 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Brazil, Venezuela

HOPLOCHARAX

Hoplocharax Géry, 1966: 286. Type species: *Hoplocharax goethei* Géry, 1966. Type by original designation. Gender: masculine.

***Hoplocharax goethei* Géry, 1966**

Hoplocharax goethei Géry, 1966: 291, fig. 11. Type locality: "Igarapé da Mae Joana", near Manaus, lower Rio Negro, Brazil. Holotype: SU 56478.

Maximum length: 3 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil

LONCHOGENYS

Lonchogenys Myers, 1927: 121. Type species: *Lonchogenys ilisha* Myers, 1927. Type by original designation. Gender: feminine.

***Lonchogenys ilisha* Myers, 1927**

Lonchogenys ilisha Myers, 1927: 122. Type locality: Sandbank on the Colombian border, Rio Negro, Cucuy [Brazil]. Holotype: CAS 61719.

Maximum length: 6 cm SL

Distribution: South America: Upper and middle Negro River basin.

Countries: Brazil, Colombia

PHENACOGASTER

Phenacogaster Eigenmann, 1907: 769. Type species: *Tetragonopterus pectinatus* Cope, 1870. Type by original designation. Gender: feminine. See Malabarba & Lucena (1995) for comments on genus-level synonymy.

Vesicatrurus Eigenmann, 1911: 174. Type species: *Vesicatrurus tegatus* Eigenmann, 1911. Type by original designation. Gender:

masculine.

Grammabrycon Fowler, 1941a: 190. Type species: *Grammabrycon calverti* Fowler, 1941. Type by original designation. Gender: masculine.

***Phenacogaster beni* Eigenmann, 1911**

Phenacogaster beni Eigenmann, 1911: 174, pl. 6 (fig. 4). Type locality: Río Beni at Villa Bella [Bolivia]. Holotype: FMNH 54597.

Maximum length: 3.68 cm SL

Distribution: South America: Guapore and Beni River basins.

Countries: Bolivia, Brazil

***Phenacogaster calverti* (Fowler, 1941)**

Grammabrycon calverti Fowler, 1941a: 190, fig. 100. Type locality: Forteleza, Ceará [Brazil]. Holotype: ANSP 69606.

Maximum length: 6 cm SL

Distribution: South America: Coastal drainages of Ceará and Paraíba States.

Countries: Brazil

Remarks and references: See Géry (1972) for change of generic status.

***Phenacogaster carteri* (Norman, 1934)**

Vesicatrurus carteri Norman, 1934: 336, figs. A-C. Type locality: tributary to the Cuyuni River, British Guiana [actually Guyana; Essequibo River basin]. Holotype: BMNH 1934.9.12.216-217 (larger of 2).

Maximum length: 4 cm SL

Distribution: South America: Cuyuni River basin.

Countries: Guyana

***Phenacogaster franciscoensis* Eigenmann, 1911**

Phenacogaster franciscoensis Eigenmann, 1911: 173, pl. 6 (fig. 3). Type locality: Boqueiras, near mouth of Rio Porto [Brazil]. Holotype: FMNH 54599.

Maximum length: 4.2 cm SL

Distribution: South America: São Francisco River basin.

Countries: Brazil

Common names: Lambari (Brazil)

***Phenacogaster jancupa* Malabarba & Lucena, 1995**

Phenacogaster jancupa Malabarba & Lucena, 1995: 339, fig. 1. Type locality: Ribeirão Espinheiro, crossing road BR364, Rio Cuiabá drainage, 15°24'S, 56°23'W, Jangada, Mato Grosso, Brazil. Holotype: MCP 17279.

Maximum length: 4.7 cm SL

Distribution: South America: Known only from Espinheiro creek, a tributary of the Cuiabá River, upper Paraguay River drainage.

Countries: Brazil

Common names: Lambari (Brazil)

***Phenacogaster megalostictus* Eigenmann, 1909**

Phenacogaster megalostictus Eigenmann, 1909: 28. Type locality: Tumatumari, Lower Potaro River [British Guyana=Guyana]. Holotype: FMNH 53530.

Maximum length: 3.7 cm SL

Distribution: South America: Essequibo River basin.

Countries: Guyana

***Phenacogaster microstictus* Eigenmann, 1909**

Phenacogaster microstictus Eigenmann, 1909: 30. Type locality: Tumatumari, Lower Potaro [British Guyana =Guyana]. Holotype: FMNH 52970.

Maximum length: 4.2 cm SL

Distribution: South America: Essequibo and Demerara River basins.

Countries: Guyana, Suriname

***Phenacogaster pectinatus* (Cope, 1870)**

Tetragonopterus pectinatus Cope, 1870: 560. Type locality: Pebas, Ecuador [actually Pebas, Peru]. Holotype: ANSP 8090.

Tetragonopterus tabatingae Steindachner, 1876: 91. Type locality: Amazonas at Tabatinga [Brazil]. Syntypes: (several) whereabouts unknown.

Tetragonopterus bairdii Steindachner, 1882a: 179. Type locality: Tabatinga [Brazil]. Syntypes: NMW 57250.

Maximum length: 4.5 cm SL

Distribution: South America: Middle and upper Amazon River basin.

Countries: Brazil, Peru

***Phenacogaster suborbitalis* Ahl, 1936**

Phenacogaster suborbitalis Ahl, 1936: 24. Type locality: East coast of Brazil. Holotype: ZMB 20806.

Maximum length: 5.5 cm SL

Distribution: South America: Eastern coast of Brazil (?).

Countries: Brazil (?)

***Phenacogaster tegatus* (Eigenmann, 1911)**

Vesicatrurus tegatus Eigenmann, 1911: 174, pl. 7 (fig. 1). Type locality: Rio Jaurú, upper Rio Paraguay basin [Brazil]. Holotype: FMNH [ex CM 3201] (missing or never at FMNH).

Maximum length: 3.2 cm SL

Distribution: South America: Upper Paraguay River basin.

Countries: Brazil, Paraguay

Remarks and references: See Malabarba & Lucena (1995) for change of generic status.

PRIOCHARAX

Priocharax Weitzman & Vari, 1987: 641. Type species: *Priocharax ariel* Weitzman & Vari, 1987. Type by original designation. Gender: masculine.

***Priocharax ariel* Weitzman & Vari, 1987**

Priocharax ariel Weitzman & Vari, 1987: 641, figs. 1-5. Type locality: Caño Manu, tributary of Rio Casiquiare, approximately 250 m upstream from Solano, Departamento Río Negro, Territorio Federal Amazonas, Venezuela, 2°00'N, 66°57'W. Holotype: MBUCV V-15340.

Maximum length: 1.51 cm SL

Distribution: South America: Upper Negro and Orinoco River basins.

Countries: Venezuela

***Priocharax pygmaeus* Weitzman & Vari, 1987**

Priocharax pygmaeus Weitzman & Vari, 1987: 646, fig. 6. Type locality: Quebrada Pajarito in Departamento Amazonas, tributary of Quebrada Bacada, tributary of Quebrada Matamata, a tributary of Rio Amazonas, northwest of Leticia, about 4°41'S, 69°57'W, Colombia. Holotype: NRM 15048.

Maximum length: 1.64 cm SL

Distribution: South America: Upper Amazon River basin in Colombia.

Countries: Colombia

ROEBOIDES

Roeboides Günther, 1864: 345. Type species: *Epicyrthus microlepis* Reinhardt, 1849. Type by subsequent designation. Gender: masculine. See Lucena (1988) for phylogenetic studies and definition of the genus.

Evermannella Eigenmann, 1903: 146. Type species: *Cynopotamus biserialis* Garman, 1890. Type by original designation. Gender: feminine.

Eucynopotamus Fowler, 1904: 119. Type species: *Cynopotamus biserialis* Garman, 1890. Type by being a replacement name. Gender: masculine.

Cynocharax Fowler, 1907: 457. Type species: *Anacyrtus affinis*

Günther, 1868. Type by original designation. Gender: masculine.
Evermannolus Eigenmann in Eigenmann & Ogle, 1907: 2. Type species: *Cynopotamus biserialis* Garman, 1890. Type by being a replacement name. Gender: masculine.

***Roeboides affinis* (Günther, 1868)**

Anacyrtus affinis Günther, 1868a: 481. Type locality: Huallaga. Syntypes: BMNH 1867.6.13.61-62.
Roeboides bicornis Cope, 1870: 564, fig. Type locality: Pebas, Eastern Equador [actually Pebas, Peru]. Holotype: ANSP 8151.
 Maximum length: 11 cm SL
 Distribution: South America: Amazon and Parnaíba River basins.
 Countries: Brazil, Peru, Venezuela
 Remarks and references: Tentative key for cis-Andean species and synonym above in Lucena (1988).
 Common names: Cacunda (Brazil), Dientudo (Venezuela)

***Roeboides biserialis* (Garman, 1890)**

Cynopotamus biserialis Garman, 1890: 14. Type locality: Lago do Maximo; Obydos; and Villa Bella [Brazil]. Syntypes: MCZ 21327, 21335, 21360; USNM 120180.
 Maximum length: 4.8 cm SL
 Distribution: South America: Middle Amazon River basin.
 Countries: Brazil
 Remarks and references: See Lucena (1988) for comments about taxonomic status.

***Roeboides bonariensis* (Steindachner, 1879)**

Anacyrtus (Rhaeboides) bonariensis Steindachner, 1879b: 23, pl. 8 (fig. 1). Type locality: La Plata, Buenos Aires [Argentina]. Holotype: NMW 62498.
 Maximum length: 18 cm SL
 Distribution: South America: Paraguay and lower Paraná River basins.
 Countries: Argentina, Brazil, Paraguay, Uruguay
 Remarks and references: Tentative key for cis-Andean species see Lucena (1988).
 Common names: Cacunda (Brazil), Corcunda (Brazil), Dientudo (Argentina, Paraguay)

***Roeboides bouchellei* Fowler, 1923**

Roeboides bouchellei Fowler, 1923: 25. Type locality: Pis Pis River, Great Falls, Nicaragua. Holotype: ANSP 51218.
Roeboides salvadoris Hildebrand, 1925: 246, fig. 9. Type locality: Río Sucio, Sitio del Niño [El Salvador]. Holotype: USNM 87215.
 Maximum length: 8.2 cm SL
 Distribution: North and Central America: Pacific slope rivers from west of Sona Peninsula in Panama, to Coto River, north through the Parrita-Quepos region of Costa Rica to extreme west Mexico, and on the Atlantic slope from rivers of Nicaragua (Managua Lake) and Honduras.
 Countries: Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama
 Remarks and references: See Lucena (2000a) for taxonomic revision of the trans-Andean species.

***Roeboides carti* Lucena, 2000**

Roeboides carti Lucena, 2000a: 47, fig. 22a, b and c. Type locality: Río Carti Grande, Comarca de San Blas, 7°26'N 78°58'W, Panama. Holotype: USNM 359076.
 Maximum length: 8.3 cm SL
 Distribution: Central America: Coastal drainages of Comarca de San Blas.
 Countries: Panama
 Remarks and references: See Lucena (2000) for taxonomic revision of the trans-Andean species.

***Roeboides dayi* (Steindachner, 1878)**

Anacyrtus (Rhaeboides) dayi Steindachner, 1878: 91. Type local-

ity: Río Magdalena, Colombia. Holotype: NMW 67132.

Roeboides caucea Eigenmann, 1922: 162. Type locality: Cartago [Colombia]. Holotype: CAS 71099.

Roeboides magdalenae Eigenmann, 1922: 161. Type locality: Soplaviento, Colombia. Syntypes: FMNH [ex CM 5202] (?); CAS 71123.

Roeboides meeki Eigenmann, 1922: 163, pl. 25 (fig. 4). Type locality: Quibdo, Colombia. Holotype: FMNH 55148 [ex CM 3849].

Roeboides romeroi Fowler, 1941b: 6, fig. 9. Type locality: Honda, Colombia. Holotype: ANSP 69336.

Maximum length: 10.9 cm SL

Distribution: Central and South America: Rivers of the Atlantic versant of extreme northeast of Panama, through San Blas region and the Atrato River basin to the Magdalena-Cauca drainage basin.

Countries: Colombia, Panama

Remarks and references: See Lucena (2000a) for taxonomic revision of the trans-Andean species.

***Roeboides descavadensis* Fowler, 1932**

Roeboides descavadensis Fowler, 1932: 359, fig. Type locality: Descalvados, Matto Grosso, Brazil. Holotype: ANSP 53718.

Maximum length: 8.9 cm SL

Distribution: South America: Upper Paraguay River basin.

Countries: Brazil, Paraguay

Remarks and references: Tentative key for cis-Andean species in Lucena (1988).

Common names: Dientudo (Paraguay)

***Roeboides dientonito* Schultz, 1944**

Roeboides dayi dientonito Schultz, 1944: 304, fig. 39. Type locality: Río Palmar at the bridge, 70 km southwest of Maracaibo [Venezuela]. Holotype: USNM 121370.

Maximum length: 6.8 cm SL

Distribution: South America: Lake Maracaibo and Orinoco River basin, and rivers of the northwestern portion of Guyana.

Countries: Guyana, Venezuela

Remarks and references: See Lucena (2000a) for taxonomy of the trans-Andean species.

Common names: Dientonito (Venezuela)

***Roeboides dispar* Lucena, 2001**

Roeboides dispar Lucena, 2001: 63, fig. 1. Type locality: foz do Arara [River], bacia do rio Juruá, Reserva Extrativista Alto Juruá. Holotype: MZUSP 63600

Maximum length: 8.11 cm SL

Distribution: South America: Upper portions of the Madeira, Juruá, and Ucayali River basins.

Countries: Bolívia, Brazil, Perú

Common names: Madalena (Brazil)

***Roeboides guatemalensis* (Günther, 1864)**

Anacyrtus guatemalensis Günther, 1864: 347. Type locality: rio Chagres, Panama [restricted by Miller & Carr (1974: 121)]. Lectotype: BM 1864.1.26: 310, designated by Miller & Carr (1974: 121).

Maximum length: 13 cm SL

Distribution: Central America: Atlantic slope drainages of Panama from Gatun Lake including the basin of the Chagres River and to the east of the Cascajal River.

Countries: Panama

Remarks and references: See Lucena (2000a) for taxonomy of the trans-Andean species.

Common names: Anchobeta (Panama), Anchovata (Panama)

***Roeboides ilseae* Bussing, 1986**

Roeboides ilseae Bussing, 1986: 45, fig. 1. Type locality: Quebrada Bonita, S of Damas and 9 km NW of Quepos [Costa Rica]. Holotype: LACM 43754-1.

Maximum length: 7.6 cm SL
 Distribution: Central America: Southeastern Pacific versant rivers of Costa Rica.
 Countries: Costa Rica
 Remarks and references: See Lucena (2000a) for taxonomy of the trans-Andean species.

***Roeboides microlepis* (Reinhardt, 1851)**

Epicyrthus microlepis Reinhardt, 1851: 46. Type locality: Brazil. Holotype: MNHN A.8657 (dry).
Epicyrthus microlepis Kner, 1858: 167. Type locality: Brazil. No types known.
 Maximum length: 16.7 cm SL
 Distribution: South America: Araguaia River basin.
 Countries: Brazil
 Remarks and references: Tentative key for cis-Andean species see Lucena (1988).

***Roeboides myersi* Gill, 1870**

Roeboides myersi Gill, 1870: 92. Type locality: Río Marañon or Río Napo, Amazon system, Peru or Ecuador. Holotype: USNM 21426.

Roeboides rubrivertex Cope, 1872: 265. Type locality: Between the mouth of Río Negro and the Peruvian Amazon or Ucayale River. Holotype: ANSP 8190.

Charax hasemani Steindachner, 1915a: 589. Type locality: Mündung des Rio negro [Amazonas, Brazil]. Syntypes: (several) NMW.

Maximum length: 18 cm SL
 Distribution: South America: Amazon and Orinoco River basins; Parnaíba River basin.
 Countries: Brazil, Peru, Venezuela
 Remarks and references: Tentative key for cis-Andean species and synonym above in Lucena (1988).

***Roeboides numerosus* Lucena, 2000**

Roeboides numerosus Lucena, 2000b: 154, fig. 1. Type locality: estrada San Fernando de Apure-Arichuna, (bacia do rio Apure), aprox. 16 Km a sudoeste de San Fernando de Apure, Apure, Venezuela. Holotype: MZUSP 27886.

Maximum length: 6.1 cm SL
 Distribution: South America: Orinoco River basin.
 Countries: Venezuela

***Roeboides occidentalis* Meek & Hildebrand, 1916**

Roeboides occidentalis Meek & Hildebrand, 1916: 293, pl. 23. Type locality: Río Cardenas, Corozal, Panama. Holotype: FMNH 8948 (missing).

Roeboides hildebrandi Eigenmann, 1922: 162, pl. 25 (fig. 3). Type locality: Istmina, Colombia. Holotype: FMNH 56884.

Maximum length: 13 cm SL
 Distribution: Central and South America: Pacific versant rivers of Panama, and Colombia to north of Ecuador.
 Countries: Colombia, Ecuador, Panama
 Remarks and references: See Lucena (2000a) for taxonomy of the trans-Andean species.
 Common names: Anchobeta (Panama), Anchovata (Panama)

***Roeboides oligistos* Lucena, 2000**

Roeboides oligistos Lucena, 2000b: 157, fig. 2. Type locality: braço morto do rio Tapajós, bairro de Piracuna, Itaituba, Pará, Brazil. Holotype: MCP 25254.

Maximum length: 7 cm SL
 Distribution: South America: Amazon, Negro, Branco, Tapajós, and Trombetas River basins.
 Countries: Brazil

***Roeboides paranensis* Pignalberi, 1975**

Roeboides paranensis Pignalberi, 1975: 152. Type locality: Nangañui Island (Corrientes), 29°10'S, 59°20'W [Río Paraná, Argentin].

Holotype: INALI 2.
 Maximum length: 8.9 cm SL
 Distribution: South America: Paraguay and lower Paraná River basins.
 Countries: Argentina, Brazil, Paraguay, Uruguay
 Remarks and references: See Hahn et al. (2000) for dental development and ontogenetic diet shifts.
 Common names: Dentudo (Brazil), Dientudo (Argentina, Paraguay)

***Roeboides prognathus* (Boulenger, 1895)**

Anacyrtus prognathus Boulenger, 1895: 529. Type locality: Matto Grosso, Brazil and Paraguay. Holotype: BMNH 1895.5.17.238.
 Maximum length: 14 cm SL
 Distribution: South America: Paraguay, middle and lower Paraná, and Uruguay River basins.
 Countries: Argentina, Brazil, Paraguay, Uruguay
 Remarks and references: Tentative key for cis-Andean species in Lucena (1988).
 Common names: Dientudo (Argentina, Paraguay)

***Roeboides thurni* Eigenmann, 1912**

Roeboides thurni Eigenmann, 1912: 399, pl. 60 (fig. 2). Type locality: Rockstone sand-bank [Guyana]. Holotype: FMNH 53676.

Maximum length: 8 cm SL
 Distribution: South America: Coastal rivers of Guyana, French Guiana, and Suriname.
 Countries: French Guiana, Guyana, Suriname

***Roeboides xenodon* (Reinhardt, 1851)**

Epicyrthus xenodon Reinhardt, 1851: 37. Type locality: Ribeiro do mato em lille Flod i Naerheden af lagoa santa; Rio das Velhas [São Francisco River, Brazil]. Syntypes: MNHN 9585; ZMB 9193; ?ZMUC 203, 206, 211-212.

Roeboides francisci Steindachner, 1908: 192. Type locality: den Lagunen bei Barra (Lagoa Viana, Lagoa do Porto), die mit dem Rio San Francisco im Zusammenhang stehen und den Tümpeln und Ausstanden des Rio grande do Norte sowie des Rio Preto bis Sa. Rita [Brazil]. Syntypes: (several) NMW 56891-94, 56896, ?56898-900, 56920-22, 56895, 56897.

Maximum length: 8.2 cm SL
 Distribution: South America: São Francisco River basin.
 Countries: Brazil
 Remarks and references: Tentative key for cis-Andean species and synonym above in Lucena (1988).

References

Ahl, E. 1936. Beschreibung neuer Fische der Familie Characidae aus Südamerika. Zool. Anz., 114 (1/2): 19-26.
 Böhlke, J. 1955. Studies on fishes of the family Characidae. 90. Notes on the distribution, variation and type locality of *Gnathocharax steindachneri* Fowler. Notulae Naturae, 277: 1-14.
 Boulenger, G.A. 1895. [Abstract of a report on a large collection of fishes formed by Dr. C. Ternetz in Matto Grosso and Paraguay, with descriptions of new species.]. Proc. Zool. Soc. London, 1895 (3): 523-529.
 Bussing, W.A. 1986. *Roeboides ilseae*, n. sp., a new scale-eating characid fish from Costa Rica. Rev. Biol. Trop., 33 (1): 45-50.
 Cope, E.D. 1870. Contribution to the ichthyology of the Marañon. Proc. Am. Philos. Soc., 11: 559-570.
 Cope, E.D. 1871. [Fishes from the Amazon above the mouth of the Río Negro.] Proc. Acad. Nat. Sci. Philadelphia, 23: 55.
 Cope, E.D. 1872. On the fishes of the Ambyiacu River. Proc. Acad. Nat. Sci. Philadelphia, 23: 250-294, pls.
 Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. Proc. Am. Philos. Soc., 17 (101): 673-701.

Check List of the Freshwater Fishes of South and Central America

- Cope, E.D. 1894. On three new genera of Characinidae. *Am. Nat.*, 28 (325): 67.
- Cuvier, G. and A. Valenciennes 1850 *Histoire naturelle des poissons*. Tome vingt-deuxième. Suite du livre vingt-deuxième. Suite de la famille des Salmonoïdes. Table générale de l'Histoire Naturelle des Poissons. Ch. Pitois, & V.^e Levrault, Paris & Strasbourg. xx + 1 + 532 + 91 p., pls. 634-650.
- Eigenmann, C.H. 1903 New genera of South American fresh-water fishes, and new names for old genera. *Smithson. Misc. Collect.*, 45: 144-148
- Eigenmann, C.H. 1909. Reports on the expedition to British Guiana of the Indiana University and the Carnegie Museum, 1908. Report no. 1. Some new genera and species of fishes from British Guiana. *Ann. Carnegie Mus.*, 6 (1): 4-54.
- Eigenmann, C.H. 1910. Catalogue of the fresh-water fishes of tropical and south temperate America. In: Reports of the Princeton University expeditions to Patagonia 1896-1899. *Zoology*. 3 (pt 4): 375-511.
- Eigenmann, C.H. 1911. New characins in the collection of the Carnegie Museum. *Ann. Carnegie Mus.*, 8 (1): 164-181, pls. 4-9.
- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. *Mem. Carnegie Mus.*, 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. 1922. The fishes of western South America, Part I. The fresh-water fishes of northwestern South America, including Colombia, Panama, and the Pacific slopes of Ecuador and Peru, together with an appendix upon the fishes of the Rio Meta in Colombia. *Mem. Carnegie Mus.*, 9 (1): 1-346, pls. 1-38.
- Eigenmann, C.H. and C.H. Kennedy. 1903. On a collection of fishes from Paraguay, with a synopsis of the American genera of cichlids. *Proc. Acad. Nat. Sci. Philadelphia*, 55: 497-537.
- Eigenmann, C.H., W.L. McAtee and D.P. Ward. 1907. On further collections of fishes from Paraguay. *Ann. Carnegie Mus.*, 4 (2): 110-157, pls. 31-45.
- Eigenmann, C.H. and F. Ogle. 1907. An annotated list of characin fishes in the United States National Museum and the Museum of Indiana University, with descriptions of new species. *Proc. U. S. Natl. Mus.*, 33 (1556): 1-36.
- Fernández-Yépez, A. 1947. *Charaxodon*, a new genus of characid fishes from South America. *Publ. Establ. Venez. Cienc. Nat. Caracas, Evencias*. (Ser. 1), 3: [1-3].
- Fowler, H.W. 1907. Further knowledge of some heterognathous fishes. Part II. *Proc. Acad. Nat. Sci. Philadelphia*, 58: 431-483.
- Fowler, H.W. 1913. Fishes from the Madeira River, Brazil. *Proc. Acad. Nat. Sci. Philadelphia*, 65: 517-579.
- Fowler, H.W. 1923. Fishes from Nicaragua. *Proc. Acad. Nat. Sci. Philadelphia*, 75: 23-32.
- Fowler, H.W. 1932. Zoological results of the Matto Grosso Expedition to Brazil in 1931,--I. Fresh water fishes. *Proc. Acad. Nat. Sci. Philadelphia*, 84: 343-377.
- Fowler, H.W. 1941a. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. *Proc. Acad. Nat. Sci. Philadelphia*, 93: 123-199.
- Fowler, H.W. 1941b. Notes on Colombian fresh-water fishes with descriptions of four new species. *Not. Nat. (Philadelphia)*, no. 73: 1-10.
- Fowler, H.W. 1943. Los peces del Peru. Catálogo sistemático de los peces que habitan en aguas peruanas. *Bol. Mus. Hist. Nat. "Javier Prado" Lima*, 7 (24-25): 96-124.
- Fowler, H.W. 1958. Some new taxonomic names of fishlike vertebrates. *Not. Nat. (Philadelphia)*, no. 310: 1-16.
- Garman, S. 1890. On species of *Cynopotamus*. *Bull. Essex Inst.*, 22 (1-3): 11-14.
- Géry, J. 1966. *Hoplocharax goethei*, a new genus and species of South American characoid fishes, with a review of the sub-tribe Heterocharacini. *Ichthyol. Aquarium J.*, 38 (3): 281-296.
- Géry, J. 1972 Corrected and supplemented descriptions of certain characoid fishes described by Henry W. Fowler, with revisions of several of their genera. *Stud. Neotrop. Fauna*, 7: 1-35.
- Géry, J. and H.-A. Knöppel. 1976. Un characin translucide nouveau: *Asiphonichthys condei* n. sp. (Cypriniformes, Characoidei, Characidae). *Rev. Fr. Aquariol.*, 3 (2): 47-54.
- Géry, J. and Vu-Tân-Tuê. 1963. Définitions de *Cynopotamus* Val. Et genres voisins (Pisces, Characoidei). Suite. *Bull. Natl. Mus. Nat. Hist. (Ser.2)*, 35 (3): 238-246.
- Gill, T.N. 1870. On some new species of fishes obtained by Prof. Orton from the Marañon, or Upper Amazon, and Napo Rivers. *Proc. Acad. Nat. Sci. Philadelphia*, 22: 92-96.
- Gronow, L.T. 1763 *Zoophylacii Gronoviani fasciculus primus exhibens animalia quadrupeda, amphibia atque pisces, quae in museo suo adersvat, rite examinavit, systematice disposuit, descripsit atque iconibus illustravit* Laur. Theod. Gronovius, J.U.D... Lugduni Batavorum. 136 p., 14 pls.
- Günther, A. 1864. Catalogue of the fishes in the British Museum, vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiatidae in the collection of the British Museum. xxii + 455 p.
- Günther, A. 1868a. Diagnoses of some new freshwater fishes from Surinam and Brazil, in the collection of the British Museum. *Ann. Mag. Nat. Hist. (Ser. 4)*, 1 (6): 475-481.
- Günther, A. 1868b. Descriptions of freshwater fishes from Surinam and Brazil. *Proc. Zool. Soc. London*, 1868 (2): 229-247, pls. 20-22.
- Hahn, N., C.S. Pavanelli and E. Okada. 2000. Dental development and ontogenetic diet shifts of *Roeboides paranensis* Pignalberi (Osteichthys, Characinae) in pools of the upper rio Paraná floodplain (State of Paraná, Brazil). *Revista Brasileira de Biologia, Rio de Janeiro*, 60 (1): 93-99.
- Hildebrand, S.F. 1925. Fishes of the Republic of El Salvador, Central America. *Bull. Bur. Fish.*, 41 (985): 237-287.
- Kner, R. 1858. Zur Familie der Characinen. *Sitzungsber. Akad. Wiss. Wien*, 32 (22): 163-168.
- La Cépède, B.G.E. 1803. *Histoire naturelle des poissons*. vol. 5. lxxviii + 803 p. + index, pls. 1-21.
- Linnaeus, C. 1758. *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis*. Editio decima, reformata. Tomus I. Holmiae. ii + 824 p.
- Lucena, C.A.S. 1987. Revisão e redefinição do gênero Neotropical *Charax* Scopoli, 1777, com a descrição de quatro espécies novas (Pisces; Characiformes; Characidae). *Comun. Mus. Ciênc. PUCRS*, no. 40: 5-124.
- Lucena, C.A.S. 1988. Lista comentada das espécies do gênero *Roeboides* Günther, 1864, descritas para as bacias dos rios Amazonas, São Francisco e da Prata (Characiformes, Characidae, Characinae). *Comun. Mus. Ciênc. PUCRS, Sér. Zool.*, 1 (1-5): 29-47.
- Lucena, C.A.S. 1989. Trois nouvelles espèces du genre *Charax* Scopoli, 1777, pour la région Nord du Brésil (Characiformes, Characidae, Characinae). *Rev. Fr. Aquariol.*, 15 (4, for 1988): 97-104.
- Lucena, C.A.S. 1998. Relações filogenéticas e definição do gênero *Roeboides* Günther (Ostariophysi: Characiformes: Characidae). *Comun. Mus. Ciênc. Tecnol. PUCRS, Sér. Zool.*, 11: 19-59.
- Lucena, C.A.S. 2000a. Revisão taxonômica e filogenia das espécies transandinas do gênero *Roeboides* Günther (Teleostei: Ostariophysi: Characiformes). *Comun. Mus. Ciênc. Tecnol. PUCRS, Sér. Zool.*, 13: 3-63.
- Lucena, C.A.S. 2000b. Duas novas espécies do gênero *Roeboides* Günther das bacias dos rios Orinoco e Amazonas (Teleostei, Characiformes, Characidae). *Biociências*, 8 (2): 153-162.
- Lucena, C.A.S. 2001. Uma nova espécie de *Roeboides* Günther da região superior da bacia Amazônica (Teleostei: Characiformes: Characidae). *Biotemas*, 14 (2): 61-70

Check List of the Freshwater Fishes of South and Central America

- Malabarba, L.R. and Z.M.S. Lucena. 1995. *Phenacogaster jancu-pa*, new species, with comments on the relationships and a new diagnosis of the genus (Ostariophysi: Characidae). *Ichthyol. Explor. Freshwaters*, 6 (4): 337-344.
- Meek, S.E. and S.F. Hildebrand. 1916. The fishes of the fresh waters of Panama. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 10 (15): 1-374, pls. 6-32.
- Menezes, N.A. 1976. On the Cynopotaminae, a new subfamily of Characidae (Osteichthyes, Ostariophysi, Characoidei). *Arq. Zool. (São Paulo)*, 28 (2): 1-91.
- Menezes, N.A. 1977. *Acestrocephalus boehlkei*, a new and disjunct cynopotamine from Ecuadorean and Peruvian Amazon (Osteichthyes, Ostariophysi, Characidae). *Pap. Avulsos Dep. Zool. (São Paulo)*, 30 (13): 185-193.
- Menezes, N.A. 1987. Three new species of the characid genus *Cynopotamus* Valenciennes, 1849, with remarks on the remaining species (Pisces, Characiformes). *Beaufortia*, 37 (1): 1-9.
- Miller, R.R. and A. Carr. 1974. Systematics and distribution of some freshwater fishes from Honduras and Nicaragua. *Copeia*, 1974 (1): 120-125.
- Müller, J. and F.H. Troschel 1844. Synopsis generum et specierum familiae Characinarum. (Prodromus descriptionis novorum generum et specierum). *Arch. Naturgeschichte*, 10 (1): 81-99 + Zu pag. 99.
- Myers, G.S. 1927. Descriptions of new South American freshwater fishes collected by Dr. Carl Ternetz. *Bull. Mus. Comp. Zool.*, 68 (3): 107-135.
- Norman, J.R. 1934. A new characin fish of the genus *Vesicatrus* from British Guiana. *Ann. Mag. Nat. Hist. (Ser. 10)*, 14 (1): 336-338.
- Pellegrin, J. 1909. Characinidés américains nouveaux de la collection du Muséum d'Histoire naturelle. *Bull. Mus. Natl. Hist. Nat.*, 15 (1): 12-14.
- Pignatelli, C.T. 1975. Una nueva especie del género *Roeboides* Günther del río Paraná: *Roeboides paranensis* sp. nov. (Pisces, Characidae). *Physis (Buenos Aires)*, 34 (89): 151-155.
- Reinhardt, J.T. 1851. Nye sydamerikanske Ferskvandsfiske. *Vidensk. Medd. Naturh. Foren. Kjob.*, 1849 (3-5): 29-57.
- Sazima, I. 1984. Scale-eating american characid fishes, Pp. 9-23. In: Zeret, J.M. (ed.) *Evolutionary ecology of Neotropical freshwater fishes*. The Netherlands. The Hague.
- Sazima, I. and F.A. Machado. 1982. Hábitos e comportamento de *Roeboides prognathus* (Osteichthyes, Characidae). *Bolm Zool. Univ. São Paulo*, 7: 37-56.
- Schultz, L.P. 1944. The fishes of the family Characinidae from Venezuela, with descriptions of seventeen new forms. *Proc. U. S. Natl. Mus.*, 95 (3181): 235-367.
- Schultz, L.P. 1950. Review of thirteen genera of South American fishes in the subfamilies Cynodontinae, Hepsetinae, and Characinae, with the description of a new *Cyrtocharax*. Pp. 44-73. In: M.H. Hatch (ed.), *Studies honoring Trevor Kincaid*. Univ. Washington Press, Seattle. iii + 173 p.
- Scopoli, G.A. 1777. *Introductio ad historiam naturalem, sistens genera lapidum, plantarum et animalium hactenus detecta, characteribus essentialibus donata, in tribus divisa, subinde ad leges naturae*. Prague. x + 506 p.
- Steindachner, F. 1876. *Ichthyologische Beiträge (V)*. *Sitzungsber. Akad. Wiss. Wien*, 74: 49-240, pls. 1-15.
- Steindachner, F. 1878. Zur Fischfauna des Magdalenen-Stromes. *Anz. Akad. Wiss. Wien*, 15 (12): 88-91.
- Steindachner, F. 1879a. Zur Fisch-fauna des Magdalenen-Stromes. *Denkschr. Akad. Wiss. Wien*, 39: 19-78, pls. 1-15.
- Steindachner, F. 1879b. Über einige neue und seltene Fischarten aus den zoologischen Museen zu Wien, Stuttgart und Warschau. *Anz. Akad. Wiss. Wien*, 16 (4): 29-34.
- Steindachner, F. 1879c. Über einige neue und seltene Fisch-Arten aus den k. k. zoologischen Museum zu Wien, Stuttgart, und Warschau. *Denkschr. Akad. Wiss. Wien*, 41: 1-52, pls. 1-9.
- Steindachner, F. 1880. Zur Fisch-Fauna des Cauca und der Flüsse bei Guayaquil. *Denkschr. Akad. Wiss. Wien*, 42: 55-104, pls. 1-9.
- Steindachner, F. 1882. Beiträge zur Kenntniss der Flussfische Südamerika's (IV). *Anz. Akad. Wiss. Wien*, 19 (19): 175-180.
- Steindachner, F. 1908. Über zwei neue Fischarten aus dem Stromgebiete des Rio San Francisco. *Anz. Akad. Wiss. Wien*, 45 (13): 191-194.
- Steindachner, F. 1915a. *Ichthyologische Beiträge (XVIII)*. *Anz. Akad. Wiss. Wien*, 52 (27): 346-349.
- Toledo-Piza, M. 2000. Two new *Heterocharax* species (Teleostei: Ostariophysi: Characidae), with a redescription of *H. macrolepis*. *Ichthyol. Explor. Freshwaters*, 11 (4): 289-304.
- Valenciennes, A. 1834-42. Poissons [plates]. In: A. d'Orbigny. *Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou)*, exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Paris, Bertrand et Levrault.
- Valenciennes, A. 1847. Poissons. Catalogue des principales espèces de poissons, rapportées de l'Amérique méridionale, 1-11. In: A. d'Orbigny. *Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou)*, exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Vol. 5 (pt. 2). Paris, Bertrand et Levrault.
- Weitzman, S.H. and R.P. Vari. 1987. Two new species and a new genus of miniature characid fishes (Teleostei: Characiformes) from northern South America. *Proc. Biol. Soc. Washington*, 100 (3): 640-652.

Subfamily Stethaprioninae (Silver dollar tetras)

Roberto E. Reis

Members of the subfamily Stethaprioninae can be readily distinguished from other characids by their deep, sometimes discoidal, body shape and by having an anteriorly directed bony spine preceding the first dorsal-fin ray. Mature male stethaprionines have very small, thin anal-fin hooks, varying from one to six per ray segment, that face in all directions (Reis, 1989). The phylogenetic relationships within the subfamily were studied by Reis (1989), who demonstrated that *Brachyhalcinus* and *Stethaprion* are sister-groups to each other, *Orthospinus* is sister to that clade, and *Poptella* is the most basal genus. The relationships of stethaprionines to other characids is mostly unknown, but deep-bodied genera as *Gymnocorymbus*, *Tetragonopterus*, *Ctenobrycon*, some *Moenkhausia*, and *Stichonodon* may be their closest relative.

Fishes in this subfamily are very homogeneous in terms of body size and shape; the maximum standard length varying from 6.5 cm in *Brachichalcinus retrospina* to 9.0 cm in *B. orbicularis*. Stethaprionine species are usually found in small to large rivers, where the current is not very strong. They are distributed in all major river drainages of cis-Andean South America, from lower Paraná River in Argentina to tributaries of the Orinoco River in Colombia. Three areas of the continent lack representatives of this subfamily, the coastal drainages emptying into the Atlantic between the La Plata River and the São Francisco River, the Paraná River basin upstream the Sete Quedas Falls, and the trans-Andean river basins, including the Magdalena River and Maracaibo Lake.

The present status of knowledge of species diversity and taxonomy is apparently good in this small group, as no additional species were detected since Reis' (1989) revision. It is possible, however, that faunal surveys in upper Amazon basin in Peru and Colombia and in Central Brazil eventually reveal additional species of *Brachyhalcinus* or *Poptella*. Commercial interest on stethaprionines is small and restricted to the aquarium trade.

BRACHYHALCINUS

Brachyhalcinus Boulenger, 1892: 11. Type species: *Brachyhalcinus retrospina* Boulenger, 1892. Type by monotypy. Gender: masculine.

***Brachyhalcinus copei* (Steindachner, 1882)**

Stethaprion copei Steindachner, 1882: 180. Type locality: Tabatinga, Rio Amazon, Brazil. Syntypes: NMW (3, apparently lost). Maximum length: 7.3 cm SL
Distribution: South America: Solimões and Madeira River basins.
Countries: Bolivia, Brazil, Peru
Remarks and references: See Reis (1989) for phylogeny, description, figure, and comparison with other species.
Common names: Mojara (Peru)

***Brachyhalcinus nummus* Böhlke, 1958**

Brachyhalcinus nummus Böhlke, 1958: 74, pl. 4 (fig. 5). Type locality: Chicherota [Lower Bobonaza River, Prov. Napo-Pastaza, 2°23'S, 76°30'W, Ecuador, elev. 270 m]. Holotype: USNM 164019.
Maximum length: 8.4 cm SL
Distribution: South America: Upper Amazon River basin.
Countries: Colombia, Ecuador, Peru
Common names: Mojara (Peru)

***Brachyhalcinus orbicularis* (Valenciennes, 1850)**

Tetragonopterus orbicularis Valenciennes in Cuvier & Valenciennes, 1850: 138. Type locality: l'Essequibo [Guyana]. Lectotype: MNHN 6343, designated by Reis (1989: 62).
Brachyhalcinus guianensis Boeseman, 1952: 303. Type locality: Itabu Creek, New River drainage, British Guiana. Lectotype: FMNH 51535, designated by Böhlke (1958).
Maximum length: 9 cm SL

Distribution: South America: Coastal drainages of Suriname and Guyana.

Countries: Guyana, Suriname

Remarks and references: See Reis (1989) for phylogeny, description, figure, and comparison with other species.

***Brachyhalcinus parnaibae* Reis, 1989**

Brachyhalcinus parnaibae Reis, 1989: 77, fig. 38. Type locality: Lagoas, Serra das Confusões, rio Parnaíba system, Caracol, Piauí, Brazil. Holotype: MZUSP 36594.
Maximum length: 7.2 cm SL
Distribution: South America: Parnaíba River basin.
Countries: Brazil
Remarks and references: See Reis (1989) for phylogeny, description, figure, and comparison with other species.

***Brachyhalcinus retrospina* Boulenger, 1892**

Brachyhalcinus retrospina Boulenger, 1892: 12, pl. 2 (fig. 2). Type locality: Santa Cruz. [Mato Grosso, Brazil]. Lectotype: BMNH 1892.4.20.36, designated by Eigenmann & Myers (1929: 508).
Maximum length: 6.5 cm SL
Distribution: South America: Paraguay River basin.
Countries: Brazil, Paraguay
Remarks and references: See Reis (1989) for phylogeny, description, figure, and comparison with other species.

ORTHOSPINUS

Buritia Brant, 1974: 148. Type species: *Buritia cisalpinoi* Brant, 1974. Type by original designation. Gender: feminine. Preoccupied by *Buritia* Young, 1952, in Hemiptera.
Orthospinus Reis, 1989: 42. Type species: *Buritia cisalpinoi*

Brant, 1974. Type by being a replacement name. Gender: masculine.

***Orthospinus franciscensis* (Eigenmann, 1914)**

Fowlerina franciscensis Eigenmann, 1914: 45. Type locality: Barreiras, Lagoas of Rio Grande [São Francisco River system, Bahia, Brazil]. Holotype: FMNH 56426 [ex CM 5240].

Ephippicharax franciscoensis Eigenmann, in Eigenmann & Myers, 1929: 506, pl. 70 (figs. 3 & 5). Type locality: Barreiras, Lagoas of Rio Grande [São Francisco River system, Bahia, Brazil]. Holotype: FMNH 56426 [ex CM 5240].

Buritia cisalpinoi Brant, 1974: 148, fig. 1 (unnumbered). Type locality: Barra do Pimenta, Faz. Buruti do Meio, Rio São Francisco, Pompeu, MG. [Brazil]. Holotype: MHNI 141.

Maximum length: 7.4 cm SL

Distribution: South America: São Francisco River basin.

Countries: Brazil

Remarks and references: See Reis (1989) for phylogeny, description, figure, and comparison with other species.

POPTELLA

Fowlerina Eigenmann, 1907: 771. Type species: *Tetragonopterus compressus* Günther, 1864. Type by monotypy. Gender: feminine. Preoccupied by *Fowlerina* Pelseneer, 1906, in Mollusca, replaced by *Ephippicharax* Fowler, 1913.

Poptella Eigenmann, 1908: 106. Type species: *Tetragonopterus longipinnis* Popta, 1901. Type by original designation. Gender: feminine.

Ephippicharax Fowler, 1913: 51. Type species: *Tetragonopterus compressus* Günther, 1864. Type by being a replacement name. Gender: masculine. Replacement for *Fowlerina* Eigenmann 1907, preoccupied by *Fowlerina* Pelseneer, 1906, in Mollusca.

***Poptella brevispina* Reis, 1989**

Poptella brevispina Reis, 1989: 37, fig. 22. Type locality: Igarapé Apeu, Boa Vista, Castanhal, Pará, Brazil. Holotype: MZUSP 38562.

Maximum length: 7.6 cm SL

Distribution: South America: Trombetas, upper Branco, and lower Tocantins River basins; coastal drainages of Guyana, Suriname and Pará State.

Countries: Brazil, Guyana, Suriname

Remarks and references: See Reis (1989) for phylogeny, description, figure, and comparison with other species.

Common names: Piaba (Brazil)

***Poptella compressa* (Günther, 1864)**

Tetragonopterus compressus Günther, 1864: 319. Type locality: Essequibo. [Guyana]. Lectotype: BMNH 1864.1.21.67, designated by Reis (1989: 23).

Maximum length: 6.8 cm SL

Distribution: South America: Orinoco and Amazon River basins; coastal drainages of Venezuela, Guyana, and northeastern Brazil. Countries: Bolivia, Brazil, Colombia, Guyana, Venezuela

Remarks and references: See Reis (1989) for phylogeny, description, figure, and comparison with other species.

***Poptella longipinnis* (Popta, 1901)**

Tetragonopterus longipinnis Popta, 1901: 85, fig. 1 (unnumbered). Type locality: Beneden-Nickerie, entre le Manilie-kreek et l'Arrawarra [Suriname]. Lectotype: RMNH 13033, designated by Reis (1989: 28).

Gymnocorymbus nemopterus Fowler, 1914: 247, fig. 8. Type locality: Rupununi River, British Guiana [2°-3°N, 50°20'W]. Holotype: ANSP 39332.

Maximum length: 6.9 cm SL

Distribution: South America: Orinoco River basin; coastal drainages of Suriname, and lower Tocantins River.

Countries: Brazil, Colombia, Suriname, Venezuela

Remarks and references: See Reis (1989) for phylogeny, description, figure, and comparison with other species.

***Poptella paraguayensis* (Eigenmann, 1907)**

Fowlerina paraguayensis Eigenmann in Eigenmann, McAtee & Ward, 1907: 153. Type locality: Descalvados. [Mato Grosso, Brazil]. Lectotype: BMNH 1895.5.17.200, designated by Reis (1989: 33).

Maximum length: 6.6 cm SL

Distribution: South America: Paraguay and lower Paraná River basins.

Countries: Argentina, Brazil, Paraguay

STETHAPRION

Stethaprion Cope, 1870: 562. Type species: *Stethaprion erythropros* Cope, 1870. Type by monotypy. Gender: masculine.

***Stethaprion crenatum* Eigenmann, 1916**

Stethaprion crenatus Eigenmann, 1916: 80, pl. 16. Type locality: San Joaquin, Bolivia. Holotype: FMNH 56413 [ex CM 5228a].

Stethaprion innesi Myers, 1932: 149, fig. (unnumbered). Type locality: Lower Amazon [Brazil]. Holotype: SU 25228.

Maximum length: 8.5 cm SL

Distribution: South America: Upper Purus, Madeira, and lower Amazon River basins.

Countries: Bolivia, Brazil

Remarks and references: See Reis (1989) for phylogeny, description, figure, and comparison with other species.

***Stethaprion erythropros* Cope, 1870**

Stethaprion erythropros Cope, 1870: 562, unnumbered fig. Type locality: Pebas. [Amazon system, Peru]. Holotype: ANSP 8031.

Stethaprion chryseum Cope, 1872: 261. Type locality: Ambyiacu, Peru. Holotype: ANSP 8030.

Maximum length: 8.8 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Brazil, Peru

Remarks and references: See Reis (1989) for phylogeny, description, figure, and comparison with other species.

Common names: Palometa (Peru)

References

- Boeseman, M. 1952. Note on the characid genus *Brachychalcinus* Boulenger (1892), including the description of a new species. Zool. Meded. (Leiden), 31 (26): 301-305.
- Böhlke, J.E. 1958. Studies on fishes on the family Characidae.-- No. 14. A report on several extensive recent collections from Ecuador. Proc. Acad. Nat. Sci. Philadelphia, 110: 1-121, pls. 1-7.
- Boulenger, G.A. 1892. On some new or little-known fishes obtained by Dr. J. W. Evans and Mr. Spencer Moore during their recent expedition to the Province of Matto Grosso, Brazil. Ann. Mag. Nat. Hist. (Ser. 6), 10 (55): 9-12, pls. 1-2.
- Brant, V. 1974. Ictiofauna de Minas Gerais. VII -- Um novo serrasalmídeo do estado de Minas Gerais, Brasil (Actinopterygii, Cypriniformes). Arq. Mus. Hist. Nat. Univ. Fed. Minas Gerais, 1: 147-152.
- Cope, E.D. 1870. Contribution to the ichthyology of the Marañon. Proc. Am. Philos. Soc., 11: 559-570.
- Cope, E.D. 1872. On the fishes of the Ambyiacu River. Proc. Acad. Nat. Sci. Philadelphia, 23: 250-294, pls.
- Cuvier, G. and A. Valenciennes. 1850. Histoire naturelle des poissons. Tome vingt-deuxième. Suite du livre vingt-deuxième. Suite de la famille des Salmonoïdes. Table générale de l'Histoire Naturelle des Poissons. Ch. Pitois, & V.° Levrault, Paris & Strasbourg. xx + 1 + 532 + 91 p., pls. 634-650.
- Eigenmann, C.H. 1907. Fowler's "Heterognathous Fishes" with a note on Stethaprioninae. Am. Nat., 41 (492): 767-772.

Check List of the Freshwater Fishes of South and Central America

- Eigenmann, C.H. 1908. Zoological results of the Thayer Brazilian Expedition. Preliminary descriptions of new genera and species of tetragonopterid characins. Bull. Mus. Comp. Zool., 52 (6): 93-106.
- Eigenmann, C.H. 1914. Some results from studies of South American fishes. IV. New genera and species of South American fishes. Indiana Univ. Studies, no. 20: 44-48.
- Eigenmann, C.H. 1916. New and rare fishes from South American rivers. Ann. Carnegie Mus., 10 (1-2): 77-86, pls. 13-16.
- Eigenmann, C.H., W.L. McAtee and D.P. Ward. 1907. On further collections of fishes from Paraguay. Ann. Carnegie Mus. 4 (2): 110-157, pls. 31-45.
- Eigenmann, C.H. and G.S. Myers. 1929. The American Characidae, part 5 [with Supplement by G. S. Myers, pp. 516-550]. Mem. Mus. Comp. Zool., 43 (5): 429-558, pls. 57, 63, 70-74, 81-83, 94.
- Fowler, H.W. 1914. Fishes from the Rupununi River, British Guiana. Proc. Acad. Nat. Sci. Philadelphia, 66: 229-284.
- Günther, A. 1864. Catalogue of the fishes in the British Museum vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiatidae in the collection of the British Museum. Trustees, London. xxii + 455 p.
- Myers, G.S. 1932. *Stethaprion innesi* and *Mylossoma aureum* from the Amazon. The Aquarium, 1 (6): 149-150.
- Popta, C.M.L. 1901. Note 10. *Tetragonopterus longipinnis*, n. sp. Notes Leyden Mus., 23: 85-90.
- Reis, R.E. 1989. Systematic revision of the Neotropical characid subfamily Stethaprioninae (Pisces, Characiformes). Comun. Mus. Ciênc. PUCRS, Sér. Zool., 2 (6): 3-86.
- Steindachner, F. 1882a. Beiträge zur Kenntniss der Flussfische Südamerikas (IV). Anz. Akad. Wiss. Wien, 19 (19): 175-180.

Subfamily Tetragonopterinae (Characins, tetras)

Roberto E. Reis

Members of the subfamily Tetragonopterinae can be distinguished from other characids by their deep and lozenge-shaped body, flat preventral area, and long anal fin base. The phylogenetic relationships of this subfamily to other characids is unstudied. The Tetragonopterinae has been treated for many years (e.g. Géry, 1977) as a very large, all-encompassing subfamily, into which most genera herein listed as Incertae Sedis in Characidae used to be allocated. Because of the lack of evidence that such a large Tetragonopterinae constitutes a monophyletic assemblage (Weitzman & Malabarba, 1998), this classification was not adopted here. Instead, we preferred to emphasize that interrelationships among the Characidae are poorly known, and only recognized *Tetragonopterus* as belonging to the Tetragonopterinae.

Tetragonopterus is composed of two species, usually found in small to large rivers, with slow to moderately strong water current. They are distributed in all major river drainages of cis-Andean South America, from lower Paraná River in Argentina, the Amazon basin, the São Francisco River, the Orinoco River, and the coastal drainages of the Guianas. Commercial interest on *Tetragonopterus* is small and restricted to the aquarium trade.

TETRAGONOPTERUS

Tetragonopterus Cuvier, 1816: 166. Type species: *Tetragonopterus argenteus* Cuvier, 1816. Type by monotypy. Gender: masculine.

***Tetragonopterus argenteus* Cuvier, 1816**

Tetragonopterus argenteus Cuvier, 1816: 166. Type locality: No locality. No types known.

Maximum length: 11.2 cm SL

Distribution: South America: Amazon and La Plata River basins.

Countries: Argentina, Brazil, Peru, Paraguay, Uruguay

Remarks and references: This species was based on Seba (1758: 106, pl. 34, fig. 3). Specimen apparently examined by Cuvier is MNHN A-9807 (1).

***Tetragonopterus chalceus* Spix & Agassiz, 1829**

Tetragonopterus chalceus Spix & Agassiz, 1829: 70, pl. 33 (fig. 1). Type locality: Brasiliae aequinoctialis fluviis. Holotype: MHNN 785 [This specimen potential holotype, 82 mm SL and 108 mm TL, but Agassiz gave 102 mm (Kottelat, 1988)].

Maximum length: 9.7 cm SL

Distribution: South America: Amazon, São Francisco, and Orinoco River basins; coastal drainages of the Guianas.

Countries: Brazil, French Guiana, Guyana, Peru, Suriname, Vene-

zuela

References

- Cuvier, G. 1816. Le Règne Animal distribué d'après son organisation pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Les reptiles, les poissons, les mollusques et les annélides. Edition 1. i-xviii + 1-532, [pls. 9-10, in v. 4].
- Géry, J. 1977. Characoids of the world. TFH Publ. Neptune City, NJ. 672 p.
- Kottelat, M. 1988. Authorship, dates of publication, status and types of Spix and Agassiz's Brazilian fishes. Spixiana, 11: 69-93.
- Spix, J.B. von, and L. Agassiz. 1829-31. Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXXVII-MDCCCXXX jussu et auspiciis Maximiliani Josephi I... colleget et pingendo curavit Dr J. B. de Spix... Monachii. Part 1: i-xvi + i-ii + 1-82, Pls. 1-48; part 2: 83-138, pls. 49-101.
- Weitzmann, S.H. and L.R. Malabarba. 1998. Perspectives about the phylogeny and classification of the Characidae (Teleostei: Characiformes). Pp. 161-170 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). Phylogeny and classification of Neotropical fishes. Edipucrs, Porto Alegre.

Subfamily Rhoadsiinae (Characins, tetras)

Alexandre R. Cardoso

Members of the subfamily Rhoadsiinae can be distinguished from other Characidae by having a single tooth series in the premaxilla (as Cheirodontinae) when young, and a double series (as most characids) when adults - (except for *Carlana*, which maintains the inner series only). The outer series of teeth in the premaxilla is composed of two conical teeth, while the inner series consists of five multicuspid teeth. Also remarkable is the fact that the longest dorsal-fin ray may reach the caudal fin in adult males.

There are three nominal genera in the Rhoadsiinae: *Rhoadsia*, *Parastremma*, and *Carlana*. The first two genera can be easily distinguished by the number of scales in the longitudinal series and the number of perforated scales in the lateral line. *Rhoadsia* has 37-41 scales in the longitudinal series and an incomplete lateral lines (10-20 perforated scales), while *Parastremma* has 55-64 scales in the longitudinal series, with a complete lateral line. The classification of *Carlana*, however, has been problematic. Some authors (e.g. Eigenmann & Myers, 1929 and Géry, 1977) regard *Carlana* as a junior synonym of *Rhoadsia*. Fink & Weitzman (1974), on the other hand, considered *Carlana* valid and more closely related to the Cheirodontinae than to other Rhoadsiinae.

Parastremma includes three species (*P. sadina*, *P. alba*, and *P. pulchra*), *Rhoadsia* has two (*R. altipinna* and *R. minor*), and *Carlana eigenmanni* is the only species in this last genus. Species of this subfamily are distributed in Central and South America, in both Atlantic and Pacific drainages of Nicaragua, Costa Rica, and Panama and in the trans-Andean, Pacific basins of Colombia, Ecuador and Peru. Because of their small size (maximum SL 136 mm), commercial importance is restricted to aquarium interest to the colorful species like *R. minor*, which has red and yellow fins. All six species have a general rhomboidal body shape in lateral view, and are popularly known as “sardina” or “blanca” in Colombia and “dora-dillo” in Ecuador.

CARLANA

Carlina Meek, 1914: 108. Type species: *Cheirodon eigenmanni* Meek, 1912. Type by original designation. Gender: feminine. Preoccupied by *Carlina* Gray, 1854, replaced by *Carlana* Strand, 1928.

Carlana Strand, 1928: 54. Type species: *Cheirodon eigenmanni* Meek, 1912. Type by being a replacement name. Gender: feminine. Replacement for *Carlina* Meek, 1914, apparently preoccupied by *Carlina* Gray, 1854.

***Carlana eigenmanni* (Meek, 1912)**

Cheirodon eigenmanni Meek, 1912: 70. Type locality: La Junta, Costa Rica. Holotype: FMNH 7683 [not 7583].

Maximum length: 5.39 cm SL

Distribution: Central America: Pacific and Atlantic drainages from Nicaragua to Panama.

Countries: Costa Rica, Nicaragua, Panama

Remarks and references: See Fink & Weitzman (1974: 28) for a detailed description.

PARASTREMMA

Parastremma Eigenmann, 1912: 20. Type species: *Parastremma sadina* Eigenmann, 1912. Type by monotypy. Gender: neuter.

***Parastremma album* Dahl, 1960**

Parastremma alba Dahl, 1960: 475, fig. on p. 476. Type locality: Río Sandó, Baudó [Colombia]. Holotype: ICNMHN 147.

Maximum length: 9.5 cm SL

Distribution: South America: Sandó River basin in Pacific versant of Colombia.

Countries: Colombia

Remarks and references: See Géry (1977: 538) for a comparison among species.

Common names: Blanca

***Parastremma pulchrum* Dahl, 1960**

Parastremma pulchra Dahl, 1960: 472, fig. on p. 473. Type locality: Becordó, Río San Juan [Colombia]. Holotype: ICNMHN 204.

Maximum length: 10 cm SL

Distribution: South America: Atrato River basin in Atlantic versant of Colombia.

Countries: Colombia

Remarks and references: See Géry (1977: 538) for a comparison among species. Type locality probably in error as species is only found in the Atrato River basin.

Common names: Sardina

***Parastremma sadina* Eigenmann, 1912**

Parastremma sadina Eigenmann, 1912: 20. Type locality: Istmina [Colombia]. Holotype: FMNH 56022 [ex CM 4812].

Maximum length: 18 cm SL

Distribution: South America: Pacific drainages of Colombia.

Countries: Colombia

Remarks and references: See Eigenmann (1912: 20) for a detailed description; Géry (1977: 538) for a comparison among species.

Common names: Sardina

RHOADSIA

Rhoadsia Fowler, 1911: 497. Type species: *Rhoadsia altipinna* Fowler, 1911. Type by original designation. Gender: feminine.

***Rhoadsia altipinna* Fowler, 1911**

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Rhoadsia altipinna Fowler, 1911: 498, fig. 2. Type locality: Affluent of the Chimbo River near Bucay, Province of Guayas, Ecuador. Holotype: ANSP 39106.

Maximum length: 17 cm SL

Distribution: South America: Pacific drainage basins in western Ecuador.

Countries: Ecuador

Remarks and references: See Géry (1977: 538) for a comparison among species.

Rhoadsia minor Eigenmann & Henn, 1914

Rhoadsia minor Eigenmann & Henn, 1914: 231. Type locality: Mindo, Province of Pichincha, Ecuador. Rio Blanco of Rio Esmeraldas system, elevation 4,000 feet. Holotype: CAS 62221 [ex IU 13419].

Maximum length: 10.4 cm TL

Distribution: South America: Pacific drainage basins in western Ecuador.

Countries: Ecuador

Remarks and references: See Géry (1977: 538) for a comparison among species.

Common names: Doradillo

References

Dahl, G. 1960. New fresh-water fishes from western Colombia. *Caldasia*, 8 (39): 451-484.

Eigenmann, C.H. 1912. Some results from an ichthyological reconnaissance of Colombia, South America. Part I. *Indiana Univ. Studies*, no. 16 [sic, no. 8]: 1-27.

Eigenmann, C.H. and A.W. Henn. 1914. On new species of fishes from Colombia, Ecuador, and Brazil. *Indiana Univ. Studies*, no. 24: 231-234.

Eigenmann, C.H. and G.S. Myers. 1929. The American Characidae. Part 5. *Mem. Mus. Comp. Zool.*, 43 (5): 429-558, pls. 57, 63, 70-74, 81-83, 94.

Fink, W.L. and S.H. Weitzman. 1974. The so-called Cheirodontin fishes of Central America with descriptions of two new species (Pisces: Characidae). *Smithson. Contrib. Zool.*, no. 172: i-iii + 1-46.

Fowler, H.W. 1911. New fresh-water fishes from western Ecuador. *Proc. Acad. Nat. Sci. Philadelphia*, 63: 493-520.

Géry, J. 1977. *Characoids of the World*. Neptune City, New Jersey, TFH Publications. 672 p.

Gray, J.E. 1845. Catalogue of the specimens of Lizards in the collection of the British Museum. London. 289 p.

Meek, S.E. 1912. New species of fishes from Costa Rica. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 10 (7): 69-75.

Meek, S.E. 1914. An annotated list of fishes known to occur in the freshwaters of Costa Rica. *Field Museum of Natural History, Zoological Series*, 10 (10):101-134.

Strand, E. 1928. *Miscellanea nomenclatorica zoologica et paleontologica*, I-II. *Archiv für Naturgeschichte*, 1926 (pt A): 8:30-75.

Subfamily Cheirodontinae (Characins, tetras)

Luiz R. Malabarba

Members of the subfamily Cheirodontinae can be distinguished from all other Characiformes by the following characters: A characteristically structured pseudotympanum, represented by a gap or a reduction on the muscles covering the anterior portion of the swim bladder, anterolaterally on the body, between the first and second pleural ribs; lack of a humeral spot; jaw teeth with a basal peduncle or pedicle and a highly compressed and expanded distal tip, usually with several cusps; and a single tooth series on the premaxilla with teeth perfectly aligned and similar in shape and cusp number (Malabarba, 1998).

Cheirodontine species are found in most river drainages of Central and South America, occurring from Costa Rica to central Chile and Argentina, in both Atlantic and Pacific drainages of the Andes. They have not been found in Pacific drainages of Northern Chile, Peru, Ecuador and Colombia, or in the Argentine Patagonia, but one genus (*Cheirodon*) and four species are the only characiforms found in the waters of the western slope of the Andes in Chile.

The species of the Cheirodontinae are usually abundant in lentic and lowland waters. Most species are small, with adults reaching 30–40 mm maximum in standard length. Some are miniature fishes (e.g. *Spintherobolus broccae*, Weitzman & Vari, 1988) and the largest known species, *Spintherobolus papilliferus*, attains approximately 60 mm in standard length (Weitzman & Malabarba, 1999).

Species of the Cheirodontinae are arranged in two tribes and five Incertae Sedis genera. The fishes of the tribe Cheirodontini are characterized by an elevated number of ventral procurrent caudal-fin rays (11 to 30) and by remarkable secondary sexual specializations of the ventral procurrent caudal-fin rays and anal-fin rays of males (Malabarba, 1998). Fishes of the tribe Compsurini are inseminating characids, characterized by the transference of sperm from the testis of mature males to the ovaries of mature females. Such a specialization has been discovered mostly from the histological examination and observation of spermatozoa in females ovaries (Burns et al., 1997), instead of through the observation of courtship and active sperm transfer from males. They can also be recognized by the presence of specialized scales, fin-ray hooks and apparently glandular tissues in the caudal fins of males (Malabarba & Weitzman, 1999; 2000). The remaining cheirodontine genera *Prodontocharax*, *Pseudocheirodon*, *Cheirodontops*, *Aphyocheirodon*, and *Odontostilbe* have little secondary sexual dimorphism and are mostly characterized by specializations in mouth and tooth shape (Malabarba, 1998).

Some species, particularly of the genus *Serrapinnus* (e.g. *S. notomelas* and *S. kriegi*, formerly listed under the generic names *Cheirodon* or *Odontostilbe*) are known in the aquarium trade. Based on their gross tooth morphology these fishes have long been considered mostly herbivorous, but few data are available from field studies of dietary habits of wild populations. Reproductive aspects are unknown for most species. Studies on *Serrapinnus calliurus* (Gelain et al., 1999) show it is a parceled spawners, i.e., females lay eggs several times along the same reproductive period.

ACINOCHEIRODON

Acinocheirodon Malabarba & Weitzman, 1999: 413. Type species: *Acinocheirodon melanogramma* Malabarba & Weitzman, 1999. Type by original designation. Gender: masculine. Phylogenetic relationships in Malabarba (1998), as “new genus and species B”. Phylogenetic diagnosis in Malabarba & Weitzman (1999).

Acinocheirodon melanogramma Malabarba & Weitzman, 1999

Acinocheirodon melanogramma Malabarba & Weitzman, 1999: 413, fig. 1. Type locality: município de Bocaiúva, córrego Cachoeira, tributary to rio Jequitaiá, km 413 of highway BR 135, approximately 17°28'S, 44°02'W. Holotype: MNRJ 16455.

Maximum length: 3.77 cm SL

Distribution: South America: São Francisco and Jequitinhonha River basins.

Countries: Brazil

Remarks and references: Morphological differences between Jequitinhonha and São Francisco River populations described

and discussed in Malabarba & Weitzman (1999).
Common names: Lambari (Brazil), Piabinha (Brazil)

APHYOCHEIRODON

Aphyocheirodon Eigenmann, 1915: 58. Type species: *Aphyocheirodon hemigrammus* Eigenmann, 1915. Type by original designation. Gender: masculine. Phylogenetic relationships and diagnosis in Malabarba (1998).

Aphyocheirodon hemigrammus Eigenmann, 1915

Aphyocheirodon hemigrammus Eigenmann, 1915: 59, pl. 9 (fig. 2). Type locality: Jaquara [Jaguara, Minas Gerais, Brazil]. Holotype: FMNH 57819.

Maximum length: 4.8 cm TL

Distribution: South America: Upper Paraná River basin.

Countries: Brazil

Remarks and references: See Eigenmann (1915: 59) for detailed description.

Common names: Lambari (Brazil), Piabinha (Brazil)

CHEIRODON

Cheirodon Girard, 1855: 199. Type species: *Cheirodon pisciculus* Girard, 1855. Type by monotypy. Gender: masculine. Phylogenetic relationships and diagnosis in Malabarba (1998).
Pedalibrycon Fowler, 1943: 314. Type species: *Pedalibrycon felipponei* Fowler, 1943. Type by original designation. Gender: masculine.

Cheirodon australe Eigenmann, 1927

Cheirodon australe Eigenmann, 1927: 44, pl. 9 (fig. 3). Type locality: Puerto Varas, mostly from a creek flowing through the town into Lake Llanquihue, Chile. Holotype: CAS 59762.

Maximum length: 4 cm SL

Distribution: South America: Pacific versant basins in southern Chile.

Countries: Chile

Remarks and references: Redescribed in Campos (1982: 146).

Common names: Pocha (Chile)

Cheirodon galusdae Eigenmann, 1927

Cheirodon galusdae Eigenmann, 1927: 44, pl. 9 (fig. 2). Type locality: San Xavier [Chile]. Holotype: CAS 59760.

Maximum length: 5.94 cm SL

Distribution: South America: Pacific versant basins in middle Chile.

Countries: Chile

Remarks and references: Redescribed in Campos (1982: 141).

Common names: Pocha (Chile)

Cheirodon ibicuihensis Eigenmann, 1915

Cheirodon interruptus ibicuihensis Eigenmann, 1915: 74. Type locality: Cacequy [Cacequi], Rio Ibicuihy [Ibicuí River], into Rio Uruguay [Rio Grande do Sul, Brazil]. Lectotype: FMNH 57833.

Maximum length: 4.19 cm SL

Distribution: South America: Laguna dos Patos, Uruguay and Tramandaí River basins.

Countries: Argentina, Brazil, Uruguay

Common names: Lambari (Brazil), Mojarrita (Argentina, Uruguay)

Cheirodon interruptus (Jenyns, 1842)

Tetragonopterus interruptus Jenyns, 1842: 127, pl. 23 (fig. 4). Type locality: Maldonado, Uruguay. Syntypes: BMNH 1917.7.14.16-17.

Chirodon monodon Cope, 1894: 91, pl. 6 (fig. 9). Type locality: Rio Grande do Sul [Restricted in Malabarba (1989) to Laguna dos Patos system, Brazil]. Lectotype: ANSP 21561, designated by Fowler (1906: 332).

Cheirodon meinken Ahl, 1928: 320. Type locality: Ostküste Südamerikas zwischen Rio de Janeiro und Bahia [Brazil]. Lectotype: ZMB 20786, designated by Zarske & Géry (1995: 109).

Cheirodon leuciscus Ahl, 1936: 19. Type locality: Rosario de Sta. Fé, Argentinien. Lectotype: ZMB 20802, designated by Zarske & Géry (1995: 108).

Hypheosobrycon nigrifrons Ahl, 1936: 23. Type locality: Pará, Amazonas [Brazil]. Holotype: ZMB 20800.

Pedalibrycon felipponei Fowler, 1943: 314, fig. 6. Type locality: Río Gi, Departamento del Iluranto, Uruguay. Holotype: ANSP 70332.

Maximum length: 5.78 cm SL

Distribution: South America: Atlantic versant rivers from Colorado River (Argentina) to Tramandaí River drainage (Brazil), including lower Paraná and Uruguay River basin, and Laguna dos Patos drainage. Introduced in Pacific versant rivers of Chile, including Choapa, and Quilimari Rivers, Estero Quintero, Estero Catapilco, and Estero Casablanca, and Lake Peñuelas.

Countries: Argentina, Brazil, Chile (introduced), Uruguay

Remarks and references: See Eigenmann (1927: 44) for detailed description.

Common names: Lambari (Brazil), Mojarra lilácea (Uruguay), Mojarrita (Argentina, Uruguay)

Cheirodon kiliani Campos, 1982

Cheirodon kiliani Campos, 1982: 154, fig. 10. Type locality: Río Cau Cau [Chile]. Holotype: IZUA 2340.

Maximum length: 2.99 cm SL

Distribution: South America: Pacific versant rivers of Chile from Lake Lanalhue drainage (north) to Calle Calle River basin (South).

Countries: Chile

Common names: Pocha (Chile)

Cheirodon parahybae Eigenmann, 1915

Cheirodon parahybae Eigenmann, 1915: 70, pl. 11 (fig. 2). Type locality: Campos [Brazil]. Holotype: FMNH 57857.

Maximum length: 3.9 cm TL

Distribution: South America: Paraíba do Sul River basin.

Countries: Brazil

Common names: Lambari (Brazil)

Cheirodon pisciculus Girard, 1855

Cheirodon pisciculus Girard, 1855: 45, pl. 34 (fig. 4). Type locality: Inhabits the ponds in the vicinity of Santiago, Chili [Chile]. No types known. (Full description and illustration in Girard (1855: 45, pl. 34, fig. 4).

Cheirodon annae McAtee in Eigenmann & Kennedy, 1903: 515. Type locality: South America. Holotype: CAS 59758 (holotype and 9 paratypes mixed).

Maximum length: 5.45 cm SL

Distribution: South America: Pacific versant of the Maipo, Aconcagua, and Huasco River basins, and Estero Quintero.

Countries: Chile

Remarks and references: Redescribed in Campos (1982: 135).

Common names: Pocha (Chile)

CHEIRODONTOPS

Cheirodontops Schultz, 1944: 319. Type species: *Cheirodontops geayi* Schultz, 1944. Type by original designation. Gender: masculine. Phylogenetic relationships and diagnosis in Malabarba (1998).

Cheirodontops geayi Schultz, 1944

Cheirodontops geayi Schultz, 1944: 319, fig. 42. Type locality: Río Guárico and tributaries between San Sebastián and San Casimiro, Estado de Aragua, Venezuela. Holotype: USNM 121507.

Maximum length: 4 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Remarks and references: See Schultz (1944: 319) for detailed description.

COMPSURA

Compsura Eigenmann, 1915: 60. Type species: *Compsura heterura* Eigenmann, 1915. Type by original designation. Gender: feminine. Phylogenetic relationships and diagnosis in Malabarba (1998).

Compsura gorgonae (Evermann & Goldsborough, 1909)

Cheirodon gorgonae Evermann & Goldsborough, 1909: 99, fig. 1. Type locality: From a small seepage pool below the spillway of the reservoir dam at Gorgona, Canal Zone. Holotype: USNM 64094.

Maximum length: 2.94 cm SL

Distribution: Central America: Pacific and Atlantic versant rivers of Panama.

Countries: Panama

Remarks and references: Redescribed and diagnosed in key in Fink & Weitzman (1974).

Compsura heterura Eigenmann, 1915

Compsura heterura Eigenmann, 1915: 61, pl. 10 (fig. 1). Type locality: Queimadas, Rio Itapicuru [Brazil]. Holotype: FMNH 57825.

Maximum length: 3.7 cm TL

Distribution: South America: São Francisco and Paraíba River basins, and Atlantic versant rivers of Ceará, Rio Grande do Norte, Paraíba, and Pernambuco States.

Countries: Brazil

Common names: Piabinha (Brazil)

HETEROCHEIRODON

Heterocheirodon Malabarba, 1998: 213. Type species: *Odontostilbe yatai* Casciotta, Miquelarena & Protogino, 1992. Type by original designation. Gender: masculine. Phylogenetic relationships and diagnosis in Malabarba (1998). Species descriptions, geographical distribution and diagnosis in Malabarba & Bertaco (1999).

Heterocheirodon jacuiensis Malabarba & Bertaco, 1999

Heterocheirodon jacuiensis Malabarba & Bertaco, 1999: 95, fig. 3-5. Type locality: lagoon at left margin of rio Jacui, near bridge of road BR 290, Cachoeira do Sul [Rio Grande do Sul, Brazil]. Holotype: MCP 23670.

Maximum length: 3.98 cm SL

Distribution: South America: Laguna dos Patos drainage.

Countries: Brazil, Uruguay

Common names: Lambari (Brazil)

Heterocheirodon yatai (Casciotta, Miquelarena & Protogino, 1992)

Odontostilbe yatai Casciotta, Miquelarena & Protogino, 1992: 3, fig. 1. Type locality: Arroyo El Palmar, Paraje La Glorieta, Parque Nacional El Palmar, Entre Ríos, Argentina. Holotype: MLP 8726.

Maximum length: 4.18 cm SL

Distribution: South America: Uruguay River basin.

Countries: Argentina, Brazil, Uruguay

Remarks and references: Redescribed in Malabarba & Bertaco (1999).

Common names: Lambari (Brazil), Mojarrita (Argentina)

KOLPOTOCHEIRODON

Kolpotocheirodon Malabarba & Weitzman, 2000: 270. Type species: *Kolpotocheirodon theloura* Malabarba & Weitzman, 2000. Type by original designation. Gender: masculine. Phylogenetic diagnosis in Malabarba & Weitzman (2000).

Kolpotocheirodon theloura Malabarba & Weitzman, 2000

Kolpotocheirodon theloura Malabarba & Weitzman, 2000: 271, fig. 1. Type locality: small marsh at Curva da Morte, Goiás [Brazil]. Holotype: MZUSP 55194.

Maximum length: 2.99 cm SL

Distribution: South America: Uppermost tributaries of the São Francisco and Paraná Rivers near Brasília.

Countries: Brazil

Remarks and references: Relationships discussed in Malabarba & Weitzman (1999).

Common names: Lambari (Brazil), Piabinha (Brazil)

MACROPSOBRYCON

Macropsobrycon Eigenmann, 1915: 48. Type species: *Macropsobrycon uruguayanae* Eigenmann, 1915. Type by original designation. Gender: masculine. Phylogenetic relationships and diagnosis in Malabarba (1998).

brycon uruguayanae Eigenmann, 1915. Type by original designation. Gender: masculine. Phylogenetic relationships and diagnosis in Malabarba (1998).

Macropsobrycon uruguayanae Eigenmann, 1915

Macropsobrycon uruguayanae Eigenmann, 1915: 48, pl. 6 (fig. 2).

Type locality: not listed [FMNH catalog information: Cacequi [Cacequi], Rio Grande do Sul, Brazil]. Holotype: FMNH 57910.

Maximum length: 4.6 cm TL

Distribution: South America: Laguna dos Patos, Uruguay and Tramandaí River basins.

Countries: Argentina, Brazil, Uruguay

Remarks and references: Sexually dimorphic characters of the caudal fin of males described and compared to other Compsurini Cheirodontines in Malabarba & Weitzman (1999, 2000).

Common names: Lambari (Brazil), Mojarrita (Argentina, Uruguay)

NANOCHEIRODON

Nanocheirodon Malabarba, 1998: 210. Type species: *Cheirodon insignis* Steindachner, 1880. Type by original designation. Gender: masculine. Phylogenetic relationships and diagnosis in Malabarba (1998).

Nanocheirodon insignis (Steindachner, 1880)

Cheirodon insignis Steindachner, 1880: 74, pl. 6 (fig. 3). Type locality: Cauca und Flüsse bei Guayaquil [Colombia]. Syntypes: NMW 62544: 1-8, NMW 62543: 1-6.

Maximum length: 2.44 cm SL

Distribution: South America: Maracaibo Lake and Magdalena River basins.

Countries: Colombia

ODONTOSTILBE

Odontostilbe Cope, 1870: 566. Type species: *Odontostilbe fugitiva* Cope, 1870. Type by monotypy. Gender: feminine. Phylogenetic relationships discussed in Malabarba (1998). The genus needs a revision at species level, diversity and relationships.

Holoshesthes Eigenmann, 1903: 144. Type species: *Cheirodon pequirá* Steindachner, 1882. Type by original designation. Gender: feminine.

Holesthes Eigenmann, 1915: 83. Type species: *Cheirodon pequirá* Steindachner, 1882. Gender: feminine. Unjustified emendation of *Holoshesthes* Eigenmann, 1903.

Lobodeuterodon Fowler, 1945: 100. Type species: *Deuterodon euspilurus* Fowler, 1945. Gender: masculine. Described as a sub-genus of *Deuterodon*.

Odontostilbe dialeptura (Fink & Weitzman, 1974)

Cheirodon dialepturus Fink & Weitzman, 1974: 5, fig. 1. Type locality: Veraguas Province, Rio San Pedro basin, creek at bridge 12 mi w of Santiago on Road to Sona [Panama]. Holotype: USNM 208524.

Maximum length: 3.43 cm SL

Distribution: Central America: Pacific versant rivers from Coclé Province (Panama) to Puntarenas Province (Costa Rica).

Countries: Costa Rica, Panama

Remarks and references: Redescribed in Fink & Weitzman (1974: 5). Malabarba (1998) and Malabarba & Weitzman (1999) discuss phylogenetic relationships and considered this species more related to Compsurini Cheirodontines than to *Odontostilbe* species. A new generic assignment is necessary for this species.

Odontostilbe dierythrura Fowler, 1940

Odontostilbe dierythrura Fowler, 1940: 68, fig. 24. Type locality: Todos Santos, Rio Chapare, Bolivia. Holotype: ANSP 68915.

Odontostilbe hasemani Fowler, 1940: 89, fig. 50. Type locality: Boca Chapare, Río Chimore, Cochabamba, Bolivia. Holotype:

ANSP 69100.

Distribution: South America: Amazon River basin in Bolivia.

Countries: Bolivia

***Odontostilbe fugitiva* Cope, 1870**

Odontostilbe fugitiva Cope, 1870: 566, fig. Type locality: Pebas, Eastern Ecuador [Pebas, Peru]. Holotype: probably lost [ANSP 8059. Referred by Böhlke (1894: 46) as the holotype is a specimen of *Prionobrama filigera*].

Odontostilbe madeirae Fowler, 1913: 527, fig. 6. Type locality: Tributary of Rio Madeira near Porto Velho, Brazil. Holotype: ANSP 39193.

Odontostilbe drepanon Fowler, 1913: 529, fig. 7. Type locality: Tributary of the Madeira river, near Porto Velho, Brazil. Holotype: ANSP 39210.

Odontostilbe caquetae Fowler, 1943: 230, fig. 13. Type locality: Florencia, Río Ortegusa, Colombia. Holotype: ANSP 70495.

Deuterodon (Lobodeuterodon) euspilurus Fowler, 1945: 102, fig. 3. Type locality: Morelia, Rio Caquetá drainage, Colombia. Holotype: ANSP 71679.

Maximum length: 3.68 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil, Colombia, Peru

Remarks and references: Species diversity among the so-called *Odontostilbe fugitiva* populations needs revision.

Common names: Mojara (Peru)

***Odontostilbe gracilis* (Géry, 1960)**

Cheirodon gracilis Géry, 1960: 29, pl. 2 (fig. 4). Type locality: Crique Sable, Upper Mana, French Guiana. Holotype: SMF 4785.

Maximum length: 2.35 cm SL

Distribution: South America: Maroni and Mana River basins.

Countries: French Guiana

***Odontostilbe littoris* Géry, 1960**

Cheirodon gracilis littoris Géry, 1960: 31. Type locality: "Dégrad Cacao" Comté River [French Guiana]. Holotype: SMF 4783.

Maximum length: 1.8 cm SL

Distribution: South America: Comté River basin.

Countries: French Guiana

***Odontostilbe microcephala* Eigenmann, 1907**

Odontostilbe microcephalus Eigenmann, in Eigenmann & Ogle, 1907: 10. Type locality: Río Pilcomayo, Bolivia. Holotype: CAS 59790.

Maximum length: 4.6 cm SL

Distribution: South America: Pilcomayo River basin.

Countries: Bolivia

***Odontostilbe mitoptera* (Fink & Weitzman, 1974)**

Cheirodon mitopterus Fink & Weitzman, 1974: 12, fig. 6. Type locality: Cocle Province, Rio Cocle del Norte basin, Rio Tucue at junction of river and road between Tucue and Tambo [Panama]. Holotype: USNM 208539.

Maximum length: 3.68 cm SL

Distribution: Central America: Cocle del Norte River basin.

Countries: Panama

Remarks and references: Redescribed in Fink & Weitzman (1974: 12). Malabarba (1998) and Malabarba & Weitzman (2000) discuss phylogenetic relationships and considered this species more related to Compsurini Cheirodontines than to *Odontostilbe* species. A new generic assignment is necessary for this species.

***Odontostilbe paraguayensis* Eigenmann & Kennedy, 1903**

Odontostilbe paraguayensis Eigenmann & Kennedy, 1903: 512. Type locality: Asuncion, Paraguay. Holotype: CAS 59785.

Maximum length: 3.65 cm SL

Distribution: South America: Paraguay and lower Paraná River basins.

Countries: Argentina, Brazil, Paraguay

Remarks and references: See Eigenmann (1915: 96) for detailed description.

***Odontostilbe pequirá* (Steindachner, 1882)**

Chirodon pequirá Steindachner, 1882: 180. Type locality: Rio Guaporé [Brazil]. Syntypes: NMW 57160, 6 ex., NMW 62633, 4 ex.

Odontostilbe trementinae Eigenmann & Kennedy, 1903: 513. Type locality: Arroyo Trementina, Paraguay. Holotype: CAS 59787.

Maximum length: 4.5 cm SL

Distribution: South America: Paraguay and lower Paraná River basin.

Countries: Argentina, Brazil, Paraguay

Common names: Lambari (Brazil), Piabinha (Brazil)

***Odontostilbe roloffii* Géry, 1972**

Odontostilbe roloffii Géry, 1972: 69, pl. 5 (figs. 1-2). Type locality: Creek near Puerto Napo, upper Río Napo, Ecuador. Holotype: ZMH H1482.

Maximum length: 4.21 cm SL

Distribution: South America: Napo River basin.

Countries: Ecuador

PRODONTOCHARAX

Prodontocharax Eigenmann & Pearson, in Pearson, 1924: 35.

Type species: *Prodontocharax melanotus* Pearson, 1924. Type by monotypy. Gender: masculine. Phylogenetic relationships and diagnosis in Malabarba (1998).

Amblystilbe Fowler, 1940: 85. Type species: *Amblystilbe howesi* Fowler, 1940. Type by original designation. Gender: feminine.

***Prodontocharax alleni* Böhlke, 1953**

Prodontocharax alleni Böhlke, 1953: 661. Type locality: Cashiboya, Peru on the Río Ucayali. Holotype: SU 17472.

Maximum length: 4.44 cm SL

Distribution: South America: Amazon and Ucayali River basins.

Countries: Brazil, Peru

Common names: Mojarita (Peru)

***Prodontocharax howesi* (Fowler, 1940)**

Amblystilbe howesi Fowler, 1940: 85, fig. 47. Type locality: Boca Chapare, Río Chimore, Cochabamba, Amazon system, Bolivia. Holotype: ANSP 69070.

Maximum length: 4.17 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia

***Prodontocharax melanotus* Pearson, 1924**

Prodontocharax melanotus Pearson, 1924: 36, pl. 12 (fig. 1). Type locality: Tumupasa, rio Beni basin, Bolivia. Lectotype: CAS 59793.

Maximum length: 4.84 cm SL

Distribution: South America: Beni, Itenez, and upper Madre de Dios River basins.

Countries: Bolivia, Brazil, Peru

Common names: Mojarita (Peru)

PSEUDOCHEIRODON

Pseudocheirodon Meek & Hildebrand, 1916: 275. Type species:

Pseudocheirodon affinis Meek & Hildebrand, 1916. Type by original designation. Gender: masculine. Phylogenetic relationships and diagnosis in Malabarba (1998).

***Pseudocheirodon arnoldi* (Boulenger, 1909)**

Chirodon arnoldi Boulenger, 1909: 497. Type locality: imported

from Puerto Mexico, on the north coast of the Isthmus of Tehuantepec. Holotype: BMNH 1909.10.5.1. [probably collected in the Canal Zone (Fink & Miller, 1985: 1058)].

Pseudocheirodon affinis Meek & Hildebrand, 1916: 275, pl. 18. Type locality: Río Gatun, Monte Liria, Canal Zone [Panama]. Holotype: FMNH 8944.

Maximum length: 4.28 cm SL

Distribution: Central America: Atlantic and Pacific versant rivers of Panama.

Countries: Panama

Remarks and references: Redescribed (as *Cheirodon affinis*) in Fink & Weitzman (1974).

***Pseudocheirodon terrabae* Bussing, 1967**

Pseudocheirodon terrabae Bussing, 1967: 212, fig. 1. Type locality: Puntarenas (260 m) at IM, 6 km w of Buenos Aires turnoff, Costa Rica. Holotype: LACM 9238-1.

Maximum length: 5.05 cm SL

Distribution: Central America: Grande de Terraba, Jicote, and Pirris River basins.

Countries: Costa Rica

Remarks and references: Redescribed (as *Cheirodon terrabae*) in Fink & Weitzman (1974).

SACCODERMA

Saccoderma Schultz, 1944: 314. Type species: *Saccoderma melanostigma* Schultz, 1944. Type by original designation. Gender: neuter. Phylogenetic relationships and diagnosis in Malabarba (1998).

***Saccoderma hastatus* (Eigenmann, 1913)**

Odontostilbe hastatus Eigenmann, 1913: 27. Type locality: Sopla-viento, Colombia. Holotype: FMNH 56383.

Maximum length: 4 cm SL

Distribution: South America: Magdalena River basin.

Countries: Colombia

***Saccoderma melanostigma* Schultz, 1944**

Saccoderma melanostigma Schultz, 1944: 315, fig. 40. Type locality: Río San Juan near bridge, south of Mene Grande, Motatán system, Venezuela. Holotype: USNM 121519.

Distribution: South America: Maracaibo Lake basin.

Countries: Venezuela

***Saccoderma robusta* Dahl, 1955**

Saccoderma robusta Dahl, 1955: 18. Type locality: Nain, Colombia. Holotype: not researched.

Distribution: South America: Sinu River basin.

Countries: Colombia

SERRAPINNUS

Serrapinnus Malabarba, 1998: 214. Type species: *Cheirodon piaba* Lütken, 1874. Type by original designation. Gender: masculine. Phylogenetic relationships and diagnosis in Malabarba (1998).

***Serrapinnus calliurus* (Boulenger, 1900)**

Chirodon calliurus Boulenger, 1900: 3. Type locality: Corandasiño, Brazil; San Lorenzo, Jujuy Prov., Argentina. Syntypes: BMNH 1900.4.14.78-82 (5); MSNG 37719; MZUT 1368; NMW 60345, 77966

Maximum length: 3.24 cm SL

Distribution: South America: Laguna dos Patos, Paraná-Paraguay and Uruguay River basins.

Countries: Argentina, Brazil, Paraguay, Uruguay

Common names: Lambari (Brazil), Piabinha (Brazil)

***Serrapinnus heterodon* (Eigenmann, 1915)**

Holesthes heterodon Eigenmann, 1915: 87, fig. 32; pl. 15 (fig. 2).

Type locality: Jaguará, Rio Grande emptying into Rio Paraná, Brazil. Holotype: FMNH 57890.

Odontostilbe iheringi Fowler, 1941: 183, fig. 93. Type locality: Rio Jaguaribe, Russas, Ceará, Brazil. Holotype: ANSP 69539.

Maximum length: 4.1 cm SL

Distribution: South America: Upper Paraná and São Francisco River basins.

Countries: Brazil, Paraguay

Common names: Lambari (Brazil), Mojarita (Peru), Piabinha (Brazil)

***Serrapinnus kriegi* (Schindler, 1937)**

Cheirodon kriegi Schindler, 1937: 106. Type locality: Centurion, (Nordostparaguay). Syntypes: ZSM 5859; ZSM 5860; ZSM 5867-5892.

Maximum length: 2.36 cm SL

Distribution: South America: Paraguay River basin.

Countries: Brazil, Paraguay

Common names: Lambari (Brazil), Piabinha (Brazil)

***Serrapinnus microdon* (Eigenmann, 1915)**

Cheirodon microdon Eigenmann, 1915: 80, fig. 29; pl. 14 (fig. 1). Type locality: Cáceres, Upper Paraguay [Brazil]. Holotype: FMNH 57867.

Maximum length: 3.29 cm SL

Distribution: South America: Paraguay River basin.

Countries: Brazil, Paraguay

Common names: Lambari (Brazil), Piabinha (Brazil)

***Serrapinnus micropterus* (Eigenmann, 1907)**

Cheirodon micropterus Eigenmann, 1907: 9. Type locality: Santarém, Pará, Brazil. Holotype: CAS 59780.

Cheirodon madeirae Eigenmann, 1915: 76, pl. 13 (fig. 1). Type locality: San Joaquin, Bolivia. Holotype: FMNH 57864.

Maximum length: 2.63 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil

Common names: Lambari (Brazil), Piabinha (Brazil)

***Serrapinnus notomelas* (Eigenmann, 1915)**

Cheirodon notomelas Eigenmann, 1915: 74, pl. 12 (fig. 2). Type locality: collected in a lake, four miles from Miguel Calmone, Tieté basin [Brazil]. Holotype: FMNH 57829.

Maximum length: 3.56 cm SL

Distribution: South America: Upper Paraná River basin.

Countries: Brazil

Common names: Lambari (Brazil), Piabinha (Brazil)

***Serrapinnus piaba* (Lütken, 1875)**

Chirodon piaba Lütken, 1875a: 134. Type locality: In rivulu Flumini Rio das Velhas affluentu captum [Minas Gerais, Brazil].

Types: lost. Also described in Lütken (1875b: 219, and p. XIV of summary).

Maximum length: 3.5 cm SL

Distribution: South America: São Francisco River basin.

Countries: Brazil

Common names: Lambari (Brazil), Piabinha (Brazil)

SPINTHEROBOLUS

Spintherobolus Eigenmann, 1911: 167. Type species: *Spintherobolus papilliferus* Eigenmann, 1911. Type by original designation. Gender: masculine. Phylogenetic relationships and diagnosis in Malabarba (1998), Weitzman & Malabarba (1999).

***Spintherobolus ankoseion* Weitzman & Malabarba, 1999**

Spintherobolus ankoseion Weitzman & Malabarba, 1999: 26, fig. 29. Type locality: creek in the forest, near Barra do Sai, between Barra do Sai and Itapema, northern Santa Catarina, Brazil. Holo-

type: MZUSP 35430.
 Maximum length: 2.79 cm SL
 Distribution: South America: Atlantic versant rivers from northern Santa Catarina southern Paraná States.
 Countries: Brazil
 Remarks and references: Relationships discussed in Weitzman & Malabarba (1999).
 Common names: Lambari (Brazil), Piabinha (Brazil)

***Spintherobolus broccae* Myers, 1925**

Spintherobolus broccae Myers, 1925: 143, pl. 10. Type locality: Hills behind Rio de Janeiro [Brazil]. Holotype: FMNH 58863.
 Maximum length: 2.56 cm SL
 Distribution: South America: Lowlands around and to the east and west of the Guanabara Bay, Rio de Janeiro and lowlands around Santos, São Paulo State.
 Countries: Brazil
 Remarks and references: Redescription and relationships in Weitzman & Malabarba (1999).
 Common names: Lambari (Brazil), Piabinha (Brazil)

***Spintherobolus leptoura* Weitzman & Malabarba, 1999**

Spintherobolus leptoura Weitzman & Malabarba, 1999: 35, fig. 36. Type locality: rio Quilombo, fazenda Dalila, Registro, São Paulo, Brazil. Holotype: MZUSP 41854.
 Maximum length: 2.72 cm SL
 Distribution: South America: Lowlands around the Ribeira de Iguape River.
 Countries: Brazil
 Remarks and references: Relationships discussed in Weitzman & Malabarba (1999).
 Common names: Lambari (Brazil), Piabinha (Brazil)

***Spintherobolus papilliferus* Eigenmann, 1911**

Spintherobolus papilliferus Eigenmann, 1911: 167, pl. 5 (fig. 1). Type locality: Alto da Serra, São Paulo [Brazil]. Holotype: FMNH 104802. Comments on the status of the holotype in Weitzman & Malabarba (1999).
 Maximum length: 6.08 cm SL
 Distribution: South America: Headwaters of Tietê River basin.
 Countries: Brazil
 Remarks and references: Redescription and relationships in Weitzman & Malabarba (1999).
 Common names: Lambari (Brazil), Piaba (Brazil)

SPECIES INQUIRENDA

Poecilurichthys pulcher Gill, 1858: 419. Type locality: Western Portion of the Island of Trinidad.

References

Ahl, E. 1928. Zwei neue südamerikanische Fische der Familie Characinidae. Zool. Anz., 77: 319-321.
 Ahl, E. 1936. Beschreibung neuer Fische der Familie Characidae aus Südamerika. Zool. Anz., 114 (1/2): 19-26.
 Böhlke, J.E. 1953. Studies on fishes of the family Characidae. No. 4. The South American genus *Prodonotocharax*. Ann. Mag. Nat. Hist. (Ser. 12), 6 (69): 658-664.
 Boulenger, G.A. 1900. Viaggio del Dr. A. Borelli nel Matto Grosso e nel Paraguay. III. Liste des poissons recueillis à Urucum et à Carandasiñho, près de Corumbà. Boll. Mus. Zool. Anat. Comp. Torino, 15 (370): 1-4.
 Boulenger, G.A. 1909. Description of a new characinid fish from Mexico. Ann. Mag. Nat. Hist. (Ser. 8), 4 (24): 497-498.
 Burns, J.R., S.H. Weitzman and L.R. Malabarba. 1997. Internal fertilization in eight species of cheirodontine fishes (Teleostei: Characidae: Cheirodontinae). Copeia, 1997 (2): 433-438.
 Bussing, W.A. 1967. New species and new records of Costa Rican

freshwater fishes with a tentative list of species. Rev. Biol. Trop., 14 (2): 205-249.
 Bussing, W.A. 1987. Peces de las aguas continentales de Costa Rica. Editorial de la Universidad de Costa Rica, San José. 271 p.
 Campos, H. 1982. Sistemática del género *Cheirodon* (Pisces: Characidae) en Chile con descripción de una nueva especie. Análisis de multivarianza. Stud. Neotrop. Fauna Environ., 17 (2-3): 129-162.
 Casciotta, J.R., A.M. Miquelarena and L. Protogino. 1992. A new species *Odontostilbe* (Teleostei, Characidae) from the Uruguay Basin, with comments on the diagnostic characters of the genus. Occas. Pap. Mus. Nat. Hist. Univ. Kansas, no. 149: 1-16.
 Cope, E.D. 1870. Contribution to the ichthyology of the Marañon. Proc. Am. Philos. Soc., 11: 559-570.
 Cope, E.D. 1894. On the fishes obtained by the Naturalist Expedition in Rio Grande do Sul. Proc. Am. Philos. Soc., 33: 84-108, pls. 4-9.
 Dahl, G. 1955. An ichthyological reconnaissance of the Sinu River. Revista Linneana, 1 (1): 11-19.
 Eigenmann, C.H. 1911. New characins in the collection of the Carnegie Museum. Ann. Carnegie Mus., 8 (1): 164-181, pls. 4-9.
 Eigenmann, C.H. 1913. Some results from an ichthyological reconnaissance of Colombia, South America. Part II. Indiana Univ. Studies, no. 18: 1-32.
 Eigenmann, C.H. 1915. The Cheirodontinae, a subfamily of minute characid fishes of South America. Mem. Carnegie Mus., 7 (1): 1-99, pls. 1-17.
 Eigenmann, C.H. 1927. The fresh-water fishes of Chile. Mem. Natl. Acad. Sci. Washington, 22 (2): 1-63, pls. 1-16.
 Eigenmann, C.H. and C.H. Kennedy. 1903. On a collection of fishes from Paraguay, with a synopsis of the American genera of cichlids. Proc. Acad. Nat. Sci. Philadelphia, 55: 497-537.
 Eigenmann, C.H. and F. Ogle. 1907. An annotated list of characin fishes in the United States National Museum and the Museum of Indiana University, with descriptions of new species. Proc. U. S. Natl. Mus., 33 (1556): 1-36.
 Evermann, B.W. and E.L. Goldsborough. 1909. Notes on some fishes from the Canal Zone. Proc. Biol. Soc. Washington, 22: 95-103.
 Fink, W.L. and R.R. Miller. 1985. *Cheirodon arnoldi*, a senior synonym of *Cheirodon affinis*, a common Panamanian characid fish (Teleostei, Ostariophysii). Copeia, 1985 (4): 1058-1060.
 Fink, W.L. and S.H. Weitzman. 1974. The so-called Cheirodontin fishes of Central America with descriptions of two new species (Pisces: Characidae). Smithsonian. Contrib. Zool., no. 172: i-iii + 1-46.
 Fowler, H.W. 1906. Further knowledge of some heterognathus fishes. Part I. Proc. Acad. Nat. Sci. Philadelphia, 58: 293-351.
 Fowler, H.W. 1913. Fishes from the Madeira River, Brazil. Proc. Acad. Nat. Sci. Philadelphia, 65: 517-579.
 Fowler, H.W. 1940. Zoological results of the second Bolivian expedition for the Academy of Natural Sciences of Philadelphia, 1936-1937. Part I.--The fishes. Proc. Acad. Nat. Sci. Philadelphia, 92: 43-103.
 Fowler, H.W. 1941. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. Proc. Acad. Nat. Sci. Philadelphia, 93: 123-199.
 Fowler, H.W. 1943a. A collection of fresh-water fishes from Colombia, obtained chiefly by Brother Nicéforo Maria. Proc. Acad. Nat. Sci. Philadelphia, 95: 223-266.
 Fowler, H.W. 1943b. Notes and descriptions of new or little known fishes from Uruguay. Proc. Acad. Nat. Sci. Philadelphia, 95: 311-334.
 Gelain, D., C.B. Fialho and L.R. Malabarba. 1999. Estudo da biologia reprodutiva de *Serrapinnus calliurus* (Boulenger, 1900) (Characidae: Cheirodontinae) do arroio do Ribeiro, Barra do Ribeiro, Rio Grande do sul, Brasil. Comun. Mus. Ciên. Tec-

Check List of the Freshwater Fishes of South and Central America

- nol. PUCRS, 12: 71-82.
- Géry, J. 1960. Contributions to the study of the characoid fishes, No. 6. New Cheirodontinae from French Guiana. *Senckenb. Biol.*, 41 (1/2): 15-39, pl. 2.
- Géry, J. 1972. Contribution à l'étude des poissons characoïdes de l'Équateur. Avec une révision du genre *Pseudochalceus* et la description d'un nouveau genre endémique du Rio Cauca en Colombie. *Acta Humboldt. (Ser. Geol. Palaeontol. Biol.)*, no. 2: 1-110, pls. 1-8.
- Girard, C.F. 1855. Abstract of a report to Lieut. Jas. M. Gilliss, U. S. N., upon the fishes collected during the U. S. N. Astronomical Expedition to Chili. *Proc. Acad. Nat. Sci. Philadelphia*, 7: 197-199.
- Jenyns, L. 1840-42. Part IV, Fish. In: C. Darwin (ed.), *The zoology of the voyage of H. M. S. Beagle, under the command of Captain FitzRoy, R. N., during the years 1832 to 1836*. Smith, Elder, and Co., London. xvi + 172 p., pls. 1-29. [Issued in 4 parts, from 1840 to 1842.]
- Lütken, C.F. 1875a. Characinae novae Brasiliae centralis a clarissimo J. Reinhardt in provincia Minas-Geraes circa oppidulum Lagoa Santa in lacu ejusdem nominis, flumine Rio das Velhas et rivulis affluentibus collectae, secundum caracteres essentialia breviter descriptae. *Overs. Danske Vidensk. Selsk. Forhandl Kjobenhavn*, 1874 (no. 3): 127-143.
- Lütken, C.F. 1875b. Velhas-Flodens Fiske. Et Bidrag til Brasiliens Ichthyologi; efter Professor J. Reinhardts Indsamlinger og Optegnelser. *K. Danske Vidensk. Selsk. Skr.*, Raekke 5, 12 (2): 121-253, + 2 unnum., + I-XXI, pls. 1-5.
- Mahnert, V. 1976. Catalogue des types de poissons, amphibiens, et reptiles du Muséum d'Histoire naturelle de Genève. *Rev. Suisse Zool.*, 83 (2): 471-496.
- Malabarba, L.R. 1989. Histórico sistemático e lista comentada das espécies de peixes de água doce do sistema da Laguna dos Patos, Rio Grande do Sul, Brasil. *Comun. Mus. Ciênc. PUCRS, Sér. Zool.*, 2 (8): 107-179.
- Malabarba, L.R. 1998. Characters and major clades of the Cheirodontinae (Teleostei: Characidae). Pp. 199-233 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). *Phylogeny and classification of Neotropical fishes*. Edipucrs, Porto Alegre.
- Malabarba, L.R. and V.A. Bertaco. 1999. Description of a new species of *Heterocheirodon* Malabarba (Teleostei: Characidae: Cheirodontinae: Cheirodontini) with further comments on the diagnosis of the genus. *Comun. Mus. Ciênc. Tecnol. PUCRS*, 12: 83-109.
- Malabarba, L.R. and S.H. Weitzman. 1999. A new genus and new species of South American fishes (Teleostei: Characidae: Cheirodontinae) with a derived caudal fin, together with comments on internally inseminated Cheirodontines. *Proc. Biol. Soc. Washington*, 112 (2): 410-432.
- Malabarba, L.R. and S.H. Weitzman. 2000. A new genus and species of inseminating fish (Teleostei: Characidae: Cheirodontinae: Compsurini) from South America with uniquely derived dermal papillae on caudal fin. *Proc. Biol. Soc. Washington*, 113 (1): 269-283.
- Meek, S.E. and S.F. Hildebrand. 1916. The fishes of the fresh waters of Panama. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 10 (15): 1-374, pls. 6-32.
- Myers, G.S. 1925. Description of a new cheirodontine characin from Rio de Janeiro. *Ann. Carnegie Mus.*, 16 (1): 143-144, pl. 10.
- Paepke, H.-J. 1995. Über das Leben und Werk von Ernst Ahl. *Mitt. Zool. Mus. Berlin*, 71 (1): 79-101.
- Pearson, N.E. 1924. The fishes of the eastern slope of the Andes. I. The fishes of the Rio Beni basin, Bolivia, collected by the Mulford expedition. *Indiana Univ. Studies*, 11 (64): 1-83, pls. 1-12.
- Ruiz, V.H. and T.M. Berra. 1994. Fishes of the High Biobio River of south-central Chile with notes on diet and speculations on the origin of the ichthyofauna. *Ichthyol. Explor. Freshwaters*, 5 (1): 5-18.
- Sarraf, A. 1997. Redescription and distribution of *Spintherobolus broccae* Myers (Characiformes: Characidae). *Rev. Fr. Aquariol.*, 24 (1-2): 27-30.
- Schindler, O. 1937. Eine neue fischart (Characidae) aus Nordostparaguay. *Anz. Akad. Wiss. Wien*, 74 (13): 106-107.
- Schultz, L.P. 1944. The fishes of the family Characinae from Venezuela, with descriptions of seventeen new forms. *Proc. U. S. Natl. Mus.*, 95 (3181): 235-367.
- Steindachner, F. 1880. Zur Fisch-Fauna des Cauca und der Flüsse bei Guayaquil. *Denkschr. Akad. Wiss. Wien*, 42: 55-104, pls. 1-9.
- Steindachner, F. 1882a. Beiträge zur Kenntniss der Flussfische Südamerika's (IV). *Anz. Akad. Wiss. Wien*, 19 (19): 175-180.
- Steindachner, F. 1882b. Beiträge zur Kenntniss der Flussfische Südamerikas. IV. *Denkschr. Akad. Wiss. Wien*, 46 (in 1883): 1-44, pls. 1-7.
- Tortonese, E. 1961. Catalogo del tipi de pesci del Museo Civico di Storia Naturale di Genova. (Parte I). *Ann. Mus. Civ. Stor. Nat. 'Giacomo Doria'*, 72: 179-191.
- Weitzman, S.H. and L.R. Malabarba. 1999. Systematics of *Spintherobolus* (Teleostei: Characidae: Cheirodontinae) from Eastern Brazil. *Ichthyol. Explor. Freshwaters*, 10 (1): 1-43.
- Wilkens, H. 1977. Die Typen der Ichthyologischen Sammlung des Zoologischen Instituts und Zoologischen Museums der Universität Hamburg (ZMH). *Mitt. Hamb. Zool. Mus. Inst.*, 74: 155-163.
- Zarske, A. and J. Géry. 1995. Zum Status der von E. Ahl aufgestellten Salmier-taxa (Teleostei: Characidae). *Mitt. Zool. Mus. Berlin*, 71 (1): 103-120.

Subfamily Glandulocaudinae (Characins, tetras)

Stanley H. Weitzman

Fishes of the subfamily Glandulocaudinae have the following characteristics: In sexually mature males glandulocaudines bear a basal caudal-fin organ that is apparently pheromone-producing in nature. This organ may consist of modified caudal-fin rays, modified caudal-fin scales, a derived hypural fan, and/or modified caudal-fin musculature. In species of some tribes and genera two to all of these derived features may be present. In males almost always some kind of derived glandular cells are present in association with large derived caudal-fin scales and/or modified fin rays. In so far as known, all species are inseminating in that the female is inseminated by the male and retains live sperm cells in her ovary, sometimes at least for many months. No fertilization of the oocytes takes place in the ovaries and presumably fertilization takes place when the eggs and sperm cells are shed at the same time. Nearly all species have elongate sperm cell bodies (nuclei) and these, at least for the many species and genera for which current information is available, have sperm cells with an elongate cytoplasmic collar binding the flagellum to the elongate nucleus at least at some stage of spermiogenesis. There are other inseminating characids. For example, the tribe Compsurini of the subfamily Cheirodontinae has inseminating species and also often complex caudal organs in the male. These caudal organs are structured differently than those found in the Glandulocaudinae and the histology and fine structure of the sperm cells of the Compsurini are not structured the same way as in the glandulocaudines. Furthermore there is evidence that the Compsurini forms a derived clade within the Cheirodontinae. See Burns et al. (1995), Burns et al. (1997), Burns, et al. (1998), Burns et al. (2000), Malabarba (1998), Menezes & Weitzman (1990), Weitzman & Fink (1985), Weitzman et al. (1994), and Weitzman & Menezes (1998).

The Glandulocaudinae is a morphologically diverse characid group consisting of 19 genera divided among seven tribes, each derived in a different way. The number of valid species currently recognized is 50. Most glandulocaudine fishes are relatively small, between about 30 and 60 millimeters in standard length, but some are considerably smaller, between about 11 and 30 millimeters in standard length when mature. See Weitzman & Fink (1985), Weitzman et al. (1994), and Weitzman & Menezes (1998).

Glandulocaudine species are found almost throughout Central and South America, from Costa Rica in the north, southward to northern Argentina. They are found in every country, including the island of Trinidad, except Chile.

The ecology and life history of glandulocaudines is complex, but little studied so far. Many occur in small to modest sized streams tributary to larger rivers such as the Amazon, Orinoco and Paraguay Rivers. Nearly all glandulocaudines are tropical in distribution with a few being subtropical and are known from coastal streams of Central and South America tributary to the Atlantic and Pacific Oceans and the Caribbean Sea. A few species are known from elevations as high as about 500 to 600 meters, but most occur at elevations considerably below that, down to sea level. Some species are confined to acid black rainforest waters with an acidic pH, others are found in neutral to somewhat alkaline waters that are clear or seasonally turbid due to sediment load. A few species are adapted to both kinds of waters. No species are known from brackish waters of coastal lagoons or river mouths under the influence of tides. The courtship behaviors of those species and genera that have been studied in detail using scientific procedures have been described as having complicated courtship procedures preceding insemination. Aquarists have published many articles about the behavior of glandulocaudines maintained in aquaria during the last 90 years. These articles describe in varying detail and accuracy the complex courtship activities of several glandulocaudine species and genera. This literature was last evaluated by Nelson (1964a). Personal observations, Azevedo et al. (2000), Nelson (1964b, & c), Weitzman & Fink (1985), Weitzman (1987), and Weitzman et al. (1994) all confirm the brief evaluation of this literature given above. Additional behavioral observations similar to those of Nelson (1964a, b, & c) are needed for many genera and species in order to be able to use behavioral data as evidence for phylogeny.

Although 50 species are currently recognized, there are many undescribed species represented by population samples in museums that await descriptions. Each of the seven tribes appears monophyletic although additional studies are needed to confirm this for a few of these tribes. On the other hand the validity of the monophyly of the subfamily needs much further investigation. A few outgroup inseminating characids lack a caudal organ, but have some of the other glandulocaudine synapomorphies that were reported recently by Weitzman & Menezes (1998). It may well be that at least some of the glandulocaudine tribes are independently derived from plesiomorphic extinct relatives of these outgroup characids such as the species of *Brittanichthys*, some species of *Knodus* and *Attonitus*. See Burns et al. (2000).

Members of this subfamily form food for larger fishes that are important for both commercial and subsistence reasons in the rivers of Central and South America. Several species are moderately important for the aquarium trade and may be exported especially from Argentina, Brazil, Paraguay, Trinidad, and Venezuela.

ACROBRYCON

Acrobrycon Eigenmann & Pearson, in Pearson, 1924: 44. Type species: *Tetragonopterus ipanquianus* Cope, 1878. Type by original designation. Gender: masculine. See Weitzman and Menezes (1998) for relationships.

***Acrobrycon ipanquianus* (Cope, 1877)**

Tetragonopterus ipanquianus Cope, 1877: 44. Type locality:... the upper waters of the Urubamba, one of the sources of the Ucayale [Peru.] Syntypes: ANSP 21114 (1), 21115-16 (2).

Maximum length: 10 cm SL

Distribution: South America: Urubamba River basin in Ucayali River drainage.

Countries: Peru

Remarks and references: See Cope (1877, 1894), Weitzman & Fink (1985). Burns et al. (1995) record insemination in an unidentified species of *Acrobrycon*.

Common names: Mojara (Peru)

***Acrobrycon tarijae* Fowler, 1940**

Acrobrycon tarijae Fowler, 1940: 50, fig. 5. Type locality: Rio Lipeo, Bolivia. Holotype: ANSP 68775.

Maximum length: 6.4 cm SL

Distribution: South America: Southern Bolivia, Depto. Tarija, northern Argentina, Depto. Salta & Jujuy.

Countries: Argentina, Bolivia

Remarks and references: Ringuelet et al. (1967) records the species from Argentina. Géry (1977) doubts the distinctness of the two described species in this genus.

ARGOPLEURA

Argopleura Eigenmann, 1913: 10. Type species: *Bryconamericus magdalenensis* Eigenmann, 1913. Type by original designation. Gender: feminine. See Weitzman and Menezes (1998) for relationships.

Xenurocharax Regan, 1913: 463. Type species: *Xenurocharax spurrellii* Regan, 1913. Type by monotypy. Gender: masculine. Synonym of *Argopleura* Eigenmann (June) 1913; *Xenurocharax* published in Nov. (Eigenmann 1927: 395).

***Argopleura chocoensis* (Eigenmann, 1913)**

Bryconamericus chocoensis Eigenmann, 1913: 14. Type locality: Istmia [Colombia]. Holotype: FMNH 56235.

Xenurocharax spurrellii Regan, 1913: 463. Type locality: from the Candoto [a tributary of the San

Juan, a river of the Pacific slope in S. W. Colombia]. Holotype: BMNH 1913.10.1.33.

Maximum length: 5.28 cm SL

Distribution: South America: San Juan River basin.

Countries: Colombia

Remarks and references: See Burns et al. (1995) for information on insemination.

Common names: Galocha (Colombia), Sardinita (Colombia)

***Argopleura conventus* (Eigenmann, 1913)**

Bryconamericus conventus Eigenmann, 1913: 13. Type locality: Soplaviento [Colombia]. Holotype: FMNH 56261.

Maximum length: 3.6 cm SL

Distribution: South America: Colombia, Depto. Atlantico, Dique de Cartagena.

Countries: Colombia

Common names: Galocha (Colombia), Sardinita (Colombia)

***Argopleura diquensis* (Eigenmann, 1913)**

Bryconamericus diquensis Eigenmann, 1913: 14. Type locality: Soplaviento [Colombia]. Holotype: FMNH 56272.

Maximum length: 4.69 cm SL

Distribution: South America: Colombia, Depto. Atlantico, Dique de Cartagena.

Countries: Colombia

Remarks and references: See Weitzman & Fink (1985) for comments.

Common names: Galocha (Colombia), Sardinita (Colombia)

***Argopleura magdalenensis* (Eigenmann, 1913)**

Bryconamericus magdalenensis Eigenmann, 1913: 14. Type locality: Girardot [Colombia]. Holotype: FMNH 56263.

Maximum length: 4.85 cm

Distribution: South America: Magdalena River basin.

Countries: Colombia

Remarks and references: No recent description. See Burns et al. (1995) for information on insemination.

Common names: Sardina (Colombia)

CHRYSOBRYCON

Chrysobrycon Weitzman & Menezes, 1998: 187. Type species: *Hysteronotus hesperus* Böhlke, 1958b. Type by original designation. Gender: masculine.

***Chrysobrycon hesperus* (Böhlke, 1958)**

Hysteronotus hesperus Böhlke, 1958b: 35, pl. 3 (fig. 2). Type locality: Río Pucuno, Napo-Pastaza, tributary of upper Río Napo, Province of Napo-Pastaza, Ecuador, approx. 0°46'S, 77°12'W. Holotype: USNM 164056. See Weitzman and Menezes (1998) for relationships.

Maximum length: 8.18 cm SL

Distribution: South America: Napo River basin.

Countries: Peru

Remarks and references: See Weitzman & Fink (1985) and Weitzman & Menezes (1998) for comments on relationships. See Burns et al. (1995) for information on insemination.

Common names: Mojara (Peru)

***Chrysobrycon myersi* (Weitzman & Thomerson, 1970)**

Hysteronotus myersi Weitzman & Thomerson, 1970: 140, fig. 1. Type locality: Small stream directly tributary to Pachitea River (itself tributary to Ucayali River) at northeastern outskirts of Tournavista, Huanuco Province, Peru. Holotype: USNM 203697.

Maximum length: 4.9 cm SL

Distribution: South America: Pachitea River basin (known only from type locality).

Countries: Peru

Remarks and references: See Weitzman & Menezes (1998) for comments about relationships and Burns et al. (1995) for information on insemination.

Common names: Mojara (Peru)

CORYNOPOMA

Corynopoma Gill, 1858: 425. Type species: *Corynopoma riisei* Gill, 1858. Type by subsequent designation by Günther (1864). Gender: neuter. See Weitzman and Menezes (1998) for relationships and Weitzman and Fink (1985) for comments on name priority.

Nematopoma Gill, 1858: 428. Type species: *Nematopoma searlesii* Gill, 1858. Type by monotypy. Gender: neuter.

Stevardia Gill, 1858: 425. Type species: *Stevardia albiginnis* Gill, 1858. Type by monotypy. Gender: feminine.

***Corynopoma riisei* Gill, 1858**

Stevardia albipinnis Gill, 1858: 425. Type locality: Western portions of the Island of Trinidad, W.I.

Corynopoma riisei Gill, 1858: 426. Type locality: Western portions of the Island of Trinidad, W.I.

Nematopoma searlesii Gill, 1858: 429. Type locality: Western portion of the Island of Trinidad, W.I.

Corynopoma veedonii Gill, 1858: 427. Type locality: Western portions of the Island of Trinidad, W.I.

Stevardia aliata Eigenmann, 1914: 37. Type locality: Rio Negro at Villavicencio [Colombia]. Holotype: FMNH 56400.

Maximum length: 4.82 cm SL

Distribution: South America: Coastal rivers of Trinidad and northern Venezuela and Meta River basin.

Countries: Colombia, Trinidad and Tobago, Venezuela

Remarks and references: Type locality not given under Gill's species descriptions, but all species included in Gill's paper are designated in the title to have the locality as given above. No recent description. See Weitzman & Fink (1985) for localities, Weitzman & Menezes (1998) for comments about relationships, Burns et al. (1995) for information on insemination, and Nelson (1964 a) for discussions of courtship behavior.

Common names: Sardinita cachete de espada (Venezuela), Sword-tail characin (USA), Sword-tailed sardine (Trinidad and Tobago), Zwergdrachenflosser (Germany)

DIAPOMA

Diapoma Cope, 1894: 67. Type species: *Diapoma speculiferum* Cope, 1894. Type by monotypy. Gender: neuter. See Weitzman and Menezes (1998) for relationships.

***Diapoma speculiferum* Cope, 1894**

Diapoma speculiferum Cope, 1894: 67. Type locality: "... in the upper waters of the Jacuhy [Jacu] River in the Brazilian State of Rio Grande do Sul, Brazil." Holotype: ANSP 21580.

Maximum length: 4.55 cm SL

Distribution: South America: Lower elevation tributaries to Laguna dos Patos basin.

Countries: Brazil, Uruguay

Remarks and references: See Weitzman & Menezes (1998) for comments about relationships. See Azevedo et al. (2000) for information on reproductive biology and Burns et al. (1995) for information on insemination.

Common names: Lambari (Brazil)

***Diapoma terofali* (Géry, 1964)**

Glandulocauda terofali Géry, 1964: 2, fig. 1. Type locality: Canal "El Cazador", Rio Lujan (affluent du Rio de la Plata), Province de Buenos-Ayres, République Argentine. Holotype: ZSM 22503a.

Maximum length: 4.83 cm SL

Distribution: South America: Lower Paraná and Uruguay River basins.

Countries: Argentina, Brazil, Uruguay

Remarks and references: See Weitzman & Fink (1985) regarding generic allocation and Weitzman & Menezes (1998) for comments about relationships. See Burns et al. (1995) for information on insemination.

Common names: Lambari (Brazil)

GEPHYROCHARAX

Gephyrocharax Eigenmann, 1912: 23. Type species: *Gephyrocharax chocoensis* Eigenmann, 1912. Type by original designation. Gender: masculine. See Weitzman & Menezes (1998) for relationships.

Corynopomops Fowler, 1943: 6. Type species: *Corynopomops opisthopterus* Fowler, 1943. Type by original designation. Gender: masculine.

***Gephyrocharax atracaudata* (Meek & Hildebrand, 1912)**

Deuterodon atracaudata Meek & Hildebrand, 1912: 68. Type locality: Rio Frijoles, C. Z., Panama. Holotype: FMNH 7573.

Maximum length: 4.74 cm SL

Distribution: Central America: Panama, Prov. Cerro-Azul and former Canal Zone, Frijoles River basin.

Countries: Panama

Remarks and references: See Weitzman & Fink (1985), for clarification of type locality and Burns et al. (1995) for information on insemination.

Common names: Sardinita (Panama)

***Gephyrocharax caucanus* Eigenmann, 1912**

Gephyrocharax caucanus Eigenmann, 1912: 24. Type locality: Cartago [Colombia]. Holotype: FMNH 56012 [ex CM 4802].

Maximum length: 5.01 cm SL

Distribution: South America: Upper Cauca River basin.

Countries: Colombia

Common names: Sardina (Colombia)

***Gephyrocharax chaparae* Fowler, 1940**

Gephyrocharax chaparae Fowler, 1940: 70, 91, fig. 26. Type locality: Todos Santos, Rio Chapare, Bolivia. Holotype: ANSP 68967.

Corynopomops opisthopterus Fowler, 1943: 6, fig. 4. Type locality: Todos Santos, Bolivia. Holotype: ANSP 69195.

Maximum length: 4.75 cm SL

Distribution: South America: Chapare River basin.

Countries: Bolivia

Remarks and references: See Loubens et al. (1992) for ecology of area surrounding Chapare River.

Common names: Chapare-Drüsensalmmler (Germany)

***Gephyrocharax chocoensis* Eigenmann, 1912**

Gephyrocharax chocoensis Eigenmann, 1912: 23. Type locality: Istmina [Colombia]. Holotype: FMNH 56016.

Maximum length: 5.16 cm SL

Distribution: South America: Upper San Juan River basin.

Countries: Colombia

Remarks and references: See Burns et al. (1995) for information on insemination.

Common names: Sardina (Colombia)

***Gephyrocharax intermedius* Meek & Hildebrand, 1916**

Gephyrocharax intermedius Meek & Hildebrand, 1916: 278. Type locality: Rio Chame, Panama [08°34'N, 79°53'W for type locality]. Holotype: FMNH 8945.

Maximum length: 4.42 cm SL

Distribution: Central America: Chamae River basin.

Countries: Panama

Remarks and references: See Weitzman & Fink (1985), for clarification of type locality and Burns et al. (1995) for information on insemination.

Common names: Sardinita (Panama)

***Gephyrocharax major* Myers, 1929**

Gephyrocharax major Myers in Eigenmann & Myers, 1929: 479. Type locality: Popoi R., Upper Beni [Bolivia]. Syntypes: CAS 44286 [ex IU 17291] (9).

Maximum length: 5.41 cm SL

Distribution: South America: Beni River basin.

Countries: Bolivia

***Gephyrocharax martae* Dahl, 1943**

Gephyrocharax martae Dahl, 1943: 218, fig. Type locality: Rio Batatal, tributary to Rio San Jorge, Magdalena system, Municipio of Ayapel, departement Bolivar, Republic of Colombia. Altitude

approx. 800 m. Holotype: Location unknown.
 Maximum length: 3.66 cm SL
 Distribution: South America: Upper Magdalena River basin.
 Countries: Colombia
 Common names: Brinconcita (Colombia)

***Gephyrocharax melanocheir* Eigenmann, 1912**

Gephyrocharax melanocheir Eigenmann, 1912: 24. Type locality: Bernal Creek [Colombia]. Holotype: FMNH 56049.
 Maximum length: 3.98 cm SL
 Distribution: South America: Tributary to Magdalena River near Honda; Cauca and San Jorge River basins.
 Countries: Venezuela
 Remarks and references: See Dahl (1971) & Weitzman & Fink (1985) for up-dated locality information.
 Common names: Brinconcita (Colombia), Tota (Colombia)

***Gephyrocharax sinuensis* Dahl, 1964**

Gephyrocharax sinuensis Dahl in Dahl & Medem, 1964: 64, fig. Type locality:... de Esmeraldas, Alto Sinú... [Colombia]. Holotype: ICNMHN (apparently destroyed).
 Maximum length: 4.5 cm SL
 Distribution: South America: Upper Sinú River basin.
 Countries: Colombia
 Remarks and references: No recent description. See Dahl (1971) for updated locality information.
 Common names: Brinconita (Colombia)

***Gephyrocharax valencia* Eigenmann, 1920**

Gephyrocharax valencia Eigenmann, 1920: 11. Type locality: Maracay, Lake Valencia, off dock of Paper Mill [Venezuela]. Holotype: CAS 44297.
 Maximum length: 4.1 cm SL
 Distribution: South America: Valencia Lake tributaries and Guari-co River basin.
 Countries: Venezuela
 Remarks and references: See Burns et al. (1995) for information on insemination.
 Common names: Brückensalmler (Germany), Sardina (Venezuela)

***Gephyrocharax venezuelae* Schultz, 1944**

Gephyrocharax venezuelae Schultz, 1944: 324, fig. 44. Type locality: Río San Juan at the bridge south of Mene Grande, Motatán system [Venezuela]. Holotype: USNM 121369.
 Maximum length: 4.14 cm SL
 Distribution: South America: Tributaries of Maracaibo Lake basin.
 Countries: Venezuela
 Remarks and references: See and Burns et al. (1995) for information on insemination.
 Common names: Venezuela-Drüsensalmler (Germany)

***Gephyrocharax whaleri* Hildebrand, 1938**

Gephyrocharax whaleri Hildebrand, 1938: 254, fig. 2. Type locality: Río Chame or a nearby stream, Pacific slope, Panama. Holotype: USNM 106513.
 Maximum length: 4.85 cm SL
 Distribution: Central America: Chame River basin.
 Countries: Panama

GLANDULOCAUDA

Glandulocauda Eigenmann, 1911: 168. Type species: *Glandulocauda melanogenys* Eigenmann, 1911. Type by original designation. Gender: feminine. See Weitzman and Menezes (1998) for relationships.

***Glandulocauda melanogenys* Eigenmann, 1911**

Glandulocauda melanogenys Eigenmann, 1911: 168, pl. 5 (fig. 6). Type locality: Alto da Serra, São Paulo [Brazil]. Holotype: FMNH 54891.

Maximum length: 4.26 cm SL
 Distribution: South America: Upper Tietê River basin.
 Countries: Brazil
 Remarks and references: See Weitzman et al. (1988) & Menezes & Weitzman (1990) for discussions of phylogeny and biogeography. See Burns et al. (1995) for information on insemination.

***Glandulocauda melanopleura* Eigenmann, 1911**

Glandulocauda melanopleura Eigenmann, 1911: 170, pl. 5 (fig. 7). Type locality: Serinha Paraná, Rio Iguassú [Brazil]. Holotype: FMNH 54895.
 Maximum length: 4.28 cm SL
 Distribution: South America: Iguaçú River basin.
 Countries: Brazil
 Remarks and references: According to Godoy (1987) this species occurs in the upper Paraná River.

HYSTERONOTUS

Hysteronotus Eigenmann, 1911: 171. Type species: *Hysteronotus megalostomus* Eigenmann, 1911. Type by original designation. Gender: masculine. See Weitzman and Menezes (1998) for relationships.

***Hysteronotus megalostomus* Eigenmann, 1922**

Hysteronotus megalostomus Eigenmann, 1911: 171, pl. 6 (fig. 1). Type locality: Rio das Velhas [Brazil]. Holotype: FMNH 54889.
 Maximum length: 4.15 cm SL
 Distribution: South America: Upper São Francisco River basin.
 Countries: Brazil

IOTABRYCON

Iotabrycon Roberts, 1973: 491. Type species: *Iotabrycon praecox* Roberts, 1973. Type by original designation. Gender: masculine. See Weitzman and Menezes (1998) for relationships.

***Iotabrycon praecox* Roberts, 1973**

Iotabrycon praecox Roberts, 1973: 492, fig. 1. Type locality:... an isolated dry season pool in Río Nuevo where it flows into left side of Río Vices, one kilometer upstream from town of Vices... [Ecuador]. Holotype: MCZ 48658.
 Maximum length: 2.18 cm SL
 Distribution: South America: Vices River basin.
 Countries: Ecuador
 Remarks and references: See Weitzman & Fink (1985) and Weitzman & Menezes (1998) for relationships. See Burns et al. (1995) for data about insemination.

LANDONIA

Landonia Eigenmann & Henn, in Eigenmann, Henn & Wilson, 1914: 1. Type species: *Landonia latidens* Eigenmann & Henn, 1914. Type by monotypy. Gender: feminine. See Weitzman and Menezes (1998) for relationships.

***Landonia latidens* Eigenmann & Henn, 1914**

Landonia latidens Eigenmann & Henn, in Eigenmann, Henn & Wilson, 1914: 2. Type locality: Vices, Ecuador. Holotype: CAS 55297.
 Maximum length: 4.21 cm SL
 Distribution: South America: Vices River basin.
 Countries: Ecuador
 Remarks and references: Osteology, Roberts (1973), relationships Weitzman & Fink (1985) & Weitzman & Menezes (1998).

MIMAGONIATES

Mimagoniates Regan, 1907: 402. Type species: *Mimagoniates barberi* Regan, 1907. Type by monotypy. Gender: masculine. See Weitzman and Menezes (1998) for relationships.

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Coelurichthys Miranda Ribeiro, 1908: unnumbered page. Type species: *Coelurichthys iporangae* Miranda Ribeiro, 1908. Type by monotypy. Gender: masculine. Note: *Coelurichthys* has line precedence over *Coalurichthys*.

***Mimagoniates barberi* Regan, 1907**

Mimagoniates barberi Regan, 1907: 402. Type locality: Arroyo Yacá, Estación Caballero, Paraguay. Syntypes: "Several specimens."

Maximum length: 3.45 cm SL

Distribution: South America: Paraguay, Estado Paraguay and San Pedro, usually in blackwater streams.

Countries: Paraguay

Remarks and references: See Weitzman et al. (1988) & Menezes & Weitzman (1990) for identification and relationships. See Burns et al. (1995) for evidence of insemination.

***Mimagoniates inequalis* (Eigenmann, 1911)**

Glandulocauda inequalis Eigenmann, 1911: 169, pl. 5 (fig. 5).

Type locality: Porto Alegre [Brazil]. Holotype: FMNH 54893.

Maximum length: 3.26 cm SL

Distribution: South America: Blackwater tributaries of lower Jacuí River and blackwater coastal streams and swamps, Rio Grande do Sul State.

Countries: Brazil

Remarks and references: See Weitzman et al. (1988) and Menezes & Weitzman (1990) for identification and relationships. See Burns et al. (1995) for evidence of insemination. See Nelson (1964 a, b, & c) for extensive description and discussion of courtship behavior.

Common names: Breitschwanzsalmler (Germany), Croaking tetra (USA), Lumbari (Brazil)

***Mimagoniates lateralis* (Nichols, 1913)**

Coelurichthys lateralis Nichols, 1913: 151. Type locality:... probably South American. Holotype: AMNH 4072.

Coelurichthys tenuis Nichols, 1913: 152. Type locality:... probably South American. Holotype: AMNH 4087.

Maximum length: 3.3 cm SL

Distribution: South America: Coastal blackwater streams, Paraná and São Paulo States.

Countries: Brazil

Remarks and references: See Weitzman et al. (1988) & Menezes & Weitzman (1990) for identification and relationships. See Burns et al. (1995) for evidence of insemination.

Common names: Blauersalmler (Germany), Croaking tetra (USA)

***Mimagoniates microlepis* (Steindachner, 1876)**

Paragoniates microlepis Steindachner, 1876: 591. Type locality: Bäche in der Nähe von Rio de Janeiro, Rio dos Macacos [Brazil]. Syntypes: (several) NMW 56534 (2).

Coelurichthys iporangae Miranda Ribeiro, 1908: [4], fig. 6. Type locality: Ribeirão das Pedras, Iporanga [São Paulo State, Brazil]. Holotype: USNM 92995.

Maximum length: 6.11 cm SL

Distribution: South America: Southern Bahia to northern Rio Grande do Sul States, usually in clearwater coastal streams.

Countries: Brazil

Remarks and references: See Weitzman et al. (1988) & Menezes & Weitzman (1990) for identification and relationships. See Burns et al. (1995) for evidence of insemination. See Nelson (1964a) for discussion of courtship behavior.

Common names: Blue tetra (USA), Kleinschuppiger Barberos-Tetra (Germany)

***Mimagoniates rheocharis* Menezes & Weitzman, 1990**

Mimagoniates rheocharis Menezes & Weitzman, 1990: 399, fig. 20. Type locality: Brazil, Santa Catarina, Município de Praia

Grande, rio Faxinalzinho at Mãe dos Homens, near Praia Grande, approximately, 29°20'S, 14°40'W. Holotype: MZUSO 40278.

Maximum length: 4.78 cm SL

Distribution: South America: Coastal streams in southeastern Santa Catarina to northeastern Rio Grande do Sul States.

Countries: Brazil

Remarks and references: See Burns et al. (1995) for evidence of insemination.

Common names: Lambari-azul (Brazil)

***Mimagoniates sylvicola* Menezes & Weitzman, 1990**

Mimagoniates sylvicola Menezes & Weitzman, 1990: 387, fig. 7.

Type locality: Brazil, Bahia, Município de Prado, forest stream tributary to Atlantic Ocean, near Fazenda Embaçuaba, approximately 8-9 km NW of Cumuruxatiba, 17°05'S, 39°13'W. Holotype: MZUSP 36612.

Maximum length: 3.02 cm SL

Distribution: South America: Coastal blackwater streams in southeastern Bahia State.

Countries: Brazil

Remarks and references: See Burns et al. (1995) for evidence of insemination.

PHENACOBRYCON

Phenacobrycon Eigenmann, 1922: 147. Type species: *Bryconamericus henni* Eigenmann, 1914. Type by original designation.

Gender: masculine. See Weitzman and Menezes (1998) for relationships.

***Phenacobrycon henni* (Eigenmann, 1914)**

Bryconamericus henni Eigenmann, in Eigenmann, Henn & Wilson, 1914: 6. Type locality: Vinces, Ecuador. Holotype: FMNH 56594.

Maximum length: 3.02 cm SL

Distribution: South America: Vinces River basin.

Countries: Ecuador

Remarks and references: Osteology, Roberts (1973); relationships Weitzman & Fink (1985) & Weitzman & Menezes (1998). See Burns et al. (1995) for evidence of possible insemination.

PLANALTINA

Planaltina Böhlke, 1954: 265. Type species: *Planaltina myersi* Böhlke, 1954. Type by original designation. Gender: feminine. See Weitzman and Menezes (1998) for relationships.

***Planaltina myersi* Böhlke, 1954**

Planaltina myersi Böhlke, 1954: 267, fig. 3. Type locality: Sarandi brook, Planaltina, Goyaz, Brazil. Holotype: SU 18636.

Maximum length: 4.6 cm SL

Distribution: South America: São Bartolomeu River in upper Paraguay River basin.

Countries: Brazil

Remarks and references: Relationships, see Weitzman & Fink (1985) & Weitzman & Menezes (1998). See Burns et al. (1995) for evidence of possible insemination.

PSEUDOCORYNOPOMA

Bergia Steindachner, 1891a: 173. Type species: *Bergia altipinnis* Steindachner, 1891. Type by monotypy. Gender: feminine. Preoccupied by *Bergia* Duchassaing & Michelotti, 1861, in Coleoptera and by *Bergia* Scott, 1881, in Hemiptera; apparently not replaced.

Pseudocorynopoma Perugia, 1891: 646. Type species: *Pseudocorynopoma doriae* Perugia, 1891. Type by monotypy. Gender: neuter. See Weitzman and Menezes (1998) for relationships.

Chalcinopeleucus Holmberg, 1891: 190. Type species: *Chalcinopeleucus argentinus* Holmberg, 1891. Type by monotypy. Gender: masculine.

***Pseudocorynopoma doriae* Perugia, 1891**

Pseudocorynopoma doriae Perugia, 1891: 646, fig. Type locality: Dintorni di la Plata [Argentina]. Holotype: MSNG 9224.

Bergia altipinnis Steindachner, 1891: 173. Type locality: Montevideo [Uruguay]. Syntypes: (12) NMW 62745 (4), 62748 (2), 67746 (4).

Chalcinopelecus argentinus Holmberg, 1891: 190. Type locality: Republica Argentina: Rio de la Plata (con su afluente el Rio Paraguay), desde Latitud 26° hasta 34 ½.

Maximum length: 6.22 cm SL

Distribution: South America: Southern Brazil to La Plata region, usually clear water streams.

Countries: Argentina, Brazil, Uruguay

Remarks and references: Steindachner (1891b) published a more complete description of *Bergia altipinnis* and of the genus *Bergia*. See Weitzman et al. (1988) for biogeography and distribution. For relationships, see Weitzman & Fink (1985) & Weitzman & Menezes (1998). See Burns et al. (1995) for evidence of insemination. See Nelson (1964a) for comments on courtship behavior.

Common names: Drachenflossersalmmler (Germany), Dragonfin tetra (USA), Lambari-bandeira (Brazil), Mojarra aletuda (Uruguay)

***Pseudocorynopoma heterandria* Eigenmann, 1914**

Pseudocorynopoma heterandria Eigenmann, 1914: 39. Type locality: Xiririca [Ribeira River, São Paulo, Brazil]. Holotype: FMNH 56407.

Maximum length: 5.62 cm SL

Distribution: South America: Coastal clearwater rivers in São Paulo and Paraná States.

Countries: Brazil

Remarks and references: See Weitzman et al. (1988) for biogeography and distribution. For relationships, see Weitzman & Fink (1985) & Weitzman & Menezes (1998). See Burns et al. (1995) for evidence of possible insemination.

PTEROBRYCON

Pterobrycon Eigenmann, 1913: 472. Type species: *Pterobrycon landoni* Eigenmann, 1913. Type by monotypy. Gender: masculine. See Weitzman and Menezes (1998) for relationships.

Microbrycon Eigenmann & Wilson, in Eigenmann, Henn & Wilson, 1914: 3. Type species: *Microbrycon minutus* Eigenmann & Wilson, 1914. Type by monotypy. Gender: masculine.

***Pterobrycon landoni* Eigenmann, 1913**

Pterobrycon landoni Eigenmann, 1913: 3. Type locality: Boca de Raspadura [Colombia]. Holotype: FMNH 56250.

Microbrycon minutus Eigenmann & Wilson, in Eigenmann, Henn & Wilson, 1914: 3. Type locality: Truando [Colombia]. Holotype: FMNH 56606 [ex CM 5422].

Maximum length: 2.51 cm SL

Distribution: South America: Middle and upper Atrato River basin.

Countries: Colombia

Remarks and references: Presence in the Atrato River confirmed recently by Bork (2000a), imported alive into Germany as bycatch with *Nematobrycon palmeri*. See Bork (2000b) for a brief account of breeding this fish. See Weitzman & Menezes (1998) for relationships.

Common names: Fadenschuppensalmmler (Germany)

***Pterobrycon myrnae* Bussing, 1974**

Pterobrycon myrnae Bussing, 1974: 138, fig. 1. Type locality: Costa Rica, Puntarenas Province, Osa Peninsula, in Quebrada Aguabeuna (elevation 30 m) Rio Rincón drainage, 2 km W. of Rincón. Holotype: LACM 33857-1.

Maximum length: 3.9 cm SL

Distribution: Central America: Pacific drainages of southern Costa

Rica, Jicote and Rincon Rivers and Esquinas River of Osa Peninsula.

Countries: Costa Rica

Remarks and references: See Bussing (1998) for distribution, ecology and other comments on this species. For illustrations of courtship behavior see Weitzman (1975). See Weitzman & Menezes (1998) for relationships. See Burns et al. (1995) for evidence of insemination.

Common names: Flügelschuppensalmmler (Germany), Sardinita (Costa Rica), Semaphore tetra (USA)

PTYCHOCHARAX

Ptychocharax Weitzman, Fink, Machado-Allison & Royero L., 1994: 49. Type species: *Ptychocharax rhyacophila* Weitzman, Fink, Machado-Allison & Royero L., 1994. Type by original designation. Gender: masculine. See Weitzman and Menezes (1998) for relationships.

***Ptychocharax rhyacophila* Weitzman, Fink, Machado-Allison & Royero L., 1994**

Ptychocharax rhyacophila Weitzman, Fink, Machado-Allison & Royero L., 1994: 55, fig. 2. Type locality: Venezuela, State of Amazonas, alto Río Siapa, tributary of the Río Casiquiare, approximately between 01°40' to 01°41'N, and 64°22' to 64°28'W, altitude 560 m. Holotype: MBUCV-V-20400.

Maximum length: 6.24 cm SL

Distribution: South America: Upper Siapa River in Casiquiare River drainage.

Countries: Venezuela

Remarks and references: Weitzman et al. (1994). See Weitzman & Menezes (1998) for relationships. See Burns et al. (1995) for evidence of insemination.

SCOPEOCHARAX

Scopeocharax Weitzman & Fink, 1985: 56. Type species: *Tytocharax rhinodus* Böhlke, 1958. Type by original designation. Gender: masculine. See Weitzman and Menezes (1998) for relationships.

***Scopeocharax atopodus* (Böhlke, 1958)**

Tytocharax atopodus Böhlke, 1958a: 323, fig. 1 (bottom). Type locality:... vicinity of Tingo Maria; Río Rondos (tributary of Río Monzón), just above new bridge site [Peru]. Holotype: ANSP 78714.

Maximum length: 2.2 cm SL

Distribution: South America: Middle and upper Huallaga River basin.

Countries: Peru

Remarks and references: See Weitzman & Fink (1985) and Weitzman & Menezes (1998) for relationships. See Burns et al. (1995) for insemination in *Scopeocharax*.

Common names: Mojarita (Peru)

***Scopeocharax rhinodus* (Böhlke, 1958)**

Tytocharax rhinodus Böhlke, 1958a: 320, fig. 1 (top & center). Type locality: Prov. Huanuco: vicinity of Tingo Maria; Cava de Pavos, Quebrada de Puente Perez, ca 1/4 mi. above Río Huallaga. Holotype: ANSP 78707.

Maximum length: 2.43 cm SL

Distribution: South America: Upper and middle Huallaga River basin.

Countries: Peru

Remarks and references: See Weitzman & Fink (1985) and Weitzman & Menezes (1998) for relationships.

Common names: Mojarita (Peru)

TYTTOCHARAX

Tytocharax Fowler, 1913: 563. Type species: *Tytocharax madeirae* Fowler, 1913. Type by original designation. Gender: masculine. See Weitzman and Menezes (1998) for relationships.

Microcaelurus Miranda Ribeiro, 1939: 362. Type species: *Microcaelurus odontocheilus* Miranda Ribeiro, 1939. Type by monotypy. Gender: masculine.

***Tytocharax cochui* (Ladiges, 1950)**

Microbrycon cochui Ladiges, 1950: 306, fig. 1. Type locality: Oberlauf des Amazonas mitgebracht worden. [Brazil or Peru]. Syntypes: (2) ZSM (1), MHNG 2187.75 (1).

Tytocharax boehlkei Géry, 1965: 195, pl. 18 (fig. 20). Type locality: Igarapé Prêto, collateral de l'Amazone supérieure près de Belém, à environ 60 km en aval de Leticia [Peru]. Holotype: SMF 7208.

Maximum length: 2.14 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

Remarks and references: See Weitzman & Fink (1985) and Weitzman & Menezes (1998) for relationships. See Burns et al. (1995) for insemination in *Tytocharax*.

Common names: Mojarita (Peru)

***Tytocharax madeirae* Fowler, 1913**

Tytocharax madeirae Fowler, 1913: 564, fig. 20. Type locality: Tributary of the Rio Madeira, near Porto Velho, Brazil. Holotype: ANSP 39305.

Microcaelurus odontocheilus Miranda Ribeiro, 1939: 362. Type locality: Amazonas. Holotype: MNRJ 3752. Myers & Böhlke (1956: 7-8) presented evidence that the type locality is near Parintins, Amazonas State, Brazil; Miranda Ribeiro (1953) says Pará, Brazil.

Maximum length: 1.7 cm SL

Distribution: South America: Tributaries of lower and middle Amazon River basin.

Countries: Brazil

Remarks and references: See Weitzman & Fink (1985) and Weitzman & Menezes (1998) for relationships.

***Tytocharax tambopatensis* Weitzman & Ortega, 1995**

Tytocharax tambopatensis Weitzman & Ortega, 1995: 134, fig. 1. Type locality: Peru, Departamento de Madre de Dios, Provincia de Manu, Parque Nacional Manu, Pakitza Tachigalli trail 2, Quebrada Trompetero, approx. 11°55'48"S, 71°15'18"W. Holotype: MUSM 5083.

Maximum length: 1.55 cm SL

Distribution: South America: Manu and Tambopata River basins.

Countries: Peru

Remarks and references: See Weitzman & Menezes (1998) for relationships.

XENUROBRYCON

Xenurobrycon Myers & Miranda Ribeiro, 1945: 2. Type species: *Xenurobrycon macropus* Myers & Miranda Ribeiro, 1945. Type by original designation. Gender: masculine. See Weitzman and Menezes (1998) for relationships.

***Xenurobrycon heterodon* Weitzman & Fink, 1985**

Xenurobrycon heterodon Weitzman & Fink, 1985: 88, fig. 5. Type locality: Pastaza: Río Bobonaza at Sarayacu [Ecuador]. Holotype: KU 17925.

Maximum length: 1.72 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Ecuador, Peru

Remarks and references: See Weitzman & Fink (1985) and Weitzman & Menezes (1998) for relationships.

Common names: Mojarita (Peru)

***Xenurobrycon macropus* Myers & Miranda Ribeiro, 1945**

Xenurobrycon macropus Myers & Miranda Ribeiro, 1945: 5, fig. 1. Type locality: Rio Bodoquena, Matto Grosso [Brazil]. Holotype: MNRJ 4124.

Maximum length: 1.79 cm SL

Distribution: South America: Paraguay River basin.

Countries: Brazil, Paraguay

Remarks and references: See Weitzman & Fink (1985) and Weitzman & Menezes (1998) for relationships.

***Xenurobrycon polyancistrus* Weitzman, 1987**

Xenurobrycon polyancistrus Weitzman, 1987: 113, fig. 1. Type locality: Bolivia, Estado Beni, Laguna Motacusal, Río Isiboro, about 15°40'S, 65°00'W. Holotype: MNHN 1986-452.

Maximum length: 1.38 cm SL

Distribution: South America: Mamore and Madre de Dios River basins.

Countries: Bolivia, Peru

Remarks and references: See Weitzman (1987) and Weitzman & Ortega (1995) records of distribution. See Weitzman (1987) and Weitzman & Menezes (1998) for relationships.

***Xenurobrycon pteropus* Weitzman & Fink, 1985**

Xenurobrycon pteropus Weitzman & Fink, 1985: 85, fig. 4. Type locality: Amazonas, an igarapé in Fonte Boa, approximately 2°30'S, 67°02'W [Brazil]. Holotype: MZUSP 12412.

Maximum length: 1.35 cm SL

Distribution: South America: Vicinity of Fonte Boa, Amazonas State.

Countries: Brazil

Remarks and references: See Weitzman (1987) and Weitzman & Ortega (1995) records of distribution. See Weitzman (1987) and Weitzman & Menezes (1998) for relationships.

References

- Azevedo, M.A., L.R. Malabarba and C.B. Fialho. 2000. Reproductive biology of the inseminating glandulocaudine *Diapoma speculiferum* Cope (Teleostei: Characidae). *Copeia*, 2000(4): 983-989.
- Bart, H.L., Jr. and M.S. Taylor. 1993. Type specimens of fishes in the Tulane University Museum of Natural History. *Tulane Stud. Zool. Bot.*, 29 (1): 29-72.
- Böhlke, J.E. 1954. Studies on fishes of the family Characidae. No. 7. A new genus and species of glandulocaudine characids from Central Brazil. *Stanford Ichthyol. Bull.*, 4 (4): 265-274.
- Böhlke, J.E. 1958a. Results of the Catherwood Foundation Peruvian Amazon Expedition. The descriptions of two new xenurobryconine characids. *Copeia*, 1958 (4): 318-325.
- Böhlke, J.E. 1958b. Studies on fishes on the family Characidae.-- No. 14. A report on several extensive recent collections from Ecuador. *Proc. Acad. Nat. Sci. Philadelphia*, 110: 1-121, pls. 1-7.
- Bork, D. 2000a. Der Fadenschuppensalmner *Pterobrycon landoni* galt bis jetzt als verschollen. *Das Aquarium*. 34 (377): 30-34.
- Bork, D. 2000b. Der Fadenschuppensalmner, ein aktueller Nachtrag zur Fortpflanzung von *Pterobrycon landoni*. *Das Aquarium*. 34 (378): 30.
- Burns, J.R., S.H. Weitzman, H.J. Grier and N.A. Menezes. 1995. Internal fertilization, testis and sperm morphology in the glandulocaudinae fishes (Teleostei: Characidae: Glandulocaudinae). *J. Morph.*, 224: 131-145.
- Burns, J.R., S.H. Weitzman, K.R. Lange and L.R. Malabarba. 1998. Sperm ultrastructure in Characid fishes (Teleostei: Ostariophysi). Pp. 235-244. In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). Phylogeny and classification of Neotropical fishes. Edipucrs, Porto Alegre.
- Burns, J.R., S.H. Weitzman and L.R. Malabarba. 1997. Internal insemination in eight species of cheirodontine fishes (Teleostei:

Check List of the Freshwater Fishes of South and Central America

- Characidae: Cheirodontinae). *Copeia*, 1997(2): 433-438.
- Burns, J.R., S.H. Weitzman, L.R. Malabarba and A. Downing Meisner. 2000. Sperm modifications in inseminating ostariophysan fishes, with new documentation of inseminating species. P. 255. In: B. Norberg, O.S. Kjesbu, G.L. Taranger, E. Andersson and S.O. Stefansson (eds.), *Reproductive Physiology of Fish*, Proceedings of the 6th Intl. Symposium on the Reproductive Physiology of Fish, July 4-9, 1999. Inst of Marine Res. and Univ. of Bergen, Norway.
- Bussing, W.A. 1974. *Pterobrycon myrmae*, a remarkable new glandulocaudine characid fish from Costa Rica. *Rev. Biol. Trop.*, 22 (1): 135-159.
- Bussing, W.A. 1987. Peces de las aguas continentales de Costa Rica. Editorial de la Universidad de Costa Rica, San José. 271 p.
- Bussing, W.A. 1998. Peces de las aguas continentales de Costa Rica; Freshwater fishes of Costa Rica. *Rev. Biol. Trop.*, 46 (Suppl. 2): 1-468.
- Cope, E.D. 1877. Synopsis of the cold blooded vertebrata, procured by Prof. James Orton during his exploration of Peru in 1876-77. *Proc. Am. Philos. Soc.*, 17: 33-49.
- Cope, E.D. 1894. On three new genera of Characinidae. *Am. Nat.*, 28 (325): 67.
- Dahl, G. 1943. New or rare fishes of the family Characinidae from the Magdalena system. *K. Fysiogr. Sällsk. Lund Förh.*, 12 (18): 215-220.
- Dahl, G. 1971. Los peces del norte de Colombia. Instituto de Desarrollo de los Recursos Naturales Renovables (INDERENA), Bogota. xvii + 391 p.
- Dahl, G. and F. Medem. 1964. Informe sobre la fauna acuática del río Sinú. Corporación Autónoma Regional de los Valles del Magdalena y del Sinu-CVM-Depto. de Investigaciones Ictiológicas y Faunísticas, Bogotá. 109 p.
- Eigenmann, C.H. 1911. New characins in the collection of the Carnegie Museum. *Ann. Carnegie Mus.*, 8 (1): 164-181, pls. 4-9.
- Eigenmann, C.H. 1912. Some results from an ichthyological reconnaissance of Colombia, South America. Part I. *Indiana Univ. Studies*, no. 16 [sic, no. 8]: 1-27.
- Eigenmann, C.H. 1913. Some results from an ichthyological reconnaissance of Colombia, South America. Part II. *Indiana Univ. Studies*, no. 18: 1-32.
- Eigenmann, C.H. 1914. Some results from studies of South American fishes. II. The Glandulocaudinae (a new subfamily of characid fishes with innate potentialities for sexual dimorphism). *Indiana Univ. Studies*, no. 20: 32-42.
- Eigenmann, C.H. 1920. The fishes of Lake Valencia, Caracas, and of the Rio Tuy at El Concejo, Venezuela. *Indiana Univ. Studies*, 7 (44): 1-13.
- Eigenmann, C.H. 1922. The fishes of western South America, Part I. The fresh-water fishes of northwestern South America, including Colombia, Panama, and the Pacific slopes of Ecuador and Peru, together with an appendix upon the fishes of the Rio Meta in Colombia. *Mem. Carnegie Mus.*, 9 (1): 1-346.
- Eigenmann, C.H. 1927. The American Characidae. *Mem. Mus. Comp. Zool.*, 43 (4): 311-428, 21 pls.
- Eigenmann, C.H., A.W. Henn and C. Wilson. 1914. New fishes from western Colombia, Ecuador, and Peru. *Indiana Univ. Studies*, no. 19: 1-15.
- Eigenmann, C.H. and G.S. Myers. 1929. The American Characidae, part 5. *Mem. Mus. Comp. Zool.*, 43 (5): 429-558, 11 pls.
- Fowler, H.W. 1913. Fishes from the Madeira River, Brazil. *Proc. Acad. Nat. Sci. Philadelphia*, 65: 517-579.
- Fowler, H.W. 1940. Zoological results of the second Bolivian expedition for the Academy of Natural Sciences of Philadelphia, 1936-1937. Part I.--The fishes. *Proc. Acad. Nat. Sci. Philadelphia*, 92: 43-103.
- Fowler, H.W. 1943. Zoological results of the second Bolivian expedition for the Academy of Natural Sciences of Philadelphia, 1936-1937. Part II.--Additional new fishes. *Not. Nat. (Philadelphia)*, no. 120: 1-7.
- Géry, J. 1964. *Glandulocauda terofali* sp. nov., un nouveau poisson characoïde de la République Argentine, avec une note sur la "glande" caudale des Stevardiidi. *Opusc. Zool.*, no. 78: 1-12.
- Géry, J. 1965. Poissons characoïdes sud-américains du Senckenberg Muséum, II. Characidae et Crenuchidae de l'Igarapé Prêto (Haute Amazonie). [Fin]. *Senckenb. Biol.*, 46 (3): 195-218, pls. 18, 18a.
- Gill, T.N. 1858. Synopsis of the fresh water fishes of the western portion of the island of Trinidad, W. I. *Ann. Lyc. Nat. Hist. N. Y.*, 6 (10-13): 363-430.
- Godoy, M.P. 1987. Peixes do estado de Santa Catarina. Peixes Santa Catarina. Florianópolis, 571p.
- Hildebrand, S.F. 1938. A new catalogue of the fresh-water fishes of Panama. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 22 (4): 219-359.
- Holmberg, E.L. 1891. Sobre algunos peces nuevos ó poco conocidos de la República Argentina. *Rev. Argent. Hist. Nat. Buenos Aires*, 1: 180-193.
- Ladiges, W. 1950. *Microbrycon cochui* spec. nov. eine neue Art der südamerikanischen Glandulocaudinae. *Zool. Anz.*, 145 (11-12): 305-309.
- Loubens, G., L. Lauzanne and B. LeGuennec. 1992. Les milieux aquatiques se la région de Trinidad (Beni, Amazonie bolivienne). *Revue Hydrobiologie Tropicale*, 25(1): 3-21.
- Malabarba, L.R. 1989. Histórico sistemático e lista comentada das espécies de peixes de água doce do sistema da Laguna dos Patos, Rio Grande do Sul, Brasil. *Comun. Mus. Ciênc. PUCRS, Sér. Zool.*, 2 (8): 107-179.
- Malabarba, L.R. 1998. Monophyly of the Cheirodontinae, characters and major clades (Ostariophysi: Characidae). Pp. 193-233. In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). *Phylogeny and classification of Neotropical fishes*. Edipucrs, Porto Alegre.
- Meek, S.E. and S.F. Hildebrand. 1912. Descriptions of new fishes from Panama. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 10 (6): 67-68.
- Meek, S.E. and S.F. Hildebrand. 1916. The fishes of the fresh waters of Panama. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 10 (15): 1-374, pls. 6-32.
- Menezes, N.A. and S.H. Weitzman. 1990. Two new species of *Mimagoniates* (Teleostei: Characidae: Glandulocaudinae), their phylogeny and biogeography and a key to the glandulocaudin fishes of Brazil and Paraguay. *Proc. Biol. Soc. Washington*, 103 (2): 380-426.
- Miranda Ribeiro, A. 1908. Peixes da Ribeira. Resultados de excursão do Sr. Ricardo Krone, membro correspondente do Museu Nacional do Rio de Janeiro. *Kosmos, Rio de Janeiro [Rev. Art. Sci. Litt.]*, 5 (2): [1-5].
- Miranda Ribeiro, A. 1939. Alguns novos dados ictiológicos da nossa fauna. *Bol. Biol. São Paulo (N. S.)*, 4 (3): 358-363.
- Miranda Ribeiro, P. 1953. Tipos das espécies e subespécies do Prof. Alipio de Miranda Ribeiro depositados no Museu Nacional. *Arq. Mus. Nac. Rio de Janeiro*, 42: 389-417.
- Myers, G.S. 1934. Über den Namen des Zwergdrachenflossers, *Corynopoma riisei* Gill (= *Stevardia albipinnis* Gill). *Wochenschrift für Aquarien- und Terrarienkunde (Braunschweig)*, 31 (48): 755-756.
- Myers, G.S. and P. de Miranda Ribeiro. 1945. A remarkable new genus of sexually dimorphic characid fishes from the Rio Paraguay Basin in Matto Grosso. *Bol. Mus. Nac. Rio de Janeiro, Zool. (N. S.)*, no. 32: 1-7.
- Nelson, K. 1964a. Behavior and morphology in the glandulocaudine fishes (Ostariophysi, Characidae). University of California Press, Berkeley. 152 p.
- Nelson, K. 1964b. The evolution of a pattern of sound production associated with courting the characid fish *Glandulocauda inaequalis*. *Evolution*, 18 (4): 526-540.

Check List of the Freshwater Fishes of South and Central America

- Nelson, K. 1964c. The temporal patterning of courtship behavior in the glandulocaudine fishes (Ostariophysi, Characidae). *Behavior*, 14 (1-2): 90-146.
- Nichols, J.T. 1913. On two new characins in the American Museum. *Proc. Biol. Soc. Washington*, 26: 151-152.
- Perugia, A. 1891. Appunti sopra alcuni pesci sud-americani conservati nel Museo Civico di Storia Naturale di Genova. *Ann. Mus. Civ. Stor. Nat. Genova (Ser. 2a)*, 10: 605-657.
- Regan, C.T. 1907. Descriptions of two new characinid fishes from South America. *Ann. Mag. Nat. Hist. (Ser. 7)*, 20 (119): 402-403.
- Regan, C.T. 1913. The fishes of the San Juan River, Colombia. *Ann. Mag. Nat. Hist. (Ser. 8)*, 12 (71): 462-473.
- Ringuélet, R.A., R.H. Arámburu and A. Alonso de Arámburu. 1967. Los peces argentinos de agua dulce. Comisión de investigación científica, La Plata, Argentina. 602 p.
- Roberts, T.R. 1973. The glandulocaudine characid fishes of the Guayas Basin in western Ecuador. *Bull. Mus. Comp. Zool.*, 144 (8): 489-514.
- Robins, C.R., R.M. Bailey, C.E. Bond, J.R. Brooker, E.A. Lachner, R.N. Lea and W.B. Scott. 1991. World fishes important to North Americans. Exclusive of species from the continental waters of the United States and Canada. *Am. Fish. Soc. Spec. Publ.*, (21): 243 p.
- Schultz, L.P. 1944. The fishes of the family Characinidae from Venezuela, with descriptions of seventeen new forms. *Proc. U. S. Natl. Mus.*, 95 (3181): 235-367.
- Steindachner, F. 1876. Die Süßwasserfische des südöstlichen Brasilien (III). *Sitzungsber. Akad. Wiss. Wien*, 74: 559-694.
- Steindachner, F. 1891a. Fische von dem canarischen Archipel, aus den Flüssen Südamerika's und von Madagascar unter dem Titel: 'Ichthyologische Beiträge' (XV). *Anz. Akad. Wiss. Wien*, 28: 172-174.
- Steindachner, F. 1891b. Ichthyological Beiträge (XV). *Sitzungsber. Akad. Wiss. Wien*, 100 (5): 343-374, pls. 1-3.
- Tortonese, E. 1961. Catalogo del tipo de pesci del Museo Civico di Storia Naturale di Genova. (Parte I). *Ann. Mus. Civ. Stor. Nat. 'Giacomo Doria'*, 72: 179-191.
- Weitzman, S.H. 1975. Der Flügelschuppensalmer, *Pterobrycon myrmae*, ein bezaubernder Aquarienfisch der Zukunft aus Costa Rica. *Die Aquarien- und Terrarien- Zeitschrift.*, 28 (12): 406-410.
- Weitzman, S.H. 1987. A new species of *Xenobrycon* (Teleostei: Characidae) from the Río Mamoré basin of Bolivia. *Proc. Biol. Soc. Washington*, 100 (1): 112-120.
- Weitzman, S.H. and S.V. Fink. 1985. Xenobryconin phylogeny and putative pheromone pumps in glandulocaudine fishes (Teleostei: Characidae). *Smithson. Contrib. Zool.*, no. 421: i-iii + 1-121.
- Weitzman, S.H., S.V. Fink, A. Machado-Allison and R. Royero L. 1994. A new genus and species of Glandulocaudinae (Teleostei: Characidae) from southern Venezuela. *Ichthyol. Explor. Freshwaters*, 5 (1): 45-64.
- Weitzman, S.H. and N.A. Menezes. 1998. Relationships of the tribes and genera of the Glandulocaudinae (Ostariophysi: Characiformes: Characidae) with a description of a new genus, *Chrysobrycon*. Pp. 171-192 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). *Phylogeny and classification of Neotropical fishes*. Edipucrs, Porto Alegre.
- Weitzman, S.H., N.A. Menezes and M.J. Weitzman. 1988. Phylogenetic biogeography of the Glandulocaudini (Teleostei: Characiformes, Characidae) with comments on the distributions of other freshwater fishes in eastern and southeastern Brazil. Pp. 379-427. In: W. R. Heyer and P. E. Vanzolini (eds.). *Proc. Workshop Neotropical Distribution Patterns*. Academia Brasileira de Ciências, Rio de Janeiro.
- Weitzman, S.H. and H. Ortega. 1995. A new species of *Tytocharax* (Teleostei: Characidae: Glandulocaudinae: Xenobryconini) from the Río Madre de Dios basin of Peru. *Ichthyol. Explor. Freshwaters*, 6 (2): 129-148.
- Weitzman, S.H. and J.E. Thomerson. 1970. A new species of glandulocaudin characid fish, *Hysteronotus myersi*, from Peru. *Proc. California Acad. Sci. (Ser. 4)*, 38 (8): 139-155.
- Weitzman, S.H. and R.P. Vari. 1988. Miniaturization in South American freshwater fishes; an overview and discussion. *Proc. Biol. Soc. Washington*, 101: 444-465.

Family Acestrorhynchidae (Acestrorhynchids)

Naercio A. Menezes

Fishes of this family are characterized by very elongate (pike-like) bodies covered with relatively small scales. All teeth are conical and strong canines are present on the premaxilla, anterior part of the maxilla and the dentary. Small conical teeth are present on the ectopterygoid and minute conical teeth have been detected on the mesopterygoid of some species. Other exclusive features of the group are: first infraorbital covering almost completely the maxilla when the mouth is closed; a branch of the laterosensory canal on the premaxilla; and rhinosphenoid bone in close contact with parasphenoid. The anal fin is falcate, never bearing hooks in sexually mature males and the origin of the dorsal fin is much nearer to caudal base than the tip of the snout. See Menezes (1969a), Menezes (1992), Menezes & Géry (1983), Toledo-Piza & Menezes (1996) and Lucena & Menezes (1998).

The single genus *Acestrorhynchus* is currently represented by 15 species ranging from about 35 to 400 mm in standard length. Acestrorhynchid species are entirely confined to South America and the greatest species diversity occurs in the Amazon and Orinoco basins. Three species occur further south in the São Francisco, Paraná, Paraguay and La Plata drainages. They are found in a variety of habitats, but primarily live in lakes, lagoons, areas near shore, and the smallest species are especially found in small streams (igarapés) of the Amazon basin (personal observation and see also Britski et al., 1986). The peculiar dentition makes acestrorhynchid species very specialized predators among characiforms, most species feeding primarily on fishes. See Menezes (1969a), Nico & Taphorn (1985) and Amaral (1990).

After the major revision of *Acestrorhynchus* and the description of some new species (Menezes & Gery, 1983; Toledo-Piza & Menezes, 1996) not many new species are expected to be found. Acestrorhynchids are not commercially important as food fishes and two of the smallest species (*A. nasutus* and *A. minimus*) might be eventually found in aquarium shops.

ACESTRORHYNCHUS

Xiphorhynchus Agassiz, in Spix & Agassiz, 1829: 76. Type species: *Salmo falcatus* Bloch, 1794. Type by subsequent designation. Gender: masculine. Proposed as a subgenus of *Hydrocyon*. Preoccupied by *Xiphorhynchus* Swainson, 1827, in Aves, replaced by *Xiphorhamphus* Müller & Troschel, 1845, and by *Acestrorhynchus* Eigenmann & Kennedy, 1903.

Xiphorhamphus Müller & Troschel, 1844: 92. Type species: *Salmo falcatus* Bloch, 1794. Type by being a replacement name. Gender: masculine. Replacement for *Xiphorhynchus* Agassiz, 1829, (but preoccupied by *Xiphorhamphus* Blyth, 1843, in Aves).

Acestrorhynchus Eigenmann & Kennedy, 1903: 527. Type species: *Salmo falcatus* Bloch, 1794. Type by being a replacement name. Gender: masculine. Replacement for *Xiphorhynchus* Agassiz, 1829.

Sphyraenocharax Fowler, 1907: 460. Type species: *Xiphorhamphus abbreviatus* Cope, 1876. Type by original designation. Gender: masculine.

Acestrorhynchus abbreviatus (Cope, 1878)

Xiphorhamphus abbreviatus Cope, 1878: 687. Type locality: Nauta, Peru. Lectotype: ANSP 21532.

Maximum length: 22 cm SL

Distribution: South America: Upper Amazon and Madeira River basins.

Countries: Brazil, Ecuador, Peru

Remarks and references: See Menezes (1992: 46) for diagnosis.

Common names: Cachorrinho (Brazil), Ueua (Brazil)

Acestrorhynchus altus Menezes, 1969

Acestrorhynchus altus Menezes, 1969: 52, 118, fig. 38. Type locality: Rio Arari in Cachoeira do Arari, Ilha de Marajó, Pará,

Brazil. Holotype: MCZ 45256.

Maximum length: 23.3 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil

Remarks and references: See Menezes (1992: 47) for diagnosis.

Common names: Cachorrinho, Ueua (Brazil)

Acestrorhynchus apurensis Toledo-Piza & Menezes, 1996

Acestrorhynchus apurensis Toledo-Piza & Menezes, 1996: 18, fig. 10. Type locality: Módulo de la Unellez, Estado Apure, Venezuela. Holotype: MZUSP 48373.

Maximum length: 7.1 cm SL

Distribution: South America: Apure River basin.

Countries: Venezuela

Acestrorhynchus britskii Menezes, 1969

Acestrorhynchus britskii Menezes, 1969: 58, 118, fig. 42. Type locality: Reprêsa de Três Marias, Rio São Francisco basin in Minas Gerais, Brazil. Holotype: MZUSP 4406.

Maximum length: 16.5 cm SL

Distribution: South America: São Francisco River basin.

Countries: Brazil

Common names: Peixe cachorro (Brazil)

Acestrorhynchus falcatus (Bloch, 1794)

Salmo pulverulentus Linnaeus, 1758: 312. Type locality: Unknown. Holotype: NRM 7249.

Salmo falcatus Bloch, 1794: 120, pl. 385. Type locality: Suriname. Syntypes: ZMB 3613 (2), ?6444 (1).

Xiphorhamphus ferox Günther, 1863: 443. Type locality: Essequibo [Guyana]. Holotype: ?

Acestrorhynchus falcatus varius Menezes, 1969: 40, fig. 25. Type

locality: Cachimbo, Pará, Rio Tapajós basin, Brazil. Holotype: MZUSP 4560.
 Maximum length: 27.2 cm SL
 Distribution: South America: Amazon and Orinoco River basins and rivers of Guyana, Surinam and French Guyana.
 Countries: Brazil, French Guiana, Guyana, Peru, Suriname, Venezuela
 Remarks and references: See Menezes (1969: 37) for detailed description. Photograph of the holotype of *Salmo pulverulentus* Linnaeus, 1758, examined. *Salmo pulverulentus* is treated as a junior synonym based on prevailing usage of *Acestrorhynchus falcatus* (ICNZ 23.9.1).
 Common names: Cachorrinho (Brazil), Grand dent-chien (French Guiana), Ueua (Brazil)

***Acestrorhynchus falcirostris* (Cuvier, 1819)**

Hydrocyon falcirostris Cuvier, 1819: 361, pl. 27 (fig. 2). Type locality: Brazil. Holotype: MNHN A.8604 (poor condition).
 Maximum length: 40 cm TL
 Distribution: South America: Amazon and Orinoco River basins and rivers of Guyana.
 Countries: Brazil, Ecuador, Guyana, Peru, Venezuela
 Remarks and references: See Menezes (1969: 59) for detailed description.
 Common names: Peixe cachorro (Brazil), Peje zorro (Peru), Pez cachorro (Peru), Ueua (Brazil)

***Acestrorhynchus grandoculis* Menezes & Géry, 1983**

Acestrorhynchus grandoculis Menezes & Géry, 1983: 582, fig. 8.
 Type locality: Mouth of Rio Urubaxi in Rio Negro, State of Amazonas, Brazil. Holotype: MZUSP 25863.
 Maximum length: 10.8 cm SL
 Distribution: South America: Negro and Orinoco River basins.
 Countries: Brazil, Venezuela
 Remarks and references: See Toledo-Piza & Menezes (1996: 17) for diagnosis and distribution.
 Common names: Peixe cachorro (Brazil), Ueua (Brazil)

***Acestrorhynchus heterolepis* (Cope, 1878)**

Xiphorhamphus heterolepis Cope, 1878: 687. Type locality: Peruvian Amazon. Lectotype: ANSP 21246.
 Maximum length: 32.1 cm SL
 Distribution: South America: Amazon and Orinoco River basins.
 Countries: Brazil, Venezuela
 Remarks and references: See Menezes (1969: 78) for detailed description.
 Common names: Peixe cachorro (Brazil), Ueua (Brazil)

***Acestrorhynchus isalineae* Menezes & Géry, 1983**

Acestrorhynchus isalineae Menezes & Géry, 1983: 577, figs. 5-6.
 Type locality: Tributary of Rio dos Marmelos (Rio Madeira basin), 110 km east of Humaitá along rodovia Transamazônica, State of Amazonas, Brazil. Holotype: MZUSP 25849.
 Maximum length: 10.1 cm SL
 Distribution: South America: Madeira River basin.
 Countries: Brazil

***Acestrorhynchus lacustris* (Lütken, 1875)**

Xiphorhamphus lacustris Lütken, 1875: 136. Type locality: Lagoa Santa, Brazil. Syntypes: ZMUC 185 (1), 187-188 (2), 194 (1), 196 (1); MNHN 9587 [ex ZMUC] (1); ZMB 9192 (1).
 Maximum length: 27 cm SL
 Distribution: South America: São Francisco and upper Paraná River basins.
 Countries: Brazil
 Remarks and references: See Menezes (1992: 47) for diagnosis.
 Common names: Peixe cachorro (Brazil), Ueua (Brazil)

***Acestrorhynchus maculipinna* Menezes & Géry,**

1983

Acestrorhynchus maculipinna Menezes & Géry, 1983: 579, fig. 7.
 Type locality: Rio Preto da Eva, between Manaus and Itacoatiara, Amazonas, Brazil. Holotype: MZUSP 25861.
 Maximum length: 7.9 cm SL
 Distribution: South America: Amazon River basin.
 Countries: Brazil
 Common names: Peixe cachorro (Brazil), Ueua (Brazil)

***Acestrorhynchus microlepis* (Schomburgk, 1841)**

Hydrocyon microlepis Schomburgk, 1841: 247. Type locality: Rio Negro; Rio Branco; and Essequibo River, South America. No types known.
Acestrorhynchus cachorro Fowler, 1940: 274, fig. 61. Type locality: Ucayali River basin, Boca Chica, Peru. Holotype: ANSP 68679.
Acestrorhynchus guianensis Menezes, 1969: 70, 120, fig. 54. Type locality: Botanic Garden [British] Guyana, (trenches in Georgetown with water from the Demerara River). Holotype: FMNH 74359.
 Maximum length: 26 cm SL
 Distribution: South America: Amazon and Orinoco River basins and rivers of Guyana, Suriname, and French Guyana.
 Countries: Brazil, French Guiana, Guyana, Peru, Suriname
 Remarks and references: See Toledo-Piza & Menezes (1996: 4) for detailed description.
 Common names: Cachorrinho (Brazil), Petit dent-chien (French Guiana), Pez cachorro (Peru)

***Acestrorhynchus minimus* Menezes, 1969**

Acestrorhynchus minimus Menezes, 1969: 78, 120, fig. 60. Type locality: Lago Jacaré, Rio Trombetas, Amazon River basin, Brazil. Holotype: MZUSP [ex DZSASP] 4608.
 Maximum length: 6.3 cm SL
 Distribution: South America: Amazon and Orinoco River basins.
 Countries: Brazil, Venezuela
 Common names: Cachorrinho (Brazil), Ueua (Brazil)

***Acestrorhynchus nasutus* Eigenmann, 1912**

Acestrorhynchus nasutus Eigenmann, 1912: 411, pl. 61 (fig. 4).
 Type locality: Rockstone. Holotype: FMNH 53475.
 Maximum length: 6.9 cm SL
 Distribution: South America: Amazon and Orinoco River basins and rivers of Guyana.
 Countries: Brazil, Guyana, Venezuela
 Remarks and references: See Menezes (1969: 78) for detailed description.
 Common names: Cachorrinho (Brazil), Ueua (Brazil)

***Acestrorhynchus pantaneiro* Menezes, 1992**

Acestrorhynchus pantaneiro Menezes, 1992: 42. Type locality: rio Cuiabá, Volta Grande, município de Santo Antônio do Leverger, Mato Grosso (aproximadamente 56°W - 16°S). Holotype: MZUSP 40256.
 Maximum length: 24 cm SL
 Distribution: South America: Paraguay, lower Paraná, Uruguay, La Plata, and Mamoré River basins.
 Countries: Bolivia, Brazil
 Common names: Peixe cachorro (Brazil)

References

Amaral, A.A. 1990. Anatomia comparativa do aparelho digestivo de *Acestrorhynchus britskii* Menezes, 1969, e *Acestrorhynchus lacustris* Reinhardt, 1874 (Pisces, Characidae, Acestrorhynchiinae). Rev. Ceres, 37(2/2): 277-288.
 Bloch, M.E. 1794. Naturgeschichte der ausländischen Fische. Berlin, vol. 8. iv + 174 p., pls. 361-396.
 Britski, H.A., Y. Sato and A.B.S. Rosa. 1986. Manual de identifi-

Check List of the Freshwater Fishes of South and Central America

- cação de peixes da região de Três Marias (com Publicação chaves de identificação para os peixes da bacia do São Francisco). Câmara dos Deputados, Coordenação de - CODEVASF, Divisão de Piscicultura e Pesca, Brasília. 143 p.
- Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. Proc. Am. Philos. Soc., 17 (101): 673-701.
- Cuvier, G. 1819. Sur les poissons du sous-genre *Hydrocyon*, sur deux nouvelles espèces de *Chalceus*, sur trois nouvelles espèces du *Serrasalmes*, et sur l'*Argentina glossodonta* de Forskahl, qui est l'*Albula gonorhynchus* de Bloch. Mem. Mus. Natl. Hist. Nat., 5: 351-379, pls. 26-28.
- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. and C.H. Kennedy. 1903. On a collection of fishes from Paraguay, with a synopsis of the American genera of cichlids. Proc. Acad. Nat. Sci. Philadelphia, 55: 497-537.
- Fowler, H.W. 1907. Further knowledge of some heterognathous fishes. Part II. Proc. Acad. Nat. Sci. Philadelphia, 58: 431-483.
- Fowler, H.W. 1940. A collection of fishes obtained by Mr. William C. Morrow in the Ucayali River Basin, Peru. Proc. Acad. Nat. Sci. Philadelphia, 91 [for 1939]: 219-289.
- Géry, J., P. Planquette and P.-Y. Le Bail. 1991. Faune characoïde (poissons ostariophysaires) de l'Oyapock, l'Approuague et la rivière de Kaw (Guyane Française). Cybium, 15 (1, suppl.): 1-69, pls. 1-20.
- Günther, A. 1863. On new species of fishes from the Essequibo. Ann. Mag. Nat. Hist. (Ser. 3), 12 (72): 441-443.
- Linnaeus, C. 1758. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Tomus I. Editio decima, reformata. Holmiae. ii + 824 p.
- Lucena, C.A.S. and N.A. Menezes. 1998. A phylogenetic analysis of *Roestes* Günther and *Gilbertolus* Eigenmann, with a hypothesis on the relationships of the Cynodontidae and Acestrorhynchidae (Teleostei: Ostariophysi: Characiformes). Pp. 261-278 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). Phylogeny and classification of Neotropical fishes. Edipucrs, Porto Alegre.
- Lütken, C.F. 1875. Characinae novae Brasiliae centralis a clarissimo J. Reinhardt in provincia Minas-Geraes circa oppidulum Lagoa Santa in lacu ejusdem nominis, flumine Rio das Velhas et rivulis affluentibus collectae, secundum caracteres essentialia breviter descriptae. Overs. Danske Vidensk. Selsk. Forhandl Kjobenhavn, 1874 (3): 127-143.
- Menezes, N.A. 1969. Systematics and evolution of the tribe Acestrorhynchini (Pisces, Characidae). Arq. Zool. (São Paulo), 18 (1-2): 1-150.
- Menezes, N.A. 1992. Redefinição taxonômica das espécies de *Acestrorhynchus* do grupo *lacustris* com a descrição de uma espécie (Osteichthyes, Characiformes, Characidae). Comun. Mus. Ciênc. PUCRS, Sér. Zool., 5: 39-54.
- Menezes, N.A. and J. Géry. 1983. Seven new acestrorhynchid characid species (Osteichthyes, Ostariophysi, Characiformes) with comments on the systematics of the group. Rev. Suisse Zool., 90 (3): 563-592.
- Müller, J. and F.H. Troschel. 1844. Synopsis generum et specierum familiae Characinorum. (Prodromus descriptionis novorum generum et specierum). Arch. Naturgeschichte, 10 (1): 81-99.
- Nico, L.G. and D.C. Taphorn. 1985. Diet of *Acestrorhynchus microlepis* (Pisces: Characidae) in the low llanos of Venezuela. Copeia, 1985 (3): 794-796.
- Schomburgk, R.H. 1841. The Natural history of fishes of Guiana.-- Part I. In: W. Jardine, (ed.), The Naturalists' Library. Vol. 3. W. H. Lizars, Edinburgh. 263 p., pls. 1-30.
- Spix, J.B. von, and L. Agassiz. 1829. Selecta genera et species piscium quos itinere per Brasiliam...colleget et pingendo curavit Dr. J.B. de Spix... Monachii Part 1: i-xvi + i-ii + 1-82, pls. 1-48.
- Toledo-Piza, M. and N.A. Menezes. 1996. Taxonomic redefinition of the species of *Acestrorhynchus* of the *microlepis* group with the description of *Acestrorhynchus apurensis*, a new species from Venezuela (Ostariophysi: Characiformes: Characidae). Am. Mus. Novit., no. 3160: 1-23.

Family Cynodontidae (Cynodontids)

Mônica Toledo-Piza

Fishes of the family Cynodontidae comprise a group of very distinctive Neotropical characiforms easily recognizable by their oblique mouth, well developed dentary canines, and relatively expanded pectoral fins. The group is not very diverse with 13 species currently recognized and grouped under two subfamilies: the Cynodontinae and the Roestinae (Lucena & Menezes, 1998). The Cynodontinae is represented by the largest members of the family with some of its species reaching up to 65 cm in length and possessing maximum development of dentary canines among cynodontids. The subfamily has been the subject of recent taxonomic and phylogenetic investigation by Toledo-Piza et al. (1999) and Toledo-Piza (2000) with three genera being recognized: *Cynodon* with three species, hypothesized as the sister group to the monotypic *Rhaphiodon*, and this clade being the sister group to *Hydrolycus* with four species. The Roestinae includes species that reach a maximum length of 20 cm and are represented by *Roestes* with three species and *Gilbertolus* with two (Menezes & Lucena, 1998).

The majority of cynodontid species occur in the Amazon and Orinoco River basins, and in the rivers of the Atlantic slopes of the Guianas. *Rhaphiodon vulpinus* is the only Cynodontidae that ranges southward to the Paraná-Paraguay and Uruguay basins, and *Gilbertolus* occurs in the trans-Andean drainages of the Atrato and Magdalena Rivers, and Lake Maracaibo basins of Colombia and Venezuela. Fossil cynodontids are represented by dentary canines originated in Miocene deposits from the La Venta fauna, located in the present Magdalena River valley of Western Colombia, in the Anta Formation at Quebrada de la Yesera, Salta, and near the city of Paraná, Entre Ríos the latter two localities in Argentina (Lundberg, 1997; Cione & Casciotta, 1995, 1997).

Most of what is known about the habits and biology of the Cynodontidae refers to members of the Cynodontinae. They live in mid- and surface waters of rivers, lakes, and flooded forests in all water types, are predatory fishes, mainly piscivorous, using their dentary canines to stab prey (Arendt 1997; Goulding, 1980). Although not much valued as food, some species may have some importance in subsistence commercial fisheries (Santos et al., 1984; and Taphorn, 1992). *Hydrolycus* is a sport species having been recently added to the International Game Fish Association in the fly and rod class (International Game Fish Association, 1995). The ecology of roestine species is poorly known. They are also much less common in museum collections when compared to cynodontines.

CYNODON

Cynodon Spix, in Spix & Agassiz, 1829: 76. Type species: *Cynodon gibbus* Spix & Agassiz, 1829. Gender: masculine. The nomenclature of *Cynodon* and *Rhaphiodon* has been the subject of debate by many authors including Campos (1945), Travassos (1946), Whitehead and Myers (1971), Kottelat (1988), Eschmeyer and Bailey (in Eschmeyer, 1990), and Eschmeyer (1998), as a consequence of problems arising from differences in the interpretation of the works of Spix & Agassiz (1829) and Cuvier (1829). In order to solve the conflicts generated by the different conclusions arrived at by these authors, a petition was submitted to the International Commission on Zoological Nomenclature proposing the conservation of the usage of these genus names and fixation of their respective type species and ruling of the case are still awaited (see Toledo-Piza & Lazara, 2000).

Camposichthys Travassos, 1946: 132. Type species: *Cynodon gibbus* Spix & Agassiz, 1829. Type by original designation. Gender: masculine.

Cynodon gibbus Spix & Agassiz, 1829

Cynodon gibbus Spix & Agassiz, 1829: 77, pl. 27. Type locality: Brasiliae fluviis. Neotype: MZUSP 6539, designated by Toledo-Piza (2000). Original types apparently destroyed (Terofal, 1983; Kottelat, 1988).

Maximum length: 28 cm SL

Distribution: South America: Amazon and Orinoco River basins and rivers of Guyana.

Countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Venezuela

Common names: Dientón (Peru), Icanga (Brazil), Minguilista (Brazil), Payara chata (Venezuela), Payarín (Venezuela), Peixecachorro (Brazil), Perrito (Ecuador)

Cynodon meionactis Géry, Le Bail & Keith, 1999

Cynodon meionactis Géry, Le Bail & Keith, 1999: 70, fig. 1. Type locality: French Guiana, Antecume Pata, haut Maroni en amont de Maripanoula. Holotype: MNHN 1998-0397.

Maximum length: 30 cm TL

Distribution: South America: Coastal rivers in French Guiana and Suriname.

Countries: French Guiana, Suriname

Cynodon septenarius Toledo-Piza, 2000

Cynodon septenarius Toledo-Piza, 2000: 65, fig. 24. Type locality: Brazil, Amazonas: Rio Tefé, Supiã-Pucu (between 3°40' and 4°20'S; 65°50' and 65°10'W). Holotype: MZUSP 32590.

Maximum length: 31.2 cm SL

Distribution: South America: Amazon and upper Orinoco River basins and rivers of Guyana.

Countries: Brazil, Guyana, Venezuela

GILBERTOLUS

Gilbertella Eigenmann, 1903: 147. Type species: *Anacyrtus alatus* Steindachner, 1878. Type by original designation. Gender: feminine. Preoccupied by *Gilbertella* Waite, 1902, in fishes.

Gilbertolus Eigenmann & Ogle, 1907: 3. Type species: *Anacyrtus alatus* Steindachner, 1878. Type by being a replacement name. Gender: masculine. Replacement for *Gilbertella* Eigenmann, 1903, preoccupied by *Gilbertella* Waite, 1902, in fishes.

Xiphocharax Fowler, 1914: 251. Type species: *Xiphocharax ogilviei* Fowler, 1914. Type by original designation. Gender: masculine.

Gilbertolus alatus (Steindachner, 1878)

Anacyrtus (*Raestes*) *alatus* Steindachner, 1878: 91. Type locality: Cienega, welche der Magdalena Strom. Holotype: NMW 14998. Type locality provided by Steindachner (1879: 20).

Maximum length: 9.6 cm SL

Distribution: South America: Magdalena River and Lake Maracaibo basins.

Countries: Colombia, Venezuela

Remarks and references: See Lucena & Menezes (1998) for phylogenetic relationships and Menezes & Lucena (1998) for detailed description.

Common names: Boquiacha (Colombia), Chachás (Colombia)

Gilbertolus atratoensis Schultz, 1943

Gilbertolus alatus atratoensis Schultz, 1943: 275. Type locality: At Quibdo, Río Atrato, Colombia. Holotype: USNM 76976.

Maximum length: 11.88 cm SL

Distribution: South America: Atrato River basin.

Countries: Colombia

Remarks and references: See Lucena & Menezes (1998) for phylogenetic relationships and Menezes & Lucena (1998) for detailed description.

Gilbertolus maracaiboensis Schultz, 1943

Gilbertolus alatus maracaiboensis Schultz, 1943: 273. Type locality: In a caño half a mile west of Sinamaica, Maracaibo basin, Estado de Zulia, Venezuela. Holotype: USNM 121386.

Maximum length: 13.03 cm SL

Distribution: South America: Lake Maracaibo basin.

Countries: Venezuela

Remarks and references: See Lucena & Menezes (1998) for phylogenetic relationships and Menezes & Lucena (1998) for detailed description.

Common names: Jibao (Venezuela), Muelona (Venezuela), Mueluda (Venezuela)

HYDROLYCUS

Hydrolycus Müller & Troschel, 1844: 93. Type species: *Hydrocyon scomberoides* Cuvier, 1816. Type by monotypy. Gender: masculine. Type species confirmed and genus name placed on Official List (Opinion 1581 of ICZN, 1990: 76).

Hydrolycus armatus (Jardine & Schomburgk, 1841)

Hydrocyon armatus Jardine & Schomburgk in Schomburgk, 1841: 249, pl. 25. Type locality: Rivers of Guiana. Neotype: ANSP 175725, designated by Toledo-Piza et al. (1999).

Maximum length: 66 cm SL

Distribution: South America: Amazon and Orinoco River basins and rivers of Guyana.

Countries: Brazil, Colombia, Guyana, Venezuela

Common names: Cachorra (Brazil), Payara (Venezuela), Pirandirá (Brazil), Pirantera (Brazil)

Hydrolycus scomberoides (Cuvier, 1816)

Hydrocyon scomberoides Cuvier, 1816: 168. Type locality: Brazil.

Holotype: MNHN A.8659. Named in a footnote; indicated as a new species in Brazil. Under Opinion 1581 of the International Commission of Zoological Nomenclature (1990: 76) the name *scomberoides* Cuvier, 1819, was placed on the Official List of Specific Names in Zoology. As a consequence, 1819 constitutes the official date of the publication of the species. However, the species name first appeared in a footnote, associated with a brief description in the text, in Cuvier (1816: 168). *Hydrolycus scomberoides* should, therefore, be dated to Cuvier, 1816 (instead of 1819), a change that has to be evaluated by the ICZN.

Hydrocyon scomberoides Cuvier, 1819: 357, pl. 27 (fig. 2). Type locality: Brazil. Holotype: MNHN A.8659. More extensive description; specimen presumably the same as in Cuvier, 1816; see Remarks there.

Cynodon pectoralis Günther, 1866: 30. Type locality: Upper Amazon. Holotype: BMNH 1866.2.15.22.

Maximum length: 28.4 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Ecuador, Peru

Common names: Cachorra (Brazil), Dientón (Ecuador), Pirandirá (Brazil), Saranha do rabo amarelo (Brazil)

Hydrolycus tatauaia Toledo-Piza, Menezes & Santos, 1999

Hydrolycus tatauaia Toledo-Piza, Menezes & Santos, 1999: 263, fig. 7. Type locality: Brazil: Pará: Rio Xingu, Belo Monte, 3°10'S, 51°50'W. Holotype: MZUSP 48005.

Maximum length: 45.5 cm SL

Distribution: South America: Amazon and upper Orinoco River basins and rivers of Guyana.

Countries: Brazil, Colombia, Guyana, Venezuela

Common names: Cachorra (Brazil), Pirandirá (Brazil)

Hydrolycus wallacei Toledo-Piza, Menezes & Santos, 1999

Hydrolycus wallacei Toledo-Piza, Menezes & Santos, 1999: 259, fig. 3. Type locality: Brazil: Amazonas, Rio Negro, Mandiquié, 0°30'S, 64°30'W. Holotype: MZUSP 32645.

Maximum length: 33.5 cm SL

Distribution: South America: Negro and upper Orinoco River basins.

Countries: Brazil, Venezuela

RHAPHIODON

Rhaphiodon Agassiz, in Spix & Agassiz, 1829: 59, 76. Type species: *Rhaphiodon vulpinus* Spix & Agassiz, 1829. Type by subsequent designation. Gender: masculine. See comments under *Cynodon*.

Hydropardus Reinhardt, 1849: 46. Type species: *Hydropardus rapax* Reinhardt, 1849. Type by monotypy. Gender: masculine.

Rhaphiodontichthys Campos, 1945: 473. Type species: *Rhaphiodon vulpinus* Spix & Agassiz, 1829. Type by original designation. Gender: masculine.

Rhaphiodon vulpinus Spix & Agassiz, 1829

Rhaphiodon vulpinus Spix & Agassiz, 1829: 76, pl. 26 as *Cynodon vulpinus*. Type locality: Brasiliae fluviis. Holotype: MHNN 822.

Hydropardus rapax Reinhardt, 1849: 46. Type locality: Uruguay, Montevideo. Holotype: ZUMC 183.

?*Salmo tamuco* Kner, 1860: 55. Not available, mentioned in passing under *Cynodon vulpinus* Spix; from Brazil.

Maximum length: 62.3 cm SL

Distribution: South America: Amazon, Orinoco, and Paraná River basins (Paraná, Paraguay, and Uruguay rivers), and rivers of Guyana.

Countries: Argentina, Brazil, Ecuador, Guyana, Paraguay, Peru, Uruguay, Venezuela

Common names: Chafalote (Brazil), Chambira-challua (Peru),

Dentudo (Brazil), Payara-machete (Venezuela), Peixe-cachorro (Brazil), Peixe-cadela (Brazil), Pirayagua (Paraguay), Ripa (Brazil), Saranha (Brazil)

ROESTES

Lycodon Kner, 1860: 52. Type species: *Cynopotamus molossus* Kner, 1858. Type by monotypy. Gender: masculine. Preoccupied by *Lycodon* Fitzinger, 1826, in Reptilia.

Roestes Günther, 1864: 345. Type species: *Cynopotamus molossus* Kner, 1858. Type by monotypy. Gender: masculine.

Roestes itupiranga Menezes & Lucena, 1998

Roestes itupiranga Menezes & Lucena, 1998: 289, fig. 7. Type locality: Brazil, Pará, Lago Grande, Itupiranga, Rio Tocantins. Holotype: INPA 10267.

Maximum length: 14.2 cm SL

Distribution: South America: Tocantins River basin.

Countries: Brazil

Remarks and references: See Lucena & Menezes (1998) for phylogenetic relationships and Menezes & Lucena (1998) for detailed description.

Roestes molossus (Kner, 1858)

Cynopotamus molossus Kner, 1858: 168. Type locality: No type-locality indicated in original description [Mato Grosso, Guaporé River und von Caicaral]. Syntypes: NMW 68754-55, 92856. Type locality indicated in Kner (1860: 53).

Maximum length: 19.5 cm SL

Distribution: South America: Upper Madeira River basin.

Countries: Brazil

Remarks and references: See Lucena & Menezes (1998) for phylogenetic relationships and Menezes & Lucena (1998) for detailed description.

Roestes ogilviei (Fowler, 1914)

Xiphocharax ogilviei Fowler, 1914: 252, fig. 9. Type locality: Rupununi River, British Guiana, 2°-3°N, 50°20'W. Holotype: ANSP 39337.

Maximum length: 18.7 cm SL

Distribution: South America: Upper and middle Amazon River basin and rivers Essequibo, Branco and Negro.

Countries: Brazil, Colombia (?), Guyana

Remarks and references: See Lucena & Menezes (1998) for phylogenetic relationships and Menezes & Lucena (1998) for detailed description.

References

Arendt, K. 1997. Säbelzahnsalmer: Eindrucksvolle Räuber in Aquarium. TI Magazin, 133: 10-15.

Campos, A.A. 1945. Contribuição ao conhecimento das espécies brasileiras do gênero *Hydrocynus* e afins. Arq. Zool. (São Paulo), 4: 467-484.

Cione, A.L. and J.R. Casciotta. 1995. Freshwater teleostean fishes from Miocene of Quebrada de la Yesera, Salta, Northwestern Argentina. Neues Jahrb. Geol. Palaeontol., Abh., 196: 377-394.

Cione, A.L. and J.R. Casciotta. 1997. Miocene cynodontids (Osteichthyes: Characiformes) from Parana, Central Eastern Argentina. J. Vertbr. Paleontol., 17 (3): 616-619.

Cuvier, G. 1816. Le Règne Animal distribué d'après son organisation pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Les reptiles, les poissons, les mollusques et les annélides. Edition 1. xviii + 532 p., [plus pls. 9-10, in vol. 4].

Cuvier, G. 1819. Sur les poissons du sous-genre *Hydrocyon*, sur deux nouvelles espèces de *Chalceus*, sur trois nouvelles espèces de *Serrasalmes*, et sur l'*Argentina glossodonta* de Forskahl, qui est l'*Albula gonorhynchus* de Bloch. Mem. Mus. Natl. Hist. Nat., 5: 351-379, pls. 26-28.

Cuvier, G. 1829. Le règne animal, distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Edition 2. xviii + 532 p.

Eigenmann, C.H. 1903. New genera of South American freshwater fishes, and new names for old genera. Smithsonian Misc. Collect. (Quarterly), 45: 144-148.

Eigenmann, C.H. 1910. Catalogue of the fresh-water fishes of tropical and south temperate America. In: Reports of the Princeton University expeditions to Patagonia 1896-1899. Zoology, 3 (pt 4): 375-511.

Eigenmann, C.H. and F. Ogle. 1907. An annotated list of characin fishes in the United States National Museum and the Museum of Indiana University, with descriptions of new species. Proc. U. S. Natl. Mus., 33 (1556): 1-36.

Eschmeyer, W.N. (ed.) 1990. Catalog of the genera of Recent fishes. California Academy of Sciences, San Francisco. 697 p.

Eschmeyer, W.N. (ed.) 1998. Catalog of fishes. California Academy of Sciences, San Francisco. 2905 p.

Fowler, H.W. 1914. Fishes from the Rupununi River, British Guiana. Proc. Acad. Nat. Sci. Philadelphia, 66: 229-284.

Géry, J., P-Y. Le Bail and P. Keith. 1999. *Cynodon meionactis* sp. n., un nouveau characidé endémique du bassin du Haut Maroni en Guyane, avec une note sur la validité du genre *Cynodon* (Teleostei: Ostariophysi: Characiformes). Rev. Fr. Aquariol., 25 (3-4): 69-77.

Goulding, M. 1980. The fishes and the forest: explorations in Amazonian natural history. University of California Press, Berkeley. 280 p.

Günther, A. 1864. Catalogue of the fishes in the British Museum, vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiidae in the collection of the British Museum. Trustees, London. xxii + 455 p.

Günther, A. 1866. Remarks on some fishes from the river Amazons in the British Museum. Ann. Mag. Nat. Hist. (Ser. 3), 18 (103): 30-31.

ICZN [International Commission on Zoological Nomenclature]. 1990. Opinion 1581. *Hydrolycus* Müller and Troschel, 1844 (Osteichthyes, Cypriniformes): *Hydrocyon scomberoides* Cuvier, 1819 confirmed as type species. Bull. Zool. Nomen., 47: 76.

IGFA [International Game Fish Association]. 1995. Feisty Payara gains fly rod, line class recognition June 1st. The International Angler, 1995: 1-5.

Kner, R. 1858. Zur Familie der Characinen. Sitzungsber. Akad. Wiss. Wien, 32 (22): 163-168.

Kner, R. 1860. Zur Familie der Characinen. III. Folge Der Ichthyologischen Beiträge. Denkschr. Akad. Wiss. Wien, 18: 9-62, pls. 1-8.

Kottelat, M. 1988. Authorship, dates of publication, status and types of Spix and Agassiz's Brazilian fishes. Spixiana, 11 (1): 69-93.

Lucena, C.A.S. and N.A. Menezes. 1998. A phylogenetic analysis of *Roestes* Günther and *Gilbertolus* Eigenmann, with a hypothesis on the relationships of the Cynodontidae and Acestrorhynchidae (Teleostei: Ostariophysi: Characiformes). Pp. 261-278 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). Phylogeny and classification of Neotropical fishes. Edipucrs, Porto Alegre.

Lundberg, J.G. 1997. Freshwater fishes and their paleobiotic implications. Pp. 67-91. In: R.F. Kay, R.H. Madden, R.L. Cifelli, and J.J. Flynn (eds.), Vertebrate Paleontology in the Neotropics: the Miocene Fauna of La Venta, Colombia. Smithsonian Inst. Press, Washington D.C.

Menezes, N.A. and C.A.S. Lucena. 1998. Revision of the subfamily Roestinae (Ostariophysi: Characiformes: Cynodontidae). Ichthyol. Explor. Freshwaters, 9 (3): 279-291.

Müller, J. and F.H. Troschel. 1844. Synopsis generum et specierum familiae Characinarum. (Prodromus descriptionis novorum generum et specierum). Arch. Naturgeschichte, 10 (1): 81-99 +

Check List of the Freshwater Fishes of South and Central America

- Zu pag. 99 (foldout).
- Reinhardt, J.T. 1849. Nye sydamerikanske Ferskvandsfiske. Vidensk. Medd. Naturh. Foren. Kjob., (3-5): 29-57.
- Santos, G.M., M. Jégu and B. Merona. 1984. Catálogo de peixes comerciais do baixo rio Tocantins. Eletronorte, Manaus. 85 p.
- Schomburgk, R.H. 1841. The Natural history of fishes of Guiana.-- Part I. In: W. Jardine, (ed.), The Naturalists' Library. Vol. 3. W. H. Lizars, Edinburgh. 263 p., pls. 1-30.
- Schultz, L.P. 1943. Two new characinid fishes from South America of the genus *Gilbertolus* Eigenmann. J. Washington Acad. Sci., 33 (9): 273-275.
- Spix, J.B. and L. Agassiz. 1829. Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXVII-MDCCCXX jussu et auspiciis Maximiliani Josephi I.... colleget et pingendo curavit Dr. J.B. de Spix... Monachii. Part I. Selecta Piscium Brasiliam. 82 p.
- Steindachner, F. 1878. Zur Fischfauna des Magdalenen-Stromes. Anz. Akad. Wiss. Wien, 15 (12): 88-91.
- Steindachner, F. 1879. Zur Fisch-fauna des Magdalenen-Stromes. Denkschr. Akad. Wiss. Wien, 39: 19-78, pls. 1-15.
- Taphorn, D.C. 1992. The characiform fishes of the Apure River drainage, Venezuela. BioLlania Edición Especial - No. 4. Monografías Científicas del Museo de Ciencias Naturales, UNELLEZ -- Guanara, estado Portuguesa, Venezuela. 537 p.
- Terofal, von F. 1883. Die Fischausbeute der Brasilien-Expedition 1817-1820 con J. B. Spix und C. F. Ph. V. Martius. Spixiana, 9: 313-317.
- Toledo-Piza, M. 2000. The Neotropical fish subfamily Cynodontinae (Teleostei: Ostariophysi: Characiformes): a phylogenetic study and a revision of *Cynodon* and *Rhaphiodon*. Am. Mus. Novit. no. 3286: 1-88.
- Toledo-Piza, M. and K.J. Lazara. 2000. *Cynodon* Spix, in Spix and Agassiz, 1829 and *Rhaphiodon* Agassiz, in Spix and Agassiz, 1829 (Osteichthyes, Characiformes): proposed conservation and proposed designation of *C. gibbus* and *R. vulpinus* Spix and Agassiz, 1829, as the respective types of *Cynodon* and *Rhaphiodon*. Bull. Zool. Nomen., 57 (3): 151-157.
- Toledo-Piza, M., N.A. Menezes and G.M. Santos. 1999. Revision of the Neotropical fish genus *Hydrolycus* (Ostariophysi: Characiformes: Cynodontidae) with the description of two new species. Ichthyol. Explor. Freshwaters, 10 (3): 255-280.
- Travassos, H. 1946. Contribuição para o conhecimento da família Characidae Gill, 1893 III. Discussão sobre os gêneros *Cynodon* Spix, 1929, e *Rhaphiodon* Agassiz, 1829, com novo nome de subfamília. Summa Brasil. Biol., 1 (9): 129-141.
- Waite, E.R. 1902. Notes on fishes from Western Australia, No. 2. Rec. Aust. Mus., 4 (5): 179-194.
- Whitehead, P.J.P. and G.S. Myers. 1971. Problems of nomenclature and dating of Spix and Agassiz's Brazilian fishes (1829-1831). J. Soc. Bibliogr. Nat. Hist., 5: 478-497.

Family Erythrinidae (Trahiras)

Oswaldo T. Oyakawa

Fishes of the family Erythrinidae are characterized by having a cylindrical body form, rounded caudal fin, dorsal fin with 8-15 rays, anterior to anal fin and usually above pelvic fins, anal fin short with 10-11 rays, no adipose fin, numerous teeth on the palate and lateral line with 34-47 scales. Besides that, the following exclusive characters might be useful to diagnose the representatives of this family: five branchiostegal rays, a lamellar suprapreopercle, anterior end of the first infraorbital bifurcate, and antorbital absent (Oyakawa, 1998).

Three genera are currently recognized in the family, *Erythrinus*, *Hoplerythrinus* and *Hoplias*. The first two include medium size species, reaching at least 40 cm standard length. On the other hand, *Hoplias* is a medium to large size genus, ranging from 30 to 100 cm of standard length in *Hoplias lacerdae* and *Hoplias macrophthalmus*. See Miranda Ribeiro (1908) and Planquette, Keith and Le Bail (1996).

The presence of sixth infraorbital transversely divided in two parts, and the upper region of the posterior end of the maxilla relatively smooth, with no projection, distinguished both *Erythrinus* and *Hoplerythrinus* from *Hoplias*, which has the sixth infraorbital as a single bony plate and a huge projection in the posterior end of maxilla. *Hoplerythrinus* is easily distinguished from the two other genera by having a distinctive black round spot in the postero-dorsal region of the opercle and usually a black stripe along the middle of the body.

Erythrinids species are entirely restricted to South America, mainly in the Amazon basin, where the greatest species diversity occurs. They are found in a variety of habitats such as lakes, lagoons, small and large rivers (Oyakawa, 1990). With the exception of *Hoplias malabaricus*, apparently widespread through almost all river basin of South America, all others species of *Hoplias* are restricted to some small areas; e. g. *Hoplias lacerdae* endemic to the Ribeira de Iguape River drainage, State of São Paulo and *Hoplias brasiliensis*, endemic to the Paraguaçu River, State of Bahia, and other small drainages of Eastern Brazil, or even *Hoplias microlepis* restricted to the west side of the Andes in Ecuador and Colombia.

A large number of undescribed species of this family was detected in museum collections and presented in Oyakawa (1990); but after that, no new species were detected and formally described. Erythrinids are relatively important as food fishes in many regions of South America.

ERYTHRINUS

Erythrinus Scopoli, 1777: 449. Type species: *Synodus erythrinus* Bloch & Schneider, 1801. Type by subsequent designation. Gender: masculine.

Erythrinus Gronovius, 1763: 114. Type species: *Erythrinus salmoneus* Gray, 1854. Gender: masculine. Not available, published in a rejected work on Official Index (Opinion 261).

Erythrichthys Bonaparte, 1831: 182. Type species: *Synodus erythrinus* Bloch & Schneider, 1801. Gender: masculine.

Hetererythrinus Günther, 1864: 283. Type species: *Erythrinus salmoneus* Gronow in Gray, 1854. Type by subsequent designation. Gender: masculine.

***Erythrinus erythrinus* (Bloch & Schneider, 1801)**

Synodus erythrinus Bloch & Schneider, 1801: 397. Type locality: Surinamum.

Erythrinus salmoneus Gronow, in Gray, 1854: 170. Type locality: Suriname. Holotype: BMNH 1853.11.12.59.

Erythrinus brevicauda Günther, 1864: 285. Type locality: No locality.

Erythrinus longipinnis Günther, 1864: 285. Type locality: Esse-quiibo River, Guyana. Holotype: BMNH 1864.1.21.18 [or 81].

Maximum length: 20 cm SL

Distribution: South America: Amazon and Orinoco River basins and coastal rivers of the Guianas.

Countries: Brazil, French Guiana, Guyana, Suriname, Trinidad and Tobago, Venezuela

Remarks and references: See Eigenmann & Eigenmann (1889: 105) for key of identification and Géry (1977: 103) for description in key.

Common names: Guabina (Venezuela), Jeju (Brazil), Koulan (French Guiana), Moroba (Brazil), Petit coulant (French Guiana), Ti-koulan (French Guiana)

***Erythrinus kessleri* Steindachner, 1876**

Erythrinus kessleri Steindachner, 1876: 596. Type locality: Salvador, Bahia, Brazil. Syntype: USNM 120407(1).

Maximum length: 19 cm SL

Distribution: South America: Bahia (?).

Countries: Brazil

HOPLERYTHRINUS

Hoplerythrinus Gill, 1896: 208. Type species: *Erythrinus unitaeniatus* Agassiz, 1829. Type by monotypy. Gender: masculine.

Ophiocephalops Fowler, 1906: 293. Type species: *Erythrinus unitaeniatus* Agassiz, 1829. Type by original designation. Gender: masculine.

Pseuderythrinus Hoedeman, 1950: 79. Type species: *Pseuderythrinus rosapinnis* Hoedeman, 1950. Type by original designation. Gender: masculine.

***Hoplerythrinus cinereus* (Gill, 1858)**

Erythrinus cinereus Gill, 1858: 413. Type locality: Western Portion of the Island of Trinidad, W.I. Holotype: USNM 5882. Maximum length: 20.2 cm SL
Distribution: South America: Island of Trinidad.
Countries: Trinidad and Tobago
Common names: Waubeen (Trinidad and Tobago)

***Hoplerythrinus gronovii* (Valenciennes, 1847)**

Erythrinus gronovii Valenciennes, in Cuvier & Valenciennes, 1847: 500. Type locality: Cayenne. Maximum length: 17.8 cm SL
Distribution: South America: French Guiana (?).
Countries: French Guiana

***Hoplerythrinus unitaeniatus* (Agassiz, 1829)**

Erythrinus salvus Agassiz, in Spix & Agassiz, 1829: 41. Type locality: Habitat cum *Erythrinus macrodonte* in flumine S. Francisci.
Erythrinus unitaeniatus Agassiz, in Spix & Agassiz, 1829: 42, pl. 19. Type locality: Habitat in flumine S. Francisci. No types known.
Erythrinus vittatus Valenciennes, in Cuvier & Valenciennes, 1847: 499, pl. 585. Type locality: Brésil; Cayenne; Surinam.
Erythrinus balteatus Günther, 1864: 284. Not available, name on specimen from Suriname mentioned under *Erythrinus unitaeniatus*.
Pseuderythrinus rosapinnis Hoedeman, 1950: 82, figs. 1a-e, 2, 3. Type locality: Paramaribo, Dutch Guiana. Holotype: ZMA 104279. Maximum length: 25 cm TL
Distribution: Central and South America: Amazon, Paraná, Orinoco, São Francisco, and Magdalena River basins, and coastal rivers in Guyana, Suriname, and French Guiana.
Countries: Argentina, Bolivia, Brazil, Ecuador, French Guiana, Guyana, Panama, Peru, Suriname, Trinidad and Tobago, Venezuela
Remarks and references: See Eigenmann & Eigenmann (1889: 105) for description and key of identification; Géry (1977: 103) for description in key.
Common names: Coulant barré (French Guiana), Guabina (Venezuela), Jejú (Brazil), Koulán baré (French Guiana), Traíra pixuna (Brazil), Yarrow (Trinidad and Tobago)

HOPLIAS

Macrodon Müller, 1842: 308. Type species: *Esox malabaricus* Bloch, 1794. Type by subsequent designation. Gender: masculine.

Hoplias Gill, 1903: 50. Type species: *Esox malabaricus* Bloch, 1794. Type by being a replacement name. Gender: masculine.

***Hoplias aimara* (Valenciennes, 1847)**

Macrodon aimara Valenciennes, in Cuvier & Valenciennes, 1847: 523, pl. 586. Type locality: Cayenne. Holotype: MNHN A.9968.
Erythrinus macrodon (non Agassiz, 1829) Schomburgk, 1841: 254, pl. XXVII. Type locality: Guyana. Maximum length: 100 cm SL
Distribution: South America: French Guiana and Venezuela (?).
Countries: French Guiana, Venezuela
Common names: Aimara (Venezuela), Aïmara (French Guiana)

***Hoplias brasiliensis* (Agassiz, 1829)**

Erythrinus brasiliensis Agassiz, in Spix & Agassiz, 1829: 45, pl. 20. Type locality: Peruaçu, Brazil. Maximum length: 20.3 cm SL
Distribution: South America: Paraguaçu River basin in Bahia State.
Countries: Brazil
Common names: Traíra (Brazil)

***Hoplias lacerdae* Miranda Ribeiro, 1908**

Hoplias lacerdae Miranda Ribeiro, 1908: [3]. Type locality: Iporanga. Holotype: MNRJ 211. Maximum length: 75 cm SL
Distribution: South America: Ribeira de Iguape River basin in São Paulo and Paraná States.
Countries: Brazil
Remarks and references: See Britski (1970: 81) for diagnosis and differentiation of *Hoplias malabaricus*.
Common names: Tariputanga (juvenles), Trairaçu, Trairão (Brazil)

***Hoplias macrophthalmus* (Pellegrin, 1907)**

Macrodon malabaricus var. *macrophthalma* Pellegrin, 1907: 26. Type locality: Cayenne, French Guiana. Holotype: MNHN A.9770.
Hoplias malabaricus microphthalmus Pellegrin, in Eigenmann, 1910: 448. Type locality: unknown
Maximum length: 100 cm TL
Distribution: South America: Amazon and Orinoco River basins, and coastal rivers in Guyana, Suriname, and French Guiana.
Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela
Remarks and references: See Géry (1977: 102) for description in key.
Common names: Aimara (Brazil, French Guiana, Venezuela), Trairão (Brazil)

***Hoplias malabaricus* (Bloch, 1794)**

Esox malabaricus Bloch, 1794: 149, pl. 392. Type locality: South America, probably Suriname (not "Tranquebar").
Synodus palustris Bloch & Schneider, 1801: 398. Type locality: Habitat in lacubus et paludibus non item in fluminibus Brasiliae. No types known.
Synodus tareira Bloch & Schneider, 1801: 398, pl. 79. Type locality: Habitat in fluviis Brasiliae.
Erythrinus macrodon Agassiz, in Spix & Agassiz, 1829: 43, pl. 18. Type locality: Habitat in lacu Almada, Prov. Bahiensis et in fluvio Sancti Francisci. Holotype: MHNN 773.
Erythrinus trahira Agassiz, in Spix & Agassiz, 1829: 44, pl. 18. Type locality: Habitat in lacu Almada, Prov. Bahiensis et in fluvio Sancti Francisci. Holotype: MHNN 773.
Macrodon tareira Valenciennes, in Cuvier & Valenciennes, 1847: 508. Type locality: Bahia, Rio-San-Francisco, Amazone, Cayenne, lagune de Maracaibo.
Macrodon ferox Gill, 1858: 411. Type locality: Western Portion of the Island of Trinidad; W. I.
Esox tararira Larrañaga, 1923: 378, 388. Type locality: Uruguay. Maximum length: 49 cm SL
Distribution: Central and South America: Known from Costa Rica to Argentina in most rivers basins.
Countries: Argentina, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, French Guiana, Guyana, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay, Venezuela
Common names: Bululu (Colombia), Calabrote (Colombia), Dentón (Colombia), Dientón (Colombia), Dorme-dorme (Brazil), Dormilón (Colombia), Guabina (Colombia, Venezuela), Guabine (Trinidad and Tobago), Lobó (Brazil), Mocho (Colombia), Moncholo (Colombia), Patagaie (French Guiana), Perraloca (Colombia), Perro (Colombia), Rivolo (Colombia), Taraira (Argentina), Tarango (Argentina), Tararira (Argentina, Uruguay), Tarucha (Argentina), Traíra (Brazil), Trairitinga (Brazil)

***Hoplias microcephalus* (Agassiz, 1829)**

Erythrinus microcephalus Agassiz, in Spix & Agassiz, 1829: 44. Type locality: Habitat in fluvio Sancti Francisci.
Macrodon intermedius Günther, 1864: 282. Type locality: Rio Cipo, Brazil. Syntypes: BMNH ?
Maximum length: 35.6 cm SL
Distribution: South America: São Francisco River basin.
Countries: Brazil

Common names: Traíra (Brazil)

***Hoplias microlepis* (Günther, 1864)**

Macrodon microlepis Günther, 1864: 282. Type locality: Western Ecuador; Guatemala. Syntypes: BMNH 1860.1.16.128 (3), BMNH 1860.6.16.154-5 (2), BMNH 1860.6.18.21-22 (3).

Maximum length: 36 cm SL

Distribution: Central and South America: Western slopes from Guayaquil (Ecuador) to Chagres River (Panama).

Countries: Colombia, Ecuador, Panama

Remarks and references: See Eigenmann & Eigenmann (1889: 102) for key of identification and description.

Common names: Juanchiche (Ecuador)

***Hoplias patana* (Valenciennes, 1847)**

Macrodon patana Valenciennes in Cuvier & Valenciennes, 1847: 522. Type locality: Cayenne. Holotype: whereabouts unknown.

Maximum length: 39.4 cm SL

Distribution: South America: French Guiana (?).

Countries: French Guiana

***Hoplias teres* (Valenciennes, 1847)**

Macrodon teres Valenciennes, in Cuvier & Valenciennes, 1847: 521. Type locality: lagune de Maracaibo.

Maximum length: 15.3 cm SL

Distribution: South America: Lake Maracaibo basin.

Countries: Venezuela

Common names: Guavina (Venezuela)

Species inquirenda

Macrodon auritus Valenciennes in Cuvier & Valenciennes 1847: 519. Type locality: Montevideo, Uruguay.

SPECIES INQUIRENDAE

Erythrinus cephalus Meuschen, 1778: 35. Type locality: Not indicated.

Erythrinus guavina Humboldt in Humboldt & Valenciennes, 1821: 179, pl. 48 (fig. 1). Type locality: Lake Valencia, Venezuela. No types known.

Erythrinus palustris Valenciennes in Cuvier & Valenciennes, 1847: 502. Type locality: ?

References

Bloch, M.E. 1794. Naturgeschichte der ausländischen Fische, vol. 8. Berlin. iv + 174 p., pls. 361-396.

Bloch, M.E. and J.G. Schneider. 1801. M. E. Blochii, Systema Ichthyologiae iconibus cx illustratum. Post obitum auctoris opus inchoatum absolvit, correxit, interpolavit Jo. Gottlob Schneider, Saxo. Berolini. Sumtibus Auctoris Impressum et Bibliopolio Sanderiano Commisum. lx + 584 p., pls. 1-110.

Bonaparte, C.L. 1831. Saggio di una distribuzione metodica degli animali vertebrati. Giornale Arcadico di Scienze Lettere ed Arti, 52:78 p.

Britski, H.A. 1970. Peixes de água doce do estado de São Paulo. Pp. 79-108. In: Comissão Interstadual da Bacia Paraná-Uruguaí (ed.), Poluição e Piscicultura. Faculdade de Saúde Pública USP/Instituto de Pesca (CPRN), São Paulo.

Cuvier, G. and A. Valenciennes. 1847. Histoire naturelle des poissons. Tome dix-neuvième. Suite du livre dix-neuvième. Brochets ou Lucioïdes. Livre vingtième. De quelques familles de Malacoptérygiens, intermédiaires entre les Brochets et les Clupes. Ch. Pitois, & V.° Levrault, Paris & Strasbourg. xix + 544 + 6 p., pls. 554-590.

Eigenmann, C.H. 1910. Catalogue of the fresh-water fishes of tropical and south temperate America. In: Reports of the Princeton University expeditions to Patagonia 1896-1899. Zoology: 375-511.

Eigenmann, C.H. and R.S. Eigenmann. 1889. A review of the

Erythrininae. Proc. California Acad. Sci. (Ser. 2), 2: 100-116, pl. 1.

Fowler, H.W. 1906. Further knowledge of some heterognathous fishes. Part. I. Proc. Acad. Nat. Sci. Philadelphia, 58: 293-351.

Géry, J. 1977. Characoids of the World. T. F. H. Publications, Neptune City, New Jersey. 672 p.

Gill, T.N. 1858. Synopsis of the fresh water fishes of the western portion of the island of Trinidad, W. I. Ann. Lyc. Nat. Hist. N. Y., 6 (10-13): 363-430.

Gill, L.T. 1893. The differential characters of characinoid and erythrinoid fishes. Proc. U. S. Natl. Mus., 18 (1056): 205-209.

Gill, T.N. 1903. A new name (*Hoplias*) for the genus *Macrodon* of Müller. Proc. Biol. Soc. Washington, 16: 49-52.

Gray, J.E. 1854. Catalogue of fish collected and described by Laurence Theodore Gronow, now in the British Museum. London. vii + 196 p.

Gronovius, L.T. 1763. Zoophylacii Gronoviani fasciculus primus exhibens animalia quadrupeda, amphibia atque pisces, quae in museo suo adservat, rite examinavit, systematice disposuit, descripsit atque iconibus illustravit Laur. Theod. Gronovius, J. U. D. ...Lugduni Batavorum. 136 p., 14 pls.

Günther, A. 1864. Catalogue of the fishes in the British Museum, vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiatidae in the collection of the British Museum. Trustees. London. xxii + 455 p.

Hoedeman, J.J. 1950. A new characid-erythrinine fish (*Pseuderythrinus rosapinnis* gen. et. sp. nov.). Amsterdam Nat. (Bull. Zool. Mus. Amsterdam), 1 (3): 79-91.

Humboldt, F.H.A. von, and A. Valenciennes. 1821. Recherches sur les poissons fluviatiles de l'Amérique Équinoxiale. Pp. 145-216, pls. 45-52. In: Voyage de Humboldt et Bonpland, Deuxième partie. Observations de Zoologie et d'Anatomie comparée. Paris.

Larrañaga, D.A. 1923. Escritos de Don Dámaso Antonio Larrañaga. Los Publica el Instituto Histórico y Geográfico del Uruguay. Edición Nacional. 512 p.

Meuschen, F.C. 1778. Museum Gronovianum. Sive, Index rerum naturalium, tam mammalium, amphibiorum, piscium, insectorum, ... Lugundi Batavorum, T. Haak, J. Meerburg.

Miranda Ribeiro, A. 1908. Peixes da Ribeira. Resultados de excursão do Sr. Ricardo Krone, membro correspondente do Museu Nacional do Rio de Janeiro. Kosmos, Rio de Janeiro [Rev. Art. Sci. Litt.], 5 (2): [1-5].

Müller, J.W. 1842. Beobachtungen über die Schwimmblase der Fische, mit Bezug auf einige neue Fischgattungen. Arch. Anat. (Müller), 1842: 307-329.

Oyakawa, O.T. 1990. Revisão sistemática das espécies do genero *Hoplias* (grupo *lacerdae*) da amazônia brasileira e região leste do Brasil (Teleostei: Erythrinidae). M.Sc. Dissertation. 114 p.

Oyakawa, O.T. 1998. Relações filogenéticas das famílias Pyrrhulinidae, Lebiasinidae e Erythrinidae (Osteichthyes: Characiformes). Ph.D. Thesis. 200 p.

Pellegrin, J. 1907. Characinidés américains nouveaux. Bull. Mus. Natl. Hist. Nat., 13 (1): 25-27.

Schomburgk, R.H. 1841. The Natural history of fishes of Guiana.-- Part I. In: W. Jardine, (ed.), The Naturalists' Library. Vol. 3. W. H. Lizars, Edinburgh. 263 p., pls. 1-30.

Scopoli, G.A. 1777. Introductio ad historiam naturalem, sistens genera lapidum, plantarum et animalium hactenus detecta, caracteribus essentialibus donate, in tribus divisa, subinde ad leges naturae. Prague. x + 506 p.

Spix, J.B. von, and L. Agassiz. 1829-31. Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXVII-MDCCCXX jussu et auspiciis Maximiliani Josephi I.... colleget et pingendo curavit Dr J. B. de Spix.... Monachii. Part 1: i-xvi + i-ii + 1-82, Pls. 1-48; part 2: 83-138, pls. 49-101.

Steindachner, F. 1876. Die Süßwasserfische des südöstlichen Brasilien (III). Anz. Akad. Wiss. Wien, 13 (4): 191.

Family Lebiasinidae (Pencil fishes)

Marilyn Weitzman & Stanley H. Weitzman
(SHW contributed the *Nannostomus* section).

There is no recent review of this family. There are 61 described species in two subfamilies and seven genera, with several species yet to be described. In size they range from the miniature *Nannostomus anduzei*, 1.6 cm, to medium sizes in the Pyrrhulininae to 150 mm SL in the Lebiasininae. All species have a rather elongate, cylindrical body shape with fairly large scales, 17 to 33 in a longitudinal series. The laterosensory canal system on the body is reduced to seven scales, or absent. An adipose fin may be present or absent. The anal fin is short-based with up to 13 rays and the males of most species have well developed anal fins specialized for courtship and breeding. The frontal/parietal fontanel is always absent, the cheek is well covered by the orbital and opercular bones, there is no supraoccipital crest and the scales of the dorsal body begin over the parietal bones.

In his study of the phylogenetic relationships of the family Ctenoluciidae, Vari (1995: 35-36) included comments on the monophyly of the Lebiasinidae and listed three characters taken from Weitzman (1964) that he considered to be synapomorphies for the family: 1) absence of the supraorbital bone, 2) lack of a metapterygoid-quadrate fenestra, and 3) reduction of the laterosensory canal system on the body.

Members of this family are found in Central America in Costa Rica and Panama and in all countries of South America except Chile. Most species are found in quiet clear or black water streams from sea level to about 250 meters elevation, always in fresh water. Some species of the Lebiasininae occur in much higher elevations, to over 1000 meters.

Many of the species in the Pyrrhulininae, especially the pencilfishes, *Nannostomus*, are important aquarium fishes.

COPEINA

Copeina Fowler, 1906: 294. Type species: *Pyrrhulina argyrops* Cope, 1878. Type by original designation. Gender: feminine. One of the three genera included in the tribe Pyrrhulinini (Weitzman and Cobb, 1975: 1).

***Copeina guttata* (Steindachner, 1876)**

Pyrrhulina guttata Steindachner, 1876: 15, pl. 2 (fig. 6). Type locality: Amazon River at Obidos, Cudajas, and Tabatinga; Rio Negro, Brazil. Syntypes: NMW 56966; 56967, NMW 56969; MCZ 6833, 6429; USNM 120282, ZMB 10425; ZMUC 143 and ZMUC 143x.

Pyrrhulina argyrops Cope, 1878: 694. Type locality: near Pebas, Peru. Lectotype: ANSP 21441.

Maximum length: 7.6 cm SL

Distribution: South America: Middle Amazon River basin.

Countries: Brazil, Colombia, Ecuador, Peru

Remarks and references: No recent review of the genus, studies of types and consideration of type localities suggest that there is just the one species, *Copeina guttata*. Myers (1956: 12) noted that "Steindachner's figures are erroneously labeled and should be reversed", thus figs. 6 and 5a are correct for *Copeina guttata*, figs. 5 and 6a for *Copella nattereri*.

Common names: Forellensalmler (Germany), Urquisho (Peru)

***Copeina osgoodi* Eigenmann, 1922**

Copeina osgoodi Eigenmann, 1922: 232. Type locality: Nazareth, Peru. Holotype: FMNH 15352.

Maximum length: 5.1 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

Common names: Urquisho (Peru)

COPELLA

Copella Myers, 1956: 12. Type species: *Copeina compta* Myers, 1927. Type by original designation. Gender: feminine. One of the three genera included in the tribe Pyrrhulinini (Weitzman and Cobb, 1975: 1).

***Copella arnoldi* (Regan, 1912)**

Copeina arnoldi Regan, 1912: 393. Type locality: Amazon. Syntypes: BMNH 1909.4.2.25-26.

Maximum length: 3.36 cm SL

Distribution: South America: Lower Amazon, coastal Guianas to mouth of the Orinoco River.

Countries: Brazil, French Guiana, Guyana, Suriname, Trinidad and Tobago (introduced)

Remarks and references: Regan (1912) described three *Copella* species from the Atlantic coastal region between the mouth of the Orinoco in Venezuela and the mouth of the Amazon in Pará, Brazil, *C. arnoldi*, *C. carsevensis*, and *C. eigenmanni*. No recent review has been produced to clarify their identities or relationships. The 'splash tetra' has been in the aquarium trade for a long time. This species lays its eggs on the underside of leaves just above the water line and the adults, mainly the male, splash water on the eggs until they hatch. The breeding behavior of the other two species has not been recorded. Other species of the genus lay their eggs on leaves near the surface but under water. See Planquette et al. (1996: 178) for notes on the fish in French Guiana.

Common names: Copeina (Trinidad and Tobago), Piratanta (Brazil), Splash tetra (USA), Ti-yaya (French Guiana)

***Copella carsevensis* (Regan, 1912)**

Copeina carsevensis Regan, 1912: 394. Type locality: Carsevenne, French Guiana [Calçoene, Amapa, Brazil]. Syntypes:

BMNH 1899.7.26.1-5.
 Maximum length: 3.6 cm SL
 Distribution: South America: Coastal rivers of the Guianas and Amapá State.
 Countries: Brazil, French Guiana, Suriname
 Remarks and references: See the notes above under *C. arnoldi*. This species appears more slender and it seems to inhabit more blackwater streams. Nothing has been noted about its breeding behavior. See Planquette et al. (1996: 178) for its occurrence in French Guyana.
 Common names: Milé montagn (French Guiana), Milipipi (French Guiana), Mulet montagne (French Guiana), Ti-yaya (French Guiana)

***Copella compta* (Myers, 1927)**

Copeina compta Myers, 1927: 110. Type locality: Creek above São Gabriel Rapids, Rio Negro, Brazil. Holotype: CAS 60496.
 Maximum length: 5.06 cm SL
 Distribution: South America: Upper Negro and upper Orinoco River basins.
 Countries: Brazil, Colombia, Venezuela
 Remarks and references: Myers did not originally illustrate this fish but Géry (1977: 147) published a drawing by Pablo Bravo prepared under Myers' direction, probably from the holotype. Until rather recently it was not known except for the preserved types. It occurs in acid clear and black water streams and is collected with the green neon, *Paracheirodon simulans*, and imported with it at times. It is a very slender fish, and the dorsal fin is placed far back on the body, almost over the anal fin. In life it grows to 6 cm or more. Its breeding behavior has not been noted.

***Copella eigenmanni* (Regan, 1912)**

Copeina eigenmanni Regan, 1912: 393. Type locality: Para; R. Aruka, Brit. Guiana; Lama, Brit. Guiana; Bogota, Colombia. Syntypes: BMNH 1894.5.18.40-41, BMNH 1911.10.31.140, BMNH 1911.10.31.146, BMNH 1869.7.25.6-7.
 Maximum length: 3.6 cm SL
 Distribution: South America: Atlantic coast between Pará State and mouth of the Orinoco River.
 Countries: Brazil, Guyana, Venezuela
 Remarks and references: See the notes above under *C. arnoldi*. As noted the type localities for this species are widespread and the syntypes are varied as to size and preservation. The syntypes labeled Bogotá were probably collected near Villavicencio on the Meta River, and are *Copella metae*. The other localities are between the mouth of the Orinoco in Venezuela to the north and Para, which might be in Brazil as has been presumed by authors or it might be in Surinam.
 Common names: Ti-yaya (French Guiana)

***Copella metae* (Eigenmann, 1914)**

Copeina metae Eigenmann, 1914: 229. Type locality: Barrigona, Río Meta, Colombia. Holotype: CAS 60494.
 Maximum length: 3.4 cm SL
 Distribution: South America: Upper Orinoco and upper Negro River basins.
 Countries: Brazil, Colombia, Venezuela
 Remarks and references: This species occurs in the llanos regions of Colombia and Venezuela. It has been mistakenly recorded from the Amazon of Brazil and Peru, but the species there is *C. nigrofasciata*.
 Common names: Voladorita (Venezuela)

***Copella nattereri* (Steindachner, 1876)**

Pyrrhulina nattereri Steindachner, 1876: 13, pl. 2 (fig. 5, 6a). Type locality: mouth of Río Negro; Obidos, Amazon R. Syntypes: NMW 56974, MCZ [mixed] 6259 + 6263 + 6300 + 6835 + 6836 + 6837 (78); MSNG 9239, NMW 56973-74, 57148.
Copeina callolepis Regan, 1912: 393. Type locality: Amazon R.

Syntypes: BMNH 1909.4.2.27-28
 Maximum length: 4.5 cm SL
 Distribution: South America: Lower Amazon, Negro and upper Orinoco River basins.
 Countries: Brazil, Colombia, Guyana, Venezuela
 Remarks and references: The dark spots occurring on most scales of the light colored body, usually appearing black or brown, easily identify this species. The type locality for *C. callolepis* is given as Amazon, the syntypes are aquarium specimens. The type localities for *C. nattereri* range from Óbidos on the lower Amazon to the mouth of the Negro River on the middle Amazon River, possibly overlapping localities. Examination of the types of both indicate *C. callolepis* to be a synonym of *C. nattereri*. It occurs in the lower to middle Amazon to the Negro River then up that river and into the upper Orinoco basin and from the headwater regions of the Branco River in Guyana.

***Copella nigrofasciata* (Meinken, 1952)**

Pyrrhulina nigrofasciata Meinken, 1952: 115, fig. 1. Type locality: peruanischen Amazonas Syntypes: BMNH 1952.7.31.3-5; ZMH H1211-1212.
 Maximum length: 4.5 cm SL
 Distribution: South America: Upper Amazon River basin, from Manaus and into the Ucayali River.
 Countries: Brazil, Peru
 Remarks and references: This species was described from aquarium specimens said to be from the Peruvian Amazon. It occurs from near the mouth of the Negro River west into the Marañón and Ucayali rivers of Peru. It is sometimes confused with *C. metae* but differs in its color pattern. Both have an almost black horizontal stripe across the body but *C. nigrofasciata* has a row of bright red spots just above the black stripe while *C. metae* has a pale stripe without any red spots.
 Common names: Urquisho (Peru)

***Copella vilmae* Géry, 1963**

Copella vilmae Géry, 1963: 25, fig. 1. Type locality: Igarapé Prêto, collatéral de l'Amazone supérieure près de Belem, à environ 60 km en aval de Leticia, Peru-Colombia border. Holotype: SMF 5931.
 Maximum length: 4.5 cm SL
 Distribution: South America: Upper Amazon River basin.
 Countries: Brazil, Colombia (?), Peru (?)
 Remarks and references: This species is known only from the types. It appears to be closely related to *C. compta*. Both have slender elongate bodies, similar scale counts, size, and color patterns. The dorsal fin is set back on the body almost over the anal fin.
 Common names: Rainbow copella (USA)

DERHAMIA

Derhamia Géry & Zarske, 2002: 36. Type species: *Derhamia hoffmannorum* Géry & Zarske, 2002. Type by original designation. Gender: feminine.

***Derhamia hoffmannorum* Géry & Zarske, 2002**

Derhamia hoffmannorum Géry & Zarske, 2002: 39, fig. 1. Type locality: sand bank at the confluent of the Kamarang River and the Mazuruni River, north-western part of Guyana north of the Roraima. Holotype: MTD F 26491.
 Maximum length: 6.14 cm SL
 Distribution: South America: Mazaruni River basin.
 Countries: Guyana

LEBIASINA

Lebiasina Valenciennes, in Cuvier & Valenciennes, 1847: 531. Type species: *Lebiasina bimaculata* Valenciennes, 1847. Type by monotypy. Gender: feminine. The genus *Lebiasina* is tradi-

tionally separated from *Piabucina*, the second genus of the subfamily Lebiasininae (Weitzman and Cobb, 1975), by its lack of an adipose fin and by the cellular composition of its swim bladder wall as described by Valenciennes. These characters may or may not be valid and have been discussed by many authors.

***Lebiasina bimaculata* Valenciennes, 1847**

Lebiasina bimaculata Valenciennes in Cuvier & Valenciennes, 1847: 531, pl. 587. Type locality: Rivière Remac, environs de Lima, Peru. Holotype: MNHN 141.

Maximum length: 16 cm SL

Distribution: South America: Ecuador and Peru west of Andes, also upper Marañón River basin.

Countries: Ecuador, Peru

Remarks and references: The body is stocky with a dark spot just behind the head and another at the base of the caudal fin. All lebiasinids are mainly insectivorous feeding generally near the surface of the water. *Lebiasina bimaculata* especially has been used in the control of mosquitoes. Thus it has been introduced into regions where it was not native. Its original distribution was in the coastal streams between the Lima area of central Peru north to northern Ecuador. It also occurs inland at higher elevations in the Cajamarca region of central Peru. Pearson (1937: 89) remarks that this fish can live for a long time in a minimum quantity of water and that pre Inca people could easily have carried this fish from the coast up into the Cajamarca valley where it has adapted and spread into the upper Marañón River.

Common names: Chalquoque (Peru), Choro-coque (Peru), Guabina (Ecuador), Guavina (Peru), Huaija (Peru), Las Penitas (Peru)

***Lebiasina chucuriensis* Ardila Rodríguez, 2001**

Lebiasina chucuriensis Ardila Rodríguez, 2001: [3], color figure.

Type locality: Quebrada La Carbonera, afluente del río La Llana. Municipio de San Vicente de Chucurí, Dept. Santander, Colombia. Holotype: Author coll. 8-VII-2000.

Maximum length: 14.8 cm TL.

Distribution: South America: Northern Colombia, between Magdalena River and the Andes.

Countries: Colombia

***Lebiasina floridablancaensis* Ardila Rodríguez, 1994**

Lebiasina floridablancaensis Ardila Rodríguez, 1994: [2], fig. 1.

Type locality: quebrada El Gaque, Trib. del Río Aranzoque, Dept. Santander, Colombia. Holotype: Author coll. 15-04-01.

Maximum length: 13 cm TL

Distribution: South America: Northeastern Colombia, between Magdalena River and the Andes.

Countries: Colombia

Remarks and references: This species has an adipose fin and thus is a *Piabucina* species; however, see above in the description of the genus *Lebiasina*. The complete distribution of this species is unknown; it seems to be limited to some eastern tributaries of the lower Magdalena River. It has been confused with *Piabucina pleurotaenia* Regan by earlier authors.

***Lebiasina intermedia* Meinken, 1936**

Lebiasina intermedia Meinken, 1936: 49, fig. (unnumbered). Type locality: mittlere Amazonas bei Santarem, Pará. Brazil. Holotype: ?KHMM 2156.

Maximum length: 10.7 cm TL

Distribution: South America: unknown.

Countries: Brazil

Remarks and references: Known only from the type. The type locality given for this aquarium specimen is probably incorrect, this genus is not known to occur in the lower Amazon basin.

***Lebiasina multimaculata* Boulenger, 1911**

Lebiasina multimaculata Boulenger, 1911: 212. Type locality: Condoto River at Condoto, Choco Dept., SW. Colombia, elev. 150 ft. Syntypes: BMNH 1910.7.11.167-169.

Maximum length: 15 cm SL

Distribution: South America: Southwestern Colombia.

Countries: Colombia

Remarks and references: This is a slender species with a series of about 10 dark rounded spots across the body as well as red dots on the three middle rows of scales on the body. It appears to be limited to the Condoto River basin and nearby streams. Dahl (1971: 119) claims that *Piabucina panamensis* is a synonym of *Lebiasina multimaculata*, that the latter sometimes has an adipose fin. However examination of over 65 specimens of *L. multimaculata* and an equal number of *P. panamensis* has shown that the possession of or lack of an adipose fin remains constant in a species (pers. obs).

Common names: Candela (Colombia), Guabina (Colombia), Saltona (Colombia)

***Lebiasina provenzanoi* Ardila Rodríguez, 1999**

Lebiasina provenzanoi Ardila Rodríguez, 1999: [3], color photo.

Type locality: Río Aponwao (Qda. Tarotá), Gran Sabana, Estado Bolívar, Venezuela. Holotype: MBUCV-V-22285.

Maximum length: 12.3 cm TL

Distribution: South America: Upper Aponwao River basin, Gran Sabana.

Countries: Venezuela

***Lebiasina uruyensis* Fernández-Yépez, 1967**

Lebiasina uruyensis Fernández-Yépez, 1967: 173, pl. 5. Type locality: río Uruyén medio, Auyan-Tepui, Guyana highlands, Venezuela. Holotype: MHNLS 789.

Maximum length: 14.6 cm SL

Distribution: South America: Upper Caroni River basin, in western Gran Sabana.

Countries: Venezuela

Remarks and references: *Lebiasina uruyensis* occurs in the Auyan-Tepui region in the western portion of the Gran Sabana of Venezuela. It is distinct from its nearby relative, *Piabucina unitaeniata*, in having a deeper body, its lack of an adipose fin and in its color pattern.

Common names: Carpa criolla (Venezuela)

***Lebiasina yuruaniensis* Ardila Rodríguez, 2000**

Lebiasina yuruaniensis Ardila Rodríguez, 2000: [3], color photo.

Type locality: río Yuruaní, Gran Sabana, Estado Bolívar, Venezuela. Holotype: MHNLS 7469.

Maximum length: 10 cm TL

Distribution: South America: Yuruaní River basin, in Gran Sabana.

Countries: Venezuela

NANNOSTOMUS

Nannostomus Günther, 1872: 146. Type species: *Nannostomus beckfordi* Günther, 1872. Type by monotypy. Gender: masculine.

Archicheir Eigenmann, 1909: 46. Type species: *Archicheir minutus* Eigenmann, 1909. Type by monotypy. Gender: feminine.

Poecilobrycon Eigenmann, 1909: 43. Type species: *Poecilobrycon harrisoni* Eigenmann, 1909. Type by original designation. Gender: masculine.

Nannobrycon Hoedeman, 1950: 15, 22. Type species: *Nannostomus eques* Steindachner, 1876. Type by original designation. Gender: masculine.

***Nannostomus anduzei* Fernandez & Weitzman, 1987**

Nannostomus anduzei Fernandez & Weitzman, 1987: 165, fig. 1.

Type locality: Laguna Provincial, ca. 20 km north of Puerto Ayacucho, ca. 5°50'N, 67°30'W, Depto. de Ature, Amazonas, Venezuela. Holotype: MBUCV V-15.141.

Maximum length: 1.6 cm SL

Distribution: South America: Upper Orinoco and Ereré River, a tributary of the Negro River.

Countries: Brazil, Venezuela

Remarks and references: This species is so far recorded from two localities, that of the type specimens given above and the Eréré River, Amazonas, Brazil. See Weitzman & Fernandez (1989) for a discussion of these localities. This species has been exported, as an aquarium fish, into the USA and Germany as bycatch with *Paracheirodon simulans*. See Bork (1998) and Bork and Mayland (1998) for accounts of this species as an aquarium fish.

Common names: Anduzes Ziersalmler (Germany), Anduzes Zwergziersalmler (Germany), Anduzi's *Nannostomus* (USA), Miniature *Nannostomus* (USA)

***Nannostomus beckfordi* Günther, 1872**

Nannostomus beckfordi Günther, 1872: 146. Type locality: Goedverwagting, a plantation on the coast of Demerara [Guyana]. Holotype: BMNH 1871.12.28.10.

Nannostomus anomalus Steindachner, 1876: 129. Type locality: Amazonenstrome bei Obidos [Brazil]. Syntypes: (several) not found at NMW.

Nannostomus simplex Eigenmann, 1909: 42. Type locality: Lama Stop-off [Guyana]. Holotype: FMNH 52773 [ex CM 1167].

Nannostomus aripirangensis Meinken, 1931: 1, fig. Type locality: Unterwasservegetation auf der Insel Aripiranga im unteren Amazonas gefangen. [Northeast of Belém, Pará, Brazil]. Syntypes: destroyed during WWII.

Nannostomus beckfordi surinami Hoedeman, 1954: 84. Type locality: Suriname River, Berg en Dal, Suriname. Holotype: ZMA 100514a.

Maximum length: 6.5 cm SL

Distribution: South America: Natively present in the rivers of Guyana south to the Amazon basin and up the Amazon River to the Negro River.

Countries: Brazil, French Guiana, Guyana, Suriname

Remarks and references: The most recent distributional records were published by Weitzman & Weitzman (1982: fig. 229). Most recent systematic description by Weitzman (1966). Commonly exported as an aquarium fish since 1910, Stansch (1914). The courtship and other behavior was studied in detail by Caplan & Dunham (1978) and Kuenzer (1982). Probably introduced into Jaquaraípe River, east of Salvador, Bahia Brazil, Géry (1977) and definitely introduced into baía de Guanabara, Rio de Janeiro, Bizerril & Lima (2001). This species is commonly exported as an aquarium fish from Peru and Guyana. There is considerable geographic variation in populations of this species.

Common names: Anomalous pencilfish (USA), Aripiranga pencilfish (USA), Brown pencilfish (USA), Golden pencilfish (USA), Längsband-Ziersalmler (Germany), Poisson-crayon (French Guiana), Roter Ziersalmler (Germany), Ti-yaya (French Guiana)

***Nannostomus bifasciatus* Hoedeman, 1954**

Nannostomus bifasciatus Hoedeman, 1954: 85, fig. Type locality: Berg en Dal at Suriname River, Suriname. Holotype: ZMA 100513 (apparently lost).

Maximum length: 3.4 cm SL

Distribution: South America: Coastal rivers of Suriname and French Guiana.

Countries: Brazil, French Guiana, Suriname

Remarks and references: The most recent distributional records were published by Weitzman & Weitzman (1982: fig. 229). Most recent systematic description by Weitzman (1966). Occasionally exported as an aquarium fish, Weitzman et al. (2001).

Common names: Double striped pencilfish (USA), Poisson-crayon (French Guiana), Ti-yaya (French Guiana), Whiteside pencilfish (USA), Zweistreifen-Ziersalmler (Germany)

***Nannostomus britskii* Weitzman, 1978**

Nannostomus britskii Weitzman, 1978: 5, fig. 3. Type locality: Brazil, State of Amazonas, an igarapé of Lago José-Açu, Parintins, Amazon River. Holotype: MZUSP 7795.

Maximum length: 2.4 cm SL

Distribution: South America: Known from two localities in Brazil, the type locality and Aripuana River, Castanhal Island, Amazonas State.

Countries: Brazil

Remarks and references: This species has never been exported as an aquarium fish.

Common names: Spotstripe pencilfish (USA)

***Nannostomus digrammus* (Fowler, 1913)**

Poecilobrycon digrammus Fowler, 1913: 525, fig. 5. Type locality: Rio Madeira ca. 200 mi. east of 62°20'W, Brazil. Holotype: ANSP 39189.

Maximum length: 2.76 cm SL

Distribution: South America: Madeira River, lower and middle Amazon River, and Guyana.

Countries: Brazil, Guyana

Remarks and references: The latest systematic description is by Weitzman (1966). Occasionally exported as an aquarium fish, usually as bycatch, Weitzman et al. (2001), Bork & Mayland (1998).

Common names: Two striped *Nannostomus* (USA), Zweibinden Ziersalmler (Germany), Zweistreifen-Ziersalmler (Germany)

***Nannostomus eques* Steindachner, 1876**

Nannostomus eques Steindachner, 1876: 126, pl. 9 (fig. 3). Type locality: No exact designation, given as: Das Wiener Museum erhielt diese schöne Art in mehreren Exemplaren aus dem Amazoneustrome auf peruanischem Gebiete oberhalb Tabatinga [Brazil]. Syntypes: NMW 56513 (5).

Poecilobrycon auratus Eigenmann, 1909: 43. Type locality: Konawaruk [Guyana]. Holotype: FMNH 52768 [ex CM 1161].

Maximum length: 5 cm TL

Distribution: South America: Central and upper Amazon River basin.

Countries: Brazil, Peru

Remarks and references: The most recent reference to distribution is by Weitzman & Weitzman (1982), but due to a printer's error fig. 22.12 provides the correct distribution for *Nannostomus eques*, not fig. 22.13. The most recent systematic description by Weitzman (1966). This species is commonly exported as an aquarium fish from Brazil, Peru and Guyana. Most recent systematic description is by Weitzman (1966). Commonly exported as an aquarium fish since 1910, Stansch (1914).

Common names: Brown pencilfish (USA), Diptail pencilfish (USA), Spitzmaul-Ziersalmler (Germany), Tubemouth pencilfish (USA)

***Nannostomus espei* (Meinken, 1956)**

Poecilobrycon espei Meinken, 1956: 31, fig. Type locality: None provided. Lectotype: SU 51593, designated by Weitzman (1966).

Maximum length: 2.8 cm SL

Distribution: South America: Mazaruni River basin in Guyana.

Countries: Guyana

Remarks and references: The most recent distributional records were published by Weitzman & Weitzman (1982: fig. 229). Most recent systematic description by Weitzman (1966). Locality records including the locality of the original collections are discussed by Weitzman & Cobb (1975). Occasionally exported as an aquarium fish, Weitzman et al. (2001) and Bork & Mayland (1998).

Common names: Barred pencilfish (USA), Barren-Ziersalmler (Germany), Espei's pencilfish (USA), Espes Ziersalmler (Germany), Gebänderter Ziersalmler (Germany)

***Nannostomus harrisoni* (Eigenmann, 1909)**

Archicheir minutus Eigenmann, 1909: 46. Type locality: Canal at Christianburg [Guyana]. Holotype: FMNH 52786 [ex CM 1186].

Poecilobrycon harrisoni Eigenmann, 1909: 43. Type locality:

Canal at Christianburg [Guyana]. Holotype: FMNH 52767 [ex CM 1160].

Maximum length: 4.5 cm SL

Distribution: South America: Demerara River basin.

Countries: Guyana

Remarks and references: The most recent distributional records were published by Weitzman & Weitzman (1982: fig. 229). Most recent systematic descriptions are by Weitzman (1966) and Weitzman & Cobb (1975). Weitzman & Cobb (1975) published photographs of growth stages of juveniles demonstrating that *Archicheir minutus* is a juvenile of *Nannostomus harrisoni*. Occasionally exported as an aquarium fish, Weitzman et al. (2001).

Common names: Blackstripe pencilfish (USA), Goldbinden-Ziersalmler (Germany), Harrison's pencilfish (USA)

***Nannostomus limatus* Weitzman, 1978**

Nannostomus limatus Weitzman, 1978: 9, fig. 6. Type locality: Brazil, State of Pará in Igarapé tributary to Lago Marapar, near Santarém, Amazon River. Holotype: MZUSP 8486.

Maximum length: 3.6 cm SL

Distribution: South America: Amazon River basin near Santarém.

Countries: Brazil

Remarks and references: See Remarks and references under *Nannostomus nitidus* below.

Common names: Elegant pencilfish (USA)

***Nannostomus marginatus* Eigenmann, 1909**

Nannostomus marginatus Eigenmann, 1909: 41. Type locality: Maduni Creek [Guyana]. Holotype: FMNH 53550 [ex CM 1171].

Nannostomus marginatus picturatus Hoedeman, 1954: 87. Type locality: A ditch near Zanderij II, Suriname. Holotype: ZMA 100324a.

Maximum length: 3.5 cm TL

Distribution: South America: Lower to middle Amazon River, Colombia east of the Andes, Guyana, Peru east of the Andes, Suriname and Venezuela east of the Andes.

Countries: Brazil, Colombia, Guyana, Peru, Suriname

Remarks and references: The most recent reference to distribution is by Weitzman & Weitzman (1982), but due to a printer's error fig. 22.10 provides the correct distribution for *Nannostomus trifasciatus*, not fig. 22.11. The most recent systematic description by Weitzman (1966). Weitzman et al. (2001) most recently discussed the geographical color forms of this species.

Common names: Dwarf pencilfish (USA), Zwerdziersalmler (Germany)

***Nannostomus marilynae* Weitzman & Cobb, 1975**

Nannostomus marilynae Weitzman & Cobb, 1975: 29, fig. 28. Type locality: Brazil, Rio Negro, rock pools below rapids, São Gabriel. Holotype: CAS-SU 50238.

Maximum length: 5 cm TL

Distribution: South America: Negro and Vichada River basins.

Countries: Brazil, Colombia

Remarks and references: Occasionally exported as an aquarium fish, mostly as bycatch with *Paracheirodon axelrodi*.

Common names: Greenstripe pencilfish (USA), Marilyn's pencilfish (USA), Marylins Ziersalmler (Germany)

***Nannostomus minimus* Eigenmann, 1909**

Nannostomus minimus Eigenmann, 1909: 42. Type locality: Erukin [Guyana]. Holotype: FMNH 52771 [ex CM 1165].

Maximum length: 2.3 cm SL

Distribution: South America. Potaro and Mazaruni River basins.

Countries: Guyana

Remarks and references: The most recent distributional records were published by Weitzman & Weitzman (1982: fig. 229). The most recent systematic description is by Weitzman & Cobb (1975). Occasionally exported as an aquarium fish with various

small tetragonopterines and *Nannostomus espeii* from Guyana. This species is now the second smallest species of *Nannostomus*, the smallest being *Nannostomus anduzei*. See Weitzman et al. (2001) and Bork & Mayland (1998).

Common names: Least pencilfish (USA)

***Nannostomus mortenthaleri* Paepke & Arendt, 2001**

Nannostomus marginatus mortenthaleri Paepke & Arendt, 2001: 114. Type locality: Peru, departamento of Loreto, province of Maynas (previously the province of Iquitos), administrative district of Santa Maria, small tributary of Rio Nanay at village of Alvarenga (before Puerto Alianza), about 130 km (air distance) west of Iquitos, 74°25'40"W, 3°31'10"S. Holotype MUSM: 17719.

Maximum length: 2.9 cm SL

Distribution: South America: Nany River near Albarenga and apparently Tigre River near Santa Elena, in Loreto Department.

Countries: Peru

Remarks and references: In the original description Paepke & Arendt (2001) described this fish as a subspecies, *Nannostomus marginatus mortenthaleri*. However, they provide several characters that can be used to clearly distinguish this species from the various geographical color "forms" of *Nannostomus marginatus* that so far are not recognized as species. We have a paper in preparation discussing and illustrating these characters in detail, but some of these features were illustrated and discussed by Paepke & Arendt (2001) and are as follows: several aspects of both live and preserved color patterns and the number of cups on the teeth of the jaws as well as the number of teeth on the various jaw bones. One prominent character not mentioned by Paepke & Arendt (2001) was mentioned and illustrated by Weitzman & Weitzman (2002) and that is the relatively thickened anal-fin rays of sexually mature males of *Nannostomus mortenthaleri* compared to those of the female of that species. Whereas the anal fin rays of the various color "forms" of *Nannostomus marginatus*, whereas the various color "forms" of *Nannostomus marginatus* have the anal-fin rays of sexually mature specimens of both sexes about equal in thickness. Furthermore, in sexually mature males of *Nannostomus mortenthaleri* the supporting structures of the anal fin are highly sexually dimorphic. Thus the ossified proximal ends of each of five of the posterior anal-fin rays are fused to and continuous with elongate ossified tendons that extend between and are attached to the large erector anales muscles. These muscles in turn originate on enlarged saggittally expanded bony plates of the supporting pterygiophores. In sexually active male *Nannostomus marginatus* and males of most other species of *Nannostomus* only a very short bony extension attaches to a strong ligament extending between and to the erector anales muscles of the posterior anal-fin rays. Compare figs. 9 and 10 in Weitzman & Weitzman (2002).

Common names: Coral red pencilfish (USA), Purpurrziersalmler (Germany), Red penciffish (England).

***Nannostomus nitidus* Weitzman, 1978**

Nannostomus nitidus Weitzman, 1978: 3, fig. 1. Type locality: Brazil, State of Pará, Igarapé Candiru-Mirim, near Badajós, Rio Capim. Holotype: MZUSP 12920.

Maximum length: 3.5 cm SL

Distribution: South America: Capim River basin in Pará State.

Countries: Brazil

Remarks and references: The most recent distributional records were published by Weitzman & Weitzman (1982: fig. 229). Zarske (1993) noted that eleven aquarium bred specimens best identified as *Nannostomus nitidus* had an adipose fin and some did not, although their wild caught parents had this fin. All specimens described by Weitzman (1978) had this fin. Because of the similarity in many other characters between *Nannostomus nitidus* and *Nannostomus limatus* Weitzman (1978), a species without an adipose fin, Zarske (1993) opened the question of the

differences between these two species. There remain some differences between these species as designated by Weitzman (1978), for example *Nannostomus nitidus* lacks a tertiary stripe and has 2-3 inner dentary teeth while *Nannostomus limatus* has the opposite of these features. Solution of this problem must await statistical analyses of several characters using extensive collections from their native habitat of these tentatively distinct species. Occasionally exported as an aquarium fish, Weitzman et al. (2001).

Common names: Schmuckziersalmmler (Germany), Shining pencilfish (USA)

***Nannostomus trifasciatus* Steindachner, 1876**

Nannostomus trifasciatus Steindachner, 1876: 123, pl. 9 (fig. 2). Type locality: Amazonenstrome bei Tabatinga [Brazil]. Syntypes: NMW 56522-23 (3, 5).

Poecilobrycon erythrurus Eigenmann, 1909: 44. Type locality: Rockstone sandbank [Guyana]. Holotype: FMNH 52774 [ex CM 1168].

Poecilobrycon vittatus Ahl, 1934: 124. Type locality: Pará [Brazil]. Syntypes: ZMB 20791 (5).

Maximum length: 3.3 cm SL

Distribution: South America: Peruvian, Bolivian, and Brazilian Amazon River basin, Negro River basin, and Guyana.

Countries: Bolivia, Brazil, Guyana, Peru

Remarks and references: The most recent reference to distribution is by Weitzman & Weitzman (1982), but due to a printer's error fig. 22.13 provides the correct distribution for *Nannostomus trifasciatus*, not fig. 22.10. The most recent systematic description by Weitzman (1966). This species is commonly exported as an aquarium fish from Peru and Guyana.

Common names: Dreibinden-Ziersalmmler (Germany), Threestripe pencilfish (USA)

***Nannostomus unifasciatus* Steindachner, 1876**

Nannostomus unifasciatus Steindachner, 1876: 127, pl. 9 (fig. 1). Type locality: ...zunächst der Mündung des Rio negro in kleinen Ausständenund Nebenarmen.. [Amazonas, Brazil]. Syntypes: NMW 56514 (4), 58741 (3).

Poecilobrycon ocellatus Eigenmann, 1909: 45. Type locality: Wismar [Guyana]. Holotype: FMNH 52975 [ex CM 1179].

Maximum length: 3.8 cm SL

Distribution: South America: Parts of the Amazon River basin of Bolivia, Brazil, and probably Colombia; upper Orinoco basin of Venezuela, and Guyana.

Countries: Bolivia, Brazil, Guyana, Trinidad and Tobago (introduced), Venezuela

Remarks and references: The most recent reference to distribution is by Weitzman & Cobb (1975) and Weitzman & Weitzman (1982), but due to a printer's error fig. 22.13 provides the correct distribution for *Nannostomus unifasciatus*, not fig. 22.12. This species is frequently exported as an aquarium fish from at least Peru and Guyana.

Common names: Einbandsalmmler (Germany), Einbinden-Ziersalmmler (Germany), Oneline pencilfish (USA)

PIABUCINA

Piabucina Valenciennes, in Cuvier & Valenciennes, 1849: 161. Type species: *Piabucina erythrinoides* Valenciennes, 1849. Type by monotypy. Gender: feminine. *Piabucina* is the second genus in the subfamily Lebiasininae and as noted above under *Lebiasina*, it was distinguished from that genus by Valenciennes by possession of an adipose fin and in the noncellular composition of the swim bladder.

***Piabucina astrigata* Regan, 1903**

Piabucina astrigata Regan, 1903: 622. Type locality: St. Javier, Paramba and Río Sapayo, nw. Ecuador. Syntypes: BMNH 1898.4.28.164-166, BMNH 1901.3.29.71, BMNH 1902.7.29.59.

Maximum length: 16 cm SL

Distribution: South America: Northern Ecuador, southern Colombia west of Andes.

Countries: Colombia, Ecuador

Remarks and references: Found in small shallow waterways in forested areas. In young specimens this species has a series of dark spots across the body similar to those of *L. multimaculata*, suggesting a possible relationship, but the spots become less distinct in the adult, those anterior fading and some posterior joining to form bars on *P. astrigata*. In addition *multimaculata* has rows of red spots on the scales whereas on *astrigata* the spots are orange. All specimens of this species examined have an adipose fin.

***Piabucina aureoguttata* Fowler, 1911**

Piabucina aureoguttata Fowler, 1911: 513, fig. 6. Type locality: Affluent of the Chimbo River near Bucay, Guayas Prov., w. Ecuador. Holotype: ANSP 39103.

Maximum length: 12.8 cm SL

Distribution: South America: Ecuador west of Andes.

Countries: Ecuador

Remarks and references: This species may be a synonym of *P. astrigata*. Its color pattern and other characters overlap with that species and this may just be a southern extension.

***Piabucina boruca* Bussing, 1967**

Piabucina boruca Bussing, 1967: 218, fig. 3. Type locality: Stream 7.5 km south of Interamerican Highway on road to Golfito, Puntarenas, se. Costa Rica, elev. 20 m. Holotype: LACM 9239-1.

Maximum length: 11.8 cm SL

Distribution: Central America: Southwestern Costa Rica, Grande de Térraba and Coto River basins.

Countries: Costa Rica

Remarks and references: *Piabucina boruca* seems to have a limited distribution in southwestern Costa Rica, it has not been recorded from nearby areas of Costa Rica or Panama. Bussing cited southeastern Costa Rica in error.

***Piabucina elongata* Boulenger, 1887**

Piabucina elongata Boulenger, 1887: 280, pl. 23 (fig. 2). Type locality: Canelos and Sarayacu, e. Ecuador. Syntypes: BMNH 1880.12.8.123-124, BMNH 1880.12.5.255-257.

Maximum length: 14.3 cm SL

Distribution: South America: Amazon side of the Andes above 250 m elevation in Ecuador and Peru.

Countries: Ecuador, Peru

Remarks and references: It is a slender species with a narrow black stripe across the body just above the middle and a reddish color in life (color photo, Ramiro Barriga). It appears to be limited to streams above 250 m elevation in northern tributaries of the Amazon River in Ecuador and Peru. It is not recorded from streams nearby in Colombia.

Common names: Urquisho (Peru)

***Piabucina erythrinoides* Valenciennes, 1850**

Piabucina erythrinoides Valenciennes, in Cuvier & Valenciennes, 1850: 161, pl. 640. Type locality: les rivières de Maracaibo, du côté du Parija, Venezuela. Holotype: MNHN 4014

Maximum length: 16.4 cm SL

Distribution: South America: Northwestern Venezuela in the Lake Maracaibo basin and along coast north of Andes, northwestern Colombia; Venezuelan llanos.

Countries: Colombia, Venezuela

Remarks and references: Reviewed by Taphorn (1992: 468). This is a slender species with a black horizontal stripe across the mid-body ending on the caudal peduncle, a black caudal spot on the base of the caudal fin. There is a pale stripe just above the mid-body stripe and another dark stripe above extending to near the

dorsal fin. In life there are rows of yellow and orange spots, the fins are orange with white edges. It occurs in small clear water shady streams.

Common names: Carpa Criolla (Venezuela), Volador (Venezuela)

***Piabucina festae* Boulenger, 1899**

Piabucina festae Boulenger, 1899: 1. Type locality: Laguna della Pita, Darien, Panama. Holotype: ZMUT 1591.

Maximum length: 13.5 cm SL

Distribution: Central and South America: Pacific drainages of Panama and Colombia.

Countries: Colombia, Panama

Remarks and references: There are two species of *Piabucina* in the region, *P. festae* and *P. panamensis*. Graham, Kramer and Pineda (1978) used the two species in their study of the comparative respiration of an air-breathing characoid fish (*P. festae*) and a non-air-breathing one (*P. panamensis*). They report that the first species has its gas bladder modified with a specialized region in the posterior chamber while the second has no respiratory specializations. These authors report that the first is found in lowland streams and swamps, while the latter occurs in small, rocky forest streams. *P. festae* has a stocky body shape with the dark mid-body stripe common to most species limited to a narrow dark wedge across the caudal peduncle.

Common names: Candela (Colombia), Saltona (Colombia)

***Piabucina panamensis* Gill, 1877**

Piabucina panamensis Gill, 1877: 336. Type locality: Río Frijoli and a stream emptying into the Atlantic, Panama. Syntypes: USNM 16676 (1), USNM 16677 (now 1), USNM 116372 [ex 16677] (1).

Maximum length: 14.3 cm SL

Distribution: Central and South America: Panama, Atlantic and limited Pacific drainage, in northwestern Colombia.

Countries: Colombia, Panama

Remarks and references: See note above under *P. festae*. *P. panamensis* is a slender fish with a dusky band across the body that is more or less solid anterior and broken into spots posterior.

Common names: Candela (Colombia), Domini Candela (Panama), Saltona (Colombia)

***Piabucina pleurotaenia* Regan, 1903**

Piabucina pleurotaenia Regan, 1903: 623. Type locality: Merida, Venezuela, elev. 1600 m. Syntypes: BMNH 1902.7.29.91-92; BMNH 1903.4.28.39-40; BMNH 1904.6.30.19-20.

Maximum length: 16 cm TL

Distribution: South America: Mérida and Catatumbo River basins.

Countries: Colombia, Venezuela

Remarks and references: Synonym of *Piabucina erythrinoides*, Taphorn and Lilyestrom (1980: 335) and retained as *P. pleurotaenia*, a separate species (Galvis, Mojica and Camargo, 1997: 32).

***Piabucina unitaeniata* Günther, 1864**

Piabucina unitaeniata Günther, 1864: 311. Type locality: British Guiana. Holotype: BMNH 1988.2.16.1.

Maximum length: 14.6 cm SL

Distribution: South America: Western Guyana vicinity of Roraima and Gran Sabana of Venezuela.

Countries: Guyana, Venezuela

Remarks and references: It is the common *Piabucina* in the Gran Sabana highlands of southeastern Venezuela and western Guyana. Ardila Rodríguez (1999) described a new species, *Lebiasina provenzanoi* from a quebrada tributary to Tarotá River, Apongao River. It is probably a synonym of *Piabucina unitaeniata*.

Common names: Carpa criolla (Venezuela)

PYRRHULINA

Pyrrhulina Valenciennes, in Cuvier & Valenciennes, 1847: 535.

Type species: *Pyrrhulina filamentosa* Valenciennes, 1847. Type by monotypy. Gender: feminine. *Pyrrhulina* is the third genus in the tribe Pyrrhulinini (Weitzman & Cobb, 1975). The species are small, to 80 mm SL. On all species the teeth are conical, two rows on the premaxillary and dentary bones, a single row on the maxillary. The dorsal fin is placed posterior to the midbody.

Holotaxis Cope, 1870: 563. Type species: *Holotaxis melanostomus* Cope, 1870. Type by monotypy. Gender: feminine.

***Pyrrhulina australis* Eigenmann & Kennedy, 1903**

Pyrrhulina australe Eigenmann & Kennedy, 1903: 508. Type locality: Arroyo Trementina, Paraguay. Holotype: CAS 60490.

Maximum length: 5 cm SL

Distribution: South America: La Plata and Paraguay River basins north into the Guaporé River basin.

Countries: Bolivia, Brazil, Paraguay, Peru

Remarks and references: The southernmost species of *Pyrrhulina*, it occurs also in southeastern Brazil north into São Paulo State. It certainly occurs north into the Guaporé River and probably the upper Madeira, but its occurrence in Peru may be in error. Name emended to *australis* by Eigenmann (1910).

Common names: Urquisho (Peru)

***Pyrrhulina beni* Pearson, 1924**

Pyrrhulina beni Pearson, 1924: 32. Type locality: Ivon. Lower Beni. Altitude about 500 feet, Bolivia. Syntypes: CAS 60493, UMMZ 66489.

Maximum length: 5 cm SL

Distribution: South America: Southwestern Amazon River basin.

Countries: Bolivia, Brazil, Peru

Common names: Urquisho (Peru)

***Pyrrhulina brevis* Steindachner, 1876**

Pyrrhulina brevis Steindachner, 1876: 11, pl. 1 (fig. 3-4). Type locality: mouth of Rio Negro; Cudajas, Tabatinga, and Manaos, rio Negro. Syntypes: NMW 76177 (2), NMW 56963 (6), MCZ 6338 (2).

Maximum length: 7 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

Remarks and references: The identification of *P. brevis* is difficult, the type series seems to include more than one species and the identification of the female cited by Myers (1927) has not yet been made. The male illustrated in Steindachner (1876) may be *Pyrrhulina zigzag* Zarske & Géry.

Common names: Urquisho (Peru)

***Pyrrhulina eleanorae* Fowler, 1940**

Pyrrhulina eleanorae Fowler, 1940: 262, fig. 59. Type locality: Contamana, Río Ucayali basin, Peru. Holotype: ANSP 68676.

Maximum length: 7.5 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

Remarks and references: Known until recently only from the holotype, this species was collected in 1994 by D. Schleser in the lower Napo River and subsequently in the Iquitos region.

Common names: Urquisho (Peru)

***Pyrrhulina elongata* Zarske and Géry, 2001**

Pyrrhulina elongata Zarske and Géry, 2001: 16, fig. 1. Type locality: Brasilien, Para, Bach und kleiner Teich etwa 25 km südwestlich von Itaituba an der Strasse Itaituba – Vila Nova, Einzugsgebiet des rio Tapajós. Holotype: MZUSP 52731.

Maximum length: 3.7 mm SL.

Distribution: South America: Tapajós River basin.

Countries: Brazil

Remarks and references: Known from the 4 types in the original description.

***Pyrrhulina filamentosa* Valenciennes, 1847**

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Pyrrhulina filamentosa Valenciennes, in Cuvier & Valenciennes, 1847: 535, pl. 589. Type locality: Surinam. Holotype: MNHN 4408.

Maximum length: 8.5 cm SL

Distribution: South America: Atlantic coastal rivers between mouth of Amazon and the Orinoco rivers.

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela

Remarks and references: As can be seen by the numerous common names shared by this and the *Copella* species, they are commonly collected together in small streams and backwaters throughout the countries listed above. *P. filamentosa* reaches a greater size than the *Copella* species.

Common names: Matoeli (Suriname), Milé-montagn (French Guiana), Milipipi (French Guiana), Mulet montagne (French Guiana), Pirá-tan-tan (Brazil), Ti-yaya (French Guiana)

***Pyrrhulina laeta* (Cope, 1872)**

Holotaxis laetus Cope, 1872: 257. Type locality: Small streams tributary to the Ambyiacu R. and the river near Pebas, eastern Ecuador [now Peru]. Holotype: ANSP 8029.

Maximum length: 7.6 cm SL

Distribution: South America: Presumed to be central and upper Amazon River basin.

Countries: Brazil (?), Peru, Trinidad and Tobago (introduced)

Remarks and references: Illustrated by Fowler (1906) already without its head, the unique holotype has no head, fins, or scales, thus certain identity is difficult. However, it is confused with other species in the literature and its identity needs to be clarified.

Common names: Urquisho (Peru)

***Pyrrhulina lugubris* Eigenmann, 1922**

Pyrrhulina lugubris Eigenmann, 1922: 231, pl. 21 (fig. 1). Type locality: Barrigón, Colombia. Holotype: CAS 78888.

Maximum length: 5 cm SL

Distribution: South America: Meta River basin and Venezuelan llanos.

Countries: Colombia, Venezuela

Remarks and references: A deep bodied species probably related to *P. brevis*.

Common names: Voladorita (Venezuela)

***Pyrrhulina macrolepis* Ahl & Schindler, 1937**

Pyrrhulina macrolepis Ahl & Schindler, 1937: 140. Type locality: San Jose, Río Pilcomayo, Formosa, Argentina. Holotype: ZMB (not found).

Maximum length: 3.52 cm SL

Distribution: South America: Pilcomayo River and perhaps into the Paraguay River basin.

Countries: Argentina

Remarks and references: Identity uncertain unless the type can be found. From the description it appears to be a small species with a low horizontal scale count, it may be a synonym of *P. australis*.

***Pyrrhulina maxima* Eigenmann & Eigenmann, 1889**

Pyrrhulina maxima Eigenmann & Eigenmann, 1889: 111, pl. 1 (fig. 4). Type locality: Tabatinga, upper Amazon. Holotype: MCZ 6343.

Maximum length: 8 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Brazil

Remarks and references: In the original description: "Type No. 6343, one specimen .08 m. to base of caudal". That lot number now has 11 specimens plus 3 under a USNM number. None of these come close to the measurement given in the description.

***Pyrrhulina obermuelleri* Myers, 1926**

Pyrrhulina obermuelleri Myers, 1926: 150. Type locality: Iquitos, Peru. Syntypes: CAS 60498.

Maximum length: 6 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Colombia, Ecuador, Peru

Remarks and references: *P. obermuelleri* is a handsome relative of *P. brevis* with much red on the fins and body and a dark horizontal band across the body. Treated as a synonym of *Pyrrhulina brevis lugubris* (Géry, 1977: 138; Lüling, 1979: 296).

Common names: Urquisho (Peru)

***Pyrrhulina rachoviana* Myers, 1926**

Pyrrhulina rachoviana Myers, 1926: 441. Type locality: Aquarium specimens from "Rosario, Argentina." Syntypes: USNM 92970 (2).

Maximum length: 3.9 cm SL

Distribution: South America: Northern Argentina if locality is correct.

Countries: Argentina, Brazil

Remarks and references: In the aquarium literature there is a fish being given the name *rachoviana*. It seems to have been imported from the lower Amazon region of Brazil rather than from Argentina.

***Pyrrhulina semifasciata* Steindachner, 1876**

Pyrrhulina semifasciata Steindachner, 1876a: 7, pl. 1 (fig. 1-2a).

Type locality: mouth Rio Negro (Johan Natterer); Cudajas, Gurupa, Tabatinga (Thayer expedition). Syntypes: NMW 56975, MCZ 6317, NMW 56978, MCZ 6345, MCZ 6367, MCZ 6858, ZMUC 42, NMW 56976-77, NMW 56980, NMW 56986.

Maximum length: 7 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Colombia, Ecuador, Guyana, Peru, Venezuela

Remarks and references: There is confusion in the literature regarding the identity of this species; Steindachner (1876) noted that it might be *P. laeta* (Cope, 1872). However *P. semifasciata* has a distinctive narrow black stripe extending across the head and onto the body almost to the dorsal fin, whereas on what remains of the type of *P. laeta* the black stripe ends just behind the head.

Common names: Urquisho (Peru)

***Pyrrhulina spilota* Weitzman, 1960**

Pyrrhulina spilota Weitzman, 1960: 109, fig. 1. Type locality: aquarium specimens said to be from Iquitos, Peru. Holotype: SU 52352.

Maximum length: 7 cm SL

Distribution: South America: Upper Amazon River basin in Peru.

Countries: Peru

Remarks and references: *P. spilota* has been collected recently in the Iquitos region. It is another easily recognized by the four dark blotches on the body, its long fins with black borders, and black markings on the anal fin as well as the dorsal fin.

Common names: Urquisho (Peru)

***Pyrrhulina stoli* Boeseman, 1953**

Pyrrhulina stoli Boeseman, 1953: 14, fig. 1d. Type locality: Marowini basin, Surinam. Holotype: RMNH 20469.

Maximum length: 6 cm SL

Distribution: South America: Suriname (?).

Countries: Suriname

Remarks and references: This species may be related to *P. semifasciata* but it does not have the extended black stripe of that species. It occurs with *P. filamentosa* and *Copella* species in small streams and backwaters in the Guianas.

***Pyrrhulina vittata* Regan, 1912**

Pyrrhulina vittata Regan, 1912: 391. Type locality: Aquarium collection, Obidos. Holotype: BMNH 1912.8.31.2.

Maximum length: 3.5 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Bolivia, Brazil, Peru

Remarks and references: *P. vittata* is a very small species. The

type is an aquarium specimen said to be from Óbidos on the lower Amazon River and not far away C. Ternetz collected a specimen near Santarém in 1925. However more recent collections have been limited to far western localities in Bolivia, Brazil and Peru. Like *P. spilota* it has black spots across the body. However there only three and these are larger and almost black.

Common names: Urquisho (Peru)

Pyrrhulina zigzag Zarske & Géry, 1997

Pyrrhulina zigzag Zarske & Géry, 1997: 12, fig. 1. Type locality: Creek on road from Campo-Verde to Nueva Requena, ca. 74°35'W, 8°30'S, near Pucallpa, Loreto Dept., Peru. Holotype: MTD F 17 705.

Maximum length: 3.5 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Brazil, Peru

Remarks and references: This has been a popular aquarium fish for over 50 years but was just given a name in 1997. *P. zigzag* is a relatively small species with a broad, almost black zigzag band across the body. Small specimens can be confused with *Copella nigrofasciata* but in *C. nigrofasciata* the black band is straight and there is a row of red spots along its dorsal border.

References

- Ahl, E. 1934. Beschreibung einer neuen südamerikanischen Characiniden-Art der Gattung *Poecilobrycon*. Zool. Anz., 106 (5/6): 124-125.
- Ahl, E. and O. Schindler. 1937. *Pyrrhulina macrolepis* nov. spec. (Pisc., Microcyprini). Anz. Akad. Wiss. Wien, 74 (16): 140.
- Ardila Rodríguez, C.A. 1994. *Lebiasina floridablancaensis*, una nueva especie de pez para Colombia (Teleostei: Characiformes: Lebiasinidae). Revista Unimetro, 10 (19): [1-8].
- Ardila Rodríguez, C.A. 1999. *Lebiasina provenzanoi*, una nueva especie de pez para Venezuela (Teleostei: Characiformes: Lebiasinidae). Revista Unimetro, Universidad Metropolitana, Barranquilla, Colombia, 13 (5-6): [1-10].
- Ardila Rodríguez, C.A. 2000. *Lebiasina yuruaensis* una nueva especie de pez para Venezuela (Teleostei: Characiformes: Lebiasinidae). Revista Unimetro, Separata Especial No. 2, Universidad Metropolitana, Facultad de Medicina, Barranquilla, Colombia. 13 (25&26): [1- 16], 2 color prints, 3 figs., table.
- Ardila Rodríguez, C.A. 2001. *Lebiasina chucuriensis* una nueva especie de pez para Colombia (Teleostei: Characiformes: Lebiasinidae). Revista Unimetro, Separata Especial No. 3, Universidad Metropolitana, Facultad de Medicina, Barranquilla, Colombia. 13: (27&28): [1-18], 2 color prints, 7 figs., table.
- Bizerril, C.R.S.F. and N.R.W. Lima. 2001. Espécies de peixes introduzidas nos ecossistemas aquáticos continentais do Estado do Rio de Janeiro, Brasil. Comun. Mus. Tecnol. PUCRS, Sér. Zool. Porto Alegre, 5 (14): 43-59.
- Boeseman, M. 1953. Scientific results of the Surinam Expedition 1948-1949. Part II. Zoology No. 2. The Fishes (I). Zool. Meded. (Leiden), 32 (1): 1-24.
- Bork, D. 1998. Erste Erfahrungen aus der Pflege und Zucht von Anduzes Zwergziersalmmler. Das Aquarium, 343: 18-20.
- Bork, D. and H. Mayland. 1998. Seltene Schönheiten im Süßwasser-aquarium. Birgit Schmettkamp Verlag, Bornheim. 127 p.
- Boulenger, G.A. 1887. An account of the fishes collected by Mr. C. Buckley in eastern Ecuador. Proc. Zool. Soc. London, 1887 (2): 274-283, pls. 20-24.
- Boulenger, G.A. 1899. Viaggio del Dott. Enrico Festa nel Darien e regioni vicine. Poissons de l'Amérique Centrale. Teleostei. Boll. Mus. Zool. Anat. Comp. Torino, 14 (346): 1-4.
- Boulenger, G.A. 1911. Descriptions of three new characinid fishes from south-western Colombia. Ann. Mag. Nat. Hist. (Ser. 8), 7 (38): 212-213.
- Bussing, W.A. 1967. New species and new records of Costa Rican freshwater fishes with a tentative list of species. Rev. Biol. Trop., 14 (2): 205-249.
- Caplan, M.B. and D.W. Dunham. 1978. Courting failure in a pencilfish *Nannostomus b. beckfordi*. Zeitschrift für Tierpsychologie, 46: 184-199.
- Cope, E.D. 1870. Contribution to the ichthyology of the Marañon. Proc. Am. Philos. Soc., 11: 559-570.
- Cope, E.D. 1872. On the fishes of the Ambyiacu River. Proc. Acad. Nat. Sci. Philadelphia, 23:250-294, pls. 3-16.
- Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. Proc. Am. Philos. Soc. 17 (101): 673-701.
- Cuvier, G. and A. Valenciennes. 1847. Histoire naturelle des poissons. Tome dix-neuvième. Suite du livre dix-neuvième. Brochets ou Lucioïdes. Livre vingtième. De quelques familles de Malacoptérygiens, intermédiaires entre les Brochets et les Clupes. Ch. Pitois, & V.° Levrault, Paris & Strasbourg. xix + 544 + 6 p., pls. 554-590.
- Cuvier, G. and A. Valenciennes. 1850. [1849]. Histoire naturelle des poissons. Tome vingt-deuxième. Suite du livre vingt-deuxième. Suite de la famille des Salmonoïdes. Table generale de l'Histoire Naturelle des Poissons. Ch. Pitois, & V.° Levrault, Paris & Strasbourg. xx + 1 + 532 + 91 p., pls. 634-650.
- Dahl, G. 1971. Los peces del norte de Colombia. Instituto de Desarrollo de los Recursos Naturales Renovables (INDERENA), Bogota. xvii + 391 p.
- Eigenmann, C.H. 1910. Catalogue and Bibliography of the Fresh Water Fishes of the Americas South to the Tropic of Cancer. Vol. 3 (pt 4), pp. 375-511. In: Reports of the Princeton University Expedition to Patagonia 1896-1899.
- Eigenmann, C.H. 1909. Reports on the expedition to British Guiana of the Indiana University and the Carnegie Museum, 1908. Report no. 1. Some new genera and species of fishes from British Guiana. Ann. Carnegie Mus., 6 (1): 4-54.
- Eigenmann, C.H. 1914. On new species of fishes from the Rio Meta Basin of eastern Colombia and on albino or blind fishes from near Bogotá. Indiana Univ. Studies, no. 23: 229-230.
- Eigenmann, C.H. 1922. The fishes of western South America, Part I. The fresh-water fishes of northwestern South America, including Colombia, Panama, and the Pacific slopes of Ecuador and Peru, together with an appendix upon the fishes of the Rio Meta in Colombia. Mem. Carnegie Mus., 9 (1): 1-346, pls. 1-38.
- Eigenmann, C.H. and R.S. Eigenmann. 1889. A review of the Erythrininae. Proc. California Acad. Sci. (Ser. 2), 2: 100-116, pl. 1.
- Eigenmann, C.H. and C.H. Kennedy. 1903. On a collection of fishes from Paraguay, with a synopsis of the American genera of cichlids. Proc. Acad. Nat. Sci. Philadelphia, 55: 497-537.
- Ewald, W. 1988. Der Zwergziersalmmler, ein Problemfisch?. DATZ, Die Aquarien- und Terrarienzeitschrift, 41 (8): 272-273.
- Fernandez, J.M. and S.H. Weitzman. 1987. A new species of *Nannostomus* (Teleostei: Lebiasinidae) from near Puerto Ayacucho, Río Orinoco drainage, Venezuela. Proc. Biol. Soc. Washington, 100 (1): 164-172.
- Fernández-Yépez, A. 1967. Primera contribucion al conocimiento de los peces, con descripcion de dos especies y una subespecie nuevas. Resultados zoológicos de la expedición de la Universidad Central de Venezuela.. Abril de 1956. Acta Biol. Venez., 5 (10): 159-177.
- Fowler, H.W. 1906. On further knowledge of some heterognathous fishes. Part I. Proc. Acad. Nat. Sci. Philadelphia, 58: 293-351.
- Fowler, H.W. 1911. New fresh-water fishes from western Ecuador. Proc. Acad. Nat. Sci. Philadelphia, 63: 493-520.
- Fowler, H.W. 1913. Fishes from the Madeira River, Brazil. Proc. Acad. Nat. Sci. Philadelphia, 65: 517-579.
- Fowler, H.W. 1940. A collection of fishes obtained by Mr. William C. Morrow in the Ucayali River Basin, Peru. Proc. Acad. Nat. Sci. Philadelphia, 91 [for 1939]: 219-289.
- Frank, S. 1975. Zucht und Nachzucht des Zwergziersalmmlers

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- (*Nannostomus marginatus*). DATZ, Die Aquarien- und Terrarienzeitschrift, 28: 120-122.
- Franke, H.-J. 1972. Vergleichende Beobachtungen des Kampf-, Balz- und Paarungsverhaltens der Nannostominae (Lebiasinidae, Characoidea) in besonderem Hinblick auf ihre bisherige systematische Zuordnung. Unpublished dissertation submitted to: Der Mathematisch-Naturwissenschaftlich-Technischen Fakultät des Wissenschaftlichen Rates der Friedrich-Schiller-Universität, Jena. 138 p.
- Galvis, G., J.I. Mojica and F. Rodriguez. 1989. Estudio Ecológico de una Laguna de Desborde del Río Metica Orinoquia Colombiana. Fondo fen Colombia, Univ. Nac. de Colombia. 164 p.
- Géry, J. 1963. *Copella vilmae* n. sp. (Pisces, Characoidei). Senckenb. Biol., 44 (1): 25-31.
- Géry, J. 1977a. Characoids of the world. T.F.H. Publications, Inc., Neptune City, N.J. 672 p.
- Géry, J. 1977b. Scientific results of the Brazilian-Peru Expedition, Dr. K. H. Lüling, 1974. Notes on certain characoid fishes (Order Cypriniformes) from eastern and southeastern Brazil. Bonn. Zool. Beitr., Heft. 1/2(28): 122-134.
- Gery, J. and A. Zarske. 2002. *Derhamia hoffmannorum* gen. et. sp. n.- a new pencil fish (Teleostei, Characiformes, Lebiasinidae), endemic from the Mazuruni River in Guyana. Zool. Abh., 52 :35-47.
- Gill, T.N. 1877. Notes on fishes from the Isthmus of Panama, collected by Dr. J. F. Bransford, U. S. N. Proc. Acad. Nat. Sci. Philadelphia, 28: 335-339.
- Graham, J.B., D.L. Kramer and E. Pineda. 1978. Comparative respiration of an air-breathing and a non-air characoid fish and the evolution of aerial respiration in characins. Physiol. Zool., 5 (3): 279-288.
- Günther, A. 1864. Catalogue of the fishes in the British Museum, vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiatidae in the collection of the British Museum. Trustees, London. xxii + 455 p.
- Günther, A. 1872. On a new genus of characinoid fishes from Demerara. Proc. Zool. Soc. London, 1872 (1): 146.
- Hoedeman, J.J. 1954. Notes on the ichthyology of Surinam (Dutch Guiana). 3. A new species and two new subspecies of Nannostomidi from the Surinam River. Beaufortia, 4 (39): 81-89.
- Kuenzer, P. 1982. Äquivalenzkämpfe verhaltensbedingte Umfärbungen und soziale Organisation beim Langbandsalmer *Nannostomus beckfordi* (Teleostei, Lebiasinidae). Zeitschrift für Tierpsychologie, 58: 89-118.
- Lüling, K.H. 1979. Im Biotop von *Carnegiella strigata* and *Hemigrammus ocellifer*. Das Aquarium, 121: 294-297.
- Meinken, H. 1931. *Nannostomus anomalus* Steindachner, *marginatus* Eigenmann und *aripirangensis* n. spec. Wochenschrift Aquar.-Terr., no. 34: 1-3.
- Meinken, H. 1936. Über einige in letzter Zeit eingeführte Fische. 12. *Lebiasina intermedia* n. spec. Blätt. Aquar. Terrarienkunde, 47 (3): 49-51.
- Meinken, H. 1952. Mitteilungen der Fischbestimmungsstelle im WB. des VDA. X. *Pyrrhulina nigrofasciata* spec. nov. Aquar. Terrar. Z., 5 (5): 115-117.
- Meinken, H. 1956. *Poecilobrycon espeii* spec. nov., eine hübsche Neueinführung. Aquar. Terrar. Z., 9 (2): 31-32.
- Müller, H. 1995. Ein farbenfroher Fischwerg aus Amazonien: Der kleine Ziersalmler. DATZ, Die Aquarien- und Terrarienzeitschrift, 48 (9): 559-560.
- Myers, G.S. 1926a. Descriptions of a new characin fish and a new pygidiid catfish from the Amazon Basin. Copeia, 156: 150-152.
- Myers, G.S. 1926b. Eine neue südamerikanische Characinidenart der Gattung *Pyrrhulina*. Blätt. Aquar. Terrarienkunde, 36: 441-442.
- Myers, G.S. 1927. Descriptions of new South American freshwater fishes collected by Dr. Carl Ternetz. Bull. Mus. Comp. Zool., 68 (3): 107-135.
- Myers, G.S. 1956. *Copella*, a new genus of pyrrhulinid characid fishes from the Amazon. Stanford Ichthyol. Bull., 7 (2): 12-13.
- Ortega, H. and R.P. Vari. 1986. Annotated checklist of the freshwater fishes of Peru. Smithsonian. Contrib. Zool., no. 437: 1-25.
- Paepke, H.-J. 1995. Über das Leben und Werk von Ernst Ahl. Mitt. Zool. Mus. Berlin, 71 (1): 79-101.
- Paepke, H.-J. and K. Arendt. 2001. *Nannostomus marginatus mortenthaleri* new subspec. from Peru (Teleostei: Lebiasinidae). Verhandl. Gesellschaft für Ichthyologie, 2: 143-154.
- Pascal, T.B.M., J.F. Meunier and P.Y. Gallé. 1997. Poissons de Guyane, guide écologique de l'Approuague et de la réserve des Nouragues. Inst. Nat. Rech. Agron., Paris. 219 p.
- Pearson, N.E. 1924. The fishes of the eastern slope of the Andes. I. The fishes of the Rio Beni basin, Bolivia, collected by the Mulford Expedition. Indiana Univ. Studies 11 (64): 1-83.
- Regan, C.T. 1903. Descriptions of new South-American fishes in the collection of the British Museum. Ann. Mag. Nat. Hist. (Ser. 7), 12 (72): 621-630.
- Regan, C.T. 1912. A revision of the South American characid fishes of the genera *Chalceus*, *Pyrrhulina*, *Copeina*, and *Pogonocharax*. Ann. Mag. Nat. Hist. (Ser. 8), 10 (58): 387-395.
- Robins, C.R., R.M. Bailey, C.E. Bond, J.R. Brooker, E.A. Lachner, R.N. Lea and W.B. Scott. 1991. World fishes important to North Americans. Exclusive of species from the continental waters of the United States and Canada. Spec. Publ. (21), American Fisheries Society. 243 p.
- Stanch, K. 1914. Die exotischen Zierfische in Wort und Bild. Gustav Wenzel & Sohn, Braunschweig. 319 p.
- Steindachner, F. 1876a. Beiträge zur Kenntniss der Characinen des Amazonenstromes. Sitzungsber. Akad. Wiss. Wien, 72: 6-24, pls. 1-2.
- Steindachner, F. 1876b. Ichthyologische Beiträge (V). Sitzungsber. Akad. Wiss. Wien, 74: 49-240, pls. 1-15.
- Stewart, D., R. Barriga and M. Ibarra. 1987. Ictiofauna de la Cuenca del Río Napo, Ecuador Oriental: Lista Anotada de Especies. Politecnica, Biol., 12 (4): 9-64.
- Taphorn, D.C. 1992. The characiform fishes of the Apure River drainage, Venezuela. BioLlania Edición Especial - No. 4. Monografías Científicas del Museo de Ciencias Naturales, UNELLEZ -- Guanara, estado Portuguesa, Venezuela. 537 p.
- Taphorn, D.C. and C.G. Lilyestrom. 1980. *Piabucina pleurotaenia* Regan, a synonym of *P. erythrinoides* Valenciennes (Pisces: Lebiasinidae); its distribution, diet and habitat in Lake Maracaibo basin, Venezuela. Copeia, 1980 (2): 335-340.
- Vari, R.P. 1995. The Neotropical fish family Ctenoluciidae (Teleostei: Ostariophysi: Characiformes): supra and intrafamilial phylogenetic relationships, with a revisionary study. Smithsonian. Contrib. Zool., no. 564: 1-97.
- Vari, R.P. and J.C. Howe. 1991. Catalog of type specimens of Recent fishes in the National Museum of Natural History, Smithsonian Institution. 1. Characiformes (Teleostei, Ostariophysi). Smithsonian. Contrib. Zool., no. 517: 1-52.
- Weitzman, S.H. 1960. *Pyrrhulina spilota*, a new species of characid fish from South America. Stanford Ichthyol. Bull., 7 (4): 109-113.
- Weitzman, S.H. 1964. Osteology and relationships of South American characoid fishes of the subfamilies Lebiasininae and Erythrininae with special reference to the subtribe Nannostomina. Proc. U.S. Nat. Mus., 116 (3499): 127-169.
- Weitzman, S.H. 1966. Review of South American characid fishes of subtribe Nannostomina. Proc. U. S. Natl. Mus., 119 (3538): 1-56.
- Weitzman, S.H. 1978. Three new species of fishes of the genus *Nannostomus* from the Brazilian states of Pará and Amazonas (Teleostei: Lebiasinidae). Smithsonian. Contrib. Zool., no. 263: 1-14.
- Weitzman, S.H. and J.S. Cobb. 1975. A revision of the South American fishes of the genus *Nannostomus* Günther (family Lebiasinidae). Smithsonian. Contrib. Zool., no. 186: i-iii + 1-36.

Check List of the Freshwater Fishes of South and Central America

- Weitzman, S.H. and J.M. Fernandez. 1989. A tiny species of *Nannostomus* new to aquarists from Venezuela and Brazil. *Tropical Fish Hobbyist*, 37 (8): 74-78.
- Weitzman, S.H., J. Melgar and M.J. Weitzman. 2001. The geographical color forms of the dwarf pencilfish *Nannostomus marginatus* and a related coral red form. *Tropical Fish Hobbyist*, 49 (9): 74-85.
- Weitzman, S.H. and M.J. Weitzman. 1982. Biogeography and evolutionary diversification in Neotropical freshwater fishes with comments on the refuge theory. Pp. 403-422. *In*: G.T. Prance (editor), *Biological diversification in the tropics*. Columbia University Press. xvi + 714 p.
- Weitzman, S.H. and M.J. Weitzman. 2002. Breeding coral red pencilfish. *Nannostomus* sp., and other pencilfishes. *Tropical Fish Hobbyist*, 50 (6): 76-95.
- Wilkens, H. 1977. Die Typen der Ichthyologischen Sammlung des Zoologischen Instituts und Zoologischen Museums der Universität Hamburg (ZMH). *Mitt. Hamb. Zool. Mus. Inst.*, 74: 155-163.
- Zarske, A. 1993. *Nannostomus nitidus* -- der Schmuckziersalmmler. *DATZ, Die Aquarien- und Terrarienzeitschrift*, 46 (11): 684-698.
- Zarske, A. and J. Géry. 1997. Ein neuer Salmmler aus Peru, *Pyrrhulina zigzag* sp. n. (Pisces: Teleostei: Lebiasinidae). *Das Aquarium*, 31 (336): 12-17.
- Zarske, A. and J. Géry. 2001. *Pyrrhulina elongata* sp. no. – ein neuer Salmmler aus dem Einzugsgebiet des Rio Tapajós in Brasilien (Teleostei: Characiformes: Lebiasinidae). *Zoologische Abhandlungen, Staatliches Museum für Tierkunde Dresden*, 51 (2): 15-21.

Family Ctenoluciidae (Pike-characids)

Richard P. Vari

The attenuate body, elongate jaws bearing numerous relatively small teeth with posteriorly recurved teeth arranged in a single row in each jaw, and the posteriorly positioned dorsal and anal fins are features which in combination serve to unequivocally separate the Ctenoluciidae from other members of the Characiformes. The Ctenoluciidae is also distinguished within the Characiformes by a series of derived features discussed by Vari (1995). Members of the family range from moderate sized species (e.g., *Ctenolucius hujeta*; largest examined specimen 22.8 cm SL) to among the largest of New World characiforms (*Boulengerella cuvieri*; largest examined specimen 67.5 cm SL). The taxonomy, morphology, phylogenetics, and biogeography of the family were discussed by Vari (1995).

Ctenoluciids are distributed though the lowlands and lower elevation uplands to both sides of the Andean Cordilleras. *Ctenolucius* ranges from the Pacific Ocean slope rivers of western Panama, though the river systems of northwestern and northern Colombia, to the eastern tributaries of the Lago Maracaibo basin in northwestern Venezuela. *Boulengerella* is widely distributed in the Orinoco, Amazon, and Tocantins River basins and the shorter coastal rivers of Guyana, French Guiana (Guyane), and the Brazilian states of Amapá and Pará.

According to Breder (1925: 144), Miles (1941: 65) and Dahl (1971: 106) *Ctenolucius* species are predators in calm waters with immature specimens gathering together in schools and adults being solitary hunters. *Boulengerella* species are all predators, apparently feeding exclusively on fishes as adults (Goulding et al., 1988: 135, 139, 140, 144, 173). Breeding behavior of *B. cuvieri* was discussed by Santos et al. (1984: 24) and Vazzoler and Menezes (1992: 632) discussed sexual maturation and breeding season of that species.

The recent study of the family by Vari (1995) revealed only one species new to science and it is not expected that many more species await discovery.

Members of the Ctenoluciidae are important as high-level predators (Smith, 1981: 22) and are exploited in both subsistence and commercial food fishes (Santos et al., 1984) and for export in the aquarium fish trade (Castro, 1986: 3).

BOULENGERELLA

Xiphostoma Agassiz, in Spix & Agassiz, 1829: 60. Type species: *Xiphostoma cuvieri* Agassiz, 1829. Type by monotypy. Gender: neuter. Preoccupied by *Xiphostoma* Kirby & Spence, 1818, in Hemiptera, replaced by *Spixostoma* Whitley, 1951.

Boulengerella Eigenmann, 1903: 147. Type species: *Xiphostoma lateristriga* Boulenger, 1895. Type by original designation. Gender: feminine.

Spixostoma Whitley, 1951: 407. Type species: *Xiphostoma cuvieri* Agassiz, 1829. Type by being a replacement name. Gender: neuter. Replacement for *Xiphostoma* Agassiz, 1829.

***Boulengerella cuvieri* (Agassiz, 1829)**

Xiphostoma cuvieri Agassiz, in Spix & Agassiz, 1829: 79, pl. 42. Type locality: Brasiliae fluviis. Holotype: MHNN 823.

Xiphostoma ocellatum Jardine & Schomburgk, in Schomburgk, 1841: 245, pl. 23. Type locality: Essequibo R., Guyana. Lectotype: MNHN A.9853, designated by Vari (1995: 79).

Xiphostoma oseryi Castelnau, 1855: 76, pl. 40 (fig. 1). Type locality: Tocantins [=Brazil, Tocantins River]. Holotype: MNHN 4233 (head and skin).

Xiphostoma longipinne Steindachner, 1876: 132. Type locality: Mündung des Rio Negro [=mouth of Negro River]. Holotype: NMW (not found).

Maximum length: 67.5 cm SL

Distribution: South America: Amazon, Tocantins, Orinoco, Essequibo, Oyapock River basins and rivers of Amapá and Pará States.

Countries: Brazil, Colombia, French Guiana, Peru, Venezuela

Remarks and references: Redescribed with synonymy in Vari (1995: 74).

Common names: Piakoko (French Guiana), Piapoukou (French Guiana), Pirapoucou (Brazil)

***Boulengerella lateristriga* (Boulenger, 1895)**

Xiphostoma lateristriga Boulenger, 1895: 449. Type locality: Manaos [=Brazil, Manaus]. Holotype: BMNH 1893.4.24.28.

Maximum length: 25.8 cm SL

Distribution: South America: Negro River basin and southern portions of the upper Orinoco River basin.

Countries: Brazil, Venezuela

Remarks and references: Redescribed with synonymy in Vari (1995: 59).

Common names: Agujeta (Venezuela)

***Boulengerella lucius* (Cuvier, 1816)**

Hydrocynus lucius Cuvier, 1816: 168. Type locality: Brazil. Holotype: MNHN A.8601 (dry).

Hydrocynus lucius with genus originally spelled as *Hydrocyon*.

Maximum length: 42 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Brazil, Venezuela

Remarks and references: Redescribed with synonymy in Vari (1995: 69).

***Boulengerella maculata* (Valenciennes, 1850)**

Xiphostoma maculatum Valenciennes, in Cuvier & Valenciennes,

1850: 357. Type locality: Amazon. Holotype: MNHN 4232.
Xiphostoma taedo Cope, 1872: 267, pl. 13 (fig. 2). Type locality: Ambyiacu [=Ambyiacu River, Peru]. Lectotype: ANSP 7958, designated by Fowler (1907: 463).
 Maximum length: 31.9 cm SL
 Distribution: South America: Amazon, Tocantins, and Orinoco River basins.
 Countries: Brazil, Colombia, Ecuador, Peru, Venezuela
 Remarks and references: Redescribed with synonymy in Vari (1995: 63).
 Common names: Agujeta (Venezuela), Bicuda (Brazil), Gazzachallua (Peru), Picudo (Ecuador, Peru), Uena (Brazil)

***Boulengerella xyrekes* Vari, 1995**

Boulengerella xyrekes Vari, 1995: 82, figs. 46-49. Type locality: Cachoeira de Bicho-Açu, ca. 0°20'S, 65°20'W, Rio Marauíá, Rio Negro basin, Amazonas, Brazil. Holotype: MZUSP 32163.
 Maximum length: 38.2 cm SL
 Distribution: South America: Amazon and Orinoco River basins.
 Countries: Brazil, Venezuela

CTENOLUCIUS

Ctenolucius Gill, 1861: 8. Type species: *Xiphostoma hujeta* Valenciennes, 1850. Type by subsequent monotypy. Gender: masculine.
Luciocharax Steindachner, 1878: 91. Type species: *Luciocharax insculptus* Steindachner, 1878. Type by monotypy. Gender: masculine.
Belonocharax Fowler, 1907: 464. Type species: *Belonocharax beani* Fowler, 1907. Type by original designation. Gender: masculine.

***Ctenolucius beani* (Fowler, 1907)**

Belonocharax beani Fowler, 1907: 464, fig. 51. Type locality: Truando, Río Atrato basin, Isthmus of Darien, Colombia. Holotype: ANSP 16642.
Luciocharax striatus Boulenger, 1911: 212. Type locality: Boca de Calima, Chocó, southwestern Colombia, elev. 150-200 ft. Holotype: BMNH 1910.7.11.210.
 Maximum length: 28.6 cm SL
 Distribution: Central and South America: Atrato and San Juan River basins of northwestern Colombia and Pacific versant rivers of Panama as far west as the Santa Maria River basin in Veraguas Province.
 Countries: Colombia, Panama
 Remarks and references: Redescribed with synonymy in Vari (1995: 52).

***Ctenolucius hujeta* (Valenciennes, 1850)**

Xiphostoma hujeta Valenciennes, in Cuvier & Valenciennes, 1850: 358. Type locality: Rivières de Maracaibo basin, Venezuela. Lectotype: MNHN 4231, designated by Vari (1995: 52).
Luciocharax insculptus Steindachner, 1878: 91. Type locality: Río Magdalena. Lectotype: NMW 68252, designated by Vari (1995: 52).
 Maximum length: 22.8 cm SL
 Distribution: South America: Magdalena and Sinú River basins and rivers draining into Lake Maracaibo.
 Countries: Colombia, Venezuela
 Remarks and references: Redescribed with synonymy in Vari (1995: 43).
 Common names: Aguja (Colombia), Agujeta (Colombia, Venezuela), Agujeto (Colombia)

References

Boulenger, G.A. 1895. Descriptions of two new South-American characinoid fishes. *Ann. Mag. Nat. Hist. (Ser. 6)*, 15 (89): 449.
 Boulenger, G.A. 1911. Descriptions of three new characinid fishes

from south-western Colombia. *Ann. Mag. Nat. Hist. (Ser. 8)*, 7 (38): 212-213.
 Breder, C.M. 1925. Notes on fishes from three Panama localities. *Zoologica*, 4 (4): 137-158.
 Castelnau, F.L. 1855. Poissons. xii + 112 p., 50 pls. In: Animaux nouveaux or rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847. Chez P. Bertrand, Paris.
 Castro, D.M. 1986. Los principales peces ornamentales de Puerto Inirida. *Bol. Facul. Biol. Mar. Univer. Bogotá*, 6: 7-14.
 Cope, E.D. 1872. On the fishes of the Ambyiacu River. *Proc. Acad. Nat. Sci. Philadelphia*, 23: 250-294, pls.
 Cuvier, G. 1816. Le règne animal distribué d'après son organisation pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Les reptiles, les poissons, les mollusques et les annélides. xviii + 532 p.
 Cuvier, G. and A. Valenciennes. 1850. Histoire naturelle des poissons. Tome vingt-deuxième. Suite du livre vingt-deuxième. Suite de la famille des Salmonoides. Table générale de l'Histoire Naturelle des Poissons. Ch. Pitois, & V.^e Levrault, Paris & Strasbourg. xx + 1 + 532 + 91 p., pls. 634-650.
 Dahl, G. 1971. Los peces del norte de Colombia. Instituto de Desarrollo de los Recursos Naturales Renovables (INDERENA), Bogota. xvii + 391 p.
 Eigenmann, C.H. 1903. New genera of South American freshwater fishes, and new names for old genera. *Smithson. Misc. Collect. (Quarterly)*, 45: 144-148.
 Fowler, H.W. 1907. Further knowledge of some heterognathous fishes. Part II. *Proc. Acad. Nat. Sci. Philadelphia*, 58: 431-483.
 Gill, T.N. 1861. Catalogue of fishes of the eastern coast of North America from Greenland to Georgia. *Proc. Acad. Nat. Sci. Philadelphia*, 1861: 1-63.
 Goulding, M., M. Leal Carvalho and E.G. Ferreira. 1988. Rio Negro, rich life in poor water. Amazonian diversity and food-chain ecology as seen through fish communities. SPB Academic Publishing, The Hague. 200 p.
 Santos, G.M., M. Jégu and B. Merona. 1984. Catálogo de peixes comerciais do baixo rio Tocantins. Manaus, Brazil: Eletronorte. 85 p.
 Miles, C. 1941. Notes on some fishes from the Magdalena River. *Fish Cult.*, 20 (9): 65-66.
 Schomburgk, R.H. 1841. The Natural history of fishes of Guiana.-- Part I. In: W. Jardine, (ed.), *The Naturalists' Library*. Vol. 3. W. H. Lizars, Edinburgh. 263 p., pls. 1-30.
 Smith, N.J.H. 1981. Man, fishes, and the Amazon. New York, Colombia University Press, 180 p.
 Spix, J.B. von, and L. Agassiz. 1829-31. *Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXVII-MDCCCXX jussu et auspiciis Maximiliani Josephi I.... colleget et pingendso curavit Dr J. B. de Spix.... Monachii*. Part 1: i-xvi + i-ii + 1-82, Pls. 1-48; part 2: 83-138, pls. 49-101.
 Steindachner, F. 1876. Ichthyologische Beiträge (V). *Sitzungsber. Akad. Wiss. Wien*, 74: 49-240, pls. 1-15.
 Steindachner, F. 1878. Zur Fischfauna des Magdalenen-Stromes. *Anz. Akad. Wiss. Wien*, 15 (12): 88-91.
 Vari, R.P. 1995. The Neotropical fish family Ctenoluciidae (Teleostei: Ostariophysi: Characiformes): Supra and intrafamilial phylogenetic relationships, with a revisionary study. *Smithson. Contrib. Zool.*, no. 564: i-iv + 1-97.
 Vazzoler, A.E.A.M. and N.A. Menezes. 1992. Síntese de conhecimento sobre o comportamento reproductivo dos Characiformes da América do Sul (Teleostei: Characiformes). *Rev. Brasil. Biol.*, 52 (4): 627-540.
 Whitley, G.P. 1951. Studies in ichthyology. No. 15. *Rec. Austral. Mus.*, 22 (4): 389-408.

Genus and Species Incertae Sedis in Siluriformes

Carl J. Ferraris, Jr.

The family-level classification of Siluriformes presented here differs in several respects from that found in some current literature (e.g. Nelson, 1994; Eschmeyer, 1998) inasmuch as it reflects the family boundaries more widely accepted by Neotropical ichthyologists. Herein, species formerly placed in the family Ageneiosidae are now included within the Auchenipteridae; and species of the Helogenidae are now included within the Cetopsidae. The monotypic genus *Nematogenys* Girard, which had been included within the Trichomycteridae is recognized herein as the sole representative of the Nematogenyidae. The Pimelodidae includes species formerly placed in the Hypophthalmidae, but it is a much smaller family, because a large number of species formerly included in the Pimelodidae are now placed into the Heptapteridae and still others placed into the Pseudopimelodidae. A summary of the character support for these changes can be found in de Pinna (1998). One problematic species, *Conorhynchos conirostris* (Valenciennes), which was formerly included in the Pimelodidae, does not appear to belong there, or in any of the other Neotropical siluriform families (J.G. Lundberg, M.C.C. de Pinna, and F. Bockmann, pers. comm.). It is listed below as Incertae sedis at the level of the Siluriformes while its placement is under investigation.

CONORHYNCHOS

Conostome Duméril 1856: 484. Type species: *Pimelodus conirostris* Valenciennes, 1840. Type by original designation. Gender: feminine. Remarks: Possibly preoccupied by *Conostoma* Hodgson, 1842, in birds and not treated as valid in recent times. Considered a nomen oblitum.

Conorhynchus Bleeker 1858: 191, 205, 209. Type species: *Pimelodus conirostris* Valenciennes, in Cuvier & Valenciennes, 1840. Type by monotypy. Gender: neuter. New name for *Conostome* Dumeril, which is apparently preoccupied by *Conostoma* Hodgson, 1842, in birds. Name often misspelled *Conorhynchus* following the spelling in Bleeker (1863).

Conorhynchus Bleeker, 1863: 12. Type species: *Pimelodus conirostris* Valenciennes, in Cuvier & Valenciennes, 1840. Type by original designation. New spelling for *Conorhynchus*. Preoccupied by *Conorhynchus* Motschousky, 1860, in Coleoptera.

Conorhynchichthys Regan 1908: 192. Type species: *Pimelodus conirostris* Valenciennes, in Cuvier & Valenciennes, 1840. Type by being a replacement name. Gender: masculine. Replacement for *Conorhynchus* Bleeker, 1863 [= *Conorhynchus* Bleeker, 1858], preoccupied by *Conorhynchus* Motschousky, 1860.

Conorhynchos conirostris (Valenciennes, 1840)

Pimelodus conirostris Valenciennes, in Cuvier & Valenciennes, 1840: 204 [156 in Strasbourg deluxe ed.], pl. 436. Type locality: rivière de Saint-François [Brazil]. Holotype: MNHN A. 9413.

Conorhynchus glaber Steindachner 1877:637, pl. 8. Type locality: einem flusse bei Porto Seguro [Brazil]. Holotype: (?)NMW not found.

Maximum length: 53.5 cm SL

Distribution: South America: São Francisco River basin.

Countries: Brazil

Remarks and references: Formerly placed in the Pimelodidae, but not currently thought to belong in that family.

Common names: Pirá (Brazil), Pirá-tamanduá (Brazil)

References

- Bleeker, P. 1858. De visschen van den Indischen Archipel. Beschreven en toegelicht. Siluri. Acta Soc. Sci. Indo-Neerl. v. 4: i-xii + 1-370.
- Bleeker, P. 1862-63. Atlas ichthyologique des Indes Orientales Néerlandaises, publié sous les auspices du Gouvernement colonial néerlandais. Tome II. Siluroïdes, Chacoïdes et Hétérobranchoïdes. Amsterdam, 112 p., Pls. 49-101
- Cuvier, G. and A. Valenciennes. 1840. Histoire naturelle des poissons. Tome quinzisième. Suite du livre dix-septième. Siluroïdes. Ch. Pitois & V.^c Levrault, Paris & Strasbourg. xxxi + 540, Pls. 421-455.
- Duméril, A.M.C. 1856. Ichthyologie analytique ou classification des poissons, suivant la méthode naturelle, à l'aide de tableaux synoptiques. Mém. Acad. Sci., 27 (1) :1-507
- Eschmeyer, W.N. (ed.). 1998. Catalog of fishes. California Academy of Sciences, San Francisco. 3 volumes: 2905 pp.
- Nelson, J.S. 1994. Fishes of the world. Third edition. John Wiley and Sons, New York. 600 p.
- de Pinna, M.C.C. 1998. Phylogenetic relationships of Neotropical Siluriformes (Teleostei: Ostariophysi): Historical overview and synthesis of hypotheses. Pp. 279-330 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M. Lucena and C.A.S. Lucena (eds.). Phylogeny and classification of Neotropical fishes. Porto Alegre. Edipucrs.
- Regan, C.T. 1907. Pisces. Part 193 [1906-08]: 1-203, 25 pls. In: F.D. Godman and O. Salvin (eds). Biologia Central-Americana. London.
- Steindachner, F. 1877. Die Süßwasserfische des südöstlichen Brasilien (III). Sitzungsber. Akad. Wiss. Wien. 74 (1) :559-694, Pls. 1-13.

Family Diplomystidae (Velvet catfishes)

Carl J. Ferraris, Jr.

The catfish family Diplomystidae is a relatively poorly known group composed of six species of similar looking fishes. Species of this family are, however, quite famous among catfish systematists because of their position as the sister-group of all remaining catfishes. Diplomystids branched off quite early from the lineage that led to the incredible radiation of catfishes that we know today, as well as all known fossil catfishes. This early evolutionary divergence means that diplomystid catfishes lack many of the unique characteristics that are otherwise shared by catfishes and, instead, have primitive characters that were transformed in the remaining lineage. Arratia (1987) provides a thorough review of the characters of diplomystids in relation to other catfishes.

Superficially, diplomystids can be distinguished from other catfishes by the following combination of characters: body without bony plates; skin entirely covered with papillae; head with a single barbel (the maxillary barbel) at the corner of the mouth; upper jaw with teeth on both the premaxilla and maxilla; dorsal and pectoral fins with a stout spine at anterior margin; adipose dorsal fin base relatively long, its length greater than its height; and caudal fin with 18 principal fin rays.

Diplomystids are known only from the foothill-rivers of the eastern and western slopes of the Andes of Argentina and Chile, respectively. Three species are known from each side of the mountains (Arratia, 1987; Azpelicueta, 1994b), and the species on each side of the mountains appear to form monophyletic groups (Arratia, 1987). The classification presented here differs from that of the two most recent studies on the family by recognizing three species from the eastern Andes, following Azpelicueta (1994b), but placing them in their own genus, *Olivaichthys*, following the phylogenetic work of Arratia (1987).

Little is known of the biology of most species. Diplomystids were sold as food fishes in the Santiago, Chile, market at the beginning of the 20th century, but are now sufficiently rare that they are rarely captured at least one species is either endangered or extinct (Arratia, 1987). Because of their phylogenetic and their unusual morphology, diplomystids are important to systematic ichthyologists, but are of little interest to most other people.

DIPLOMYSTES

- Diplomyste* Duméril, 1856: 487. Type species: *Arius papillosus* Valenciennes, 1840. Type by monotypy. Gender: masculine. Predates *Diplomystes* Bleeker, 1858, but the latter in wide use.
- Diplomystes* Bleeker, 1858: 63. Type species: *Arius papillosus* Valenciennes, 1840. Type by monotypy. Gender: masculine.
- Diplomystax* Günther, 1864: 180. Type species: *Arius papillosus* Valenciennes, 1840. Type by original designation. Gender: masculine. Unneeded replacement for *Diplomyste* Duméril and *Diplomystes* Bleeker.

Diplomystes camposensis Arratia, 1987

- Diplomystes camposensis* Arratia, 1987: 44, fig. 19. Type locality: Lago Riñihue, Chile. Holotype: IZUA 3302. Maximum length: 25 cm TL. Distribution: South America: Valdivia region, southern Chile. Countries: Chile. Common names: Bagre (Chile), Tollo (Chile).

Diplomystes chilensis (Molina, 1782)

- Silurus chilensis* Molina, 1782: 225. Type locality: Chile. Type(s): whereabouts unknown.
- Arius papillosus* Valenciennes in Cuvier & Valenciennes, 1840: 118 [88 in the Strasbourg deluxe ed.], pl. 431. Type locality: Rivières de Valparaíso et de San Jago du Chili. Syntypes: MNHN B.584 (1), B.585 (4), MNHN uncat. (skeleton, missing).
- Arius cacharioides* Leybold, 1859: 1083, pls. 1-2. Type locality: Ad thermos Colina, dictas in flumine, Río Seco (Chile). Syntypes

(100): whereabouts unknown.

- ?*Arius micropterus* Philippi, 1866: 713. Type locality: (Chile). Type(s): whereabouts unknown.
- Arius squalus* Philippi, 1866: 713. Type locality: Peine, Santiago, Chile. Type(s): whereabouts unknown.
- ?*Arius synodon* Philippi, 1866: 714. Type locality: (Chile). Type(s): whereabouts unknown.
- ?*Arius villosus* Philippi, 1866: 712. Type locality: (Chile). Type(s): whereabouts unknown.
- Maximum length: 23 cm TL. Distribution: South America: Rivers near Valparaíso and Santiago, central Chile. Countries: Chile. Remarks and references: Redescribed in Arratia (1987); either extinct or endangered. Common names: Bagre (Chile), Tollo (Chile), Tollo de agua dulce (Chile).

Diplomystes nahuelbutaensis Arratia, 1987

- Diplomystes nahuelbutaensis* Arratia, 1987: 33, fig. 11. Type locality: Río Cautín, Lautaro, Chile. Holotype: CAS 55423. Maximum length: 26 cm TL. Distribution: South America: Bío-Bío River basin and Loncomilla River. Countries: Chile. Common names: Bagre (Chile), Tollo (Chile). Remarks and references: Biological notes in Ruiz & Berra (1994).

OLIVAICHTHYS

Olivaichthys Arratia, 1987: 66. Type species: *Diplomystes viedmensis* MacDonagh, 1931. Type by original designation. Gender: masculine. Key to species (as Argentine species of *Diplomystes*) in Azpelicueta (1994a), redescription of species in Azpelicueta (1994b).

***Olivaichthys cuyanus* (Ringuet, 1965)**

Diplomystes viedmensis cuyanus Ringuet, 1965: 91. Type locality: Arroyo Yaucha (Vilucó, Mendoza) [Argentina]. Holotype: MLP 286 [ex MLP 13-v-32-3].

Maximum length: 21.8 cm SL

Distribution: South America: Colorado River and tributaries; Desaguadero-Salado River basin, including the rivers San Juan, Mendoza, Tunuyán and temporary environments connected to those rivers.

Countries: Argentina

Remarks and references: First regarded as a valid species in Azpelicueta (1994a), redescribed in Azpelicueta (1994b).

***Olivaichthys mesembrinus* (Ringuet, 1982)**

Diplomystes viedmensis mesembrinus Ringuet, 1982: 349, figured on p. 350. Type locality: Desembocadura del Río Senguer en el lado Musters (45°60'S, 49°10'W) [Chubut, Argentina]. Holotype: ILPLA 8452.

Maximum length: 16.8 cm SL

Distribution: South America: Chubut and Senguer River basins.

Countries: Argentina

Remarks and references: First regarded as a valid species in Azpelicueta (1994a), redescribed in Azpelicueta (1994b).

***Olivaichthys viedmensis* (MacDonagh, 1931)**

Diplomystes viedmensis MacDonagh, 1931: 65. Type locality: río Negro, Argentina, frente a Viedma. Holotype: MLP 214 [ex MLP 19-III-31-3].

Maximum length: 32.4 cm SL

Distribution: South America: Negro River and tributaries in Argentina.

Countries: Argentina

Remarks and references: Redescribed in Azpelicueta (1994b).

Common names: Atún (Argentina), Bagre aterciopelado (Argentina), Gatuno (Argentina), Otuno (Argentina)

References

Arratia, G. 1987. Description of the primitive family Diplomysti-

dae (Siluriformes, Teleostei, Pisces): morphology, taxonomy and phylogenetic implications. *Bonner Zool. Monogr.*, No. 24: 1-120.

Azpelicueta, M.M. 1994a. Los diplomistidos en Argentina (Siluriformes, Diplomystidae). *Fauna de agua dulce Repub. Argentina*, 40 [Pisces] (no. 4): 5-27.

Azpelicueta, M.M. 1994b. Three east-Andean species of *Diplomystes* (Siluriformes: Diplomystidae). *Ichthyol. Explor. Freshwaters*, 5 (3): 223-240.

Bleeker, P. 1858. De visschen van den Indischen Archipel. *Beschreven en toegelicht*. *Siluri. Acta Soc. Sci. Indo-Neerl.*, 4: i-xii + 1-370.

Cuvier, G. and A. Valenciennes. 1840. *Histoire naturelle des poissons*. Tome quinzisième. Suite du livre dix-septième. Siluroïdes. Ch. Pitois, & V.° Levrault, Paris & Strasbourg. xxxi + 540 p., pls. 421-455.

Duméril, A.M.C. 1856. *Ichthyologie analytique ou classification des poissons, suivant la méthode naturelle, à l'aide de tableaux synoptiques*. *Mém. Acad. Sci., Paris*, 27 (1): 1-507.

Günther, A. 1864. *Catalogue of the fishes in the British Museum*. Vol. 5. *Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochromidae, Sternoptichidae, Scopelidae, Stomiidae in the collection of the British Museum*. Trustees, London. xxii + 455 p.

Leybold, F. 1859. Descripción de una nueva especie de pez, descubierta por don Federico Leybold en el Río Seco de los baños de Colina. *An. Univ. Chile*, 16 (12): 1083-1085.

MacDonagh, E.J. 1931. *Notas zoológicas de una excursión entre Patagones y San Blas*. *Notas Prel. Mus. La Plata Buenos Aires*, 1: 63-86.

Molina, G.I. 1782. *Saggio sulla storia naturale del Chile, del Signor Abate Giovanni Ignazio Molina*. Bologna. v + 306 p. + errata + map.

Philippi, R.A. 1866. *Bemerkungen über die chilenischen Flussfische*. *Monatsb. Akad. Wiss. Berlin*, 1866: 708-717.

Ringuet, R.A. 1965. Diferenciación geográfica de "otuno", *Diplomystes viedmensis* MacDonagh, 1931 (Pisces Siluriformes). *Physis (Buenos Aires)*, 25: 89-92.

Ringuet, R.A. 1982. Una nueva subespecie del bagre patagónico *Diplomystes viedmensis* Mac Donagh, 1931 en el Río Senguer (Chubut, Argentina). *Limnobiología*, 2 (5): 349-351.

Ruiz, V.H. and T.M. Berra. 1994. Fishes of the High Biobio River of south-central Chile with notes on diet and speculations on the origin of the ichthyofauna. *Ichthyol. Explor. Freshwaters*, 5 (1): 5-18.

Family Cetopsidae (Whale catfishes)

Richard P. Vari and Carl J. Ferraris, Jr.

The family Cetopsidae consists of small to moderate sized fishes which share an anal fin with a long base, a lack of spines in the pectoral and dorsal fins other than in a few species of the subfamily Cetopsinae, and the lack of a nasal barbel, a free orbital margin and bony plates on the body. The two subfamilies of the Cetopsidae, the Cetopsinae and Helogeninae have been traditionally recognized at the family level, but were shown to be each other's sister group by de Pinna and Vari (1995) and brought together in an expanded Cetopsidae.

The members of the subfamily Cetopsinae have smooth bodies lacking body plates or an adipose fin and reduced or absent dorsal and pelvic-fin species and eyes. In trans-Andean South America cetopsines are found along the Pacific slope from the Jurubidá River of Colombia south to the Tumbes River of northern Peru. Along the Caribbean trans-Andean versant species of cetopsines occur from the Sinú River of northwestern Colombia east to the Lago Maracaibo basin of northwestern Venezuela. East of the Andean Cordilleras, the Cetopsinae occurs in the Aroa and Yaracuy River basins along the Caribbean versant of northern Venezuela, through the Orinoco River system and the coastal rivers of the Guianas, south through the Amazon basin to the southern portions of the La Plata River basin. Cetopsines also occur in the Juquia River basin of the state of São Paulo and the São Francisco River basin of eastern Brazil.

The species of the Helogeninae have the body naked and lacking body plates with the adipose fin usually present, but reduced or absent in some populations of one species, the dorsal and pectoral fins lack spines and an elongate base on the anal fin. The species of the single contained genus, *Helogenes*, occur through much of the Amazon basin, the southern portions of the Orinoco River basin, the coastal rivers of the Guianas, and at least the lower portions of the Tocantins River.

Helogenes species feed on allochthonous terrestrial insects, a food habit also shared with most species in the Cetopsinae. The larger cetopsine species of the genera *Cetopsis* and *Hemicetopsis* are notorious for their feeding habits; attacking not only carrion, but also live fishes in gill-nets (Barthem and Goulding, 1997:44) and on occasion humans (Goulding, 1989:185). Some members of the family have been erroneously thought to be parasitic.

The species-level taxonomy of the Helogeninae was treated by Vari and Ortega (1986). Several of the species recognized in that study have limited known distributions and it is possible that additional geographically restricted *Helogenes* species remain to be discovered. Ongoing revisionary and phylogenetic studies of the Cetopsinae indicate that a number of cetopsine species remain undescribed and that present generic limits will need to be modified.

BATHYCETOPSIS

Bathycetopsis Lundberg & Rapp Py-Daniel, 1994: 382. Type species: *Bathycetopsis oliveirai* Lundberg & Rapp Py-Daniel, 1994. Type by original designation Gender: feminine.

Bathycetopsis oliveirai Lundberg & Rapp Py-Daniel, 1994

Bathycetopsis oliveirai Lundberg & Rapp Py-Daniel, 1994: 383, figs. 1, 3-4. Type locality: Brazil, Amazonas State, Rio Solimões north of Ilha da Marchantaria, approximately 15 km upstream of the mouth of Rio Negro at Manaus, approximately 15 m depth, 3°15'S, 60°00'W. Holotype: INPA 4439.

Maximum length: 3.6 cm SL

Distribution: South America: Middle and upper Amazon River basin.

Countries: Brazil, Peru

CETOPSIS

Cetopsis Spix & Agassiz, 1829: 11. Type species: *Silurus coecutiens* Lichtenstein, 1819. Type by subsequent designation by Bleeker (1862b: 16). Gender: feminine.

Cetopsis coecutiens (Lichtenstein, 1819)

Silurus coecutiens Lichtenstein, 1819: 61. Type locality: Brazil. Holotype: whereabouts unknown.

Silurus caecutiens Günther, 1864: 199. Type locality: Brazil. Holotype: whereabouts unknown. Unjustified emendation of *Silurus coecutiens* Lichtenstein, 1819.

Maximum length: 26.5 cm SL

Distribution: South America: Amazon, Tocantins, and Orinoco River basins.

Countries: Bolivia, Brazil, Colombia, Ecuador, Peru, Venezuela

Common names: Bagre ciego (Colombia, Venezuela), Candiru (Brazil), Candiru-açú (Brazil), Ciego (Ecuador), Piracatinga (Brazil)

Cetopsis parma Oliviera, Vari, & Ferraris, 2001

Cetopsis parma Oliviera, Vari & Ferraris, 2001: 575, fig. 1. Type locality: Peru. Departamento de Ucayali, Provincia Coronel Portillo. Río Tambo, Río Ucayali basin, Pucallpa, Atalaya (8°23'S, 74°32'W). Holotype: MUSM 2266.

Maximum length: 17 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Ecuador, Peru

DENTICETOPSIS

Denticetopsis Ferraris, 1996: 162. Type species: *Denticetopsis sauli* Ferraris, 1996. Type by original designation. Gender: feminine.

***Denticetopsis royeri* Ferraris, 1996**

Denticetopsis royeri Ferraris, 1996: 167, figs. 4, 12. Type locality: Venezuela: Estado Amazonas, Caño Chola at crossing of San Carlos de Río Negro to Solano Road, 1°58'N, 67°00'W. Holotype: MBUCV-V-26785 [ex USNM 268643].

Maximum length: 1.8 cm SL

Distribution: South America: Upper Negro River basin.

Countries: Venezuela

***Denticetopsis sauli* Ferraris, 1996**

Denticetopsis sauli Ferraris, 1996: 164, figs. 3, 11. Type locality: Venezuela, Estado Amazonas, Outflow stream from series of morichales, ca. 5.0 km from mouth of Río Pamoni, 2°48'N, 65°53'W. Holotype: MBUCV-V-20300.

Maximum length: 2.1 cm SL

Distribution: South America: Around mouth of Pamoni River.

Countries: Venezuela

HELOGENES

Helogenes Günther, 1863: 443. Type species: *Helogenes marmoratus* Günther, 1863. Type by monotypy. Gender: masculine.

Leyvaichthys Dahl, 1960: 302. Type species: *Leyvaichthys castaneus* Dahl, 1960. Type by original designation. Gender: masculine. Spelled *Leyvaichthys* in one place, priority established by first reviser action of Eschmeyer & Bailey (in Eschmeyer, 1990: 221).

***Helogenes castaneus* (Dahl, 1960)**

Leyvaichthys castaneus Dahl, 1960: 303. Type locality: Small pond in a brook tributary to the Guayabero River, approx. one kilometer from the mouth of the brook, and 1500 meters from the expedition Camp N° I, situated on the left bank of the Guayabero about 4 kilometers from Camp Thompson, Colombia. Holotype: missing.

Maximum length: 4.7 cm SL

Distribution: South America: Upper Orinoco, Guaviare and Meta River basins.

Countries: Colombia

***Helogenes gouldingi* Vari & Ortega, 1986**

Helogenes gouldingi Vari & Ortega, 1986: 7, fig. 3. Type locality: Brazil. Amazonas: Igarapé, 15 km from Humaitá along Rio Madeira (7°31'S, 63°02'W). Holotype: MZUSP 28854.

Maximum length: 4.7 cm SL

Distribution: South America: Madeira River basin.

Countries: Brazil

***Helogenes marmoratus* Günther, 1863**

Helogenes marmoratus Günther, 1863: 443. Type locality: Essequibo River, Guiana [=Guyana]. Lectotype: BMNH 1864.1.21: 83, designated by Vari & Ortega (1986: 16).

Helogenes amazonae Delsman, 1941: 80. Type locality: Manaus [=Manaus, Amazonas, Brazil]. Holotype: IRSNB 545.

Helogenes unidorsalis Glodek & Carter, 1978: 77, fig. 1. Type locality: Eastern Ecuador, Rio Bobonaza between Sarayacu and Montalvo. Holotype: FMNH 80463.

Maximum length: 7.3 cm SL

Distribution: South America: Atlantic drainages of Guianas, upper Orinoco and Negro systems and upper Amazon River basin.

Countries: Brazil, Ecuador, French Guiana, Guyana, Peru, Suriname, Venezuela

***Helogenes uruyensis* Fernández-Yépez, 1967**

Helogenes marmoratus uruyensis Fernández-Yépez, 1967: 166,

pls. 2, 3 (fig. 2). Type locality: Río Uruyén, Venezuela. Holotype: AFY 56613 (apparently lost, Vari & Ortega 1986: 13).

Maximum length: 4.3 cm SL

Distribution: South America: Uruyén River basin.

Countries: Venezuela

HEMICETOPSIS

Hemicetopsis Bleeker, 1862a: 403. Type species: "*Cetopsis candira* Agassiz" [= *Cetopsis candiru*, Spix & Agassiz, 1829]. Type by monotypy. Gender: feminine.

***Hemicetopsis candiru* (Spix & Agassiz, 1829)**

Cetopsis candiru Spix & Agassiz, 1829: 13, pl. 10 (fig. 1). Type locality: Brasiliae aequatorialis fluviis [=Equatorial rivers of Brazil]. Syntypes: MHNG 210.05 (1), MHNN 735-7 (3) Name first appeared in Cuvier (1829) as nomen nudum.

Cetopsis spixii Swainson, 1839: 308. Type locality: Brasiliae aequatorialis fluviis. Unneeded replacement for *Cetopsis candiru* Spix & Agassiz, 1829.

Maximum length: 26.3 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil, Ecuador, Peru

Common names: Canero (Peru), Ciego (Ecuador)

PARACETOPSIS

Paracetopsis Bleeker, 1862b: 16. Type species: *Paracetopsis bleekeri* Bleeker, 1862. Type by original designation. Gender: feminine.

Paracetopsis Eigenmann & Bean, 1907: 615. Type species: *Cetopsis occidentalis* Steindachner, 1880. Type by original designation. Gender: feminine. Preoccupied by *Paracetopsis* Bleeker 1862: 16.

Cetopsogiton Eigenmann & Bean in Eigenmann, 1910: 398. Type species: *Cetopsis occidentalis* Steindachner, 1880. Type by original designation. Gender: masculine.

***Paracetopsis bleekeri* Bleeker, 1862**

Paracetopsis bleekeri Bleeker, 1862b: 16. Type locality: Not stated. Type(s): MNHN (Not found).

Cetopsis ventralis Gill, 1870: 95. Type locality: Maranon or upper Amazon, and Napo Rivers [in error, actually rivers of southwestern Ecuador]. Holotype: USNM 8307.

Cetopsis occidentalis Steindachner, 1880: 99, pl. 8 (figs. 2, 2a). Type locality: Guayaquil [Ecuador]. Holotype: NMW.

Maximum length: 24.2 cm SL

Distribution: South America: Pacific versant, Guayas River basin.

Countries: Ecuador

Common names: Bagre ciego (Ecuador), Ciego (Ecuador)

PSEUDOCETOPSIS

Pseudocetopsis Bleeker, 1862a: 403. Type species: *Cetopsis gobioides* Kner, 1858. Type by monotypy. Gender: feminine.

***Pseudocetopsis amphiloxa* (Eigenmann, 1914)**

Hemicetopsis amphiloxus Eigenmann in Eigenmann, Henn & Wilson, 1914: 14. Type locality: Creek near San Lorenzo [Río] Patía basin, Colombia. Holotype: FMNH 56519 [ex CM 5332].

Maximum length: 18.8 cm SL

Distribution: South America: Pacific versant, Patía, upper San Juan and Atrato River basins of western Colombia, and rivers of northwestern Ecuador.

Countries: Colombia

***Pseudocetopsis baudoensis* Dahl, 1960**

Pseudocetopsis baudoensis Dahl, 1960: 452, figured on p. 453. Type locality: Quitasol, Baudó, western Colombia. Holotype: ICNMHN 118.

Maximum length: 18.7 cm SL

Distribution: South America: Pacific versant, Baudó River basin.
Countries: Colombia

***Pseudocetopsis gobioides* (Kner, 1858)**

Silurus pygmaeus Natterer in Kner, 1858: 408. Type locality: Not available, name mentioned in the synonymy of *Cetopsis gobioides*.

Cetopsis gobioides Kner, 1858: 407, pl. 6 (fig. 16). Type locality: Irisanga, Brazil. Syntypes: possibly NMW 47378 (2)

Cetopsis chalmersi Norman, 1926: 116. Type locality: Rio das Velhas about 32 miles north of Bello (=Belo) Horizonte, Brazil. Syntypes: BMNH 1925.10.1.4 (1), 1925.1.12.2-3 (2)

Maximum length: 10.9 cm SL

Distribution: South America: Upper São Francisco, Paraná and Uruguay River basins.

Countries: Argentina, Brazil, Paraguay, Uruguay

Common names: Candiru-açu (Brazil)

***Pseudocetopsis jurubidae* Fowler, 1944**

Pseudocetopsis jurubidae Fowler, 1944: 235, figs. 7-9. Type locality: Clear waters of Rio Jurubidá, Nuquí, Colombia. Holotype: ANSP 71430.

Maximum length: 9 cm SL

Distribution: South America: Jurubidá River basin.

Countries: Colombia

***Pseudocetopsis macilentus* (Eigenmann, 1912)**

Hemicetopsis macilentus Eigenmann, 1912b: 211, pl. 23 (fig. 1). Type locality: Creek below Potaro Landing, British Guiana [=Guyana]. Holotype: FMNH 53260 [ex CM 1726].

Maximum length: 6.7 cm SL

Distribution: South America: Essequibo River basin.

Countries: Guyana

***Pseudocetopsis minuta* (Eigenmann, 1912)**

Hemicetopsis minutus Eigenmann, 1912b: 211, pl. 23 (fig. 2). Type locality: Amatuk Cataract, British Guiana [= Guyana]. Holotype: FMNH 53262 [ex CM 1728].

Maximum length: 4.9 cm SL

Distribution: South America: Coastal rivers of northern South America between Amazon and Orinoco Rivers.

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela

***Pseudocetopsis morenoi* (Fernández-Yépez, 1972)**

Hemicetopsis morenoi Fernández-Yépez, 1972: 19. Type locality: Río Aguaro, 1 km. abajo del paso Garcerito al Oeste franco de Santa Rita, Estado Guárico, Venezuela. Holotype: apparently lost.

Maximum length: 4.3 cm SL

Distribution: South America: Western tributaries of Orinoco River basin.

Countries: Colombia, Venezuela

***Pseudocetopsis motatanensis* Schultz, 1944**

Pseudocetopsis plumbeus motatanensis Schultz, 1944: 255, pl. 5 (fig. B). Type locality: Río Motatán, 4 km. above Motatán, Venezuela. Holotype: USNM 121265.

Maximum length: 15.5 cm SL

Distribution: South America: Lago Maracaibo basin.

Countries: Colombia, Venezuela

Common names: Ciego (Colombia)

***Pseudocetopsis orinoco* Schultz, 1944**

Pseudocetopsis plumbeus orinoco Schultz, 1944: 253, pl. 5 (fig. A). Type locality: Río Torbes, 1 km. above Táriba [Río] Orinoco system, Venezuela. Holotype: USNM 121263.

Maximum length: 9.4 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Common names: Bagre ciego (Venezuela)

***Pseudocetopsis othonops* (Eigenmann, 1912)**

Hemicetopsis othonops Eigenmann, 1912a: 17. Type locality: Girardot, Colombia. Holotype: FMNH 56040 [CM 4830].

Maximum length: 11 cm SL

Distribution: South America: Magdalena and Sinu River basins.

Countries: Colombia

Common names: Babosa (Colombia), Bobo (Colombia), Ciego (Colombia)

***Pseudocetopsis plumbea* (Steindachner, 1882)**

Cetopsis plumbeus Steindachner, 1882a: 178. Type locality: Canelos [Ecuador]. Syntypes: NMW 47381 (3). Species illustrated and described in more detail in Steindachner (1882b: 31, Pl. 6, fig. 3).

Cetopsis macroteronema Boulenger, 1898: 8. Type locality: Rio Zamora, Equateur oriental [= eastern Ecuador]. Syntypes: BMNH 1898.11.4.11 (1), ZMUT 1548 (1)

Maximum length: 11.8 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Ecuador, Peru

Common names: Canero (Peru), Ciego (Ecuador)

***Pseudocetopsis praecox* Ferraris & Brown, 1991**

Pseudocetopsis praecox Ferraris & Brown, 1991: 162, fig. 1. Type locality: Neblina base camp, Río Mawarinuma of the Río Baria drainage, Territorio Federal Amazonas, southern Venezuela, 0°55'N, 66°10'W, elevation 120 m. Holotype: AMNH 74446.

Maximum length: 5.29 cm SL

Distribution: South America: Upper Negro River basin.

Countries: Venezuela

References

- Barthem, R. and M. Goulding. 1997. The Catfish Connection. Ecology, Migration and Conservation of Amazon Predators. 144 pages. Colombia University Press: New York.
- Bleeker, P. 1862a. Notice sur les genres *Trachelyopterichthys*, *Hemicetopsis* et *Pseudocetopsis*. Versl. Akad. Amsterdam, 14: 400-403.
- Bleeker, P. 1862b. Atlas ichthyologique des Indes Orientales Néerlandaises, publié sous les auspices du Gouvernement colonial néerlandais. Tome II. Siluroïdes, Chacoïdes et Hétérobranchoïdes. Amsterdam. 112 p., pls. 49-101.
- Boulenger, G.A. 1898. Viaggio del Dr. Enrico Festa nell' Ecuador e regioni vicine. Poissons de l'Équateur. [Part I]. Boll. Mus. Zool. Anat. Comp. Torino, 13 (no. 329): 1-13.
- Cuvier, G. 1829. Le règne animal, distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée, second edition [in 5 vols., fish in vol. 2] Paris.
- Dahl, G. 1960. Nematognathous fishes collected during the Macarena Expedition 1959. Part I. Novedades Colombianas, 1 (5): 302-317.
- Delsman, N.C. 1941. Résultats scientifiques des croisières du Navire-école Belge "Mercator", vol. III, No. 3. Pisces. Mém. Mus. R. Hist. Nat. Belg. (Ser. 2), (21): 47-82.
- Eigenmann, C.H. 1910. Catalogue of the fresh-water fishes of tropical and south temperate America, Zoology: 375-511. In: Reports of the Princeton University expeditions to Patagonia 1896-1899.
- Eigenmann, C.H. 1912a. Some results from an ichthyological reconnaissance of Colombia, South America. Part I. Indiana Univ. Studies, No. 16 [sic No. 8]: 1-27.
- Eigenmann, C.H. 1912b. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. and B.A. Bean. 1907. An account of Amazon River fishes collected by J. B. Steere; with a note on *Pimelodus*

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- clarias*. Proc. U. S. Natl. Mus., 31 (1503): 659-668.
- Eigenmann, C.H., A.W. Henn and C. Wilson. 1914. New fishes from western Colombia, Ecuador, and Peru. Indiana Univ. Studies, (19): 1-15.
- Eschmeyer, W.N. 1990. Catalog of the Genera of Recent fishes. California Academy of Sciences, San Francisco.
- Fernández-Yépez, A. 1967. Primera contribucion al conocimiento de los peces, con descripcion de dos especies y una subespecie nuevas. Resultados zoológicos de la expedición de la Universidad Central de Venezuela ... Abril de 1956. Acta Biol. Venez., 5 (10): 159-177.
- Fernández-Yépez, A. 1972. El genero *Hemiketopsis* Blecker, 1863 (Cetopsidae) en Venezuela. Laguna, (30): 19-21.
- Ferraris, C.J., Jr. 1996. *Denticetopsis*, a new genus of South American whale catfish (Siluriformes: Cetopsidae, Cetopsinae), with two new species. Proc. California Acad. Sci., 49 (6): 161-170.
- Ferraris, C.J., Jr. and B.A. Brown. 1991. A new species of *Pseudocetopsis* from the Río Negro drainage of Venezuela (Siluriformes: Cetopsidae). Copeia, 1991 (1): 161-165.
- Fowler, H.W. 1944. Fresh-water fishes from northwestern Colombia. Proc. Acad. Nat. Sci. Philadelphia, 96: 227-248.
- Gill, T.N. 1870. On some new species of fishes obtained by Prof. Orton from the Marañon, or Upper Amazon, and Napo Rivers. Proc. Acad. Nat. Sci. Philadelphia, 22: 92-96.
- Glodek, G.S. and H.J. Carter. 1978. A new helogeneid catfish from eastern Ecuador (Pisces, Siluriformes, Helogeneidae). Fieldiana Zool., 72 (6): 75-82.
- Goulding, M. 1989. Amazon. The Flooded Forest. 208 pages. BBC Books, London.
- Günther, A. 1863. On new species of fishes from the Essequibo. Ann. Mag. Nat. Hist. (Ser. 3), 12 (72): 441-443.
- Günther, A. 1864. Catalogue of the fishes in the British Museum. Vol. 5, Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochromidae, Sternopygidae, Scopelidae, Stomiatidae in the collection of the British Museum. Trustees, London. xxii + 455 p.
- Kner, R. 1858. Ichthyologische Beiträge. II. Abtheilung. Sitzungsber. Akad. Wiss. Wien, 26: 373-448, pls. 1-9.
- Lichtenstein, M.H.C. 1819. Ueber einige neue Arten con Fishen aus der Gattung *Silurus*. Zoologisches Magazin (Wiedemann), 1 (3): 57-63.
- Lundberg, J.G. and L.H. Rapp-Py-Daniel. 1994. *Bathycetopsis oliveirai*, gen. et sp. nov., a blind and depigmented catfish (Siluriformes: Cetopsidae) from the Brazilian Amazon. Copeia, 1994 (2): 381-390.
- Norman, J.R. 1926. A new catfish of the genus *Cetopsis* from the Rio das Velhas, Brazil. Ann. Mag. Nat. Hist. (Ser. 9), 17 (97): 116.
- Oliviera, J.C., R.P. Vari, and C.J. Ferraris, Jr. 2001. A new species of "Whale catfish" (Siluriformes, Cetopsidae) from the western portions of the Amazon basin. Proceedings of the Biological Society of Washington 114(3):574-578.
- de Pinna, M.C.C. and R.P. Vari. 1995. Monophyly and phylogenetic diagnosis of the family Cetopsidae, with synonymization of the Helogenidae (Teleostei: Siluriformes). Smithsonian Contrib. Zool., (571): i-iii + 1-26.
- Schultz, L.P. 1944. The catfishes of Venezuela, with descriptions of thirty-eight new forms. Proc. U. S. Natl. Mus., 94 (3172): 173-338, pls. 1-14.
- Spix, J.B. von and L. Agassiz. 1829-31. Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXXVII-MDCCCXXX jussu et auspiciis Maximiliani Josephi I.... colleget et pingendo curavit Dr J. B. de Spix.... Monachii. Part 1: i-xvi + i-ii + 1-82, Pls. 1-48; part 2: 83-138, pls. 49-101.
- Steindachner, F. 1880. Zur Fisch-Fauna des Cauca und der Flüsse bei Guayaquil. Denkschr. Akad. Wiss. Wien, 42: 55-104, pls. 1-9.
- Steindachner, F. 1882a. Beiträge zur Kenntniss der Flussfische Südamerikas (IV). Anz. Akad. Wiss. Wien, 19 (19): 175-180.
- Steindachner, F. 1882b. Beiträge zur Kenntniss der Flussfische Südamerikas (IV). Denkschr. Akad. Wiss. Wien, 46 (for 1883): 1-44, pls. 1-7.
- Swainson, W. 1839. The natural history and classification of fishes, amphibians, & reptiles, or monocardian animals. Vol. 2. London. vi + 448 p.
- Vari, R.P. and H. Ortega. 1986. The catfishes of the Neotropical family Helogenidae (Ostariophysi: Siluroidei). Smithsonian Contrib. Zool., (442): i-iii + 1-20.

Family Aspredinidae (Banjo catfishes)

John P. Friel

The Aspredinidae are commonly known as banjo catfishes because of their distinctive body shape (a broad depressed head and body followed by a slender caudal peduncle), which is thought to resemble a banjo. Aspredinids can be readily distinguished from other Neotropical catfishes by several external features including: overall body shape, roughened skin covered by keratinized tubercles often arranged in parallel rows along the body, opercular openings restricted to small slits, lack of a rigid dorsal spine in most species, lack of an adipose fin, and 10 or fewer caudal-fin rays. In general, most species are cryptically pigmented, benthic and sluggish unless disturbed. Many species bury themselves shallowly in loose substrates. When handled, some species produce stridulatory sounds while abducting and adducting their pectoral spines just like doradid catfishes.

Banjo catfishes are endemic to South America and are widely distributed throughout most tropical river systems in this area (e.g., Magdalena, Orinoco, Amazon, São Francisco and Paraguay-Paraná), several smaller rivers west of the Andes (Atrato, San Juan, and Patia) as well as brackish and marine waters between the Orinoco and Amazon River deltas. They may be found in habitats ranging from shallow backwaters to deep river channels to tidal estuaries.

Approximately 60 extant species of banjo catfishes have been described. Many of these species are now considered subjective junior synonyms. As currently recognized this family contains approximately 35 nominal species placed in 13 genera (Friel, 1994). Given the cryptic nature and small size of some aspredinids it is likely many species await future discovery particular from habitats such as river channels. This author is aware of several undescribed species in the genus *Bunocephalus* and tribe Hoplomyzontini.

Despite the relatively small number of species in this family as compared to other catfish families, aspredinids are quite morphologically diverse. They range from miniature armored species such as *Micromyzon akamai*, less than 1.6 cm SL, to large elongate species such as *Aspredo aspredo*, reaching up to 38 cm SL. Since most species are under 15 cm in length, aspredinids are of little or no commercial interest for food, however several species appear in the ornamental fish trade on a regular basis.

Very little is known about the general ecology of aspredinids. Based on this author's observations, most aspredinids appear to be generalized omnivores and stomachs examined often contain aquatic invertebrates, terrestrial insects and organic debris. One notable exception is the genus *Amaralia*. This genus apparently feeds exclusively on the egg clutches of lorica-riid catfishes and despite relatively small mouths can swallow a large mass of eggs (Friel, 1994).

Parental care occurs in some aspredinids as evidenced by specimens collected with developing embryos. Females of *Pterobunocephalus*, *Platystacus*, *Aspredo*, and *Aspredinichthys* carry their developing embryos attached to the ventral surface of their bodies. In *Pterobunocephalus*, the eggs are directly attached to the body whereas in *Platystacus*, *Aspredo*, and *Aspredinichthys* eggs are attached to fleshy stalks, called cotylephores (Friel, 1994). These cotylephores develop seasonally and are believed to function in the exchange of materials between the mother and embryos (Wetzel, Wourms & Friel, 1997).

ACANTHOBUNOCEPHALUS

Acanthobunocephalus Friel, 1995: 90. Type species: *Acanthobunocephalus nicoi* Friel, 1995. Type by original designation. Gender: masculine.

Acanthobunocephalus nicoi Friel, 1995

Acanthobunocephalus nicoi Friel, 1995: 90, fig. 1. Type locality: Río Sipapo, 200 m from Salto Remo, 4°34'N, 67°18'W, Venezuela. Holotype: MCNG 29000. Maximum length: 1.97 cm SL. Distribution: South America: Upper Orinoco River basin, including Sipapo, Ramoni and Casiquiare rivers. Countries: Venezuela

AMARALIA

Amaralia Fowler, 1954: 40. Type species: *Bunocephalus hypsiurus*

Kner, 1855. Type by original designation Gender: feminine.

Amaralia hypsiura (Kner, 1855)

Bunocephalus hypsiurus Kner, 1855: 98, pl. 1 (fig. 1). Type locality: Rio Branco [Brazil]. Syntypes: NMW 47626 (2). Maximum length: 13.3 cm SL. Distribution: South America: Amazon River basin. Countries: Bolivia, Brazil, Colombia, Ecuador, Peru. Remarks and references: See Ferraris (1991: 224) for details on generic placement of this species. In addition to the single nominal species there is an undescribed species of *Amaralia* in the Paraguay-Paraná River basin.

ASPREDINICHTHYS

Aspredinichthys Bleeker, 1858: 328, 329. Type species: *Aspredo tibicen* Valenciennes, 1840. Type by monotypy. Gender: mascu-

line. See Mees (1987) for latest revision.

Chamaigenes Eigenmann, 1910: 380. Type species: *Aspredo filamentosus* Valenciennes, 1840. Type by original designation. Gender: masculine.

***Aspredinichthys filamentosus* (Valenciennes, 1840)**

Aspredo filamentosus Valenciennes in Cuvier & Valenciennes, 1840: 437 [324 of Strasbourg deluxe ed.], pl. 450. Type locality: Cayenne [French Guiana]. Syntypes: MNHN 4401 and B-0594 (9).

Maximum length: 21.8 cm SL

Distribution: South America: Lower portions of coastal rivers and in coastal waters in Venezuela northern Brazil.

Countries: Brazil, French Guiana, Guyana, Suriname, Trinidad and Tobago, Venezuela

Remarks and references: See Mees (1987: 190) for detailed description.

Common names: Poson-kronkron (French Guiana)

***Aspredinichthys tibicen* (Valenciennes, 1840)**

Aspredo tibicen Valenciennes in Cuvier & Valenciennes, 1840: 438 [325 of Strasbourg deluxe ed.]. Type locality: Surinam. Holotype: RMNH 3111.

Maximum length: 21 cm SL

Distribution: South America: Lower portions of coastal rivers and in coastal waters in Venezuela to northern Brazil.

Countries: Brazil, French Guiana, Guyana, Suriname, Trinidad and Tobago, Venezuela

Common names: Poson-kronkron (French Guiana)

ASPREDO

Aspredo Scopoli, 1777: 453. Type species: *Silurus aspredo* Linnaeus, 1758. Gender: masculine. See Friel (1994: 86) for latest revision.

***Aspredo aspredo* (Linnaeus, 1758)**

Silurus aspredo Linnaeus, 1758: 304. Type locality: in Americae fluviis [= South America]. Syntypes: ZMUU Linn. Coll. 48 (1).

Platystacus laevis Bloch, 1794: 58. Type locality: No locality. Syntypes: ZMB 3153 (3).

Aspredo sicuephorus Valenciennes in Cuvier & Valenciennes, 1840: 439 [326 of Strasbourg deluxe ed.]. Type locality: La Mana [= Mana, French Guiana]. Holotype: MNHN 6362.

Aspredo batrachus Gronow in Gray, 1854: 137. Type locality: Tropical American rivers. No types known.

Aspredo sicyephorus Günther, 1864: 269. Type locality: Mana [= Mana, French Guiana]. Unjustified emendation of *Aspredo sicuephorus* Valenciennes, 1840.

Aspredo batrachus Bleeker, 1864: 93. Type locality: No locality.

Maximum length: 38.3 cm SL

Distribution: Western Atlantic: Lower portions of coastal rivers in Venezuela to northern Brazil.

Countries: Brazil, French Guiana, Guyana, Suriname, Trinidad and Tobago, Venezuela

Remarks and references: See Mees (1987: 184) for detailed description.

Common names: Poisson-kronkron (French Guiana)

BUNOCEPHALUS

Aspredo Swainson, 1838: 332. Type species: *Aspredo gronovii* Swainson, 1838. Type by monotypy. Gender: masculine. Preoccupied by *Aspredo* Scopoli, 1777.

Bunocephalus Kner, 1855: 95. Type species: *Platystacus verrucosus* Bloch, 1794. Type by subsequent designation by Bleeker (1862: 19). Gender: masculine. See Ferraris (1991: 224) for details on type species of this genus.

Bunocephalichthys Bleeker, 1858: 329. Type species: *Bunocephalichthys verrucosus* Bloch, 1794. Type by subsequent designation

by Jordan (1919: 279). Gender: masculine.

Dysichthys Cope, 1874: 133. Type species: *Dysichthys coracoideus* Cope, 1874. Type by monotypy. Gender: masculine.

Agmus Eigenmann, 1910: 379. Type species: *Bunocephalus scabriceps* Eigenmann & Eigenmann, 1889. Type by original designation. Gender: masculine.

***Bunocephalus aleuropsis* Cope, 1870**

Bunocephalus aleuropsis Cope, 1870: 568. Type locality: Pebas, Eastern Ecuador [now Peru]. Syntypes: ANSP 8286-8288.

Bunocephalus melas Cope, 1874: 132. Type locality: Nauta [Peru]. Holotype: ANSP 21235 (in pieces).

Maximum length: 9.1 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Bolivia, Brazil, Colombia, Ecuador, Peru, Venezuela

Remarks and references: See Mees (1989: 204) for detailed description.

***Bunocephalus amaurus* Eigenmann, 1912**

Bunocephalus amaurus Eigenmann, 1912b: 126, fig. 24; pl. 2 (fig. 2). Type locality: Konawaruk [Guyana]. Holotype: FMNH 53121 [ex CM 1555].

Bunocephalus amaurus aloikae Hoedeman, 1961: 130. Type locality: Litany R., Aloiké village, French Guiana. Holotype: ZMA 102229.

Bunocephalus amaurus sipaliwini Hoedeman, 1961: 130, fig. 1. Type locality: Sipaliwini, Suriname, 20 km from frontier with Brazil. Holotype: ZMA 102228.

Maximum length: 12 cm SL

Distribution: South America: Coastal rivers between Orinoco and Amazon mouths.

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela

Remarks and references: See Mees (1989: 216) for detailed description. Friel (1994: 81) does not consider this species as a subspecies of *B. coracoideus*. *Bunocephalus amarus* first published in Eigenmann (1910: 380) as nomen nudum.

***Bunocephalus amazonicus* (Mees, 1989)**

Dysichthys amazonicus Mees, 1989: 241, fig. 21. Type locality: creek near Todos Santos, upper course of R. Mamoré, Cochabamba [Bolivia]. Holotype: ZMA 109.264 (37 mm SL specimen).

Maximum length: 4.5 cm SL

Distribution: South America: Upper and middle Amazon River basin.

Countries: Bolivia, Brazil, Colombia, Peru

***Bunocephalus bifidus* Eigenmann, 1942**

Bunocephalus bifidus Eigenmann in Eigenmann & Allen, 1942: 86, pl. 2 (fig. 2). Type locality: creek, Yurimaguas [Huallaga River, Peru]. Holotype: CAS 35105 [ex IU 15412].

Maximum length: 4.3 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil, Ecuador, Peru

Remarks and references: See Mees (1989: 240) for detailed description. Name appeared several times (Pearson, 1924: 9; 1937: 111; Fowler, 1940: 94) as nomen nudum prior to being made available in Eigenmann and Allen (1942).

***Bunocephalus chamaizelus* Eigenmann, 1912**

Bunocephalus chamaizelus Eigenmann, 1912b: 127, fig. 24; pl. 2 (fig. 1). Type locality: Erukin [Guyana]. Holotype: FMNH 53122 [ex CM 1556].

Maximum length: 3.7 cm SL

Distribution: South America: Essequibo River basin.

Countries: Guyana

Remarks and references: See Mees (1989: 236) for detailed description.

***Bunocephalus colombianus* Eigenmann, 1912**

- Bunocephalus colombianus* Eigenmann, 1912a: 10. Type locality: Raspadura [Colombia]. Holotype: FMNH 56038 [ex CM 4828]. Maximum length: 11.5 cm SL
Distribution: South America: Atrato and Magdalena River basins.
Countries: Colombia
Remarks and references: See Mees (1989: 237) for detailed description.
- Bunocephalus coracoideus* (Cope, 1874)**
Dysichthys coracoideus Cope, 1874: 133. Type locality: Nauta [Peru]. Syntypes: ANSP 21212-21215.
Bunocephalus bicolor Steindachner, 1882a: 176. Type locality: Aus dem Huallaga [Peru]. Holotype: MTD F345. Species later illustrated and described in more detail in Steindachner (1882b: 8, pl. 2 (figs. 1-1b)).
Bunocephalus haggini Eigenmann & Allen, 1942: 86, pl. 2 (fig. 1). Type locality: Amazon at Iquitos [Peru]. Holotype: CAS 35107 [IU 15408].
Maximum length: 11 cm SL
Distribution: South America: Amazon River basin.
Countries: Bolivia, Brazil, Peru
Remarks and references: See Mees (1989: 208) for detailed description.
Common names: Guitarrero (Brazil), Sapo cunshi (Peru)
- Bunocephalus doriae* Boulenger, 1902**
Bunocephalus doriae Boulenger, 1902: 286. Type locality: Villa Rica, Paraguay; and Posadas, Río Parana [Argentina]. Syntypes: BMNH 1902.10.22.23; MSNG 14274-14275.
Bunocephalus retropinnis Eigenmann & Allen, 1942: 85, pl. 2 (fig. 3). Type locality: Cacequi, Brazil. Holotype: CAS 35246 [ex IU 15332, not 14332].
Maximum length: 8.1 cm SL
Distribution: South America: Paraguay-Paraná and Uruguay River basins.
Countries: Argentina, Brazil, Paraguay, Uruguay
Remarks and references: See Mees (1989: 226) for detailed description.
- Bunocephalus iheringii* Boulenger, 1891**
Bunocephalus iheringii Boulenger, 1891: 235, pl. 26 (fig. 2). Type locality: No locality cited [apparently from Rio Grande do Sul, Brazil]. Syntypes: BMNH 1891.3.16.77-78 (2).
Bunocephalus salatheii Myers, 1927: 125. Type locality: Brazil: Morro Ajudo, about 100 km from Rio de Janeiro. Holotype: MCZ 31583.
Bunocephalus minutus Güntert, 1942: 28, figs. 1-2. Type locality: Paraguay, Dept. Villetta. Syntypes: NMBA 5296-98, 5299-5300.
Bunocephalus carvalhoi Miranda Ribeiro, 1944: 1. Type locality: Magé, Estado do Rio de Janeiro, Brazil. Holotype: MNRJ 1060.
Maximum length: 5.9 cm SL
Distribution: South America: Atlantic, Paraguay and Uruguay River basins.
Countries: Brazil, Paraguay
Remarks and references: See Mees (1989: 222) for detailed description.
- Bunocephalus knerii* Steindachner, 1882**
Bunocephalus knerii Steindachner, 1882a: 176. Type locality: Canelos, e. Ecuador. Syntypes: NMW 47628 [?] formerly NMW 10976-77]. Species later illustrated and described in more detail in Steindachner (1882b: 9, pl. 2, figs. 2-2b).
Maximum length: 13 cm SL
Distribution: South America: Western Amazon River basin.
Countries: Colombia, Ecuador, Peru
Remarks and references: See Mees (1989: 220) for detailed description.
- Bunocephalus larai* Ihering, 1930**
Bunocephalus larai Ihering, 1930: 101, pl. 13 (figs. 3-3A) [not 4]. Type locality: Rio Piracicaba, junto ao Salto; ao 20 km abaixo (ilha das Flechas) [São Paulo, Brazil]. Syntypes are apparently lost.
Maximum length: 5 cm SL
Distribution: South America: Paraná River basin.
Countries: Brazil
Remarks and references: See Mees (1989: 238) for detailed description. Note that the specimen examined by Mees (1989) from the São Francisco River basin is an undescribed species.
- Bunocephalus quadriradiatus* (Mees, 1989)**
Dysichthys quadriradiatus Mees, 1989: 244, fig. 23. Type locality: Samiria, Chinguito [= Cocha Shinguita or Shirguita], Peru. Holotype: MHNG 2157.21.
Maximum length: 3.2 cm SL
Distribution: South America: Upper Amazon River basin.
Countries: Peru
- Bunocephalus rugosus* Eigenmann & Kennedy, 1903**
Bunocephalus rugosus Eigenmann & Kennedy, 1903: 498. Type locality: Laguna near Arroyo Chagalalina [Paraguay]. Holotype: CAS [ex IU 9819] (apparently lost).
Dysichthys australe Eigenmann & Ward in Eigenmann, McAtee & Ward, 1907: 113, pl. 31. Type locality: Corumba [Paraguay]. Holotype: CAS 35240 [ex IU 10123].
Maximum length: 3 cm SL
Distribution: South America: Paraguay-Paraná River basin.
Countries: Brazil, Paraguay
Remarks and references: See Mees (1989: 247) for detailed description.
- Bunocephalus verrucosus* (Walbaum, 1792)**
Silurus verrucosus Walbaum, 1792: 574. Type locality: No locality. No types known. Based on Gronovius (1754, pl. 5 (fig. 3)).
Platystacus verrucosus Bloch, 1794: 63, pl. 373 (fig. 3). Type locality: Wahrscheinlich gerhört er in Surinam zu Hause [= Suriname]. No types known.
Aspredo gronovii Swainson, 1838: 332, fig. 80. Type locality: No locality. No types known.
Aspredo verrucosa Gronow in Gray, 1854: 137. Type locality: America Meridionali [= South America]. No types known.
Bunocephalichthys gronovii Bleeker, 1858: 329. Type locality: Am. Merid. [= South America]. No types known.
Bunocephalus scabriceps Eigenmann & Eigenmann, 1889: 49. Type locality: Jutahy [Brazil]. Syntypes: MCZ 7967.
Agmus lyriformis Eigenmann, 1912b: 128, fig. 25; pl. 3. Type locality: Gluck Island [Rupununi R., Guyana]. Holotype: FMNH 53120 [ex CM 1554].
Maximum length: 9.5 cm SL
Distribution: South America: Rivers of Guyana and the Amazon River basin.
Countries: Brazil, Ecuador, Guyana, Peru, Suriname
Remarks and references: See Mees (1988: 93) for detailed description. Note: Mees (1988) does not cite *Silurus verrucosus* Walbaum, 1792, which has priority over *Platystacus verrucosus* Bloch, 1794.
- DUPOUYICHTHYS**
Dupouyichthys Schultz, 1944: 244. Type species: *Dupouyichthys sapito* Schultz, 1944. Type by original designation. Gender: masculine.
- Dupouyichthys sapito* Schultz, 1944**
Dupouyichthys sapito Schultz, 1944: 245, pl. 4 (fig. d); fig. 4b. Type locality: Río Motatán, at the bridge 22 km north of Motatán, Venezuela. Holotype: USNM 121072.
Maximum length: 3 cm SL
Distribution: South America: Magdalena River and Lake Maracaibo basins.

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Countries: Colombia, Venezuela

Remarks and references: See Stewart (1985: 10) for detailed description.

ERNSTICHTHYS

Ernstichthys Fernández-Yépez, 1953: 3, 4. Type species: *Ernstichthys anduzei* Fernández-Yépez, 1953. Type by original designation. Gender: masculine.

***Ernstichthys anduzei* Fernández-Yépez, 1953**

Ernstichthys anduzei Fernández-Yépez, 1953: 5, fig. 1. Type locality: Río Salinas, northeast of El Baúl, Estado Cojedes, Venezuela. Holotype: MHNLS 28 [not MHNLS 7779].

Maximum length: 3.5 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Remarks and references: See Stewart (1985: 12) for detailed description.

***Ernstichthys intonsus* Stewart, 1985**

Ernstichthys intonsus Stewart, 1985: 16, figs. 1f, 3, 9. Type locality: Río Napo at Añangu, Napo Prov, 0°30.8'S, 76°24.0'W, Ecuador. Holotype: FMNH 94603.

Maximum length: 4.9 cm SL

Distribution: South America: Napo River basin.

Countries: Ecuador

***Ernstichthys megistus* (Orcés, 1961)**

Hoplomyzon megistus Orcés, 1961: 3, figs. 1-2. Type locality: Small river off of the Río Chicherota, Río Bobonaza system, Prov. Pastaza, e. Ecuador. Holotype: Author's coll. 4305.

Maximum length: 6.7 cm SL

Distribution: South America: Bobonaza and Marañón River basins.

Countries: Ecuador, Peru

Remarks and references: See Stewart (1985: 15) for detailed description.

HOPLOMYZON

Hoplomyzon Myers, 1942: 94. Type species: *Hoplomyzon atrizona* Myers, 1942. Type by original designation. Gender: masculine.

***Hoplomyzon atrizona* Myers, 1942**

Hoplomyzon atrizona Myers, 1942: 95, fig. 3. Type locality: Brook trib. to Río Zulia, at Estacion Tachira, 60 km north of San Cristobal, Venezuela, elev. ca. 150 m. Holotype: SU 36494.

Hoplomyzon atrizona petroleus Schultz, 1944: 248, pl. 4 (fig. C); fig. 4a. Type locality: Río Motatán, 4 km above Motatán, Maracaibo basin, Venezuela. Holotype: USNM 121070.

Maximum length: 2.7 cm SL

Distribution: South America: Lake Maracaibo basin.

Countries: Venezuela

Remarks and references: See Stewart (1985: 7) for detailed description.

***Hoplomyzon papillatus* Stewart, 1985**

Hoplomyzon papillatus Stewart, 1985: 8, figs. 1b, 2b, 4b, 5. Type locality: Río Aguatico, 1 km upstream from confluence with Río Shushufindi, Napo Prov., 0°17'S, 76°24.5'W, Ecuador. Holotype: FMNH 94908.

Maximum length: 1.7 cm SL

Distribution: South America: Napo and Portuguesa River basins.

Countries: Ecuador, Venezuela

***Hoplomyzon sexpapilostoma* Taphorn & Marrero, 1990**

Hoplomyzon sexpapilostoma Taphorn & Marrero, 1990: 4, figs. 1-4. Type locality: Río Masparro at site of Masparro Dam, Barinas, Venezuela, 8°50'40"N, 70°06'00"W. Holotype: MCNG 18669.

Maximum length: 3.2 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

MICROMYZON

Micromyzon Friel & Lundberg, 1996: 642. Type species: *Micromyzon akamai* Friel & Lundberg, 1996. Type by original designation. Gender: masculine.

***Micromyzon akamai* Friel & Lundberg, 1996**

Micromyzon akamai Friel & Lundberg, 1996: 643, fig. 1. Type locality: Rio Tocantins, above confluence with Rio Pará, 2°02'S, 49°17'W, Pará, Brazil, 10-14 m. Holotype: MZUSP 48550.

Maximum length: 1.58 cm SL

Distribution: South America: Lower Amazon River basin.

Countries: Brazil

PLATYSTACUS

Platystacus Bloch, 1794: 52. Type species: *Platystacus cotylephorus* Bloch, 1794. Type by subsequent designation by Bleeker (1862: 19). Gender: masculine. Revised by Friel (1994: 86), with species diagnosis, geographical distribution and phylogenetic analysis.

Platysomatos Bloch, 1797: 115. Type species: *Platystacus cotylephorus* Bloch, 1794. Type by being a replacement name. Gender: masculine.

Cotylephorus Swainson, 1838: 354. Type species: *Cotylephorus blochii* Swainson, 1838. Type by monotypy. Gender: masculine.

***Platystacus cotylephorus* Bloch, 1794**

Platystacus cotylephorus Bloch, 1794: 54, pl. 372. Type locality: Ostindischen Gewässer [East Indian type locality is clearly in error; certainly from South America]. Syntypes: ZMB 3157.

Silurus hexadactylus La Cépède, 1803: 58, 82. Type locality: no locality. No types known.

Cotylephorus blochii Swainson, 1838: 354, fig. 90. Type locality: Ostindischen Gewässer [East Indian type locality is clearly in error; certainly from South America]. Syntypes: ZMB 3157. Also in Swainson 1839: 308. Unneeded new name for *Platystacus cotylephorus* Bloch to avoid Stricklandian tautonymy.

Aspredo sexcirrhis Valenciennes in Cuvier & Valenciennes, 1840: 441 [326 of Strasbourg deluxe ed.]. Type locality: Surinam [= Suriname]. Syntypes: MNHN A.9313.

Aspredo spectrum Gronow in Gray, 1854: 137. Type locality: in fluminibus Americas Meridionalis [= South America]. No types known.

Platystacus nematophorus Bleeker, 1862: 371. Type locality: Surinama [= Suriname]. Holotype: RMNH 3105.

Maximum length: 31.8 cm SL

Distribution: Western Central Atlantic: Venezuela to northern Brazil; including the lower portions of coastal rivers.

Countries: Brazil, French Guiana, Guyana, Suriname, Trinidad and Tobago, Venezuela

Remarks and references: See Mees (1987: 186) for detailed description. Friel (1994: 86) removed this species from *Aspredo* to preserve monophyly of that genus.

Common names: Grongron (French Guiana), Poson-kronkron (French Guiana)

PTEROBUNOCEPHALUS

Pterobunocephalus Fowler, 1943: 1. Type species: *Bunocephalus albifasciatus* Fowler, 1943. Type by original designation. Gender: masculine. Fowler (1954: 45) elevated *Pterobunocephalus* from a subgenus to genus.

Petacara Böhlke, 1959: 2. Type species: *Bunocephalus dolichurus* Delsman, 1941. Type by original designation. Gender: neuter.

***Pterobunocephalus depressus* (Haseman, 1911)**

Bunocephalus depressus Haseman, 1911: 319, pls. 48 (fig. 1), 49. Type locality: Río Machupo near San Joaquín, Bolivia. Holotype: FMNH 54338 [ex CM 2984].

Bunocephalus albifasciatus Fowler, 1943: 2, fig. 1. Type locality: Todos Santos, Bolivia. Holotype: ANSP 69193.

Maximum length: 8.9 cm SL

Distribution: South America: Amazon, Orinoco and Paraguay River basins.

Countries: Bolivia, Brazil, Ecuador, Paraguay, Venezuela

Remarks and references: See Mees (1989: 233) for detailed description. Note there may be one or more undescribed species within this single nominal species.

***Pterobunocephalus dolichurus* (Delsman, 1941)**

Bunocephalus dolichurus Delsman, 1941: 77, fig. 12. Type locality: Trombetas-river, near Obidos. Holotype: IRSNB 359.

Maximum length: 6.7 cm SL

Distribution: South America: Amazon River basin

Countries: Brazil, Peru

Remarks and references: See Böhlke (1959: 3) for detailed description.

XYLIPHIIUS

Xyliphius Eigenmann, 1912a: 10. Type species: *Xyliphius magdalenae* Eigenmann, 1912a. Type by monotypy. Gender: masculine. Spelled two ways in original description: *Xyliphius* and *Xiliphius*.

***Xyliphius barbatus* Alonso de Arámburu & Arámburu, 1962**

Xyliphius barbatus Alonso de Arámburu & Arámburu, 1962: 219, figs. 1-2. Type locality: Río Paraná en Rosario, Provincia de Santa Fe, Argentina. Holotype: MLP 12-VII-60-26. Holotype and paratype are apparently lost.

Xyliphius labrosus Risso & Risso, 1964: 11. Type locality: Introduced as a nomen nudum, but clearly in reference to the nominal *Xyliphius* species described by Arámburu & Arámburu.

Maximum length: 9.2 cm SL

Distribution: South America: Paraguay-Paraná River basin.

Countries: Argentina

***Xyliphius kryptos* Taphorn & Lilystrom, 1983**

Xiliphius kryptos Taphorn & Lilystrom, 1983: 43, fig. 1. Type locality: Cerca del Puente de la carretera 6 sobre el Río Aricausá, Estado Zulia, Venezuela. Holotype: MCNG 1224.

Maximum length: 11 cm SL

Distribution: South America: Lake Maracaibo basin.

Countries: Venezuela

Remarks and references: See Taphorn & Lilystrom (1983: 43) for detailed description.

***Xyliphius lepturus* Orcés, 1962**

Xyliphius lepturus Orcés, 1962: 50, figs. 1-2. Type locality: Cerca de Desembocadura del río Pucayacu en el Bobonaza [Ecuador]. Holotype: Author's coll. 1307.

Maximum length: 13.2 cm SL

Distribution: South America: Upper Amazon and Orinoco River basins.

Countries: Colombia, Ecuador, Venezuela

***Xyliphius lombarderoi* Risso & Risso, 1964**

Xyliphius lombarderoi Risso & Risso, 1964: 12, pl. 1 (figs. 1-2). Type locality: el Riacho Barranqueras [Paraná, Argentina]. Holotype: personal collection of authors.

Maximum length: 9.9 cm SL

Distribution: South America: Paraná River basin.

Countries: Argentina

***Xyliphius magdalenae* Eigenmann, 1912**

Xyliphius magdalenae Eigenmann, 1912a: 10. Type locality: Gi-

rardot [Colombia]. Holotype: FMNH 56039 [ex CM 4829].

Maximum length: 8 cm SL

Distribution: South America: Magdalena River basin.

Countries: Colombia

***Xyliphius melanopterus* Orcés, 1962**

Xyliphius melanopterus Orcés, 1962: 52, figs. 3-4. Type locality: el bajo Pucayacu no lejos de su desembocadura en el Bobonaza [Ecuador]. Holotype: Author's coll. 2021.

Maximum length: 14.7 cm SL

Distribution: South America: Upper Amazon and Orinoco River basins.

Countries: Ecuador, Peru, Venezuela

References

Alonso de Arámburu, A. and R.H. Arámburu. 1962. Una nueva especie de *Xyliphius* de la Argentina (Siluriformes, Bunocephalidae). *Physis* (Buenos Aires), 23 (65): 219-222.

Bleeker, P. 1858. De visschen van den Indischen Archipel. Beschreven en toegelicht. *Siluri. Acta Soc. Sci. Indo-Neerl.*, 4: i-xii + 1-370.

Bleeker, P. 1862. Descriptions de quelques espèces nouvelles de Silures de Suriname. *Versl. Akad. Amsterdam*, 14: 371-389.

Bleeker, P. 1864. Description des espèces de Silures de Suriname, conservées aux Musées de Leide et d'Amsterdam. *Natuurk. Verh. Holland. Maatsch. Wet. Haarlem* (Ser. 2), 20: 1-104, pls. 1-16.

Bloch, M.E. 1794. *Naturgeschichte der ausländischen Fische*, Vol. 8. Berlin. iv + 174 p., pls. 361-396.

Bloch, M.E. 1797. *Ichthyologie, ou Histoire naturelle des Poissons*, vol. 12. Berlin.

Böhlke, J.E. 1959. Results of the Catherwood Foundation Peruvian Amazon Expedition. *Petacara*, a new genus for the bunocephalid catfish, *Bunocephalus dolichurus* Delsman. *Notulae Naturae (Philadelphia)*, (318): 1-6.

Boulenger, G.A. 1891. An account of the siluroid fishes obtained by Dr. H. von Ihering and Herr Sebastian Wolff in the Province Rio Grande do Sul, Brazil. *Proc. Zool. Soc. Lond.*, 1891 (2): 231-235, pls. 25-26.

Boulenger, G.A. 1902. Descriptions of new fishes and reptiles discovered by Dr. F. Silvestri in South America. *Ann. Mag. Nat. Hist.*, (Ser. 7), 9 (52): 284-288.

Cope, E.D. 1870. Contribution to the ichthyology of the Marañon. *Proc. Am. Philos. Soc.*, 11: 559-570.

Cope, E.D. 1874. On some Batrachia and Nematognathi brought from the upper Amazon by Prof. Orton. *Proc. Acad. Nat. Sci. Philadelphia*, 26: 120-137.

Cuvier, G. and A. Valenciennes. 1840. *Histoire naturelle des poissons*. Tome quinzisième. Suite du livre dix-septième. *Siluroïdes*. Ch. Pitois & V.° Levraut, Paris & Strasbourg. xxxi + 540 p., pls. 421-455.

Delsman, N.C. 1941. Résultats scientifiques des croisières du Navire-école Belge "Mercator", vol. III, No. 3. *Pisces. Mém. Mus. R. Hist. Nat. Belg.* (Ser. 2), (21): 47-82.

Eigenmann, C.H. 1910. Catalogue of the fresh-water fishes of tropical and south temperate America. In: Reports of the Princeton University expeditions to Patagonia 1896-1899, *Zoology*: 375-511.

Eigenmann, C.H. 1912a. Some results from an ichthyological reconnaissance of Colombia, South America. Part I. *Indiana Univ. Studies*, no. 16 [sic no. 8]: 1-27.

Eigenmann, C.H. 1912b. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. *Mem. Carnegie Mus.*, 5 (1): i-xxii + 1-578, pls. 1-103.

Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II.- The high pampas of Peru, Bolivia, and northern Chile.

Check List of the Freshwater Fishes of South and Central America

- With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. Univ. Kentucky. Fishes West. S. America. xv + 494 p., pls. 1-22.
- Eigenmann, C.H. and R.S. Eigenmann. 1889. Preliminary notes on South American Nematognathi. II. Proc. California Acad. Sci. (Ser. 2), 2: 28-56.
- Eigenmann, C.H. and C.H. Kennedy. 1903. On a collection of fishes from Paraguay, with a synopsis of the American genera of cichlids. Proc. Acad. Nat. Sci. Philadelphia, 55: 497-537.
- Eigenmann, C.H., W.L. McAtee and D.P. Ward. 1907. On further collections of fishes from Paraguay. Ann. Carnegie Mus., 4 (2): 110-157, pls. 31-45.
- Fernández-Yépez, A. 1953. Algunas notas sobre los peces Asprediformes con descripción de *Ernstichthys anduzei*, nuevo e interesante bunocephalido. Noved. Cient. Mus. Hist. Nat. La Salle (Ser. Zool.), (11): 1-6, 1 pl.
- Ferraris, C.J., Jr. 1991. On the type species of *Bunocephalus* (Siluriformes: Aspredinidae). Copeia, 1991 (1): 224-225.
- Fowler, H.W. 1940. Zoological results of the second Bolivian expedition for the Academy of Natural Sciences of Philadelphia, 1936-1937. Part I.--The fishes. Proc. Acad. Nat. Sci. Philadelphia, 92: 43-103.
- Fowler, H.W. 1943. Zoological results of the second Bolivian expedition for the Academy of Natural Sciences of Philadelphia, 1936-1937. Part II.--Additional new fishes. Not. Nat. (Philadelphia), (120): 1-7.
- Fowler, H.W. 1954. Os peixes de água doce do Brasil. Vol. 2. Arquivos Zoologia do Estado de São Paulo. 9: 1-400.
- Friel, J.P. 1994. A phylogenetic study of the Neotropical banjo catfishes (Teleostei: Siluriformes: Aspredinidae). Unpublished Ph.D. Thesis, Duke University, 256 p.
- Friel, J.P. 1995. *Acanthobunocephalus nicoi*, a new genus and species of miniature banjo-catfish from the upper Orinoco and Casiquiare rivers, Venezuela (Siluriformes: Aspredinidae). Ichthyol. Explor. Freshwaters, 6: (1): 89-95.
- Friel, J.P. and J.G. Lundberg. 1996. *Micromyzon akamai*, gen. et sp. nov., a small and eyeless banjo catfish (Siluriformes: Aspredinidae) from the River Channels of the lower Amazon basin. Copeia, 1996 (3): 641-648.
- Gray, J.E. 1854. Catalogue of fish collected and described by Laurence Theodore Gronow, now in the British Museum. London. vii + 196 p.
- Güntert, H. 1942. Beschreibung einiger zum Teil noch unbekannter südamerikanischer Siluriden aus dem Naturhistorischen Museum in Basel. Zool. Anz., 138 (1/2): 27-40.
- Günther, A. 1864. Catalogue of the fishes in the British Museum. Vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiidae in the collection of the British Museum. Trustees, London. xxii + 455 p.
- Haseman, J.D. 1911. Descriptions of some new species of fishes and miscellaneous notes on others obtained during the expedition of the Carnegie Museum to central South America. Ann. Carnegie Mus., 7 (3-4): 315-328, pls. 46-52.
- Hoedeman, J.J. 1961. Notes on the ichthyology of Surinam and other Guianas. 8. Additional records of siluriform fishes (2). Bull. Aquatic Biol., 2 (23): 129-139.
- Ihering, R. von. 1930. Notas ecológicas referentes a peixes d'água doce do Estado de S. Paulo e descrição de 4 espécies novas. Arch. Inst. Biol. São Paulo, 3: 93-103, pl. 13.
- Jordan, D.S. 1919. The genera of fishes, part III, from Guenther to Gill, 1859-1880, twenty-two years, with the accepted type of each. A contribution to the stability of scientific nomenclature. Leland Stanford Jr. Univ. Publ., Univ. Ser., (39): 285-410.
- Kner, R. 1855. Ichthyologische Beiträge. Sitzungsber. Akad. Wiss. Wien, 17: 92-162, pls. 1-6.
- La Cepède, B.G.E. 1803. Histoire naturelle des poissons. Vol. 5. Chez Plassan, Paris. lxxviii + 803 p. + index, pls. 1-21.
- Linnaeus, C. 1758. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Tomus I. Editio decima, reformata. Holmiae. ii + 824 p.
- Mees, G.F. 1987. The members of the subfamily Aspredinae, family Aspredinidae in Suriname (Pisces, Nematognathi). Proceedings of the Koninklijke Nederlandse Akademie van Wetenschappen, 90 (2): 173-192.
- Mees, G.F. 1988. The genera of the subfamily Bunocephalinae (Pisces, Nematognathi, Aspredinidae). Proceedings of the Koninklijke Nederlandse Akademie van Wetenschappen, 91 (1): 85-102.
- Mees, G.F. 1989. Notes on the genus *Dysichthys*, subfamily Bunocephalinae, family Aspredinidae (Pisces, Nematognathi). Proc. K. Ned. Akad. Wet. (Ser. C, Biol. Med. Sci.), 92 (2): 189-250.
- Miranda Ribeiro, P. 1944. Uma nova espécie para o gênero *Bunocephalus* Kner, 1855 (Pisces -- Aspredinidae). Bol. Mus. Nac. Rio de Janeiro Zool. (N. S.), (13): 1-3.
- Myers, G.S. 1927. Descriptions of new South American freshwater fishes collected by Dr. Carl Ternetz. Bull. Mus. Comp. Zool., 68 (3): 107-135.
- Myers, G.S. 1942. Studies on South American fresh-water fishes. I. Stanford Ichthyol. Bull., 2 (4): 89-114.
- Orcés V., G. 1961. Hallazgo de peces de los géneros *Xiliphius* y *Haplomyzon* en el sistema del Amazonas. Descripción de una nueva especie. Cienc. Nat. (Quito), 4 (1): 3-6.
- Orcés V., G. 1962. Dos nuevos peces del género *Xyliphius*. Cienc. Nat. (Quito), 5 (2): 50-54, 1 pl.
- Pearson, N.E. 1924. The fishes of the eastern slope of the Andes. I. The fishes of the Rio Beni basin, Bolivia, collected by the Mulford expedition. Indiana Univ. Studies, 11 (64): 1-83, pls. 1-12.
- Pearson, N.E. 1937. The fishes of the Atlantic and Pacific slopes near Cajamarca, Peru. Proceedings of the California Academy of Sciences, Ser. 4, 23 (7): 87-98, pls. 12-13.
- Risso, F.J.J. and E.N.P. Risso. 1964. Hallazgo de una nueva especie de *Xyliphius* en el Paraná (Pisces--Aspredinidae). Not. Mus. Cienc. Nat. Chaco, 1 (2): 11-16.
- Schultz, L.P. 1944. The catfishes of Venezuela, with descriptions of thirty-eight new forms. Proc. U. S. Natl. Mus., 94 (no. 3172): 173-338, pls. 1-14.
- Scopoli, G.A. 1777. Introductio ad historiam naturalem, sistens genera lapidum, plantarum et animalium hactenus detecta, characteribus essentialibus donata, in tribus divisa, subinde ad leges naturae. Prague. Introd. Hist. Nat., x + 506 p.
- Steindachner, F. 1882a. Beiträge zur Kenntniss der Flussfische Südamerikas (IV). Anz. Akad. Wiss. Wien, 19 (19): 175-180.
- Steindachner, F. 1882b. Beiträge zur Kenntniss der Flussfische Südamerikas. IV. Denkschr. Akad. Wiss. Wien, 46 (for 1883): 1-44, pls. 1-7.
- Stewart, D.J. 1985. A review of the South American catfish tribe Hoplomyzontini (Pisces, Aspredinidae), with descriptions of new species from Ecuador. Fieldiana Zool. (N. S.), (25): i-iii + 1-19.
- Swainson, W. 1838. The natural history and classification of fishes, amphibians, & reptiles, or monocardian animals. vol. 1. London. vi + 368 p.
- Swainson, W. 1839. The natural history and classification of fishes, amphibians, & reptiles, or monocardian animals. vol. 2. London. vi + 448 p.
- Taphorn, D.C. and C.G. Lilystrom. 1983. Un nuevo pez del género *Xiliphius* (Aspredinidae) de Venezuela. Rev. Unellez Cien. Tec., 1 (1): 43-44, unnumbered plate.
- Taphorn, D.C. and C. Marrero. 1990. *Hoplomyzon sexpapilostoma*, a new species of Venezuelan catfish (Pisces: Aspredinidae), with comments on the Hoplomyzontini. Fieldiana Zool. (N. S.), (61): 1-9.
- Walbaum, J.J. 1792. Petri Artedi Sueci Genera piscium. In quibus systema totum ichthyologiae proponitur cum classibus, ordinibus, generum characteribus, specierum differentiis, observationibus plurimis. Redactis speciebus 242 ad genera 52. Ichthyo-

Check List of the Freshwater Fishes of South and Central America

- logiae, pars iii. 723 p., 3 pl.
- Wetzel, J., J.P. Wourms, and J.P. Friel. 1997. Comparative morphology of cotypephores in *Platystacus* and *Solenostomus*: modifications of the integument for egg attachment in skin-brooding fishes." *Env. Bio. Fishes*, 50(1): 13-25.

Family Nematogenyidae (Mountain catfishes)

Mário C. C. de Pinna

This family includes a single species from the Pacific drainages of central Chile, *Nematogenys inermis*, with other names available being obvious synonyms based on intraspecific color variations. Nevertheless, the presence of populations in basins that open directly to the ocean along the Chilean versant implies that they must be isolated. Whether there has been differentiation deserving of specific recognition remains to be determined. An updated study on populational variation in *Nematogenys* is in order. *Nematogenys inermis* has always been allied with the Trichomycteridae, reflected in its original description in the genus *Trichomycterus*. Indeed, the species greatly resembles a generalized trichomycterid in the posterior position of the dorsal fin, the absence of dorsal-fin spines and presence of a small nasal barbel on the anterior nostril. On the other hand, it differs from trichomycterids in the presence of pectoral-fin spines, lack of rictal barbels, and lack of opercular and interopercular odontode patches (and associated lack of anatomical specializations in the structure of the respective bones). *Nematogenys inermis* was included in the Trichomycteridae for most of its taxonomic history, though widely recognized as the most “primitive” or “generalized” member of the family. A separate Nematogenyidae was proposed by Eigenmann (1927). That proposal was rejected by most subsequent authors, who continued to include *Nematogenys* in Trichomycteridae, as subfamily Nematogenyinae. The situation changed with Baskin (1973), who hypothesized *Nematogenys* as the sister group to all other loricarioids. That hypothesis required recognition of Nematogenyidae in order to avoid a paraphyletic Trichomycteridae. Since then, Nematogenyidae has been normally recognized. The idea of the two taxa as closest relatives was resurrected by de Pinna (1992). The change of hypotheses was due in part to the inclusion of basal trichomycterids *Trichogenes* and copionodontines in the analysis of relationships. Those taxa considerably bridge the morphological gap between *Nematogenys* and more distal trichomycterids, resulting in character conflict and changes in the interpretation of character-state evidence. In the new hypothesis, inclusion of *Nematogenys* in Trichomycteridae is again possible, but de Pinna (1992) suggested maintaining a separate Nematogenyidae, in order not to change its widespread use in the literature by then.

Nematogenys inermis is a relict species. It retains many character states which are representative of the plesiomorphic condition in the common ancestor of Loricarioidea, but modified in all other Recent lineages of the group. *Nematogenys inermis* is the single most important species in understanding relationships of loricarioids to other siluriforms. Surprisingly, relatively little is known about the anatomy of *Nematogenys*. Although fragmentary information is available in a number of publications (e.g., Peyer, 1922; Eigenmann, 1927; Baskin, 1973; Arratia & Chang, 1975; Arratia, 1992; Arratia & Huaquin, 1995; de Pinna 1992, 1998), a complete description of its osteology is still unavailable. A fossil species of *Nematogenys*, *N. cuivi*, was described from the Cura-Mallín Formation Miocene deposits of central Chile (Azpelicueta & Rubilar, 1998), a locality within the present distribution of *N. inermis*. The fossil is remarkably similar to *N. inermis*, but only its head is preserved.

Nematogenys inermis seems to be a highly threatened species, although no detailed studies are available to adequately assess its conservation status. Anecdotal information indicates that it has been extirpated from most of its original range, as a result of habitat degradation and introduction of alien species (trout in particular). The species was reported to be common in Santiago fish markets, and a common dish in restaurants in the region during the early part of the 20th century (Eigenmann, 1927). The situation has changed drastically, and even specimens for scientific study are hard to come by today. Apparently, the destruction of adjacent terrestrial vegetation has also had a negative impact on the species' survival, since *N. inermis* is associated with submerged roots of trees (especially *Salix chilensis*) growing along river banks. Ecological information on the species is provided in Arratia (1983).

NEMATOGENYS

Nematogenys Girard, 1855: 198. Type species: *Trichomycterus inermis* Guichenot, 1848. Type by monotypy. Gender: feminine.

***Nematogenys inermis* (Guichenot, 1848)**

Trichomycterus inermis Guichenot, 1848: 312, pl. 9 (fig. 2). Type locality: Chile. No types known.

Nematogenys nigricans Philippi, 1866: 716. Type locality: Chile. No types known.

Nematogenys pallidus Philippi, 1866: 716. Type locality: Chile. No types known.

Maximum length: largest specimen examined by the author was 240 mm SL, but Eigenmann (1927) reports a specimen of 407 mm (not specified if SL or TL). There is evidence that the species can grow even larger, although specimens over 200 mm SL are unusual at present.

Distribution: South America: Originally throughout most of Central Chile, in the latitudes approximately between present cities of Valparaíso in the North to Osorno in the South. Currently

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restricted to few spots mainly in regions of Concepción, Rancagua and Angol.
Countries: Chile

References

- Arratia, G. 1983. Preferencias de habitat de peces siluriformes de aguas continentales de Chile (Fam. Diplomystidae y Trichomycteridae). Studies on Neotropical Fauna and Environment, 18: 217-237.
- Arratia, G. 1992. Development and variation of the suspensorium of primitive catfishes (Teleostei: Ostariophysi) and their phylogenetic relationships. Bonner Zoologische Monographien, 32: 1-148.
- Arratia, G. and A. Chang. 1975. Osteocráneo de *Nematogenys inermis* Guichenot, 1848, y consideraciones acerca de la primitividad del género (Pisces, Siluriformes, Trichomycteridae). Museo Nacional de Historia Natural, Santiago de Chile, Publicación Ocasional, 19: 3-7.
- Arratia, G. and L. Huaquin. 1995. Morphology of the lateral line system and of the skin of diplomystid and certain primitive loricarioid catfishes and systematic and ecological considerations. Bonner Zoologische Monographien 36: 1-110.
- Azpelicueta, M. and A. Rubilar. 1998. A miocene *Nematogenys* (Teleostei: Siluriformes: Nematogenyidae) from South-Central Chile. Journal of Vertebrate Paleontology, 18 (3): 475-483.
- Baskin, J.N. 1973. Structure and relationships of the Trichomycteridae. Unpublished Ph.D. Dissertation, City University of New York, New York, XXI + 389pp.
- Eigenmann, C.H. 1927. The freshwater fishes of Chile. Mem. Nat. Acad. Sci., Washington, 22 (2): 1-63.
- Girard, C.F. 1855. Contributions to the fauna of Chile. Report to Lieut. James M. Gilliss, U. S. N., upon the fishes collected by the U. S. Naval Astronomical Expedition to the southern hemisphere during the years 1849-50-51-52. Washington. 1858, 2 vols., 42 pls.
- Guichenot, A. 1848. Fauna Chilena. Peces. Pp. 137-370. In: C. Gay, Historia física y política de Chile. Vol. 2, Zoología. Paris & Santiago.
- Peyer, B. 1922. Über die Flossenstacheln der Welse und Panzerwelse, sowie des Karpfens. Morph. Jahrb., 51: 493-554.
- Philippi, R.A. 1866. Bemerkungen über die chilenischen Flussfische. Monatsb. Akad. Wiss. Berlin, 1866: 708-717.
- de Pinna, M.C.C. 1992. A new subfamily of Trichomycteridae (Teleostei, Siluriformes), lower loricarioid relationships and a discussion on the impact of additional taxa for phylogenetic analysis. Zool. J. Linn. Soc., 106: 175-229.
- de Pinna, M.C.C. 1998. Phylogenetic relationships of Neotropical Siluriformes (Teleostei: Ostariophysi): Historical overview and synthesis of hypotheses. Pp. 279-330 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M. Lucena and C.A.S. Lucena (eds.). Phylogeny and classification of Neotropical fishes. Porto Alegre, Edipucrs.

Family Trichomycteridae (Pencil or parasitic catfishes)

Mário C. C. de Pinna and Wolmar Wosiacki

The fishes united into the family Trichomycteridae form a well-corroborated and cohesive monophyletic group. The most conspicuous external characteristic of the group is the presence of a patch of odontodes on the interopercle, visible in ventral or ventrolateral aspect of the head. The interopercular odontodes have been lost in a few lineages, such as the genera *Pygidianops*, *Typhlobelus* and *Glanapteryx*, of the subfamily Glanapteryginae. Even in those taxa, however, the interopercle has a modified shape typical of other trichomycterids. Also, juvenile specimens of *Glanapteryx anguilla* have a few interopercular odontodes (de Pinna, 1989), further supporting the view that their absence is secondary in those taxa. In one species, *Megalocentor echthrus*, of the subfamily Stegophilinae, there is a single hypertrophied interopercular odontode. A second patch of odontodes, in the opercle, is also present in most trichomycterids, but is absent in all members of Copionodontinae, in the stegophilines *Megalocentor* and *Apomatoceros*, and in the glanapterygines *Pygidianops*, *Typhlobelus* and *Glanapteryx*. Other characteristics of trichomycterids are the presence of a pair of barbels at the angle of the mouth (the maxillary barbel dorsally and the rictal barbel ventrally, the latter very reduced in some stegophilines and vandelliines), the lack of pectoral- and dorsal-fin spines; the presence of anterior procurent rays of the dorsal fin; the total lack of a dorsal-fin spine-locking mechanism; the dorsal fin located on the middle or posterior half of SL, the presence of nasal barbels on the anterior nostrils (absent or very reduced in stegophilines, vandelliines and many tridentines); the presence of i+4 pelvic-fin rays (except in copionodontines and trichogenines, with i+6) and the lack of adipose fin (except in copionodontines).

The distribution of the Trichomycteridae covers practically all of South America. Species of the genus *Hatcheria* have long been recognized as the southernmost record of any primary freshwater fish worldwide (Darlington, 1957), extending into Patagonia as far as 45°30'S (Arratia, 1981). To the north, species of *Trichomycterus* have been recorded from Panama and Costa Rica. Only the Trichomycterinae are present throughout the whole range of distribution of the family, and are the only ones occurring west of the Andes. The small Southeastern Brazilian drainages have a single parasitic form, the stegophiline *Homodiaetus passarellii*, plus one sarcoglanidine (*Microcambeva barbata*) and glanapterygines of the genus *Listrua*. The Paraná-Paraguay system is inhabited by a single vandelliine (*Paravandellia oxyptera*, with various junior synonyms), a few stegophilines (*Ochmacanthus batrachostoma*, *Parastegophilus maculatus*, *P. paulensis*) and two tridentines (*Tridentopsis cahuali* and *T. pearsoni*). The São Francisco drainage has a single parasitic form (*Stegophilus insidiosus*). Also a single parasitic species, the vandelliine *Paravandellia phaneronema*, is present in the Magdalena system. The largest diversity of Trichomycteridae is found in the Amazon basin, where all subfamilies have their richest representation, except for the Trichomycterinae, which are surprisingly few there, and the Copionodontinae and Trichogeninae, which are relicts endemic to other basins. The Orinoco has the same subfamilial representation as the Amazon, with the exception of the Sarcoglanidinae, and even that is probably a sampling artifact. The total number of species in the Orinoco is smaller, however. In the rivers draining the Guianas, only the Trichomycterinae, Stegophilinae and Vandelliinae have been recorded so far.

The major gap in the distribution of Trichomycteridae is the Parnaíba River basin, in Northeastern Brazil. The fish fauna of the Parnaíba is evidently allied to that of the Amazon basin. Included are many of the large pimelodid species which are often associated with the parasitic vandelliines and stegophilines. Nevertheless, none of the parasitic forms has been found as yet. The fish fauna of the middle and lower portions of the Parnaíba has been relatively sampled. Although no extensive ichthyological survey has been undertaken, it seems unlikely that any lowland trichomycterids therein would not yet have been secured so far. The upper portions and headwaters, however, remain virtually unexplored. It is possible that yet unknown trichomycterids inhabit those reaches.

The ecology of trichomycterids is among the most fascinating of any fish, mostly due to the presence of parasitic specializations in the clade including vandelliines and stegophilines. The hematophagous habits of vandelliines are widely known, though detailed information is still unavailable. Examination of stomach contents of museum specimens show that all vandelliines feed exclusively on blood, which they take by inserting their heads into the branchial chamber of the host and lacerating a major vessel with their specialized teeth. At least the larger species of *Vandellia* seem to aim consistently for a branchial artery or vein, not damaging the gill filaments. There have been reports of vandelliines (e.g., *Plectrochilus diabolicus*) caught with their heads inserted in the abdominal cavity of the host, which indicates that there may be pronounced variation in the feeding habits in the subfamily. Most species of vandelliines associate with the host only during feeding, leaving the larger fish immediately or shortly after filling their stomach. Species of the genus *Paracanthopoma*, on the other hand, seem to attach to the outer surface of the body of large fish even when not feeding. Apparently they attach and

cruise along with the host for reasons additional to feeding. The Stegophilinae are all scale- and mucus-eaters, and their feeding habits have been studied on few occasions (Winemiller & Yan, 1989). Apparently, some stegophilines also rasp skin and superficial flesh, and have been reported to be attracted to chunks of flesh. (Luling, 1984). *Pareiodon microps* is specialized on eating chunks of flesh, especially from wounded or dead fish, in a manner similar to that reported for large cetopsids (such as *Cetopsis coecutiens*) and the pimelodid *Callophrys macropterus*.

The Trichomycteridae is currently divided into nine subfamilies: Copionodontinae, Trichogeninae, Trichomycterinae, Sarcoglanidinae, Glanapteryginae, Tridentinae, Stegophilinae, Vandelliinae and Pareiodontinae. The latter is included in Stegophilinae by some authors (e.g., Baskin, 1973), an opinion followed here. All of those subfamilies are demonstrably monophyletic, except for the Trichomycterinae.

The Stegophilinae is composed of species which specialize in eating mucus and scales of other fish. In many cases, they also rasp the superficial integumentary tissues of the host. The list below includes a few changes in the taxonomy of the group. The genus *Parastegophilus* is maintained, but the synonymy between *Stegophilus maculatus* and *S. paulensis*, proposed by Miranda Ribeiro (1946) is rejected. Examination of specimens leave no doubt that the two species are distinct. They are also allopatric in distribution. *Parastegophilus maculatus* is restricted to the lower portions of the Paraná and Prata, while *P. paulensis* occurs in the upper Paraná. The Paraguay basin is inhabited by yet another species, still undescribed.

Acanthopoma bondi was included by Myers (1942) in that genus because of its branchial membranes free from the isthmus, similar to the condition in the type of *Acanthopoma*, *A. annectens*. Examination of anatomical material of the two species revealed that they are not closest relatives. Rather, *A. bondi* seems to be the closest relative of *Schultzichthys*, a poorly-known genus from Colombia. No material of the only species in the genus, *S. gracilis*, is available, all types having been lost and no new material having been collected since. However, information in the original description indicate that *S. gracilis* is very similar to *A. bondi*. Evidence comes mainly from the shared presence of a deep suborbital groove (clearly illustrated in the original description of *S. gracilis*) that dorsally separates the lateral portion of the upper lip from the rest of the head. This characteristic is not present in any other stegophiline known. Similarities in internal anatomy further indicate that the relationships of *S. bondi* (and supposedly *S. gracilis* as well) are closer with the type species of *Homodiaetus*, *H. anisitsi*, rather than with *A. annectens*, type of *Acanthopoma*. So, there is no reason to maintain *S. bondi* in *Acanthopoma*. The same argument applies to the species described as *Homodiaetus haemomyzon* Myers. Anatomical comparisons show that its phylogenetic relationships lie closer with *Pseudostegophilus nemurus* than with *Homodiaetus anisitsi*, respective type-species of their genera. The species is therefore referred to as *Pseudostegophilus haemomyzon*.

The enigmatic genus *Pleurophysus*, with its single species *P. hydrostaticus*, was previously thought to be a stegophiline (Myers, 1944; Baskin, 1973). Examination of the types reveals that it is actually a vandelliine, and a junior synonym of *Paravandellia*.

The Sarcoglanidinae is perhaps the least known of trichomycterid subfamilies. Most of its species are highly specialized inhabitants of sandy environments, and are rarely sampled. Their psamic adaptations are reflected in their reduced dark pigmentation and translucent body tissues. In one case (*Stauroglanis*), the live fish is highly transparent and nearly invisible in its habitat. The possible exception to this pattern is *Stenolicmus*, which has intense integumentary dark pigment. Unfortunately, its microhabitat is unknown. The taxonomy of Sarcoglanidinae is presently quite simple, and no modifications are proposed herein. All five genera in the subfamily are currently monotypic, but this situation is expected to change soon in view of the numerous sarcoglanidine species that still await description.

The Glanapteryginae is another peculiar and poorly known trichomycterid subgroup. The phylogenetic progression of adaptation to interstitial environments seen in various glanapterygine taxa is remarkable. At the base of the cladogram there are generalized forms included in *Listrura*, so far restricted to coastal regions of Southeastern Brazil. They are darkly-pigmented and eyed inhabitants of shallow leaf-litter pools. At the other extreme there are the genera *Pygidianops* and *Typhlobelus*, which are white, blind (or nearly blind) and mostly finless fishes which occur in sandy bottoms or sand banks of rivers in the Amazon and Orinoco systems. In between these extremes there is *Glanapteryx*, with its two eel-like species, whose habitat is unknown in detail but involves leaf litter deposits. As with the Sarcoglanidinae, knowledge about glanapterygine biodiversity is considered to be grossly incomplete. Their taxonomy is quite satisfactory insofar as their known diversity goes and the account herein does not include any changes.

The Copionodontinae is a relatively recent discovery. The subfamily, its two genera and three species were described as new in a single publication (de Pinna, 1992). Since then, a fourth species has been described (Campanario & de Pinna, 2000). All copionodontines come from the Mucujê River basin, part of the Paraguaçu River drainage, which opens directly into the Atlantic Ocean. This subfamily is of special interest in a number of aspects. It is hypothesized as the sister group to all other trichomycterids, a position reflected in the relatively anterior position of their dorsal fin. In contrast to most other trichomycterids, copionodontines (or at least *Copionodon pecten*, which has been observed in nature and in aquaria) lack cryptic behavior, and swim continuously over the substrate. Even during evasive action, they do not attempt to hide under rocks. *Copionodon orthiocarinatus* was described on the basis of three small specimens only. Despite that, its diagnostic characters were so unambiguous that its specific distinctiveness was obvious. Since then, additional material including

adult specimens has been collected. These new specimens should form the basis of a redescription of the species. Copionodontines are the only trichomycterids with rasping teeth.

The Trichogeninae includes a single genus and species, *Trichogenes longipinnis*, described relatively recently (Britski & Ortega, 1983). It occurs in small isolated basins along a restricted region between the states of Rio de Janeiro and São Paulo, Southeastern Brazil. As with the Copionodontinae, *Trichogenes* is an active midwater or bottom swimmer which does not display cryptic behavior. In fact, there is some preliminary evidence that Copionodontinae and Trichogeninae may be sister groups (de Pinna, 1998), contrary to an earlier hypothesis (de Pinna, 1992) which placed them as successive sister groups to the remainder of the family.

The Trichomycterinae is the largest and most complex of trichomycterid subfamilies. A clear pattern is evident in the taxonomic history of trichomycterids which explains the situation with this group. All other subfamilies in the family have been traditionally diagnosed by one or more distinctive characters which can be interpreted as apomorphic. Indeed, all those subfamilies have been confirmed as monophyletic groups. The forms that lacked those characters were treated as leftovers, and united into a group of their own, diagnosed basically by the lack of specializations of the other subfamilies. This group is the subfamily Trichomycterinae. Though small in the beginning, gradually the number of forms in the Trichomycterinae accumulated to comprise approximately half of the species in the family. The non-monophyletic nature of the group was noticed first by Baskin (1973), and then by de Pinna (1989) and Costa & Bockmann (1993).

Despite its vastness in terms of number of species, relatively few genera are recognized in the Trichomycterinae. Additionally, most of them are monotypic. The majority of species are comprised in the genus *Trichomycterus*, again a non-monophyletic waste basket for species lacking the characters diagnostic of the other genera. A relatively large subset of *Trichomycterus* was shown to form a monophyletic group by Costa & Bockmann (1993), and split to a separate genus *Ituglanis*. Costa & Bockmann (1993) hypothesized *Ituglanis* as the sister group to a large clade composed of Glanapteryginae, Sarcoglanidinae, Tridentinae, Stegophilinae and Vandelliinae (called the TSVSG clade). Other than for *Ituglanis*, all other trichomycterine genera are of questionable phylogenetic significance. *Scleronema* is a small monophyletic clade composed of three species plus a few undescribed ones from Southern trans-Andean South America. *Eremophilus* includes its type-species from the plains of Bogota, *E. mutisii* - the earliest trichomycterid described - and *E. candidus*, from Southeastern Brazil. *Eremophilus* has been distinguished from *Trichomycterus* solely by the absence of pelvic fins in the former. *Eremophilus candidus* was included in that genus for that reason alone. Ongoing studies indicate that relationships of *E. candidus* lie with some species currently in *Trichomycterus*, rather than with *E. mutisii*. Therefore, the species is here transferred to *Trichomycterus*. The lack of pelvic fins is a character known to be highly homoplastic in the family. Remaining genera of the Trichomycterinae, *Rhizosomichthys*, *Hatcheria*, *Bullockia* and *Silvinichthys* are monotypic and based on autapomorphies only. Their phylogenetic position is unknown and they likely only make *Trichomycterus* more rampantly non-monophyletic. Despite that, all those genera are maintained in the present account, for want of a better alternative.

The only attempt so far at resolving relationships among “Trichomycterinae” in detail is Wosiacki (2002). As expected, the members of the subfamily are arranged in a highly asymmetrical (ladder-like) topology, forming a succession of sister groups to the TSVGS clade, above the Trichogeninae/Copionodontinae level. Transforming this hypothesis into a classification is a complicated procedure, since the distal portion of the cladogram is split into several subfamilies. A classification reflective of the real complexity of “Trichomycterinae” will require recognition of a number of new subfamilies and genera. For this contribution, we maintained the Trichomycterinae as currently composed, simply correcting some obvious cases of synonymy and other small-scale errors in the literature.

ACANTHOPOMA

Acanthopoma Lütken, 1892: 57. Type species: *Acanthopoma annectens* Lütken, 1892. Type by monotypy. Gender: neuter.

Acanthopoma annectens Lütken, 1892

Acanthopoma annectens Lütken, 1892: 53, figs. on p. 56. Type locality: Huallaga. Holotype: MTD F5245.

Maximum length: 12 cm

Distribution: South America: Upper and middle Amazon River basin.

Countries: Brazil, Peru

AMMOGLANIS

Ammoglanis Costa, 1994: 208. Type species: *Ammoglanis diaphanus* Costa, 1994. Type by original designation. Gender: masculine.

Ammoglanis diaphanus Costa, 1994

Ammoglanis diaphanus Costa, 1994: 208, fig. 1. Type locality: Stream trib. to Rio Javaés, Rio Araguaia basin, ca. 40 km north

of Araguaçu, 12°24'S, 49°58'W, Tocantin state, Brazil. Holotype: MNRJ 12442.

Maximum length: 1.87 cm SL

Distribution: South America: Stream tributary to Javaés River, Araguaia River basin.

Countries: Brazil

Ammoglanis pulex de Pinna & Winemiller, 2000

Ammoglanis pulex de Pinna & Winemiller, 2000: 257, fig. 1. Type locality: Venezuela: Estado Amazonas: Río Paria Grande at bridge on road between Pto. Ayacucho and Samariapo (5°23'N 67°37'W). Holotype: MBUCV-V-29040.

Maximum length: 1.49 cm SL

Distribution: South America: Paria Grande River, Pamoni River and Caño Garrapata.

Countries: Venezuela

APOMATOCEROS

Apomatoceros Eigenmann, 1922a: 113. Type species: *Apomatoceros alleni* Eigenmann, 1922. Type by monotypy. Gender: masculine.

***Apomatoceros alleni* Eigenmann, 1922**

Apomatoceros alleni Eigenmann, 1922a: 113, pls. 3 (figs. 1-4), 4 (fig. 9). Type locality: Río Morona, upper Amazon system, Peru. Holotype: CAS 56174 [ex IU 15500].
Maximum length: 14.6 cm SL
Distribution: South America: Amazon River basin.
Countries: Peru

BULLOCKIA

Bullockia Arratia, Chang, Menu-Marque & Rojas, 1978: 162, 187. Type species: *Hatcheria maldonadoi* Eigenmann, 1920. Type by monotypy. Gender: feminine.

***Bullockia maldonadoi* (Eigenmann, 1920)**

Hatcheria maldonadoi Eigenmann, 1920: 53. Type locality: ...lower course of the Río Nonguen where it passes through the ground of the Agricultural School, at the outskirts of Concepción [36°50' S 73° 03'W], Chile. Holotype: CAS 63842 [ex IU 15058]. Also described as new in Eigenmann (1927: 39, pl 8, figs. 2-2b). Lectotype established in pl. 8.

Hatcheria bullocki Fowler, 1940a: 180, figs. 14-15. Type locality: Angol [37°48'S 72°43'W], Chile. Holotype: ANSP 69145. Böhlke (1984: 163) commented that locality in publication is Angol, but catalog and label say "El Vergal".

Maximum length: 7 cm
Distribution: South America: Chile.
Countries: Chile

COPIONODON

Copionodon de Pinna, 1992b: 181. Type species: *Copionodon pecten* de Pinna, 1992. Type by original designation. Gender: masculine.

***Copionodon lianae* Campanario & de Pinna, 2000**

Copionodon lianae Campanario & de Pinna, 2000: 370, figs. 1-2. Type locality: Brazil: Bahia: Rio Grisante (Rio Mucujê basin), approx. 13°08'S 41°17'W. Holotype: MZUSP 81034 (holotype recatalogued after publication as MZUSP 42469).

Maximum length: 4.59 cm SL
Distribution: South America: Grisante River, tributary to Mucujê River (Paraguaçu River basin).
Countries: Brazil

***Copionodon orthiocarinatus* de Pinna, 1992**

Copionodon orthiocarinatus de Pinna, 1992b: 188, figs. 3-4. Type locality: Rio Mucujê, trib. of Rio Paraguaçu, Bahia, Brazil, ca. 13°00'S, 41°23'W, elev. 1200 m. Holotype: MZUSP 42463.

Maximum length: 7.5 cm SL
Distribution: South America: Mucujê River, tributary of Paraguaçu River.
Countries: Brazil

***Copionodon pecten* de Pinna, 1992**

Copionodon pecten de Pinna, 1992b: 182, figs. 1-2. Type locality: Rio Mucujê, trib. of R. Paraguaçu, Bahia, Brazil, ca. 13°00'S, 41°23'W, elev. 1200 m. Holotype: MZUSP 42461.

Maximum length: 6.22 cm SL
Distribution: South America: Mucujê River, tributary of Paraguaçu River.
Countries: Brazil

EREMOPHILUS

Eremophilus Humboldt, 1805: 17. Type species: *Eremophilus mutisii* Humboldt, 1805. Type by monotypy. Gender: masculine.

Thrichomycterus Humboldt, 1805: 18. Type species: *Eremophilus mutisii* Humboldt, 1805. Type by monotypy. Gender: masculine. Given as alternative name, but never used subsequently, for *Eremophilus* Humboldt.

Trachypoma Giebel, 1871: 97. Type species: *Trachypoma marmoratum* Giebel, 1871. Type by original designation. Gender: neuter. Preoccupied by *Trachypoma* Günther, 1859, in fishes; not replaced.

***Eremophilus mutisii* Humboldt, 1805**

Eremophilus mutisii Humboldt, 1805: 18, pl. 6. Type locality: petite rivière de Bogota, qui forme la fameuse catarate de Tequendama [Bogotá = 4°36'N 74°05'W; Tequendama = 4°36'N 74°10'W], Colombia. No types known.

Trachypoma marmoratum Giebel, 1871: 97. Type locality: obern Amazonenstrom.

Maximum length: 30 cm
Distribution: South America: Bogotá River basin. Probably introduced to Ubaté, Chinquinquirá and Tundama valleys, Colombia.
Countries: Colombia

GLANAPTERYX

Glanapteryx Myers, 1927: 128. Type species: *Glanapteryx anguilla* Myers, 1927. Type by original designation. Gender: feminine.

***Glanapteryx anguilla* Myers, 1927**

Glanapteryx anguilla Myers, 1927: 129. Type locality: Rapids of São Gabriel, Rio Negro system, Brazil. Holotype: CAS 56048 [ex IU 17700].

Maximum length: 6.14 cm TL
Distribution: South America: Negro and Orinoco River basins.
Countries: Brazil, Venezuela

***Glanapteryx niobium* de Pinna, 1998**

Glanapteryx niobium de Pinna, 1998: 36, fig. 1. Type locality: Brazil, State of Amazonas, Pico da Neblina National Park, Morro dos Seis Lagos (approx. 0°17'N 66°41'W), Lago Esperança. Holotype: INPA 12421.

Maximum length: 5.53 cm
Distribution: South America: Negro River basin: Morro dos Seis Lagos.
Countries: Brazil

GLAPHYROPOMA

Glaphyropoma de Pinna, 1992: 194. Type species: *Glaphyropoma rodriguesi* de Pinna, 1992. Type by original designation. Gender: feminine.

***Glaphyropoma rodriguesi* de Pinna, 1992**

Glaphyropoma rodriguesi, 1992: 196, figs. 7-8. Type locality: Rio Mucujê, trib. of Rio Paraguaçu, Bahia, Brazil, ca. 13°00'S, 41°23'W, elev. 1200 m. Holotype: MZUSP 42465.

Maximum length: 5.07 cm SL
Distribution: South America: Mucujê River, tributary of Paraguaçu River.
Countries: Brazil

HAEMOMASTER

Haemomaster Myers, 1927: 131. Type species: *Haemomaster venezuelae* Myers, 1927. Type by original designation. Gender: masculine.

***Haemomaster venezuelae* Myers, 1927**

Haemomaster venezuelae Myers, 1927: 131. Type locality: Venezuela, Playa Matepalma, Orinoco. Holotype: CAS 55882 [ex IU 17705].

Maximum length: 6.6 cm SL
Distribution: South America: Amazon and Orinoco River basins.
Countries: Brazil, Venezuela

HATCHERIA

Hatcheria Eigenmann, 1909b: 250. Type species: *Hatcheria patagoniensis* Eigenmann, 1909. Type by original designation. Gender: feminine.

Hatcheria macraei (Girard, 1855)

Thrichomycterus macraei Girard, 1855: 245. Type locality: Near Uspullata, east side of the Cordilleras, Argentina, elev. 7000 ft. [Uspallata = 32°33'S 69°20'W]. Syntypes: MCZ 8298 (1), USNM 1546 (orig. 3, now 1).

Pygidium burmeisteri Berg, 1895: 128, pl. 2 (fig. 1). Type locality: Río Mendoza, Mendoza Prov., Argentina. Holotype: MACN.

Hatcheria patagoniensis Eigenmann, 1909b: 250, pl. 33 (fig. 2), pl. 34 (fig. 1). Type locality: Río Blanco at base of Andes, Patagonia, Argentina, 47°30'S, 72°W. Holotype: whereabouts unknown.

Hatcheria titcombi Eigenmann, 1917: 692. Type locality: Río Comajo; tributary of Lake Traftul, tributary to Río Limay, Argentina. Holotype: CAS 28557 [ex IU 11110].

Hatcheria pique MacDonagh, 1938: 171, figs. 23-24. Type locality: Río Colorado cerca de su desembocadura, vecino a la estación Pedro Luro del F. C. S., Argentina. Holotype: MLP 15.X.36.

Maximum length: 20.8 cm

Distribution: South America: Cis-Andean rivers between 29° and 45°30'S.

Countries: Argentina

HENONEMUS

Henonemus Eigenmann & Ward, in Eigenmann, McAtee & Ward, 1907: 118. Type species: *Stegophilus intermedius* Eigenmann & Eigenmann, 1889. Type by original designation. Gender: masculine.

Cobitiglanis Fowler, 1914: 268. Type species: *Ochmacanthus taxistigma* Fowler, 1914. Type by original designation. Gender: masculine.

Henonemus intermedius (Eigenmann & Eigenmann, 1889)

Stegophilus intermedius Eigenmann & Eigenmann, 1889: 54. Type locality: Goyaz. Holotype: MCZ 9842.

Maximum length: 8 cm

Distribution: South America: Araguaia River basin.

Countries: Brazil

Henonemus macrops (Steindachner, 1882)

Stegophilus macrops Steindachner, 1882a: 178. Type locality: Manacapuru Lake, Amazon River basin. Holotype: NMW. Species later illustrated and described in more detail in Steindachner (1882b: 28, Pl. 6, figs. 2-2a).

Maximum length: 6 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

Henonemus punctatus (Boulenger, 1887)

Stegophilus punctatus Boulenger, 1887a: 279, pl. 21 (fig. 4). Type locality: Canelos. Holotype: BMNH 1880.12.8.89.

Maximum length: 9 cm

Distribution: South America: Amazon River basin.

Countries: Brazil, Ecuador, Peru

Henonemus taxistigma (Fowler, 1914)

Ochmacanthus taxistigma Fowler, 1914: 268, fig. 16. Type locality: Rupununi River, Guyana, 2°-3°N, 50°20'W. Holotype: ANSP 39344.

Maximum length: 9.3 cm

Distribution: South America: Rupununi River basin.

Countries: Guyana

HOMODIAETUS

Homodiaetus Eigenmann & Ward, in Eigenmann, McAtee & Ward, 1907: 117. Type species: *Homodiaetus anisitsi* Eigenmann & Ward, 1907. Type by original designation. Gender: masculine.

Homodiaetus anisitsi Eigenmann & Ward, 1907

Homodiaetus anisitsi Eigenmann & Ward, in Eigenmann, McAtee & Ward, 1907: 119, pl. 34 (figs. 2-3). Type locality: small creek at Villa Rica, Paraguay. Holotype: CAS 37276 [ex IU 10155].

Homodiaetus vazferreirai Devincenzi, in Devincenzi & Vaz-Ferreira, 1939: 168, fig. Type locality: río Uruguay, en las inmediaciones de la ciudad de Paysandú, Uruguay. Holotype: MHNM CI 345. Holotype not specified in original description.

Maximum length: 4.2 cm SL

Distribution: South America: Paraná-Paraguay River basin.

Countries: Paraguay, Uruguay and Brazil

Homodiaetus banguela Koch, 2002

Homodiaetus banguela Koch, 2002: 42, fig. 4. Type locality: Brasil, Rio de Janeiro: Silva Jardim (rio São João, no cruzamento com a BR-101). Holotype: MCP 19619.

Maximum length: 3.8 cm SL

Distribution: South America: São João River (coastal basin of southeastern Brazil in State of Rio de Janeiro).

Countries: Brazil

Homodiaetus graciosa Koch, 2002

Homodiaetus graciosa Koch, 2002: 44, fig. 5. Type locality: Brasil, Paraná, Morretes (rio Sagrado, posto florestal). Holotype: MCP 19618.

Maximum length: 3.5 cm SL

Distribution: South America: Coastal basins of southeastern Brazil in States of Paraná and São Paulo.

Countries: Brazil

Homodiaetus passarellii (Miranda Ribeiro, 1944)

Stegophilus passarellii Miranda Ribeiro, 1944a: 1, fig. Type locality: Córrego do Barro Branco, Baía de Guanabara, Estado do Rio de Janeiro, Brazil. Holotype: MNRJ 3783.

Maximum length: 3.8 cm SL

Distribution: South America: Coastal basins of southeastern Brazil in State of Rio de Janeiro.

Countries: Brazil

ITUGLANIS

Ituglanis Costa & Bockmann, 1993: 44. Type species: *Pygidium proops parahybae* Eigenmann, 1918. Type by original designation. Gender: masculine.

Ituglanis amazonicus (Steindachner, 1882)

Trichomycterus amazonicus Steindachner, 1882a: 178. Type locality: Cudajas, S. America [Códajas = 03°55'S 62°00'W], Brazil. Holotype: NMW 43306. Species later illustrated and described in more detail in Steindachner (1882b: 29, pl. 6, figs. 4-4a).

Maximum length: 7.5 cm

Distribution: South America: Amazon River basin.

Countries: Brazil, French Guiana

Ituglanis eichorniarum (Miranda Ribeiro, 1912)

Trichomycterus eichorniarum Miranda Ribeiro, 1912: 27. Type locality: Cáceres, nas margens do Paraguay (M. Grosso), Mato Grosso [16°05'S 57°50'W], Brazil. Lectotype: MNRJ 780A, designated by Miranda Ribeiro (1953: 405).

Maximum length: 5 cm

Distribution: South America: Upper Paraguay River basin.

Countries: Brazil

Ituglanis gracilior (Eigenmann, 1912)

Pygidium gracilior Eigenmann, 1912b: 213. Type locality: Erukin.
 Holotype: FMNH 53264 [ex CM 1730].
 Maximum length: 7.9 cm
 Distribution: South America: Guyana.
 Countries: Guyana

***Ituglanis guayaberensis* (Dahl, 1960)**

Pygidium metae guayaberensis Dahl, 1960: 307, fig. 2. Type locality: Small pond in a brook trib. to Río Guayabero, ca. 1 km from mouth of the brook In a brook approx. 1500 m. from Camp I, same locality as the holotype of *Leyvaichthys castaneus*, Orinoco System [Guayabero = 0°08'N 70°57'W], Colombia. Holotype: whereabouts unknown.
 Maximum length: 5.7 cm
 Distribution: South America: Guayabero River basin, Orinoco drainage.
 Countries: Colombia

***Ituglanis herberti* (Miranda Ribeiro, 1940)**

Trichomycterus herberti Miranda Ribeiro, 1940: 60, fig. Type locality: Rio Bodoquena, Pantanal, Mato Grosso [Bodoquena = 20°40'S 56°50'W], Brazil. Syntypes: (7) MNRJ 1428 (2).
 Maximum length: 8.1 cm TL
 Distribution: South America: Bodoquena River in Paraguay River basin.
 Countries: Brazil

***Ituglanis laticeps* (Kner, 1863)**

Trichomycterus laticeps Kner, 1863: 228, fig. 17. Type locality: ["Fundort, wie die vorige Art," in reference to *Trichomycterus taenia*, from Westabhang der Andes im Staate Ecuador].
 Maximum length: 8.9 cm
 Distribution: South America: Ecuador.
 Countries: Ecuador

***Ituglanis metae* (Eigenmann, 1917)**

Pygidium metae Eigenmann, 1917: 694. Type locality: Barrigona [7°42'N 75°35'W], Colombia. Holotype: CAS 58138 [ex IU 13770].
 Maximum length: 7.8 cm
 Distribution: South America: Colombia.
 Countries: Colombia

***Ituglanis parahybae* (Eigenmann, 1918)**

Pygidium proops parahybae Eigenmann, 1918: 332. Type locality: Rio Parahyba [river mouth of the Paraíba do Sul River = 21°40'S 41°00'W], Brazil. Holotype: FMNH 58576 [ex CM 7598].
 Maximum length: 5.1 cm
 Distribution: South America: Paraíba do Sul and São João River basins.
 Countries: Brazil

***Ituglanis parkoi* (Miranda Ribeiro, 1944)**

Pygidium parkoi Miranda Ribeiro, 1944b: 1, fig. Type locality: rio Iticoaí (entre os rios das Pedras e Ituí) que deságua no Javari, afluente do Amazonas - Benjamin Constant, Amazonas [4°30'S 70°05'W], Brazil. Holotype: MNRJ 3849.
 Maximum length: 17 cm
 Distribution: South America: Amazon River basin.
 Countries: Brazil

***Ituglanis passensis* Fernández & Bichuette, 2002**

Ituglanis passensis Fernández & Bichuette, 2002: 274, fig. 1. Type locality: Brazil: Goiás: São Domingos: Passa Três cave: subterranean stream in the Tocantins drainage, 13°36'S 46°23'W. Holotype: MCP 27382.
 Maximum length: 7 cm SL
 Distribution: South America: Passa Três cave system in São Domingos, Goiás.
 Countries: Brazil

***Ituglanis proops* (Miranda Ribeiro, 1908)**

Trichomycterus proops Miranda Ribeiro, 1908: [3], fig. 4. Type locality: Rio Ribeira, Iguape [river mouth of the Ribeira de Iguape River = 24°50'S 47°10'W], Brazil. Lectotype: MNRJ 781A.
 Maximum length: 8.7 cm
 Distribution: South America: Ribeira de Iguape River basin.
 Countries: Brazil

LISTRURA

Listrura de Pinna, 1988: 114. Type species: *Listrura nematopteryx* de Pinna, 1988. Type by original designation. Gender: feminine.

***Listrura boticario* de Pinna & Wosiacki, 2002**

Listrura boticario de Pinna & Wosiacki, 2002: 721, fig. 1. Type locality: Brazil, State of Paraná, Município de Guaraqueçaba, pool adjacent to Rio da Figueira (tributary of Rio Morato, itself tributary to Rio Guaraqueçaba, an isolated coastal basin that drains directly into the Baía das Laranjeiras), inside the nature preserve "Reserva Particular do Patrimônio Natural Salto Morato" (25°16'S, 48°12'W, UTM: 7.212.500-7.215.400). Holotype: MZUSP 69573.
 Maximum length: 3.7 cm SL
 Distribution: South America: Da Figueira and Guaraqueçaba River basins, Paraná State.
 Countries: Brazil

***Listrura camposi* (Miranda Ribeiro, 1957)**

Eremophilus camposi Miranda Ribeiro, 1957: 72, fig. Type locality: Rio Poço Grande, trib. of the Rio Juquiá, Fazenda Poço Grande, Juquiá, ca. 24°15'S, 47°37'W, Sao Paulo State, Brazil. Holotype: MZUSP 3426.
 Maximum length: 3.94 cm SL
 Distribution: South America: Poço Grande River, tributary of the Juquiá River, São Paulo State, and Ribeirão da Ilha, Florianópolis, Santa Catarina State.
 Countries: Brazil

***Listrura nematopteryx* de Pinna, 1988**

Listrura nematopteryx de Pinna, 1988: 115, figs. 1-2. Type locality: Small marsh which is source of creek later joining Ribeirão Imbariê, trib. of Rio Estrela, near 58 km mark of old road leading to Petrópolis ("Antiga Rio-Petrópolis, also called "Estrada Automóvel Club"), Município de Magé, Localidade de Piabetá, Rio de Janeiro, Brazil (22°36'36"S 43°11'26"W). Holotype: MZUSP 36974.
 Maximum length: 3.66 cm SL
 Distribution: South America: Marsh that is the source of a creek later joining Imbariê Creek, tributary of the Estrela River, Piabetá, Rio de Janeiro State, and similar habitats in Picinguaba, São Paulo State.
 Countries: Brazil

***Listrura tetradactyla* Landim and Costa, 2002**

Listrura tetradactyla Landim and Costa, 2002: 152, fig. 1. Type locality: Brazil: Estado do Rio de Janeiro: Município de Saquarema, rio da Represa, a tributary of rio Bom Sucesso, rio Ibicufba basin of the Lagoa de Araruama system, Palmital, approximately 5 km north from Bacaxá, about 22°50'S, 42°28'W. Holotype: MZUSP 52572.
 Maximum length: 4.3 cm SL
 Distribution: South America: Ibicufba River, Araruama Lagoon system.
 Countries: Brazil

MALACOGLANIS

Malacoglanis Myers & Weitzman, 1966: 281. Type species: *Malacoglanis gelatinosus* Myers & Weitzman, 1966. Type by original designation. Gender: masculine.

***Malacoglanis gelatinosus* Myers & Weitzman, 1966**

Malacoglanis gelatinosus Myers & Weitzman, 1966: 282, figs. 3-4. Type locality: Small (caño (side channel) of the Río Orteguaza, a short distance above its junction with the Río Caquetá, Caquetá Province, Colombia. The caño was a forest-brook, a mile or more long from its detachment from the main river to its mouth on the main river. The mouth was across the Río Orteguaza directly opposite the small settlement and military aviation post of Tres Esquinas, which is situated at approximately 0°45'N, 75°15'W. Holotype: SU 50754.

Maximum length: 1.99 cm SL

Distribution: South America: Caquetá River basin.

Countries: Colombia

MEGALOCENTOR

Megalocentor de Pinna & Britski, 1991: 115. Type species: *Megalocentor echthrus* de Pinna & Britski, 1991. Type by original designation. Gender: masculine.

***Megalocentor echthrus* de Pinna & Britski, 1991**

Megalocentor echthrus de Pinna & Britski, 1991: 116, figs. 3, 4 (a-b). Type locality: Rio Madeira, Calama, Praia do Caraparu, Estado do Amazonas, Brazil. Holotype: MZUSP 41879.

Maximum length: 8.79 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Bolivia, Brazil, Peru, Venezuela

MICROCAMBEVA

Microcambeva Costa & Bockmann, 1994b: 718. Type species: *Microcambeva barbata* Costa & Bockmann, 1994. Type by original designation. Gender: feminine.

***Microcambeva barbata* Costa & Bockman, 1994**

Microcambeva barbata Costa & Bockmann, 1994b: 718, figs. 2-3. Type locality: Brazil: Estado do Rio de Janeiro: rio São João, near Gaviões, Município de Silva Jardim. Holotype: MZUSP 43678.

Maximum length: 2.6 cm SL

Distribution: South America: Coastal drainages in States of Rio de Janeiro and Espírito Santo, Brazil.

Countries: Brazil

MIUROGLANIS

Miuroglanis Eigenmann & Eigenmann, 1889: 55. Type species: *Miuroglanis platycephalus* Eigenmann & Eigenmann, 1889. Type by original designation. Gender: masculine.

***Miuroglanis platycephalus* Eigenmann & Eigenmann, 1889**

Miuroglanis platycephalus Eigenmann & Eigenmann, 1889: 56. Type locality: Jutahy. Holotype: MCZ 8172.

Maximum length: 1.23 cm

Distribution: South America: Solimões River basin.

Countries: Brazil

OCHMACANTHUS

Gyrinurus Miranda Ribeiro, 1912: 27. Type species: *Gyrinurus batrachostoma* Miranda Ribeiro, 1912. Type by monotypy. Gender: masculine.

Ochmacanthus Eigenmann, 1912b: 213. Type species: *Ochmacanthus flabelliferus* Eigenmann, 1912. Type by original designation. Gender: masculine.

***Ochmacanthus alternus* Myers, 1927**

Ochmacanthus alternus Myers, 1927: 129. Type locality: Venezuela: Caño de Quiribana, near Caicara. Lectotype: CAS 13522 [ex IU 17697].

Maximum length: 4 cm SL

Distribution: South America: Negro and Orinoco River basins.

Countries: Brazil, Venezuela

***Ochmacanthus batrachostoma* (Miranda Ribeiro, 1912)**

Gyrinurus batrachostoma Miranda Ribeiro, 1912: 28, pl. Type locality: Rio Paraguay at São Luiz de Cáceres, Corumba, Mato Grosso, Brazil. Holotype: MNRJ 786.

Maximum length: 3.2 cm SL

Distribution: South America: Paraguay River basin.

Countries: Brazil

***Ochmacanthus flabelliferus* Eigenmann, 1912**

Ochmacanthus flabelliferus Eigenmann, 1912b: 213. Type locality: Konawaruk, Guyana. Holotype: FMNH 53263 [ex CM 1729].

Maximum length: 3.5 cm TL

Distribution: South America: River drainages in Guyana and Venezuela.

Countries: Guyana, Venezuela

***Ochmacanthus orinoco* Myers, 1927**

Ochmacanthus orinoco Myers, 1927: 130. Type locality: Venezuela: Playa Matepalma, Orinoco. Holotype: CAS 76355 [ex IU 17698].

Maximum length: 4.6 cm SL

Distribution: South America: Negro and Orinoco River basins.

Countries: Brazil, Venezuela

***Ochmacanthus reinhardtii* (Steindachner, 1882)**

Stegophilus reinhardtii Steindachner, 1882a: 178. Type locality: Rio Iça, Montalegre; See Manacapuru (Thayer-Expedition). Syntypes: (several) NMW 44735 (2), 50603 (3). Species later illustrated and described in more detail in Steindachner (1882b: 28, Pl. 6, fig. 1).

Maximum length: 5 cm TL

Distribution: South America: Amazon River basin and drainages in French Guyana.

Countries: Brazil, French Guiana

PARACANTHOPOMA

Paracanthopoma Giltay, 1935: 1. Type species: *Paracanthopoma parva* Giltay, 1935. Type by original designation. Gender: neuter.

***Paracanthopoma parva* Giltay, 1935**

Paracanthopoma parva Giltay, 1935: 1, figs. 1-3. Type locality: Rio Catrymany supérieur, Brazil. Holotype: IRSNB 43.

Maximum length: 2.7 cm SL

Distribution: South America: Amazon and Essequibo River basins.

Countries: Brazil

PARASTEGOPHILUS

Parastegophilus Miranda Ribeiro, 1946: 12. Type species: *Stegophilus maculatus* Steindachner, 1879. Type by original designation. Gender: masculine.

***Parastegophilus maculatus* (Steindachner, 1879)**

Stegophilus maculatus Steindachner, 1879a: 32. Type locality: La Plata, Prov. of Buenos Aires, Argentina. Holotype: NMW 57222. Species later illustrated and described in more detail in Steindachner (1879b: 25, pl. 4, fig. 2).

Maximum length: 6 cm SL

Distribution: South America: Lower Paraná and Uruguay River basins.
Countries: Argentina

***Parastegophilus paulensis* (Miranda Ribeiro, 1918)**

Pseudostegophilus paulensis Miranda Ribeiro, 1918a: 727. Type locality: Avanhanda, Rio Tieté, Estado de São Paulo, Brazil.
Pseudostegophilus scarificator Ihering, 1930: 100, pl. 13 (fig. 2). Type locality: São Paulo, Brazil.
Maximum length: 5.4 cm SL
Distribution: South America: Upper Paraná River basin
Countries: Brazil

PARAVANDELLIA

Paravandellia Miranda Ribeiro, 1912: 28. Type species: *Paravandellia oxyptera* Miranda Ribeiro, 1912. Type by monotypy. Gender: feminine.
Branchioica Eigenmann, 1917: 702. Type species: *Branchioica bertonii* Eigenmann, 1917. Type by original designation. Gender: feminine.
Pleurophysus Miranda Ribeiro, 1918b: 636. Type species: *Pleurophysus hydrostaticus* Miranda Ribeiro, 1918. Type by monotypy. Gender: masculine.
Parabranchioica Devincenzi & Vaz-Ferreira, 1939: 5. Type species: *Parabranchioica teaguei* Devincenzi & Vaz-Ferreira, 1939. Type by monotypy. Gender: feminine.

***Paravandellia oxyptera* Miranda Ribeiro, 1912**

Paravandellia oxyptera Miranda Ribeiro, 1912: 29. Type locality: Cáceres, margens do Rio Paraguay. Holotype: MNRJ 790.
Branchioica bertonii Eigenmann, 1917: 703. Type locality: Asuncion, Paraguay. Holotype: CAS 63840 [ex IU 13950].
Pleurophysus hydrostaticus Miranda Ribeiro, 1918b: 636. Type locality: Rio Claro. Lectotype: MZUSP 2214, designated by Britski (1969: 206).
Vandellia hematophaga Guimaraes, 1935: 300, figs. 1-4. Type locality: Río Tietê, Salto, São Paulo, Brazil. Lectotype: SU 16766, designated by Böhlke (1953: 45).
Parabranchioica teaguei Devincenzi & Vaz-Ferreira, 1939: 5, fig. Type locality: río Uruguay, en las inmediaciones de la ciudad de Paysandú. Types unknown.
Maximum length: 2.8 cm
Distribution: South America: Paraná, Paraguay and Uruguay River basins.
Countries: Brazil, Paraguay

***Paravandellia phaneronema* (Miles, 1943)**

Branchioica phaneronema Miles, 1943: 367, fig. 1. Type locality: various points in the Upper Cauca valley. Holotype: lost (Román-Valencia, 1998), a paratype is preserved as USNM 120141.
Branchioica magdalanae Miles, 1943: 368. Type locality: Río Magdalena, Colombia. Holotype: lost (Román-Valencia, 1998), a paratype is preserved as USNM 120142.
Maximum length: 2.81 cm SL
Distribution: South America: Magdalena and Cauca River basins.
Countries: Colombia

PAREIODON

Pareiodon Kner, 1855: 160. Type species: *Pareiodon microps* Kner, 1855. Type by monotypy. Gender: masculine.
Centrophorus Kner, 1859: 167 (footnote). Type species: *Pareiodon microps* Kner, 1855. Type by being a replacement name. Gender: masculine. Unneeded replacement for *Pareiodon* Kner, 1855, then considered preoccupied by *Parodon*. Preoccupied by *Centrophorus* Müller & Henle, 1837.

Astemomycterus Guichenot, 1860: 525. Type species: *Trichomycterus pusillus* Castelnau, 1855. Type by original designation. Gender: masculine.

***Pareiodon microps* Kner, 1855**

Pareiodon microps Kner, 1855: 160, fig. 2. Type locality: Borba, Rio Madeira, about 4 days from Amazon mouth. Syntypes: NMW 45486 (2).
Trichomycterus pusillus Castelnau, 1855: 50, pl. 24 (fig. 4). Type locality: l'Araguay et [...] l'Amazone. Syntypes: MNHN 1210 (4).
Maximum length: 13 cm
Distribution: South America: Amazon River basin.
Countries: Brazil

PLECTROCHILUS

Plectrochilus Miranda Ribeiro, 1917: 50. Type species: *Plectrochilus machadoi* Miranda Ribeiro, 1917. Type by monotypy. Gender: masculine.
***Plectrochilus diabolicus* (Myers, 1927)**
Urinophilus diabolicus Myers, 1927: 132. Type locality: Iquitos, Peru. Holotype: CAS 59940 [ex IU 17701].
Maximum length: 6.3 cm SL
Distribution: South America: Amazon River basin.
Countries: Brazil, Peru
Remarks and references: Revalidated here, not a synonym of *Plectrochilus machadoi* Miranda Ribeiro as proposed in Myers (1944).

***Plectrochilus machadoi* Miranda Ribeiro, 1917**

Plectrochilus machadoi Miranda Ribeiro, 1917: 50, three unnumbered figs. Type locality: Rio Solimões, Upper Amazon, Brazil. Holotype: MNRJ 978.
Vandellia hasemani Eigenmann, 1918: 363, figs. 33-35, pl. 53 (fig. 3). Type locality: Río Mamoré, Alto Amazonas, Bolivia. Holotype: FMNH 58523 [ex CM 7542].
Maximum length: 9.3 cm
Distribution: South America: Amazon River basin.
Countries: Brazil, Peru

***Plectrochilus wieneri* (Pellegrin, 1909)**

Vandellia wieneri Pellegrin, 1909: 199, unnumbered fig. Type locality: Río Napo, near mouth of Río Misahually, Ecuador. Holotype: MNHN A.9934.
Maximum length: 7.9 cm
Distribution: South America: Napo River basin.
Countries: Ecuador

PSEUDOSTEGOPHILUS

Pseudostegophilus Eigenmann & Eigenmann, 1889: 54. Type species: *Stegophilus nemurus* Günther, 1869. Type by original designation. Gender: masculine.
***Pseudostegophilus haemomyzon* (Myers, 1942)**
Homodiaetus haemomyzon Myers, 1942: 98, fig. 4. Type locality: Río Guarico at Calabozo, Venezuela. Holotype: SU 36500.
Maximum length: 5.7 cm SL
Distribution: South America: Orinoco River basin.
Countries: Venezuela
***Pseudostegophilus nemurus* (Günther, 1869)**
Stegophilus nemurus Günther, 1869: 429. Type locality: Upper Amazon River, Peru. Holotype: BMNH 1869.5.21.9.
Maximum length: 11 cm
Distribution: South America: Amazon River basin.
Countries: Brazil, Peru

PYGIDIANOPS

Pygidianops Myers, 1944: 592. Type species: *Pygidianops eigenmanni* Myers, 1944. Type by original designation. Gender: masculine.

***Pygidianops eigenmanni* Myers, 1944**

Pygidianops eigenmanni Myers, 1944: 592, pls. 52 (fig. 1)- 53 (figs. 3-5). Type locality: Rock pools below São Gabriel Rapids, Rio Negro, Brazil. Holotype: CAS 11120.

Maximum length: 2.3 cm SL

Distribution: South America: Negro River basin.

Countries: Brazil

RHIZOSOMICHTHYS

Bathophilus Miles, 1942: 57. Type species: *Pygidium totae* Miles, 1942. Type by monotypy. Gender: masculine. Preoccupied by *Bathophilus* Giglioli, 1882, in fishes.

Rhizosomichthys Miles, 1943: 369. Type species: *Pygidium totae* Miles, 1942. Type by original designation. Gender: masculine. Replacement for *Bathophilus* Miles, 1942, preoccupied by *Bathophilus* Giglioli, 1882.

Bathypygidium Whitley, 1947: 150. Type species: *Pygidium totae* Miles, 1942. Type by being a replacement name. Gender: neuter. Replacement for *Bathophilus* Miles, 1942, preoccupied by *Bathophilus* Giglioli, 1882.

***Rhizosomichthys totae* (Miles, 1942)**

Pygidium totae Miles, 1942: 55, unnumbered fig. Type locality: Lago de Tota, Boyacá, Cordillera Oriental [5°27' N 73°23' W], Colombia, 3060 metros. Holotype: ICNMMNH 20 [? now ICNMMNH 353].

Maximum length: 13.8 cm

Distribution: South America: Lake Tota basin.

Countries: Colombia

SARCOGLANIS

Sarcoglanis Myers & Weitzman, 1966: 279. Type species: *Sarcoglanis simplex* Myers & Weitzman, 1966. Type by original designation. Gender: masculine.

***Sarcoglanis simplex* Myers & Weitzman, 1966**

Sarcoglanis simplex Myers & Weitzman, 1966: 279, figs. 1-2. Type locality: Rock pools below São Gabriel Rapids, of the Rio Negro (below the town of Uaupés, formerly São Gabriel), Estado de Amazonas, Brazil. Holotype: SU 50189.

Maximum length: 2.1 cm

Distribution: South America: Upper Negro River basin.

Countries: Brazil

SCHULTZICHTHYS

Schultzichthys Dahl, 1960: 312. Type species: *Schultzichthys gracilis* Dahl, 1960. Type by monotypy. Gender: masculine.

***Schultzichthys bondi* (Myers, 1942)**

Acanthopoma bondi Myers, 1942: 97, fig. 5. Type locality: Río Apuré at San Fernando de Apuré, Venezuela. Holotype: SU 36498.

Maximum length: 3.65 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Brazil, Peru, Venezuela

***Schultzichthys gracilis* Dahl, 1960**

Schultzichthys gracilis Dahl, 1960: 312, figs. 4-5. Type locality: foot of a rapid in Caño Lozada, about 15 km above its junction with the Guayabero River [Río Orinoco system, Colombia]. Holotype: lost (P. Cala, pers. comm.).

Maximum length: 2.6 cm SL

Distribution: South America: Guayabero River (Orinoco River basin).

Countries: Colombia

SCLERONEMA

Scleronema Eigenmann, 1917: 691. Type species: *Scleronema operculatum* Eigenmann, 1917. Type by original designation. Gender: neuter.

***Scleronema angustirostris* (Devincenzi, 1942)**

Pygidium angustirostris Devincenzi in Devincenzi & Teague, 1942: 30, pl. 4 (fig. 3). Type locality: La Cañeda de las Piedras, Uruguay. Holotype: MHNM CI (not found).

Maximum length: 4.8 cm

Distribution: South America: Uruguay.

Countries: Uruguay

***Scleronema minutum* (Boulenger, 1891)**

Trichomycterus minutus Boulenger, 1891: 235, pl. 26 (fig. 3). Type locality: San Lorenzo district [São Lourenço das Missões = 28°30'S 54°40'W], Brazil. Syntypes: BMNH 1891.3.16.84-86 (3).

Maximum length: 4 cm SL

Distribution: South America: Rio Grande do Sul State, Brazil.

Countries: Brazil

***Scleronema operculatum* Eigenmann, 1917**

Scleronema operculatum Eigenmann, 1917: 691. Type locality: Cacequy [29°50'S 54°55'W], Brazil. Holotype: FMNH 58080 [ex CM 7077].

Maximum length: 8 cm

Distribution: South America: Rio Grande do Sul State, Brazil.

Countries: Brazil

SILVINICHTHYS

Silvinichthys Arratia, 1998: 356. Type species: *Silvinichthys mendozensis* Arratia, Chang, Menu-Marque & Rojas, 1978. Type by monotypy. Gender: masculine.

***Silvinichthys mendozensis* (Arratia, Chang, Menu-Marque & Rojas, 1978)**

Trichomycterus mendozensis Arratia, Chang, Menu-Marque & Rojas, 1978: 170, figs. 8-10. Type locality: freshwater of the preandean range of Mendoza, Argentina ..., where it occupies a restricted environment between 1,500 to 1,700 m above sea level. Holotype: FFSUC IC 118-27.

Maximum length: 7.3 cm

Distribution: South America: Mendoza River basin.

Countries: Argentina

STAUROGLANIS

Stauroglanis de Pinna, 1989: 6. Type species: *Stauroglanis gouldingi* de Pinna, 1989. Type by original designation. Gender: masculine.

***Stauroglanis gouldingi* de Pinna, 1989**

Stauroglanis gouldingi de Pinna, 1989: 7, figs. 1-3. Type locality: Cachoeira do Aracu, R. Daraá (R. Negro drainage system), Estado do Amazonas, Brazil. Holotype: MZUSP 31088.

Maximum length: 2.7 cm SL

Distribution: South America: Daraá River, Negro River basin.

Countries: Brazil

STEGOPHILUS

Stegophilus Reinhardt, 1859: 5. Type species: *Stegophilus insidiosus* Reinhardt, 1859. Type by monotypy. Gender: masculine.

***Stegophilus insidiosus* Reinhardt, 1859**

Stegophilus insidiosus Reinhardt, 1859: 5, pl. 2. Type locality: Rio das Velhas, Rio São Francisco system, Brazil. BMNH 1875.5.22.1.

Distribution: South America: São Francisco River basin.
Countries: Brazil

***Stegophilus panzeri* (Ahl, 1931)**

Henonemus panzeri Ahl, 1931: 210, fig. 3. Type locality: Rio Capim. Holotype: ZMB orig. no. 656.

Maximum length: 4.1 cm SL
Distribution: South America: Lower Amazon River basin.
Countries: Brazil

***Stegophilus septentrionalis* Myers, 1927**

Stegophilus septentrionalis Myers, 1927: 130. Type locality: Venezuela: Santa Barbara, Orinoco. Holotype: CAS 64597 [ex IU 17699].

Maximum length: 4.4 cm SL
Distribution: South America: Orinoco River basin.
Countries: Venezuela

STENOLICMUS

Stenolicmus de Pinna & Starnes, 1990: 77. Type species: *Stenolicmus sarmientoi* de Pinna & Starnes, 1990. Type by original designation. Gender: masculine.

***Stenolicmus sarmientoi* de Pinna & Starnes, 1990**

Stenolicmus sarmientoi de Pinna & Starnes, 1990: 77, fig. 1-2. Type locality: Río Matos, trib. of Río Apere, 48 km east of San Borja, Ballivia Prov., Depto. Beni, Bolivia, 14°55'S, 66°17'W. Holotype: USNM 301664.

Maximum length: 29.5 cm
Distribution: South America: Upper Apere River basin.
Countries: Bolivia

TRICHOGENES

Trichogenes Britski & Ortega, 1983: 211. Type species: *Trichogenes longipinnis* Britski & Ortega, 1983. Type by original designation. Gender: masculine.

***Trichogenes longipinnis* Britski & Ortega, 1983**

Trichogenes longipinnis Britski & Ortega, 1983: 212, figs. 1-2. Type locality: Cachoeira do Amor, km 3 da estrada Parati-Ubatuba, Sao Paulo, Brazil. Holotype: MZUSP 16099.

Maximum length: 12 cm TL
Distribution: South America: Coastal drainages in northern São Paulo State, close to the border with Rio de Janeiro State.
Countries: Brazil

TRICHOMYCTERUS

Trichomycterus Valenciennes in Humboldt, 1832: 348. Type species: *Trichomycterus nigricans* Valenciennes, 1832. Type by monotypy. Gender: masculine.

***Trichomycterus albinotatus* Costa, 1992**

Trichomycterus albinotatus Costa, 1992: 102, figs. 1-2. Type locality: Estado do Rio de Janeiro: Visconde de Maua, 1 km O de la Ville de Maromba, rio Preto, bassin du rio Paraíba [22°30'S 44°15'], Brazil. Holotype: MZUSP 42312.

Maximum length: 4.63 cm
Distribution: South America: Preto River, tributary of Paraíba do Sul River.
Countries: Brazil

***Trichomycterus alternatus* (Eigenmann, 1917)**

Pygidium alternatum Eigenmann, 1917: 700. Type locality: Rio Doce [river mouth of the Doce River = 19°30'S 39°40'], Brazil. Holotype: FMNH 58082 [ex CM 7079].

Pygidium florense Miranda Ribeiro, 1943: 1, fig. Type locality: rio das Flores, próximo a Ipiabas (estação de Pandiá Calógeras) Estado do Rio de Janeiro [Ipiabas = 22°25'S 43°50'W], Brazil. Holotype: MNRJ 3751.

Pygidium travassosi Miranda Ribeiro, 1949a: 145, fig. 2. Type locality: Rio das Pedras, Fazenda Penedo, Agulhas Negras, Estado do Rio de Janeiro [22°30'S 44°30'W], Brazil. Holotype: MNRJ 5424.

Maximum length: 8.1 cm
Distribution: South America: Coastal river basins in Rio de Janeiro and Espírito Santo States.
Countries: Brazil

***Trichomycterus alterus* (Marini, Nichols & La Monte, 1933)**

Pygidium alterum Marini, Nichols & La Monte, 1933: 2, fig. 2. Type locality: Rio de los Sauces, La Rioja [29° 26'S 66°51'W], Argentina. Holotype: AMNH 12241.

Maximum length: 9.25 cm
Distribution: South America: Humahuaca (Jujuy), Los Sauces River and Valle Guanchin (La Rioja).
Countries: Argentina

***Trichomycterus areolatus* Valenciennes, 1846**

Trichomycterus areolatus Valenciennes, in Cuvier & Valenciennes, 1846: 492. Type locality: la rivièrre de San Jago, Santiago [33°27'S 70°40'W], Chile. Syntypes: MNHN 3167 (3), A.6310 (2).

Trichomycterus maculatus Valenciennes in Cuvier & Valenciennes, 1846: 493. Type locality: Santiago du Chili [33°27'S 70°40'W], Chile. Syntypes: MNHN 3166 (1), 4236 (10).

Trichomycterus marmoratus Philippi, 1866: 714. Type locality: Chile.

Trichomycterus tigrinus Philippi, 1866: 714. Type locality: Chile.

Trichomycterus palleus Philippi, 1866: 715. Type locality: Chile.

Maximum length: 11.6 cm.
Distribution: South America: Western vertents in Central Chile.
Countries: Chile

***Trichomycterus arleoi* (Fernández-Yépez, 1972)**

Pygidium arleoi Fernández-Yépez, 1972: 21, pl. 34. Type locality: Estación - 140 - de la Cuenca del Rio Yaracuy [Yaracuy River = 10°35'N 68°14'], Venezuela. Holotype: whereabouts unknown.

Maximum length: 5.19 cm SL
Distribution: South America: Yaracuy River basin.
Countries: Venezuela

***Trichomycterus auroguttatus* Costa, 1992**

Trichomycterus auroguttatus Costa, 1992: 105, fig. 6. Type locality: Rio de Janeiro Estado do Rio de Janeiro: 1 km à l'ouest de la ville de Visconde de Mauá, rio Marimbondo, affluent du rio Preto, bassin du rio Paraíba [22°30'S 44°15'W], Brazil. Holotype: MZUSP 43341.

Maximum length: 6.06 cm
Distribution: South America: Marimbondo River, tributary of Preto River, Paraíba do Sul River basin.
Countries: Brazil

***Trichomycterus bahianus* Costa, 1992**

Trichomycterus bahianus Costa, 1992: 105, fig. 5. Type locality: Estado da Bahia: Una, 6,5 km au sud-est de la ville de Sao José, dans um ruisseau affluent du ribeirão Caveira, bassin du rio Una, Bahia [Una = 15°35'S 39°20'W], Brazil. Holotype: MZUSP 43340.

Maximum length: 8.86 cm

Check List of the Freshwater Fishes of South and Central America

- Distribution: South America: Tributary stream of Ribeirão Caveira, Una River basin in State of Bahia.
Countries: Brazil
- Trichomycterus barbouri*** (Eigenmann, 1911)
Pygidium barbouri Eigenmann, 1911: 214, pl. 32. Type locality: Río Beni, e. Bolivia [10°23'S 65°24'W]. Holotype: MCZ 29313.
Maximum length: 3.7 cm
Distribution: South America: Beni River basin.
Countries: Bolivia
- Trichomycterus belensis*** Fernández and Vari, 2002
Trichomycterus belensis Fernández and Vari, 2002:739, fig. 1. Type locality: Argentinian, Provincia de Catamarca, Departamento Belén, stream tributary to Laguna Blanca, 11 km northeast from Belén on provincial road 43 along route from Belén to Antogagasta de la Sierra, near Los Nacimientos de San Antonio (approximately 26°30'S, 67°03'W). Holotype: FML 2530.
Maximum length: 6.3 cm
Distribution: South America: Laguna Blanca basin.
Countries: Argentina
- Trichomycterus bogotense*** (Eigenmann, 1912)
Pygidium bogotense Eigenmann, 1912a: 18. Type locality: On the plains of Bogota, at an elevation of nearly nine thousand feet, ... Chapinero [4°41' N 75° 56'W], Colombia. Holotype: FMNH 56030 [ex CM 4820].
Pygidium banneau Eigenmann, 1912a: 19. Type locality: Bernal Creek near Honda, Colombia. Holotype: FMNH 56025 [ex CM 4815].
Maximum length: 9.4 cm
Distribution: South America: River drainages in Colombia and Venezuela.
Countries: Colombia, Venezuela
- Trichomycterus bomboizanum*** (Tortonese, 1942)
Pygidium bomboizanum Tortonese, 1942: 113, pl. 1. Type locality: Río Bomboiza (Ecuador merid.) [3°25'S 78°29'W] Ecuador. Holotype: MZUT 3553.
Maximum length: 11.2 cm
Distribution: South America: Bomboiza River basin.
Countries: Ecuador
- Trichomycterus borellii*** Boulenger, 1897
Trichomycterus borellii Boulenger, 1897: 3. Type locality: Mission d'Aguairenda, Tala, and Lesser [Tala = 27°53'S 67°23'W], Argentina. Syntypes: BMNH 1897.1.27.26 (1): ZMUT 1396-98 (6, 2, 1).
Pygidium schmidti Berg, 1897: 266. Type locality: Río de Belén (Provincia de Catamarca)[27°00'S 67°00'W], Argentina. Syntypes: BMNH 1898.9.23.3 (1); MACN 2361 (1), 4595 (1), 5164 (2), 5176 (1).
Maximum length: 11 cm
Distribution: South America: Salta, Catamarca and Mendoza in Argentina; and Aguairenda in Bolivia
Countries: Argentina, Bolivia
- Trichomycterus boylei*** Nichols, 1956
Pygidium boylei Nichols, 1956: 1, fig. 1. Type locality: dry country at Tilcara, Argentina, elevation 8000 feet. [Tilcara = 23°30'S 65°20'W], Argentina. Holotype: AMNH 20299.
Maximum length: 13 cm TL
Distribution: South America: Grande River basin.
Countries: Argentina
- Trichomycterus brasiliensis*** Lütken, 1874
Trichomycterus brasiliensis Lütken, 1874: 29. Type locality: Rio das Velhas, Minas Gerais [river mouth of the das Velhas River on São Francisco basin = 17°10'S 44°51'W], Brazil. Syntypes: NMW 85270 (3); ZMB 9121 (2); ZMUC 103 (1), 108-109 (2), 114 (1), 116 (1), 119-121 (3), 123-127 (5).
Trichomycterus brasiliensis tristis Lütken, 1875: 137. Type locality: Rio das Velhas, Minas Gerais, Brazil. Holotype: ZMUC 122.
Maximum length: 13.3 cm
Distribution: South America: Upper São Francisco River in State of Minas Gerais and in smaller adjoining basins in Southeastern Brazil.
Countries: Brazil
- Trichomycterus caliense*** (Eigenmann, 1912)
Pygidium caliense Eigenmann, 1912a: 18. Type locality: Cali [3°27'N 76°31'W], Colombia. Holotype: FMNH 56029.
Maximum length: 5.3 cm
Distribution: South America: Calima River basin.
Countries: Colombia
- Trichomycterus candidus*** (Miranda Ribeiro, 1949)
Eremophilus candidus Miranda Ribeiro, 1949b: 2, pls. Type locality: pequeno córrego que cai no ribeirão Espírito Santo, afluente do Rio Claro e este do Sapucaí, que deságua no Rio Grande - Município de Conceição Aparecida, Estado de Minas Gerais [21°00'S 46°15'W], Brazil. Holotype: MNRJ 5209.
Maximum length: 7.5 cm
Distribution: South America: Grande River basin, Minas Gerais State.
Countries: Brazil
- Trichomycterus castroi*** de Pinna, 1992
Trichomycterus castroi de Pinna, 1992a: 90, figs. 1-3. Type locality: Branch of the Rio Iguaçu, near the point crossed by Curitiba-Paranaguá Road., State of Paraná, Brazil, ca. 25°26'S, 49°06'W Holotype: MZUSP 36964.
Maximum length: 14.8 cm
Distribution: South America: Iguaçu River basin.
Countries: Brazil
- Trichomycterus catamarcensis*** Fernández & Vari, 2000
Trichomycterus catamarcensis Fernández & Vari, 2000: 990. Type locality: Provincia de Catamarca, Departamento Belén, stream tributary to Laguna Blanca, 11 km northeast from Belén on provincial road 43 along route from Belén to Antofagasta de la Sierra, near Los Nacimientos de San Antonio (approximately 26° 30'S, 67°03'W), elevation 3500m, Argentina. Holotype: FML 2507.
Maximum length: 4.2 cm
Distribution: South America: Laguna Blanca basin in Catamarca Province.
Countries: Argentina
- Trichomycterus chaberti*** Durand, 1968
Trichomycterus chaberti Durand, 1968: 344, fig. 3. Type locality: Umayalanta (Grotte de) [Torotoro = 18°07'S 65°46'W], Bolivia. Holotype: MNHN 1968-217.
Maximum length: 11.4 cm
Distribution: South America: Umayalanta Cave system.
Countries: Bolivia
- Trichomycterus chapmani*** (Eigenmann, 1912)
Pygidium chapmani Eigenmann, 1912a: 18. Type locality: Boquia [4°41'S 75°29'W], Colombia. Holotype: FMNH 56027 [ex CM 4817].
Maximum length: 11.8 cm
Distribution: South America: Boquia River basin.
Countries: Colombia
- Trichomycterus chiltoni*** (Eigenmann, 1920)

- Pygidium chiltoni* Eigenmann, 1920: 54. Type locality: Rio Nongen Concepcion [36°30'S 72° 30'W], Chile. Holotype: CAS 57596 [ex IU 15059]. Also described as new in Eigenmann (1927: 40, pl. 8, figs. 1, 1a, and pl. 13, figs. 5-6).
Maximum length: 17 cm
Distribution: South America: Western drainages in central Chile.
Countries: Chile
- Trichomycterus chungaraensis* Arratia, 1983**
Trichomycterus chungaraensis Arratia, 1983: 67, fig. 2. Type locality: Streams of Vertiente de Mal Paso, Chungará Lake, 4500 m above sea level, North Chile, South America [18°15'S 69°10'W], Chile. Holotype: FFSUC IC 290878A.
Maximum length: 12 cm
Distribution: South America: Streams of Chungará Lake.
Countries: Chile
- Trichomycterus concolor* Costa, 1992**
Trichomycterus concolor Costa, 1992: 107, fig. 9. Type locality: ruisseau 20 km au sud de la ville de Garapuava, bassin du rio São Francisco, Minas Gerais [16°05'S 46°35'W], Brazil. Holotype: MZUSP 43347.
Maximum length: 6.43 cm
Distribution: South America: Upper São Francisco River basin.
Countries: Brazil
- Trichomycterus conradi* (Eigenmann, 1912)**
Pygidium conradi Eigenmann, 1912b: 212. Type locality: Amatuk [5°18'N 59°18'W]. Holotype: FMNH 53721 [ex CM 2212].
Maximum length: 8 cm
Distribution: South America: River drainages in Guyana and Venezuela.
Countries: Guyana, Venezuela
- Trichomycterus corduensis* Weyenbergh, 1877**
Trichomycterus corduensis Weyenbergh, 1877: 11, pl. 3 (figs. 1-2). Type locality: Rio Primero, y en las acequias de Córdoba [Primeiro River = 31°20'S 63°37'], Argentina. Syntypes: (several) MSNG 9020 (1).
Maximum length: 13.6 cm
Distribution: South America: Primeiro River basin.
Countries: Argentina
- Trichomycterus davisii* (Haseman, 1911)**
Pygidium davisii Haseman, 1911: 380, pl. 77; Fig. 1. Type locality: Serrinha Paraná, Rio Iguacu system [Engenheiro Bley = 25°35'S 49°30'W], Brazil. Holotype: FMNH 60309 [ex CM 2862].
Maximum length: 6 cm
Distribution: South America: Iguacu and Ribeira de Iguape River basins.
Countries: Brazil
- Trichomycterus dispar* (Tschudi, 1846)**
Pygidium dispar Tschudi, 1846: 22, pl. 3. Type locality: ... meisten Flüssen der Cordillera; ich habe ein Exemplar ahf einer Höhe von mehr als 14000 Fussü. M. gefangen; aber immer nur auf dem Hochlande zwischen den beiden Gebirgsketten und am Ostabhange der Anden wie an dem der Cordillera, Peru. Syntypes: (several) MHNN 767 (1).
Maximum length: 26 cm
Distribution: South America: Peruvian Andes.
Countries: Peru
- Trichomycterus dorsostriatus* (Eigenmann, 1917)**
Pygidium dorsostriatum Eigenmann, 1917: 695. Type locality: Villavicencio [4°09'N 73°37'W], Colombia. Holotype: FMNH 58096 [ex CM 7093]. Appeared initially as *dorsotriatum* but as *dorsostriatum* in other Eigenmann publications; *dorsotriatum* regarded as a typographical error.
Maximum length: 7.7 cm
Distribution: South America: River drainages in Villavicencio.
Countries: Colombia
- Trichomycterus duellmani* Arratia & Menu-Marque, 1984**
Trichomycterus duellmani Arratia & Menu-Marque, 1984: 510, figs. 14-15. Type locality: Río Tupiza, 12.5 km SE Tupiza, Bolivia, ... 22°33'S, 65°45'W. Holotype: KU 20191.
Maximum length: 4.8 cm TL
Distribution: South America: Tupiza River basin.
Countries: Bolivia
- Trichomycterus emanueli* (Schultz, 1944)**
Pygidium emanueli emanueli Schultz, 1944: 259, pl. 5 (fig. C). Type locality: Río Chama at Estanques, Estado de Mérida [Chama River = 9°03' N 71°37'W; Estanques = 8°28'N 71°33'W], Venezuela. Holotype: USNM 121223.
Maximum length: 17.4 cm
Distribution: South America: Chama River basin.
Countries: Venezuela
- Trichomycterus fassli* (Steindachner, 1915)**
Pygidium fassli Steindachner, 1915a: 200. Type locality: Rio Songo im Distrikt Nord-Yungas [16°00'S 67°30'W], Bolivia. Syntypes: (4) NMW 44470 (1). Spelling changed to *fasslii* when later illustrated and described in more detail in Steindachner (1915b: 97, pl. 13 figs. 1-2).
Maximum length: 14.9 cm
Distribution: South America: Songo Rievr basin.
Countries: Bolivia
- Trichomycterus gabrieli* (Myers, 1926)**
Pygidium gabrieli Myers, 1926: 151. Type locality: São Gabriel rapids, Rio Negro, in rock-pools, Amazon system [0°05' S 67°00'W], Brazil. Syntypes: CAS 64583 (4), SU 36556 (1).
Maximum length: 5 cm
Distribution: South America: Upper Negro River in Brazil.
Countries: Brazil
- Trichomycterus goeldii* Boulenger, 1896**
Trichomycterus goeldii Boulenger, 1896: 154. Type locality: Colonia Alpina, Organ Mts in the Province Rio Janeiro, at an altitude of nearly 2600 feet, Brazil. Syntypes: BMNH 1896.4.4.7-8 (2).
Maximum length: 9.9 cm TL
Distribution: South America: Mountain ranges of coastal basins of Rio de Janeiro State.
Countries: Brazil
- Trichomycterus guianensis* (Eigenmann, 1909)**
Pygidium guianensis Eigenmann, 1909: 11. Type locality: Aruataima Falls, Upper Potaro [Upper Potaro = 05°00'N 59°30'W], Guyana. Holotype: FMNH 52676 [ex CM 1003].
Maximum length: 7.7 cm
Distribution: South America: River drainages in Guianas and Venezuela.
Countries: French Guiana, Guyana, Venezuela
- Trichomycterus hasemani* (Eigenmann, 1914)**
Pygidium hasemani Eigenmann, 1914: 48. Type locality: Santarem, Pará [2°30'S 54°50'W], Brazil. Holotype: FMNH 56424 [ex CM 5238]. Species illustrated in Eigenmann (1918: 326, pl. 50, fig. 4).
Maximum length: 1.8 cm
Distribution: South America: Amazon River basin.
Countries: Bolivia, Brazil, Peru
- Trichomycterus heterodontus* (Eigenmann, 1917)**
Pygidium heterodontum Eigenmann, 1917: 692. Type locality: Rio Mendoza, Palmira, Argentina, 900 m [33°03'S 68°34'W],

Argentina. Holotype: CAS 58139 [ex IU 13832]. Type illustrated in Eigenmann (1918: 296, pl. 44, fig. 4).
Maximum length: 8.3 cm
Distribution: South America: Mendoza River basin.
Countries: Argentina

***Trichomycterus iheringi* (Eigenmann, 1917)**

Pygidium iheringi Eigenmann, 1917: 697. Type locality: São Paulo in coastal streams and Parana basin, Brazil [on Table: 7071 C, Sapina, São Paulo; 10785 I, Santos, São Paulo - Santos = 24°00'S 43°25'W, Ribeira River system = 25°00'S 49°00'W], Brazil. Holotype: CAS 64585 [ex IU 10785] not FMNH 58074 [CM 7071].

Maximum length: 16.1 cm
Distribution: South America: Ribeira do Iguape River basin.
Countries: Brazil

***Trichomycterus immaculatus* (Eigenmann & Eigenmann, 1889)**

Pygidium immaculatum Eigenmann & Eigenmann, 1889: 52. Type locality: Juiz de Fora, Rio Parahybuna [Juiz de Fora = 21°40'S 43°25'W], Brazil. Syntypes: MCZ 8266 (1), 8300 (10), 8302 (1), 8305 (1), 8307 (1). Type illustrated in Eigenmann (1918: 334 pl. 52, fig.1).

Maximum length: 9.3 cm
Distribution: South America: Paraíbuna River, Paraíba do Sul River basin.
Countries: Brazil

***Trichomycterus itacarambiensis* Trajano & de Pinna, 1996**

Trichomycterus itacarambiensis Trajano & de Pinna, 1996: 86, figs. 1-2. Type locality: Creek inside Olhos d'Água cave, Município de Itacarambi, Minas Gerais, Brazil, 15°06'06"S, 44°09'30"W. Holotype: MZUSP 42469.

Maximum length: 5.97 cm
Distribution: South America: Olhos d'Água Cave in State of Minas Gerais, Brazil.
Countries: Brazil

***Trichomycterus itatiaiae* Miranda Ribeiro, 1906**

Trichomycterus brasiliensis itatiaiae Miranda Ribeiro, 1906: p. [15], pl. 1 (figs. a-c). Type locality: ... do Itatiaia, ... em afluente do Parahyba, Rio de Janeiro State [22°27'S, 44°50'W], Brazil. The type locality was restricted by Caramaschi & Caramaschi (1991: 223) to: Ribeirão da Tapera (tributary of the Ribeirão Bonito, Rio Paraíba do Sul drainage), Mont-Serrat, Itatiaia (ca. 22°27'S, 44°50'W, ca. 800 m a.s.l.), Rio de Janeiro State, Brazil. Lectotype: MNRJ 792, designated by Caramaschi & Caramaschi (1991: 223).

Maximum length: 6.7 cm
Distribution: South America: Rivers in Itatiaia mountains (part of the upper reaches of Paraíba do Sul River basin).
Countries: Brazil

***Trichomycterus johnsoni* (Fowler, 1932)**

Pygidium johnsoni Fowler, 1932: 367, fig. p. 364. Type locality: Descalvados, Matto Grosso [16°40'S 57°40'W], Brazil. Holotype: ANSP 53873.

Maximum length: 1.6 cm
Distribution: South America: Paraná River basin in State of Mato Grosso, Brazil, and Corrientes, Argentina.
Countries: Argentina, Brazil

***Trichomycterus knerii* Steindachner, 1882**

Trichomycterus knerii Steindachner, 1882a: 142. Type locality: Canelos [1°35'S 77°45'W], Ecuador. Syntypes: (several) NMW 43328 (1). Species later illustrated and described in more detail in Steindachner (1882b: 81).

Maximum length: 15.5 cm
Distribution: South America: Canelos, Ecuador.
Countries: Ecuador

***Trichomycterus latidens* (Eigenmann, 1917)**

Pygidium latidens Eigenmann, 1917: 693. Type locality: Small creek near mouth of Rio Calima [4°08'N 77°04'W], Colombia. Holotype: IU 13801.

Maximum length: 5.3 cm
Distribution: South America: Calima River basin.
Countries: Colombia

***Trichomycterus latistriatus* (Eigenmann, 1917)**

Pygidium latistriatum Eigenmann, 1917: 696. Type locality: Quebrada de Pinchote, Santander [Quebrada de Pinchote = 6°32'N 73°12'W], Colombia. Holotype: FMNH 58449 [ex CM 7450].

Maximum length: 4.6 cm
Distribution: South America: Santander, Colombia.
Countries: Colombia

***Trichomycterus laucaensis* Arratia, 1983**

Trichomycterus laucaensis Arratia, 1983: 74, fig. 8. Type locality: System of Lauca River, Parinacota, 4,390 m above sea level, Northern Chile, South America [18°13'S 69°18'W], Chile. Holotype: FFSUC IC 160878A.

Maximum length: 14.1 cm
Distribution: South America: Lauca River basin.
Countries: Chile

***Trichomycterus longibarbatus* Costa, 1992**

Trichomycterus longibarbatus Costa, 1992: 104, fig. 4. Type locality: près de la ville de Santa Tereza, Espirito Santo [19°50'S 40°25'W], Brazil. Holotype: MZUSP 43339.

Maximum length: 5.84 cm
Distribution: South America: Near Santa Tereza, Espirito Santo State.
Countries: Brazil

***Trichomycterus maracaiboensis* (Schultz, 1944)**

Pygidium banneaui maracaiboensis Schultz, 1944: 262, pl. 6 (fig. B). Type locality: Río San Juan near bridge, south of Mene Grande, tributary to Río Motatán, Maracaibo basin [Mene Grande = 9°49'N 70°56'W], Venezuela. Holotype: USNM 121227.

Maximum length: 4.37 cm
Distribution: South America: San Juan River, tributary to Motatán River, Lake Maracaibo basin.
Countries: Venezuela

***Trichomycterus meridae* Regan, 1903**

Trichomycterus meridae Regan, 1903: 624. Type locality: Merida, Venezuela, and from the Río Albireggas above Merida, altitude 3500 metres [Merida = 8°36'N 71°08'W], Venezuela. Syntypes: BMNH 1903.4.28.35-38 (4), USNM 133136 [ex BMNH 1903.6.30.77-80 (4), in part] (1).

Maximum length: 9.9 cm
Distribution: South America: Albirregas River basin.
Countries: Venezuela

***Trichomycterus migrans* (Dahl, 1960)**

Pygidium migrans Dahl, 1960: 309, fig. 3. Type locality: in front of Camp I, in the Guayabero River [Orinoco System, Colombia]. Holotype: ICNMHN 399.

Maximum length: 4.2 cm
Distribution: South America: Guayabero River, Orinoco River basin.
Countries: Colombia

***Trichomycterus mimonha* Costa, 1992**

- Trichomycterus mimonha* Costa, 1992: 106, fig. 7. Type locality: 2 km au nord de la ville de Piquete, rio Benfica, bassin du rio Paraíba, Sao Paulo [22°50'S 45°10'W], Brazil. Holotype: MZUSP 43343.
Maximum length: 7.8 cm
Distribution: South America: Benfica River, Paraíba do Sul River basin.
Countries: Brazil
- Trichomycterus mirissumba* Costa, 1992**
Trichomycterus mirissumba Costa, 1992: 107, fig. 8. Type locality: Visconde de Mauá, 1 km à l'est de la ville de Maromba, rio Preto, près du confluent avec le ruisseau Santa Clara, bassin du rio Paraíba, Rio de Janeiro [22°30'S 44°15'W], Brazil. Holotype: MZUSP 43345.
Maximum length: 5.96 cm
Distribution: South America: Preto River, Paraíba do Sul River basin.
Countries: Brazil
- Trichomycterus mondolfi* (Schultz, 1945)**
Pygidium mondolfi Schultz, 1945: 29, fig. 1. Type locality: Quebrado Chacaito near Caracas but in Estado de Miranda, Río Tuy system [Tuy River = 10°24'N 65°59'W], Venezuela. Holotype: USNM 120377.
Maximum length: 6.05 cm
Distribution: South America: Tuy River basin.
Countries: Venezuela
- Trichomycterus motatanensis* (Schultz, 1944)**
Pygidium emanueli motatanensis Schultz, 1944: 260, pl. 6 (fig. a). Type locality: Río San Juan at the bridge south of Mene Grande, Motatán system, Maracaibo basin [Mene Grande = 9°49'N 70°56'W], Venezuela. Holotype: USNM 121232.
Maximum length: 7.1 cm
Distribution: South America: San Juan River, Motatán drainage, Lake Maracaibo basin.
Countries: Venezuela
- Trichomycterus nigricans* Valenciennes, 1832**
Trichomycterus nigricans Valenciennes, 1832: 348. Type locality: ruisseaux de Sainte-Catherine du Brésil, Santa Catarina [Itapocu River = 26°10'S 48°35'W], Brazil. Holotype: On the basis of circumstantial evidence, MNHN B.251 was interpreted by Arratia (1998) as a type specimen.
Maximum length: 8.9 cm
Distribution: South America: Coastal drainages in Santa Catarina State, Brazil.
Countries: Brazil
- Trichomycterus nigromaculatus* Boulenger, 1887**
Trichomycterus nigromaculatus Boulenger, 1887b: 349. Type locality: Andes of Columbia. Syntypes: BMNH 1880.2.26.16-17 (2), BMNH 1903.4.28.35-38 (4), USNM 133136 [ex BMNH 1903.6.30.77-80 (4), in part] (1).
Maximum length: 16.5 cm
Distribution: South America: Colombian Andes.
Countries: Colombia
- Trichomycterus paolence* (Eigenmann, 1917)**
Pygidium paolence Eigenmann, 1917: 698. Type locality: São Paulo in the Parana basin and (?) in coastal streams. ... Alto da Serra, Rio Tieté, São Paulo. ... Mogy das Cruces, Rio Tieté, São Paulo [Mogy das Cruces = 23°30'S 46°10'W], Brazil. Holotype: FMNH 58085 [ex CM 7081].
Maximum length: 6.8 cm
Distribution: South America: Paraná River basin in São Paulo State.
Countries: Brazil
- Trichomycterus paquequerense* (Miranda Ribeiro, 1943)**
Pygidium paquequerense Miranda Ribeiro, 1943: 2, fig. Type locality: Rio Paquequer Grande, Estado do Rio de Janeiro [22°30' S 43°00'W], Brazil. Holotype: MNRJ 1159.
Maximum length: 4.4 cm
Distribution: South America: Paquequer River, Paraiba do Sul River basin.
Countries: Brazil
- Trichomycterus piurae* (Eigenmann, 1922)**
Pygidium punctulatum piurae Eigenmann, 1922b: 63. Type locality: Piura [Piura River = 5°32'S 80°53'W], Peru. Holotype: CAS 58119 [ex IU 15224].
Maximum length: 10.1 cm SL
Distribution: South America: Piura River basin.
Countries: Peru
- Trichomycterus punctatissimus* Castelnau, 1855**
Trichomycterus punctatissimus Castelnau, 1855: 49, pl. 24 (fig. 3). Type locality: De l'Araguay. Holotype: MNHN B.610.
Maximum length: 28 cm TL
Distribution: South America: Araguaia River basin.
Countries: Brazil
- Trichomycterus punctulatus* Valenciennes, 1846**
Trichomycterus punctulatus Valenciennes, in Cuvier & Valenciennes, 1846: 488, pl. 552. Type locality: la rivière de Lima [12°00'S 76°50'W], Peru. Syntypes: MNHN 3168 (5).
Maximum length: 14.5 cm
Distribution: South America: Western Peru.
Countries: Peru
- Trichomycterus ramosus* Fernández, 2000**
Trichomycterus ramosus Fernández, 2000: 350, fig. 1. Type locality: Catamarca: Departamento Belém: Laguna Blanca, 3680 m elevation, approximately 26°30'S, 67°03'W, Argentina. Holotype: FML 2070.
Maximum length: 3.58 cm
Distribution: South America: Laguna Blanca basin, Catamarca Province.
Countries: Argentina
- Trichomycterus regani* (Eigenmann, 1917)**
Pygidium regani Eigenmann, 1917: 696. Type locality: Tado, Rio San Juan [Tado = 5°22'N 76°25'W], Colombia. Holotype: CAS 64591 [ex IU 13772]. Eigenmann 1918: Plate XLVIII, fig. 5.
Maximum length: 5.5 cm
Distribution: South America: San Juan River basin.
Countries: Colombia
- Trichomycterus reinhardti* (Eigenmann, 1917)**
Pygidium reinhardti Eigenmann, 1917: 699. Type locality: Burmier on the Rio Itabira, a tributary of the Rio das Velhas [20°00'S 47°00'W], Brazil. Holotype: FMNH 58081 [ex CM 7078].
Maximum length: 6.5 cm
Distribution: South America: Upper São Francisco River basin.
Countries: Brazil
- Trichomycterus retropinnis* Regan, 1903**
Trichomycterus retropinnis Regan, 1903: 624. Type locality: St. Augustin, Andes of Colombia, elev. 5000 feet. Syntypes: (2) BMNH, ?RMNH 24727 (4).
Maximum length: 8 cm TL
Distribution: South America: Colombian Andes.
Countries: Colombia
- Trichomycterus riojanus* (Berg, 1897)**

- Pygidium riojanum* Berg, 1897: 269. Type locality: un arroyo de la Cordillera de La Rioja [Provincia de la Rioja = 3000' S 67°30'W], Argentina. Holotype: MACN 5175. Maximum length: 8.5 cm. Distribution: South America: La Rioja Range. Countries: Argentina
- Trichomycterus rivulatus* Valenciennes, 1846**
Trichomycterus rivulatus Valenciennes, in Cuvier & Valenciennes, 1846: 495. Type locality: ruisseaux qui se jettent dans le lac de Titicaca, vaste mer alpine, peuplée par les Orestias sans ventrales, ou dans les affluents de l'Apurimac, l'une des sources de l'Amazonie ... du Guasacóna [15°48'S 69°24'W], Peru. Syntypes: MNHN B.586 (1).
- Trichomycterus barbatula* Valenciennes, in Cuvier & Valenciennes, 1846: 498. Type locality: Guasacóna et du Rio de Pontezualo près coroico, par une hauteur de terize à quatorze milles pieds et à una latitude de seize à dix - sept degrés nord. Syntypes: MNHN 4077 (1), 4078 (5) and B.587 (3).
- Trichomycterus gracilis* Valenciennes, in Cuvier & Valenciennes, 1846: 497. Type locality: Rio de Azangaro près de Guasacóna, dans le Rio de Pontezualo près de Coroico, et enfin dans le lac de la Compucila dans les Andes, à l'ouest de Cuzco, par la hautes de quatorze mille pieds, Peru. Syntypes: MNHN 3129 (2), 4063 (2), A.9766 (6), B.588 (2).
- Trichomycterus incae* Valenciennes, in Cuvier & Valenciennes, 1846: 496. Type locality: Rio Guatanai à Cuzco, Peru. Syntypes: MNHN A.8986 (1).
- Trichomycterus pentlandi* Castelnau, 1855: 49, pl. 24 (fig. 1). Type locality: lac situé près de la mission de Sarayacu, qui communiqué avec la rivière d'Ucayale, Peru. Holotype: MNHN B.608.
- Trichomycterus pictus* Castelnau, 1855: 50, pl. 24 (fig. 2). Type locality: grand lac de Titicaca. Syntypes: MNHN B.609 (3).
- Trichomycterus pardus* Cope, 1874: 132. Type locality: Upper Amazon. Syntypes: ANSP 21180-202 (23).
- Trichomycterus poeyanus* Cope, 1877: 47. Type locality: Arequipa, Peru. Syntypes: ANSP 21382-83 (2).
- Pygidium oroyae* Eigenmann & Eigenmann, 1889: 51. Type locality: Rio Oroya, Pochachara, Brazil. Syntypes: MCZ 3955 (8).
- Trichomycterus eigenmanni* Boulenger, 1898: 8. Type locality: Cumbaca [unknown], Brazil. Holotype: MCZ 8301.
- Pygidium quechuorum* Steindachner, 1900: 207. Type locality: Arequipa, Río Chile, Südperu. Syntypes: (5) whereabouts unknown.
- Pygidium tiraquae* Fowler, 1940b: 92, fig. 52. Type locality: Tiraque, Cochabamba, Bolivia. Holotype: ANSP 69126 (with paratypes).
- Pygidium atochae* Allen, in Eigenmann & Allen, 1942: 156, pl. 13 (figs. 3-5). Type locality: Rio de Atocha, Atocha, Bolivia. Holotype: CAS 64576 [ex IU 17819]. Maximum length: 37.4 cm TL. Distribution: South America: High-altitude lakes and streams in the central Andean range (including Lakes Titicaca and Poopó), from Lake Junin in the north to Chilean region of Tarapacá in the south, spanning Western Bolivia, Peru and Northern Chile. Countries: Bolivia, Chile, Peru
- Trichomycterus roigi* Arratia & Menu-Marque, 1984**
Trichomycterus roigi Arratia & Menu-Marque, 1984: 494, figs. 1-10. Type locality: Río Pastos Chicos. Jujuy, north of Argentina; 23°24'S - 66°35'W. Holotype: MLP 29-8-83-1. Maximum length: 11 cm TL. Distribution: South America: Pastos Chicos River basin. Countries: Argentina
- Trichomycterus romeroi* (Fowler, 1941)**
Pygidium romeroi Fowler, 1941: 4, figs. 6-8. Type locality: Honda, Colombia. Holotype: ANSP 69331. Maximum length: 6.6 cm. Distribution: South America: Honda River basin. Countries: Colombia
- Trichomycterus santaeritae* (Eigenmann, 1918)**
Pygidium santae-ritae Eigenmann, 1918: 341, pl. 52 (fig. 5). Type locality: Santa Rita, Rio Preto, Brazil. Holotype: FMNH 58577 [ex CM 7599]. Maximum length: 6.6 cm. Distribution: South America: Preto River, Paraíba do Sul River basin. Countries: Brazil
- Trichomycterus spegazzinii* (Berg, 1897)**
Pygidium spegazzinii Berg, 1897: 267. Type locality: Río de Cachi (Provincia de Salta), ... , á una altura de 2500 á 2800 metros sobre el nivel del mar [24°47'S 65°25'W], Argentina. Syntypes: BMNH 1898.9.23.1-2 (2); MACN 4925 (originally 29, now 19), 5173 (2); SMF 831 (1). Maximum length: 10.8 cm. Distribution: South America: Provinces of Salta and Catamarca in Argentina. Countries: Argentina
- Trichomycterus spelaeus* DoNascimento, Villarreal & Provenzano, 2001**
Trichomycterus spelaeus DoNascimento, Villarreal & Provenzano, 2001: 21, fig. 1. Type locality: Cueva Punto Fijo, en el caserío Punto Fijo a 7,5 km al N del Cerro Yolanda, 590 m.s.n.m., cuenca del río Guasare, Edo. Zulia, Venezuela (10°57'10"N; 72°28'06"O). Holotype: MBUCV-V-29602. Maximum length: 5.41 cm SL. Distribution: South America: Punto Fijo Cave, upper Guasare River basin. Countries: Venezuela
- Trichomycterus spilosoma* (Regan, 1913)**
Pygidium spilosoma Regan, 1913: 468. Type locality: Rio Sipi and Rio Tamana [Sipi River = 4°45'N 76°50'W; Tamana River = 5°00'N 76°44'W], Colombia. Syntypes: (3) BMNH 1910.7.11.106-108 (3), 1910.7.11.15 (1). Maximum length: 25 cm. Distribution: South America: Sipi and Tamana River basins. Countries: Colombia
- Trichomycterus stawiarski* (Miranda Ribeiro, 1968)**
Pygidium stawiarski Miranda Ribeiro, 1968: 1. Type locality: Pequeno córrego pertencente á bacia do Rio Paraná - localidade de Bituruna - Est. do Paraná, Paraná [26°10'S 51°30'W], Brazil. [Iguaçu system]. Holotype: MNRJ 9739. Maximum length: 8.5 cm. Distribution: South America: Iguaçu River basin. Countries: Brazil
- Trichomycterus stellatus* (Eigenmann, 1918)**
Pygidium stellatum Eigenmann, 1918: 308, pl. 47 (fig. 1). Type locality: Quebrada Sarjento, Colombia. Holotype: FMNH 58101 [ex CM 7097]. Maximum length: 7.8 cm. Distribution: South America: Colombia. Countries: Colombia
- Trichomycterus straminus* (Eigenmann, 1917)**
Pygidium straminium Eigenmann, 1917: 694. Type locality: Quebrada del Mango, Santander, Colombia. Holotype: FMNH 58105 [ex CM 7101]. Maximum length: 6.7 cm. Distribution: South America: Santander, Colombia.

Countries: Colombia

***Trichomycterus striatus* (Meek & Hilbebrand, 1913)**

Pygidium striatum Meek & Hildebrand, 1913: 78. Type locality: Río Cana at Cana [8°51'N 81°42'W], Panama. Holotype: FMNH 7579.

Pygidium septentrionale Behre, 1928: 309, pl. 18. Type locality: ... small streams tributary to Río Chiriqui del Tiro above Caldera, Pacific slope of Panama, altitude about 4,000 feet ... Quebrada Salão, Panama, ca. elev. 4000 ft [Caldera = 8°39'N 82°23'W]. Holotype: FMNH 59522 [ex CM 8515].

Maximum length: 8.4 cm

Distribution: Central America: Southern Central America.

Countries: Panama, Costa Rica

***Trichomycterus taczanowskii* Steindachner, 1882**

Trichomycterus taczanowskii Steindachner, 1882a: 177. Type locality: Huambo und Río Tortora bei Chirimoto [6°31'S 77°24'W], Peru. Syntypes: (several) NMW 43387 (1). Species later illustrated and described in more detail in Steindachner (1882b: 22, pl. 4, figs. 1-1b).

Maximum length: 11.3 cm

Distribution: South America: Peru.

Countries: Peru

***Trichomycterus taenia* Kner, 1863**

Trichomycterus taenia Kner, 1863: 228, fig. 16. Type locality: Vom Westabhang der Andes im State Ecuador, Ecuador. Holotype: whereabouts unknown. Also appeared as new in Kner & Steindachner (1864: 52, pl. 6, fig. 1).

Maximum length: 11.1 cm

Distribution: South America: Ecuadorian Andes.

Countries: Ecuador

***Trichomycterus taeniops* Fowler, 1954**

Pygidium tenue Fowler, 1945: 6, figs. 7-9. Type locality: Acobamba, near Tarma at 2000 meters elevation, Rio Ucayali basin, Peru. Holotype: ANSP 71638. Preoccupied in *Trichomycterus* by *Trichomycterus tenuis* Weyenbergh, 1877; replaced by *Trichomycterus taeniops* Fowler, 1954.

Trichomycterus taeniops Fowler, 1954: 36, fig. 635. Type locality: Acobamba, near Tarma, at 2000 meters elevation, Rio Ucayali basin, Peru, elev. 2000 m [Ucayali River = 430°S 73° 27'W; Tarma = 3°22'S 71°45'W], Peru. Replacement name for *Pygidium tenue* Fowler, 1945, preoccupied in *Trichomycterus* by *Trichomycterus tenuis* Weyenburgh, 1877

Maximum length: 9.2 cm

Distribution: South America: Ucayali River basin (elevation 2000 m).

Countries: Peru

***Trichomycterus tenuis* Weyenbergh, 1877**

Trichomycterus tenuis Weyenbergh, 1877: 12, pl. 3 (figs. a-c). Type locality: una pequeña laguna, en la Sierra de Córdoba, cerca de la Villa Cruz-del-eje [Santa Fé, Provincia de Santa Fé = 31°00'S 61°00'W; Cordoba = 31°24'S 64°11'W], Argentina. Syntypes: (several) MSNG 8852 (2).

Maximum length: 11.7 cm

Distribution: South America: Córdoba Sierra.

Countries: Argentina

***Trichomycterus transandianum* (Steindachner, 1915)**

Pygidium taenia transandianum Steindachner, 1915b: 100, pl. 12 (fig. 6). Type locality: Gebirgsbach im Cañon del Gallo, einem rechten Seitental des Rio Combeima in der Zentral-Cordillere, Columbien, in einer Höhe von 1800 m [4°19'N 75°09'W], Colombia. Syntypes: (2) NMW 44475 (?).

Maximum length: 6.1 cm

Distribution: South America: Combeima River basin, Central Andes.

Countries: Colombia

***Trichomycterus triguttatus* (Eigenmann, 1918)**

Pygidium triguttatum Eigenmann, 1918: 339, pl. 52 (fig. 4). Type locality: Jacarehy, São Paulo [22°30'S 45°50'W], Brazil. Holotype: FMNH 58670 [ex CM 7600a].

Maximum length: 3.6 cm

Distribution: South America: São Paulo State, Brazil.

Countries: Brazil

***Trichomycterus unicolor* (Regan, 1913)**

Pygidium unicolor Regan, 1913: 468. Type locality: Condoto [6°26'N 76°12'W], Colombia. Syntypes: BMNH 1913.10.1.42-43 (2).

Maximum length: 8.5 cm

Distribution: South America: San Juan River basin.

Countries: Colombia

***Trichomycterus variegatus* Costa, 1992**

Trichomycterus variegatus Costa, 1992: 103, fig. 3. Type locality: Estado de Minas Gerais: ville de São Roque de Minas, rio do Peixe, affluent du haut rio Sao Francisco [20°20'S 46°36'W], Brazil. Holotype: MZUSP 42316.

Maximum length: 4 cm

Distribution: South America: Upper São Francisco River basin.

Countries: Brazil

***Trichomycterus venulosus* (Steindachner, 1915)**

Pygidium venulosum Steindachner, 1915c: 199. Type locality: Paramo de Cruz verde, östliche Cordillere, Columbien, in 3000 m Colombia. Syntypes: NMW 44476 (2). Species illustrated and described in more detail in Steindachner (1915b: 99).

Maximum length: 12.5 cm

Distribution: South America: Western Andean Cordillera in Colombia.

Countries: Colombia

***Trichomycterus vermiculatus* (Eigenmann, 1917)**

Pygidium vermiculatum Eigenmann, 1917: 699. Type locality: Juiz de Fora. Habitat, Rio Parahyba [21°40'S 43°25'W], Brazil. Holotype: FMNH 58077 [ex CM 7074].

Maximum length: 13.1 cm

Distribution: South America: Paraíba do Sul River in State of Minas Gerais, Brazil.

Countries: Brazil

***Trichomycterus vittatus* Regan, 1903**

Trichomycterus vittatus Regan, 1903: 623. Type locality: Marcapata Valley, E. Peru [13°13' S 70°24'W], Peru. Holotype: BMNH 1902.5.29.210.

Maximum length: 7.8 cm

Distribution: South America: Eastern Peru.

Countries: Peru

***Trichomycterus weyrauchi* (Fowler, 1945)**

Pygidium weyrauchi Fowler, 1945: 7, figs. 10-12. Type locality: Acobamba, near Tarma, at 2200 meters elevation, Rio Ucayali drainage [Ucayali River = 4°30'S 73°27'W], Peru. Holotype: ANSP 71639 (with paratypes).

Maximum length: 4.9 cm

Distribution: South America: Ucayali River basin (elev. 2900 m).

Countries: Peru

***Trichomycterus zonatus* (Eigenmann, 1918)**

Pygidium zonatum Eigenmann, 1918: 330, pl. 51 (fig. 1). Type locality: Agua Quente [Cubatão, seven miles west of Santos (Eigenmann, 1918) = 23°40'S 46°25'W], São Paulo, Brazil. Holotype: FMNH 58573 [ex CM 7596].

Trichomycterus cubataonis Bizerril, 1994: 618, figs. 1-3. Type locality: Rio Cubatão, Joinville, Estado de Santa Catarina [Joinville = 26°18' 48°50'], Brazil. Holotype: MNRJ 12490.

Maximum length: 6.2 cm

Distribution: South America: Coastal rivers between Santa Catarina and São Paulo States.

Countries: Brazil

TRIDENS

Tridens Eigenmann & Eigenmann, 1889: 53. Type species: *Tridens melanops* Eigenmann & Eigenmann, 1889. Type by original designation. Gender: masculine.

Tridens melanops Eigenmann & Eigenmann, 1889

Tridens melanops Eigenmann & Eigenmann, 1889: 53. Type locality: Iça, Brazil. Syntypes: (27) CAS 64598 [IU 4275] (1); BMNH 1889.11.14.42 [ex MCZ] (1); MCZ 8137 (orig. 27, now 15, 2 c&s); USNM 41522 [ex MCZ 8137] (1), 120296 (orig. 4, now 3).

Maximum length: 2.7 mm SL

Distribution: South America: Amazon River basin.

Countries: Brazil

TRIDENSIMILIS

Tridensimilis Schultz, 1944: 266. Type species: *Tridensimilis venezuelae* Schultz, 1944. Type by original designation. Gender: masculine.

Tridensimilis brevis (Eigenmann & Eigenmann, 1889)

Tridens brevis Eigenmann & Eigenmann, 1889: 54. Type locality: Tabatinga. Holotype: MCZ 8160.

Maximum length: 3 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

Tridensimilis venezuelae Schultz, 1944

Tridensimilis venezuelae Schultz, 1944: 267, pl. 6 (fig. C). Type locality: Río Negro, below the mouth of the Río Yasa, Maracaibo basin, Venezuela. Holotype: USNM 121290.

Maximum length: 2.5 cm TL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

TRIDENTOPSIS

Tridentopsis Myers, 1925: 84. Type species: *Tridentopsis pearsoni* Myers, 1925. Type by original designation. Gender: feminine.

Tridentopsis cahuali Azpelicueta, 1990

Tridentopsis cahuali Azpelicueta, 1990: 982, figs. 1-4. Type locality: Estancia El Bagual, Formosa Province, Argentina, 26°10'53"S, 58°56'39"W. Holotype: MLP 5-IX-89-1.

Maximum length: 2.22 cm SL

Distribution: South America: Paraguay River basin.

Countries: Argentina

Tridentopsis pearsoni Myers, 1925

Tridentopsis pearsoni Myers, 1925: 84. Type locality: Lagoons at Lake Rogoagua, Bolivia. Holotype: CAS 28258 [ex IU 17664].

Maximum length: 2.3 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Bolivia

Tridentopsis tocantinsi La Monte, 1939

Tridentopsis tocantinsi La Monte, 1939: 1. Type locality: Rio Tocantins, northeastern Brazil. Holotype: AMNH 13967.

Maximum length: 2.3 cm SL

Distribution: South America: Tocantins River basin.

Countries: Brazil

TYPHLOBELUS

Typhlobelus Myers, 1944: 593. Type species: *Typhlobelus ternetzi* Myers, 1944. Type by original designation. Gender: masculine.

Typhlobelus macromycterus Costa & Bockmann, 1994

Typhlobelus macromycterus Costa & Bockmann, 1994a: 68, figs. 1-3. Type locality: Brazil: Estado do Pará, Rio Tocantins near Tucuruí. Holotype: MNRJ 12129.

Maximum length: 2.19 cm SL

Distribution: South America: Tocantins River near Tucuruí, Pará State.

Countries: Brazil

Typhlobelus ternetzi Myers, 1944

Typhlobelus ternetzi Myers, 1944: 593, pls. 52 (fig. 2) - 53 (figs. 6-8). Type locality: Rock pools below São Gabriel Rapids, Rio Negro, Brazil. Holotype: CAS 11118.

Maximum length: 3.35 cm SL

Distribution: South America: Upper Negro River basin.

Countries: Brazil

VANDELLIA

Vandellia Valenciennes, in Cuvier & Valenciennes, 1846: 386.

Type species: *Vandellia cirrhosa* Valenciennes, 1846. Type by monotypy. Gender: feminine.

Urinophilus Eigenmann, 1918: 358. Type species: *Vandellia sanguinea* Eigenmann, 1917. Type by subsequent designation by Eigenmann (1920: 441). Gender: masculine.

Vandellia beccarii Di Caporiacco, 1935

Vandellia beccarii Di Caporiacco, 1935: 59. Type locality: Rockstone, in flumine Essequibo dicto, in Guiana Britannica. Holotype: MZUF 5506.

Maximum length: 5.9 cm

Distribution: South America: Orinoco River basin and rivers of Guyana.

Countries: Colombia, Guyana, Venezuela

Vandellia cirrhosa Valenciennes, 1846

Vandellia cirrhosa Valenciennes, in Cuvier & Valenciennes, 1846: 386, pl. 547. Type locality: Probably from America [= South America]. Syntypes (2): MNHN A.6308.

Vandellia gigantea Cornalia, 1849: 15, figs. 4-5. Type locality: [not specified, but mention of Fl. Amazonum et Napo, in the context of text, indicates that the specimen studied came from that region]. Type material lost in the Milan Museum fire of 1943 (Cagnolaro & Violani 1988). Considered nomen oblitum by Cagnolaro & Violani (1988), but now an available name.

Vandellia plazai Castelnau, 1855: 51, pl. 28 (fig. 1). Type locality: rio Ucayale (Pérou). Holotype: MNHN A.6309.

Vandellia balzanii Perugia, 1897: 23. Type locality: Rio Beni, Mission Mosetenes, Bolivia. Holotype: MSNG 8848.

Urinophilus erythrurus Eigenmann, 1922a: 114, pls. 3 (figs. 5-7), 4 (10-16). Type locality: Río Morona, Peru. Holotype: CAS 64599 [ex IU 15884].

Maximum length: 17 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil, Colombia, Ecuador, Peru.

Vandellia sanguinea Eigenmann, 1917

Vandellia sanguinea Eigenmann, 1917: 701. Type locality: San Antonio de Rio Madeira. Holotype: FMNH 58086 [ex CM 7082].

Maximum length: 8.4 cm SL

Distribution: South America: Amazon, Orinoco and Essequibo River basins.

Countries: Brazil, Venezuela, Guyana.

GENUS INQUIRENDUM

Pygidium Meyen, 1835: 475. Type species: *Pygidium fuscum* Meyen, 1835. Type by monotypy. Gender: neuter. Familial assignment of this genus is uncertain (cf. Tchernavin 1944).

SPECIES INQUIRENDA

Pygidium fuscum Meyen, 1835: 369. Type locality: Peru. Holotype: lost. Familial assignment of this species is uncertain (cf. Tchernavin, 1944).

References

- Ahl, E. 1931. Neue Süßwasserfische aus dem Stromgebiet des Amazonenstromes. Sitzungsber. Ges. Naturf. Freunde Berlin: 206-211.
- Arratia, G. 1983. *Trichomycterus chungaraensis* n. sp. and *Trichomycterus laucaensis* n. sp. (Pisces, Siluriformes, Trichomycteridae) from the high Andean range. Stud. Neotrop. Fauna Environ., 18 (2): 65-87.
- Arratia, G., A. Chang, S. Menu-Marque and G. Rojas M. 1978. About *Bullockia* gen. nov., *Trichomycterus mendozensis* n. sp. and revision of the family Trichomycteridae (Pisces, Siluriformes). Stud. Neotrop. Fauna Environ., 13 (3-4): 157-194
- Arratia, G. and S. Menu-Marque. 1981. Revision of the freshwater catfishes of the genus *Hatcheria* (Siluriformes, Trichomycteridae) with commentaries on ecology and biogeography. Zool. Anz., 207 (1/2): 88-111.
- Arratia, G. and S. Menu-Marque. 1984. New catfishes of the genus *Trichomycterus* from the high Andes of South America (Pisces, Siluriformes) with remarks on distribution and ecology. Zoologische Jb. (Syst.), 111 (4): 493-520.
- Azpelicueta, M.M. 1990. *Tridentopsis cahuali* n. sp. (Siluriformes, Trichomycteridae), a new miniature tridentine from Paraguay System, in Argentina. Rev. Suisse Zool., 97 (4): 981-988.
- Behre, E.H. 1928. A list of the fresh water fishes of western Panama between 81°45' and 83°15'W. Ann. Carnegie Mus., 18 (2-4): 305-328, pl. 1.
- Berg, C. 1895. Sobre peces de agua dulce nuevos ó poco conocidos de la República Argentina. An. Mus. Nac. Hist. Nat. B. Aires, 4: 121-165, pls. 2-3.
- Berg, C. 1897. Contribuciones al conocimiento de los peces Sudamericanos, especialmente de los de la República Argentina. An. Mus. Nac. Hist. Nat. B. Aires, 5: 263-302.
- Bizerril, C.R.S.F. 1994. Descrição de uma nova especie de *Trichomycterus* (Siluroidei, Trichomycteridae) do Estado de Santa Catarina, com uma sinópsis da composição da família Trichomycteridae no leste Brasileiro. Arq. Biol. Tecn. (Curitiba), 37 (3): 617-628.
- Böhlke, E.B. 1984. Catalog of type specimens in the ichthyological collection of the Academy of Natural Sciences of Philadelphia. Acad. Nat. Sci. Philad., Spec. Publ. 14. viii + 246 p.
- Böhlke, J.E. 1953. A catalogue of the type specimens of Recent fishes in the Natural History Museum of Stanford University. Stanford Ichthyol. Bull., 5: 1-168.
- Boulenger, G.A. 1887a. An account of the fishes collected by Mr. C. Buckley in eastern Ecuador. Proc. Zool. Soc. Lond., 1887 (2): 274-283, pls. 20-24.
- Boulenger, G.A. 1887b. On new siluroid fishes from the Andes of Columbia. Ann. Mag. Nat. Hist. (Ser. 5), 19 (113): 348-350.
- Boulenger, G.A. 1891. An account of the siluroid fishes obtained by Dr. H. von Ihering and Herr Sebastian Wolff in the Province Rio Grande do Sul, Brazil. Proc. Zool. Soc. Lond., 1891 (2): 231-235, pls. 25-26.
- Boulenger, G.A. 1896. Description of a new siluroid fish from the Organ Mountains, Brazil. Ann. Mag. Nat. Hist. (Ser. 6), 18 (104): 154.
- Boulenger, G.A. 1897. Viaggio del Dott. Alfredo Borelli nel Chaco boliviano e nella Repubblica Argentina. III. Poissons. Boll. Mus. Zool. Anat. Comp. Torino, 12 (no. 279): 1-4.
- Boulenger, G.A. 1898. Viaggio del Dr. Enrico Festa nell' Ecuador e regioni vicine. Poissons de l'Équateur. [Part I]. Boll. Mus. Zool. Anat. Comp. Torino, 13 (329): 1-13.
- Britski, H.A. and H. Ortega. 1983. *Trichogenes longipinnis*, novo gênero e espécie de Trichomycterinae do sudeste do Brazil (Pisces, Siluriformes). Rev. Bras. Zool., 1 (3): 211-216.
- Cagnolaro, L. and C. Violani, 1988. Introduction to the anastatic reprint of "Vertebratorum Synopsis..." by E. Cornalia (1849). Atti Soc. Ital. Sci. Nat. Milano, 129 (4): 433-434 + 16 pp. and 1 Pl.
- Campanario, C.M. and M.C.C. de Pinna. 2000. A new species of the primitive trichomycterid subfamily Copionodontinae from northeastern Brazil (Teleostei: Trichomycteridae). Ichthyol. Explor. Freshwaters, 11 (4): 369-375.
- Caramaschi, E.P. and U. Caramaschi. 1991. Taxonomic status of the trichomycterid catfish *Trichomycterus itatiayae*. Copeia, 1991 (1): 222-224.
- Castelnau, F.L. 1855. Poissons. In: Animaux nouveaux or rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847 ... xii +112 p., pls. 1-50.
- Cornalia, A. 1849. Vertebratorum Synopsis in Museo mediolansense extantium quae per novum orbem Cajetanus Osculati collegit ... (1849). 1-16, 1 pl.
- Cope, E.D. 1874. On some Batrachia and Nematognathi brought from the upper Amazon by Prof. Orton. Proc. Acad. Nat. Sci. Philadelphia, 26: 120-137.
- Cope, E.D. 1877. Synopsis of the cold blooded vertebrata, procured by Prof. James Orton during his exploration of Peru in 1876-77. Proc. Am. Philos. Soc., 17: 33-49.
- Costa, W.J.E.M. 1992. Description de huit nouvelles espèces du genre *Trichomycterus* (Siluriformes: Trichomycteridae), du Brésil oriental. Rev. Fr. Aquariol., 18 (4, for 1991): 101-110.
- Costa, W.J.E.M. 1994. A new genus and species of Sarcoglanidinae (Siluriformes: Trichomycteridae) from the Araguaia basin, central Brazil, with notes on subfamilial phylogeny. Ichthyol. Explor. Freshwaters, 5 (3): 207-216.
- Costa, W.J.E.M. and F.A. Bockmann. 1993. Un nouveau genre néotropical de la famille des Trichomycteridae (Siluriformes: Loricarioidei). Rev. Fr. Aquariol., 20 (2): 43-46.
- Costa, W.J.E.M. and F.A. Bockmann. 1994a. *Typhlobelus macromycterus*, a new blind glanapterygine fish (Siluriformes Trichomycteridae) from the Rio Tocantins, Brazil. Trop. Zool., 7 (1): 67-72.
- Costa, W.J.E.M. and F.A. Bockmann. 1994b. A new genus and species of Sarcoglanidinae (Siluriformes: Trichomycteridae) from southeastern Brazil, with a re-examination of subfamilial phylogeny. J. Nat. Hist., 28 (3): 715-730.
- Cuvier, G. and A. Valenciennes. 1846. Histoire naturelle des poissons. Tome dix-huitième. Suite du livre dix-huitième. Cyprinoides. Livre dix-neuvième. Des Ésoques ou Lucioïdes. Ch. Pittois, & V. Levrault, Paris & Strasbourg. xix + 2 + 505 + 2 p., pls. 520-553.
- Dahl, G. 1960. Nematognathous fishes collected during the Macarena Expedition 1959. Part I. Novedades Colombianas, 1 (5): 302-317.
- Devincenzi, G.J. and G.W. Teague. 1942. Ictiofauna del Rio Uruguay medio. An. Mus. Nac. Hist. Nat. Montev. (Ser. 2), 5 (4): 1-100 + index + i-viii, pls. 1-6.
- Devincenzi, G.J. and R. Vaz-Ferreira. 1939. Nota preliminar sobre un pygidido hematófago del Rio Uruguay. Arch. Soc. Biol. Montevideo, 9 (3): 165-178.
- Di Caporiacco, L. 1935. Spedizione Nello Beccari nella Guiana Britannica. Monit. Zool. Ital., 46 (3): 55-70.
- DoNascimento C., O. Villarreal and F. Provenzano. 2001. Descripción de una nueva especie de bagre anoftalmo del género *Trichomycterus* (Siluriformes, Trichomycteridae), de una cueva

Check List of the Freshwater Fishes of South and Central America

- de la Sierra de Perijá, Venezuela. Boletín de la Sociedad Venezolana de Espeleología. 35: 20-26.
- Durand, J. 1968. Etude des poissons récoltés dans la grotte de Umayalanta (Bolivie), *Trichomycterus chaberti* sp. n. Ann. Spéol., 23 (2): 343-353.
- Eigenmann, C.H. 1909a. Reports on the expedition to British Guiana of the Indiana University and the Carnegie Museum, 1908. Report no. 1. Some new genera and species of fishes from British Guiana. Ann. Carnegie Mus., 6 (1): 4-54.
- Eigenmann, C.H. 1909b. The fresh-water fishes of Patagonia and an examination of the Archiplata-Archhelenis theory. In: Reports of the Princeton University expeditions to Patagonia 1896-1899. Zoology. 225-374, pls. 30-37.
- Eigenmann, C.H. 1911. Description of a new species of *Pygidium*. Ann. Carnegie Mus., 7 (2): 214, pl. 32.
- Eigenmann, C.H. 1912a. Some results from an ichthyological reconnaissance of Colombia, South America. Part I. Indiana Univ. Studies, no. 16 [sic no. 8]: 1-27.
- Eigenmann, C.H. 1912b. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. 1914. Some results from studies of South American fishes. IV. New genera and species of South American fishes. Indiana Univ. Studies, no. 20: 44-48.
- Eigenmann, C.H. 1917. Descriptions of sixteen new species of Pygidiidae. Proc. Am. Philos. Soc., 56: 690-703.
- Eigenmann, C.H. 1918. The Pygidiidae, a family of South American catfishes. Mem. Carnegie Mus., 7 (5): 259-398, pls. 36-56.
- Eigenmann, C. H. 1920. On a new species of *Hatcheria* and a new species of *Pygidium*. Rev. Chilena de Hist. Nat. Valparaiso, 23 (for 1919): 53-54.
- Eigenmann, C.H. 1922a. On a new genus and two new species of Pygidiidae, a family of South American nematognaths. Bijdr. Dierkd., 22: 113-114, pls. 3-4.
- Eigenmann, C.H. 1922b. The fishes of western South America, Part I. The fresh-water fishes of northwestern South America, including Colombia, Panama, and the Pacific slopes of Ecuador and Peru, together with an appendix upon the fishes of the Rio Meta in Colombia. Mem. Carnegie Mus., 9 (1): 1-346, pls. 1-38.
- Eigenmann, C.H. 1928. The fresh-water fishes of Chile. Mem. Natl. Acad. Sci. Wash., 22 (2): 1-63, pls. 1-16.
- Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II.- The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. Univ. Kentucky. xv + 494 p., pls. 1-22.
- Eigenmann, C.H. and R.S. Eigenmann. 1889. Preliminary notes on South American Nematognathi. II. Proc. California Acad. Sci. (Ser. 2), 2: 28-56.
- Eigenmann, C.H., W.L. McAtee and D.P. Ward. 1907. On further collections of fishes from Paraguay. Ann. Carnegie Mus., 4 (2): 110-157, pls. 31-45.
- Fernández, L. 2000. A new species of *Trichomycterus* from northwestern Argentina (Ostariophysi: Trichomycteridae). Ichthyol. Explor. Freshwaters, 11(4):349-254.
- Fernández, L. and M.E. Bichuette. 2002. A new cave dwelling species of *Ituglanis* from the São Domingos karst, central Brazil (Siluriformes, Trichomycteridae). Ichthyol. Explor. Freshwaters, 13 (3): 273-278.
- Fernández, L. and R. P. Vari. 2000. New species of *Trichomycterus* (Teleostei: Siluriformes: Trichomycteridae) lacking a pelvic fin and girdle from the Andes of Argentina. Copeia, 2000 (4):990-996.
- Fernández, L. and R. P. Vari. 2002. New species of *Trichomycterus* from the Andes of Argentina with a redescription of *Trichomycterus alterus* (Siluriformes: Trichomycteridae). Copeia, 2002 (3):739-747.
- Fernández-Yépez, A. 1972. Análisis ictiológico del complejo hidrográfico (04) "Río Yaracuy". Dirección de Obras Hidráulicas, Ministerio de Obras Públicas, República de Venezuela. 25 p., pls. 1-41.
- Fowler, H.W. 1914. Fishes from the Rupununi River, British Guiana. Proc. Acad. Nat. Sci. Philadelphia, 66: 229-284.
- Fowler, H.W. 1932. Zoological results of the Matto Grosso Expedition to Brazil in 1931.--I. Fresh water fishes. Proc. Acad. Nat. Sci. Philadelphia, 84: 343-377.
- Fowler, H.W. 1940a. Fishes obtained in Chile by Mr. D. S. Bullock. Proc. Acad. Nat. Sci. Philadelphia, 92: 171-190.
- Fowler, H.W. 1940b. Zoological results of the second Bolivian expedition for the Academy of Natural Sciences of Philadelphia, 1936-1937. Part I.--The fishes. Proc. Acad. Nat. Sci. Philadelphia, 92: 43-103.
- Fowler, H.W. 1941. Notes on Colombian fresh-water fishes with descriptions of four new species. Not. Nat. (Philadelphia), no. 73: 1-10.
- Fowler, H.W. 1945. Descriptions of seven new fresh-water fishes from Peru. Not. Nat. (Philadelphia), no. 159:
- Fowler, H.W. 1954. Os peixes de água doce do Brasil. Vol. 2. Arq. Zool. (São Paulo), 9: i-ix + 1-400.
- Giebel, C.G.A. 1871. [*Trachypoma marmoratum*, ein neuer Wels aus dem Amazonenstrom]. Z. Ges. Naturw. Berlin (n.f., 3), 37: 97.
- Giltay, L. 1935. Notes ichthyologiques. X.--Description d'une espèce nouvelle de Trichomycteridae. Bull. Mus. R. Hist. Nat. Belg., 11 (27): 1-3.
- Girard, C.F. 1855. Contributions to the fauna of Chile. Report to Lieut. James M. Gilliss, U. S. N., upon the fishes collected by the U. S. Naval Astronomical Expedition to the southern hemisphere during the years 1849-50-51-52. Washington. 1858, 2 vols., 42 pls.
- Guimaraes, J.R.A. 1935. Contribuição para o conhecimento de uma nova especie de peixe hematophago, ectoparásita de "Characidae," encontrado em São Paulo (Rio Tietê). *Vandellia hematophaga* sp. n. Rev. Indust. Animal., 2 (3): 300-304.
- Günther, A. 1864. Catalogue of the fishes in the British Museum. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiatidae in the collection of the British Museum. xxii + 455 p.
- Günther, A. 1869. Descriptions of some species of fishes from the Peruvian Amazons. Proc. Zool. Soc. London, 1869 (pt 2): 423-429.
- Haseman, J.D. 1911. Some new species of fishes from the Rio Iguassú. Ann. Carnegie Mus., 7 (3-4) (19): 374-387, pls. 50, 58, 73-83.
- Humboldt, F.H.A. von. 1805. Mémoire sur l'*Eremophilus* et *As-troblepus*, deux nouveaux genres de l'ordre des apodes. In: Voyage de Humboldt et Bonpland, Deuxième partie. Observations de Zoologie et d'Anatomie comparée. Paris. 17-20, pls. 6-7.
- Ihering, R. von. 1930. Notas ecologicas referentes a peixes d'agua doce do Estado de S. Paulo e descrição de 4 especies novas. Arch. Inst. Biol. São Paulo, 3: 93-103, pl. 13.
- Kner, R. 1855. Ichthyologische Beiträge. Sitzungsber. Akad. Wiss. Wien, 17: 92-162, pls. 1-6.
- Kner, R. 1859. Zur Familie der Characinen. III. Folge der Ichthyologischen Beiträge. Denkschr. Akad. Wiss. Wien, 17: 137-182, pls. 1-9.
- Kner, R. 1863. Eine Uebersicht der ichthyologischen Ausbeute des Herrn Professors Dr. Mor. Wagner in Central-Amerika. Sitzungsber. Königl. Bayer. Akad. Wiss. Muenchen, 2: 220-230.
- Kner, R. and F. Steindachner. 1864. Neue Gattungen und Arten von Fischen aus Central-Amerika; gesammelt von Prof. Moritz Wagner. Abh. Bayer. Akad. Wiss., 10: 1-61, pls. 1-6.

Check List of the Freshwater Fishes of South and Central America

- Koch, W.R. 2002. Revisão taxonômica do gênero *Homodiaetus* (Teleostei, Siluriformes, Trichomycteridae). *Iheringia*, Ser. Zool., Porto Alegre, 92 (3): 33-46.
- La Monte, F. 1939. *Tridentopsis tocatinsi*, a new pygidiid fish from Brazil. *Am. Mus. Novit.*, no. 1024: 1-2.
- Landim, M. I. and W. J. E. M. Costa. 2002. *Listrura tetraradiata* (Siluriformes: Trichomycteridae): a new glanapterygine catfish from the southeastern Brazilian coastal plains. *Copeia*, 2002(1): 152-156.
- Lütken, C.F. 1874. Siluridae novae Brasiliae centralis a clarissimo J. Reinhardt in provincia Minas-geraës circa oppidulum Lagoa Santa, praecipue in flumine Rio das Velhas et affluentibus collectae, secundum caracteres essentielles, breviter descriptae. *Overs. Danske Vidensk. Selsk. Forhandl Kjobenhavn*, 1873 (3): 29-36.
- Lütken, C.F. 1875. Velhas-Flodens Fiske. Et Bidrag til Brasiliens Ichthyologi; efter Professor J. Reinhardts Indsamlinger og Optegnelser. K. Danske Vidensk. Selsk. Skr., Raekke 5, 12 (2): 121-253, + 2 unnum., + I-XXI, pls. 1-5.
- Lütken, C.F. 1892. Om en med stegophiler og trichomycterer beslaegtet sydamerikansk mallefisk (*Acanthopoma annectens* Ltk. n. g. & sp.?). *Vidensk. Medd. Dansk Naturh. Foren. Kjob.*, For 1891: 53-60.
- MacDonagh, E.J. 1938. Contribución a la sistemática y etología de los peces fluviales Argentinos. *Rev. Mus. La Plata Secc. Zool.*, 1: 119-208, pls. 1-5.
- Malabarba, L.R. 1989. Histórico sistemático e lista comentada das espécies de peixes de água doce do sistema da Laguna dos Patos, Rio Grande do Sul, Brasil. *Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre*, 2 (8): 107-179.
- Marini, T.L., J.T. Nichols and F.R. La Monte. 1933. Six new eastern South American fishes examined in the American Museum of Natural History. *Am. Mus. Novit.*, no. 618: 1-7.
- Meek, S.E. and S.F. Hildebrand. 1913. New species of fishes from Panama. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 10 (8): 77-91.
- Meyen, F.J.F. 1834-1835. Reise um die erde ausgeführt auf dem Königlich preussischen seehandlungs-schiffe Prinzess Louise, commandirt von captain W. Wendt, in den jahren 1830, 1831 und 1832; ... Historischer bericht. Sander'sche buchhandlung, Berlin.
- Miles, C. 1942. Descripción sistemática del "pez graso" del Lago de Tota (Boyacá). *Caldasia*, no. 5: 55-58.
- Miles, C.W. 1943. Estudio económico y ecológico de los peces de agua dulce del valle de Cauca. *Publ. Secret. Agric. y Fomento del Depart. Peces de Cauca*: 1-99.
- Miranda Ribeiro, A. 1906. Vertebrados do Itatiaya (Peixes, Serpentes, Saurios, Aves e Mamíferos). Resultados de excursões do Sr. Carlos Moreira, Assistente de Seção de Zoologia do Museu Nacional. *Arq. Mus. Nac. Rio de Janeiro*, 13: 165-190, pls. 1-3.
- Miranda Ribeiro, A. 1908. Peixes da Ribeira. Resultados de excursão do Sr. Ricardo Krone, membro correspondente do Museu Nacional do Rio de Janeiro. *Kosmos*, Rio de Janeiro [Rev. Art. Sci. Litt.], 5 (2): 5 unnum. pp.
- Miranda Ribeiro, A. 1912. Loricariidae, Callichthyidae, Doradidae e Trichomycteridae. In: Comissão de Linhas Telegraficas Estrategicas de Matto-Grosso ao Amazonas. 1-31, 1 pl.
- Miranda Ribeiro, A. 1917. De scleracanthis. Fluvio "Solimões" anno MCMVIII a cl. F. Machado da Silva duce brasiliense inventis et in Museo Urbis "Rio de Janeiro" servatis. *Rev. Soc. Sci. Rio de Janeiro*, 1: 49-52.
- Miranda Ribeiro, A. 1918a. Lista dos peixes Brasileiros do Museu Paulista. Primeira parte and Terceira parte. *Rev. Mus. Paulista*, 10: 705-736; 759-783.
- Miranda Ribeiro, A. 1918b. Tres generos e dezeseite especies novas de peixes Brasileiros. *Rev. Mus. Paulista*, 10: 631-646, 1 pl.
- Miranda Ribeiro, P. 1940. Alguns peixes do sul de Mato Grosso. O Campo, Rio de Janeiro, no. 60: 1 p.
- Miranda Ribeiro, P. 1943. Dois novos Pigidídeos Brasileiros (Pisces-Pygidiidae). *Bol. Mus. Nac. Rio de Janeiro*, no. 9: 1-3.
- Miranda Ribeiro, P. 1944a. Nova espécie para o gênero *Stegophilus* Reinhardt, 1858 (Pisces -- Pygidiidae -- Stegophilinae). *Bol. Mus. Nac., Zool. (Brasil)*, no. 20: 1-3.
- Miranda Ribeiro, P. 1944b. Um Pigidídeo do Alto Amazonas (Pisces -- Pygidiidae). *Bol. Mus. Nac., Zool. (Brasil)*, no. 19: 1-3.
- Miranda Ribeiro, P. de, 1946. Notas para o estudo dos Pygidiidae Brasileiros (Pisces - Pygidiidae - Stegophilinae). *Bol. Mus. Nac. Zool. (N. S.)* No. 58: 1-20, foldout table, Pls. 1-7.
- Miranda Ribeiro, P. 1949a. Duas novas espécies de peixes na coleção ictiológica do Museu Nacional (Pisces, Callichthyidae et Pygidiidae). *Rev. Bras. Biol.*, 9 (2): 143-145.
- Miranda Ribeiro, P. 1949b. Notas para o estudo dos Pygidiidae Brasileiros. (Pisces -- Pygidiidae -- Pygidiinae.) III. *Bol. Mus. Nac. Zool. (N. S.)*, no. 88: 1-3, 2 pls.
- Miranda Ribeiro, P. 1953. Tipos das espécies e subespécies do Prof. Alipio de Miranda Ribeiro depositados no Museu Nacional. *Arq. Mus. Nac. Rio de Janeiro*, 42: 389-417.
- Miranda Ribeiro, P. 1954. Catálogo dos Peixes do Museu Nacional. I. Pygidiidae Eigenmann & Eigenmann, 1888. *Publ. Avulsas Mus. Nac. (Rio de Janeiro)*, no. 15: 1-17.
- Miranda Ribeiro, P. 1957. Notas para o estudo dos Pygidiidae Brasileiros (Pisces - Pygidiidae). VI. *Publ. Avulsas Dept. Zool. Sao Paulo*, 13 (5): 71-73.
- Myers, G.S. 1925. *Tridentopsis pearsoni* a new pygidiid catfish from Bolivia. *Copeia*, no. 148: 83-86.
- Myers, G.S. 1926. Descriptions of a new characin fish and a new pygidiid catfish from the Amazon basin. *Copeia*, no. 156: 150-152.
- Myers, G.S. 1927. Descriptions of new South American freshwater fishes collected by Dr. Carl Ternetz. *Bull. Mus. Comp. Zool.*, 68 (3): 107-135.
- Myers, G.S. 1942. Studies on South American fresh-water fishes. I. *Stanford Ichthyol. Bull.*, 2 (4): 89-114.
- Myers, G.S. 1944. Two extraordinary new blind nematognath fishes from the Rio Negro, representing a new subfamily of Pygidiidae, with a rearrangement of the genera of the family, and illustrations of some previously described genera and species from Venezuela and Brazil. *Proc. California Acad. Sci. (Ser. 4)*, 23 (40): 591-602, pls. 52-56.
- Myers, G.S. and S.H. Weitzman. 1966. Two remarkable new trichomycterid catfishes from the Amazon basin in Brazil and Colombia. *J. Zool. (London)*. 149: 277-287.
- Nichols, J.T. 1956. A new pygidiid catfish from Argentina. *Am. Mus. Novit.*, no. 1760: 1-3.
- Nico, L.G. and M.C.C. de Pinna. 1996. Confirmation of *Glanapteryx anguilla* (Siluriformes, Trichomycteridae) in the Orinoco River basin, with notes on the distribution and habits of the Glanapteryginae. *Ichthyol. Explor. Freshwaters*, 7 (1): 27-32.
- Paepke, H.-J. 1995. Über das Leben und Werk von Ernst Ahl. *Mitt. Zool. Mus. Berlin*, 71 (1): 79-101.
- Pellegrin, J. 1909. Les poissons du genre *Vandellia* C. V. *Bull. Soc. Philomath. Paris (Ser. 10)*, 1 (4-6): 197-204.
- Perugia, A. 1897. Di alcuni pesci raccolti in Bolivia dal Prof. Luigi Balzan. *Ann. Mus. Civ. Stor. Nat. Genova (Ser. 2a)*, 18: 16-27.
- Philippi, R.A. 1866. Bemerkungen über die chilenischen Flussfische. *Monatsb. Akad. Wiss. Berlin*, 1866: 708-717.
- de Pinna, M.C.C. 1988. A new genus of trichomycterid catfish (Siluroidei, Glanapteryginae), with comments on its phylogenetic relationships. *Rev. Suisse Zool.*, 95 (1): 113-128.
- de Pinna, M.C.C. 1989. A new Scarcoglanidine catfish, phylogeny of its subfamily, and an appraisal of the phyletic status of the Trichomycterinae (Teleostei, Trichomycteridae). *Am. Mus. Novit.*, no. 2950: 1-39.
- de Pinna, M.C.C. 1992a. *Trichomycterus castroi*, a new species of trichomycterid catfish from the Rio Iguacu of Southeastern

Check List of the Freshwater Fishes of South and Central America

- Brazil (Teleostei: Siluriformes). *Ichthyol. Explor. Freshwaters*, 3 (1): 89-95.
- de Pinna, M.C.C. 1992b. A new subfamily of Trichomycteridae (Teleostei, Siluriformes), lower loricarioid relationships and a discussion on the impact of additional taxa for phylogenetic analysis. *Zool. J. Linn. Soc.*, 106 (3): 175-229.
- de Pinna, M.C.C. and H.A. Britski. 1991. *Megalocentor*, a new genus of parasitic catfish from the Amazon basin: the sister group of *Apomatoceros* (Trichomycteridae: Stegophilinae). *Ichthyol. Explor. Freshwaters*, 2 (2): 113-128.
- de Pinna, M.C.C. and W.C. Starnes. 1990. A new genus and species of Sarcoglanidinae from the Río Mamoré, Amazon basin, with comments on subfamilial phylogeny (Teleostei, Trichomycteridae). *J. Zool. (Lond.)*, 222 (pt 1): 75-88.
- de Pinna, M.C.C. and K.O. Winemiller. 2000. A new species of *Ammoglanis* (Siluriformes: Trichomycteridae) from Venezuela. *Ichthyol. Explor. Freshwaters*, 11(3):255-264.
- de Pinna, M.C.C. and W. Wosiacki. 2002. A new interstitial catfish of the genus *Listrura* from Southern Brazil (Siluriformes: Trichomycteridae: Glanapteryginae). *Proc. Biol. Soc. Washington* 115 (4): 720-726.
- Regan, C.T. 1903. Descriptions of new South-American fishes in the collection of the British Museum. *Ann. Mag. Nat. Hist. (Ser. 7)*, 12 (72): 621-630.
- Regan, C.T. 1913. The fishes of the San Juan River, Colombia. *Ann. Mag. Nat. Hist. (Ser. 8)*, 12 (71): 462-473.
- Reinhardt, J.T. 1859. *Stegophilus insidiosus*, en ny Mallefish fra Brasilien of dens Levemaade. *Vidensk. Medd. Dansk Naturh. Foren. Kjob., Aaret 1858*: 79-97, pl. 2.
- Schultz, L.P. 1944. The catfishes of Venezuela, with descriptions of thirty-eight new forms. *Proc. U. S. Natl. Mus.*, 94 (no. 3172): 173-338, pls. 1-14.
- Schultz, L.P. 1945. *Pygidium mondolfi*, a new catfish from Venezuela. *J. Wash. Acad. Sci.*, 35 (1): 29-31.
- Steindachner, F. 1879a. Über einige neue und seltene Fisch-Arten aus den k. k. zoologischen Museum zu Wien, Stuttgart, und Warschau. *Denkschr. Akad. Wiss. Wien*, 41: 1-52, pls. 1-9.
- Steindachner, F. 1879b. Über einige neue und seltene Fischarten aus den zoologischen Museen zu Wien, Stuttgart und Warschau. *Anz. Akad. Wiss. Wien*, 16 (4): 29-34.
- Steindachner, F. 1882a. Beiträge zur Kenntniss der Flussfische Südamerikas (IV). *Anz. Akad. Wiss. Wien*, 19 (19): 175-180.
- Steindachner, F. 1882b. Beiträge zur Kenntniss der Flussfische Südamerikas. IV. *Denkschr. Akad. Wiss. Wien*, 46: 1-44, pls. 1-7.
- Steindachner, F. 1882c. Ichthyologische Beiträge (XII). *Anz. Akad. Wiss. Wien*, 19 (16): 142-143.
- Steindachner, F. 1882d. Ichthyologische Beiträge (XII). *Sitzungsber. Akad. Wiss. Wien*, 86: 61-82, pls. 1-5.
- Steindachner, F. 1900. Erstattungen eines vorläufigen Berichtes über einige von Ihrer königlichen Hoheit Frau Prinzessin Therese von Bayern während einer Reise nach Südamerika 1898 gesammelte neue Fischarten. *Anz. Akad. Wiss. Wien*, 37 (18): 206-208.
- Steindachner, F. 1902. Herpetologische und ichthyologische Ergebnisse einer Reise nach Südamerika, mit einer Einleitung von Therese Prinzessin von Bayern. *Denkschr. Akad. Wiss. Wien*, 72: 89-148, pls. 1-6.
- Steindachner, F. 1915a. Beiträge zur Kenntnis der Flussfische Südamerikas V. *Anz. Akad. Wiss. Wien*, 52 (18): 217-219.
- Steindachner, F. 1915b. Beiträge zur Kenntnis der Flussfische Südamerikas. V. *Denkschr. Akad. Wiss. Wien*, 93: 15-106.
- Steindachner, F. 1915c. Vorläufigen Bericht über einige neue Süßwasserfische aus Südamerika. *Anz. Akad. Wiss. Wien*, 52 (17): 199-202.
- Steindachner, F. 1917. Beiträge zur Kenntnis der Flussfische Südamerikas V. *Denkschr. Akad. Wiss. Wien*, 93: 15-106, pls. 1-13.
- Tchernavin, V. 1944. A revision of some Trichomycterinae based on material preserved in the British Museum (Natural History). *Proceedings of the Zoological Society of London* 114: 234-275.
- Tortonese, E. 1940. Elenco dei tipi esistenti nella collezione ittologica del R. Museo di Torino. *Boll. Mus. Zool. Anat. Comp. Torino (Ser. 3)*, 48 (111): 133-144.
- Tortonese, E. 1942. Descrizione di una nuova specie ecuadoriana del genere *Pygidium* (Teleostei Nematognathi). *Boll. Mus. Zool. Anat. Comp. Torino (Ser. 4)*, 49 (no. 121): 1-3, pl. 1.
- Trajano, E. and M.C.C. de Pinna. 1996. A new cave species of *Trichomycterus* from eastern Brazil (Siluriformes, Trichomycteridae). *Rev. Fr. Aquariol.*, 23 (3/4): 85-90.
- Tschudi, J.J. von. 1846. Ichthyologie. Pp. ii-xxx + 1-35, pls. 1-6. In: *Untersuchungen über die Fauna Peruana*. Scheitlin & Zollikofer, St. Gallen. 1844-46, in 12 parts.
- Valenciennes, A. 1832. Nouvelles observations sur le capitain de Bogota, *Eremophilus mutisii*. Pp. 341-348. In: *Voyage de Humboldt et Bonpland, Deuxième partie. Observations de Zoologie et d'Anatomie comparée*. Paris.
- Weyenbergh, H. 1877. Algunos nuevos pescados del Museo Nacional, y algunas noticias ictiológicas. *Actas Acad. Nacional Cien. Exactas*, 3 (1): 1-21, pls. 1-4.
- Whitley, G. P. 1947. New sharks and fishes from Western Australia. Part 3. *Aust. Zool.*, 11 (2): 129-150, pl. 11.

Family Callichthyidae (Armored catfishes)

Roberto E. Reis

Members of the armored catfish family Callichthyidae can be readily distinguished from other fishes by their characteristic encasement in a double series of dermal plates. A few other external synapomorphies of the family include a reduced lateral line, the absence of the lachrymal-antorbital bone, the infraorbital series reduced to only two bones, the absence of premaxillary teeth in adults, the aperture of the gas-bladder capsule partially covered by a hollow expansion of the pterotic-supracleithrum, and the posterior processes of cleithrum and coracoid bones sutured to each other behind the pectoral-fin insertion (Reis, 1998a). The phylogenetic relationships of the family have recently been studied by Reis (1998a), who demonstrated its monophyly based on 28 derived features and corroborated its division in two subfamilies. The Callichthyinae, including *Callichthys*, *Lepthoplosternum*, *Megalechis*, *Dianema*, and *Hoplosternum*; and the Corydoradinae, which includes *Aspidoras*, *Corydoras*, and *Brochis*. Taxonomy of the Callichthyinae is mostly solved, and the species of *Hoplosternum*, *Megalechis*, and *Lepthoplosternum* have been revised by Reis (1997). The taxonomic situation among the Corydoradinae is far more complicated as *Corydoras* is not monophyletic and accounts for about 80% of the family diversity (143 of the 177 valid species), being the most speciose genus of the Siluriformes. A phylogeny of the species of *Lepthoplosternum*, as well a review of the available data on biogeography and the fossil record of the callichthyids were presented by Reis (1998b).

Body size and shape among callichthyids are not dramatically variable as in other large Neotropical catfish families (e.g. Loricariidae, Pimelodidae), but they range from small midwater swimmers like *Corydoras hastatus* and *C. pygmaeus* (about 20 mm in standard length) to large, heavy bodied bottom dwellers like the species of *Hoplosternum* and *Callichthys* (up to about 160 mm). The callichthyids are distributed in all the major river drainages of cis-Andean South America, from the Province of Buenos Aires in Argentina north to the Orinoco River basin, including most Atlantic coastal drainages, and in trans-Andean Colombia and Panama. The highest species diversity is found in the upper reaches of the Amazon drainage and in the Guianas Shield, where representatives occur in a variety of habitats ranging from wide open areas like big rivers and lakes or even marshes and muddy ponds where oxygen might be depleted, to swift, oxygen-rich streams.

All callichthyids are obligatory air-breathers. Air is collected at the water surface and swallowed, passed to the intestine, their accessory respiratory organ, and eventually expelled through the anus. Contrary to loricariids and trichomycterids that also show air-breathing capabilities in case of hypoxia, callichthyids breathe air under all water conditions. In this family, however, swallowed air plays a more important role in the maintenance of the hydrostatic balance than in respiration itself, contributing about 75% of the necessary air to attain neutral buoyancy (Gee, 1976; Gee & Graham, 1978). There are two basic reproductive strategies among the callichthyids. Representatives of the callichthyines exhibit the interesting behavior of building a floating nest composed of foam and vegetal debris for spawning (Reis, 1998a and references therein). Members of the corydoradines, on the other hand, are substrate brooders and attach adhesive eggs to the substrate after a very elaborated spawning behavior. It has been suggested by Kohda et al. (1995) that while in the "T-position" during the spawning, when male grasps the female barbels with his pectoral fin, the female actively drinks his sperm, which then pass through her intestines and is discharged together with eggs into the pouch formed by her pelvic fins, ensuring an effective fertilization.

The present status of knowledge of species diversity and taxonomy is quite distinct for both subfamilies. Except for the genus *Callichthys*, the callichthyines have been well studied and future studies are not likely to find many additional species (Reis, 1997). *Callichthys* is now under study and some degree of previously undetected diversity starts to be found. Among the corydoradines, a considerable number of undescribed species of both *Corydoras* and *Aspidoras* can be found in museum collections and many others are likely to be captured in undersampled regions of South America. As can be seen below, an average of two new species of *Corydoras* have been described every year during the last decade.

The larger species of *Hoplosternum* are used as food in many places of the flood-plains of Brazil, Peru, and other countries, being so common in certain areas that they are fished commercially as food fishes. The great commercial importance of this family, however, is due to the extraordinarily high aquaristic interest on most of its members, especially on the genus *Corydoras*.

ASPIDORAS

Aspidoras Ihering, 1907: 30. Type species: *Aspidoras rochai*

Ihering, 1907. Type by original designation. Gender: masculine.

***Aspidoras albater* Nijssen & Isbrücker, 1976**

Aspidoras albater Nijssen & Isbrücker, 1976a: 115, fig. 6. Type locality: Brazil, Est. Goiás, Rio Tocantinzinha near São João da Aliança, 14°46'S, 47°30'W, Rio Tocantins system. Holotype: MZUSP 12991.

Maximum length: 3.56 cm SL

Distribution: South America: Upper Tocantins River basin.

Countries: Brazil

Common names: False macropterus (USA)

***Aspidoras belenos* Britto, 1998**

Aspidoras belenos Britto, 1998: 361, fig. 1. Type locality: Brazil: Estado do Mato Grosso, creek at Primavera do Leste - Paranatinga road, 82 km N from Primavera do Leste, rio das Mortes basin, 15°03'S, 52°03'W. Holotype: MNRJ 12433.

Maximum length: 2.79 cm SL

Distribution: South America: Das Mortes River basin, Araguaia River drainage.

Countries: Brazil

***Aspidoras brunneus* Nijssen & Isbrücker, 1976**

Aspidoras brunneus Nijssen & Isbrücker, 1976a: 116, fig. 7. Type locality: Brazil, Est. Mato Grosso, Serra do Roncador, km 125 of the road Chavantina-Casimba. Holotype: ZMA 113588.

Maximum length: 2.13 cm SL

Distribution: South America: Upper Araguaia River basin.

Countries: Brazil

***Aspidoras carvalhoi* Nijssen & Isbrücker, 1976**

Aspidoras carvalhoi Nijssen & Isbrücker, 1976a: 117, fig. 8. Type locality: Brazil, Est. Ceará, Açude Canabrava, Guaramiranga. Holotype: MNRJ 5230.

Maximum length: 2.54 cm SL

Distribution: South America: Ceará State, Brazil.

Countries: Brazil

***Aspidoras depinnai* Britto, 2000**

Aspidoras depinnai Britto, 2000: 1049, fig. 1. Type locality: Brazil: Pernambuco State, creek at Amaraji-Primavera road, rio Ipojuca basin, 08°21'S, 35°26'W. Holotype: MZUSP 56214.

Maximum length: 3.25 cm SL

Distribution: South America: Ipojuca River basin.

Countries: Brazil

***Aspidoras eurycephalus* Nijssen & Isbrücker, 1976**

Aspidoras eurycephalus Nijssen & Isbrücker, 1976a: 118, fig. 9. Type locality: Brazil, Est. Goiás, Rio Tocantins system, Corrego Vermelho into Rio das Almas, tributary of Rio Maranhão, about 15°S, 49°30'W. Holotype: CAS 16010.

Maximum length: 3 cm SL

Distribution: South America: Upper Tocantins River basin.

Countries: Brazil

***Aspidoras fuscoguttatus* Nijssen & Isbrücker, 1976**

Aspidoras fuscoguttatus Nijssen & Isbrücker, 1976a: 118, fig. 10. Type locality: Brazil, Est. Mato Grosso, Rio Paraná system, Córrego Corguinho, estrada da Três Lagoas (20°46'S, 51°43'W) - Conceição do Taboado. Holotype: MZUSP 8573.

Maximum length: 3.8 cm SL

Distribution: South America: Upper Paraná River basin.

Countries: Brazil

***Aspidoras lakoi* Miranda Ribeiro, 1949**

Aspidoras lakoi Miranda Ribeiro, 1949: 143, fig. 1. Type locality: Pequeno, córrego na floresta do Grotão, Fazenda da Cachoeira, Município de Passos, Estado de Minas Gerais [Brazil]. Holotype: MNRJ 5292.

Maximum length: 4 cm SL

Distribution: South America: Upper Paraná River basin.

Countries: Brazil

***Aspidoras maculosus* Nijssen & Isbrücker, 1976**

Aspidoras maculosus Nijssen & Isbrücker, 1976a: 119, fig. 11. Type locality: Brazil, Est. Bahia, Rio Paiaia, into headwaters of Rio Itapicurú, small, rocky, rapid stream from Serra Jacobina between Bom Fim and Jacobina, about 11°S, 40°30'W. Holotype: FMNH 54810.

Maximum length: 3.37 cm SL

Distribution: South America: Itapicurú River basin.

Countries: Brazil

***Aspidoras menezesi* Nijssen & Isbrücker, 1976**

Aspidoras menezesi Nijssen & Isbrücker, 1976a: 120, fig. 12. Type locality: Brazil, Est. Ceará, Rio Granjeiro at Crato, 7°10'S, 39°25'W, tributary on left bank of Rio Salgado. Holotype: UMMZ 147336.

Maximum length: 4.18 cm SL

Distribution: South America: Coastal rivers in Ceará State.

Countries: Brazil

***Aspidoras microgalaeus* Britto, 1998**

Aspidoras microgalaeus Britto, 1998: 364, fig. 8. Type locality: Brazil: Estado do Mato Grosso, small tributary of rio Culuene, km 86 of Paranatinga-Canarana road, rio Xingú basin, 14°00'S, 54°38'W. Holotype: MZUSP 51209.

Maximum length: 3.32 cm SL

Distribution: South America: Xingu River basin.

Countries: Brazil

***Aspidoras pauciradiatus* (Weitzman & Nijssen, 1970)**

Corydoras pauciradiatus Weitzman & Nijssen, 1970: 129, fig. 5. Type locality: Brazil, Rio Araguaia, near Aruanã, Est. Goiás (14°58'S, 51°04'W). Holotype: USNM 191625.

Maximum length: 2.9 cm SL

Distribution: South America: Upper Araguaia River basin.

Countries: Brazil

Common names: False corydoras (USA)

***Aspidoras poecilus* Nijssen & Isbrücker, 1976**

Aspidoras poecilus Nijssen & Isbrücker, 1976a: 121, fig. 13. Type locality: Brazil, Est. Mato Grosso, creek upstream of village Porrori, left bank of Rio Xingu, upper Rio Xingu. Holotype: IRSNB 560.

Maximum length: 3.53 cm SL

Distribution: South America: Upper Xingu, Araguaia, and Tocantins River basins.

Countries: Brazil

***Aspidoras raimundi* (Steindachner, 1907)**

Corydoras raimundi Steindachner, 1907b: 84. Type locality: in dem Bächchen, welches bei Victoria in den Rio Parnahyba mündet. Lectotype: NMW 61110, designated by Nijssen & Isbrücker (1976a: 111).

Maximum length: 3.26 cm SL

Distribution: South America: Parnaíba River basin.

Countries: Brazil

***Aspidoras rochai* Ihering, 1907**

Aspidoras rochai Ihering, 1907: 30. Type locality: Fortaleza, capital of the state of Ceará [Brazil]. Lectotype: MZUSP 2195, designated by Britski (1969: 206).

Maximum length: 4 cm SL

Distribution: South America: Coastal rivers in Ceará State.

Countries: Brazil

***Aspidoras spilotus* Nijssen & Isbrücker, 1976**

Aspidoras spilotus Nijssen & Isbrücker, 1976a: 123, fig. 14. Type locality: Brazil, Est. Ceará, Riacho dos Macacos, tributary of Rio Acará. Holotype: ZMA 113590.

Maximum length: 3.4 cm SL

Distribution: South America: Coastal rivers in Ceará State.

Countries: Brazil

***Aspidoras velites* Britto, Lima & Moreira, 2002**

Aspidoras velites Britto, Lima & Moreira, 2002: 728, fig. 1. Type locality: Brazil. Estado do Mato Grosso. Município de Alto Araguaia, córrego Boiadeiro, km 487.08 of Ferronorte railroad, 17°20'01"S, 53°14'53"W. Holotype: MZUSP 74447.

Maximum length: 2.79 cm SL

Distribution: South America: Small tributaries of upper Araguaia River in Mato Grosso State.

Countries: Brazil

***Aspidoras virgulatus* Nijssen & Isbrücker, 1980**

Aspidoras virgulatus Nijssen & Isbrücker, 1980a: 133, fig. 1. Type locality: Brazil: Est. Espírito Santo. Holotype: MNRJ 5371.

Distribution: South America: Coastal rivers in Espírito Santo State.

Countries: Brazil

BROCHIS

Brochis Cope, 1871: 112. Type species: *Brochis coeruleus* Cope, 1872. Type by subsequent designation. Gender: feminine. Appeared first without species, more fully described in Cope (1872) where two species were added; type designated by Cope (in describing second species he refers to first as type).

Chaenothorax Cope, 1878: 679. Type species: *Chaenothorax bicarinatus* Cope, 1878. Type by original designation. Gender: masculine.

***Brochis britskii* Nijssen & Isbrücker, 1983**

Brochis britskii Nijssen & Isbrücker, 1983a: 179, fig. 1. Type locality: Brazil, Est. Mato Grosso, Lagoas Marginais, rodovia Transpantaneira, Poconé (16°15'S, 56°37'W). Holotype: MZUSP 26811.

Maximum length: 8.8 cm SL

Distribution: South America: Upper Paraguay River basin.

Countries: Brazil

Common names: Britski's catfish (USA)

***Brochis multiradiatus* (Orcés V., 1960)**

Chaenothorax multiradiatus Orcés V., 1960: 3, fig. 1. Type locality: afluyente occidental del río Lagartococha, cerca del poblado de Garza-Cocha, sistema del alto Napo [Prov. Napo, Ecuador]. Holotype: USNM 200739.

Maximum length: 6.7 cm SL

Distribution: South America: Western Amazon River basin.

Countries: Ecuador, Peru

Common names: Hog-nosed brochis (USA)

***Brochis splendens* (Castelnau, 1855)**

Callichthys taiosh Castelnau, 1855: 39, pl. 19 (fig. 1). Type locality: Chiquitos [Bolivia]. No types known.

Callichthys splendens Castelnau, 1855: 39, pl. 18 (fig. 3). Type locality: Rio Tocantins [Brazil]. Holotype: MNHN 4291.

Brochis dipterus Cope, 1872: 278. Type locality: Ambyiacu River [Peru]. Holotype: ANSP 117172.

Brochis coeruleus Cope, 1872: 277, pl. 9 (fig. 3). Type locality: Tributaries of the Ambyiacu [Peru]. Lectotype: ANSP 8231, designated by Nijssen & Isbrücker (1970: 157-158).

Corydoras semiscutatus Cope, 1872: 280, pl. 6 (fig. 1). Type locality: Ambyiacu River [Peru]. Holotype: ANSP 8289.

Chaenothorax bicarinatus Cope, 1878: 679. Type locality: Peruvian Amazon. Holotype: ANSP 21447.

Chaenothorax eigenmanni Ellis, 1913: 393, pl. 26 (fig. 2). Type locality: Cáceres [Mato Grosso, Brazil]. Holotype: FMNH 54880.

Maximum length: 6 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Colombia, Ecuador, Peru

Common names: Emerald catfish (USA)

CALLICHTHYS

Callichthys Gronow, 1763: 127. Type species: not indicated. Gender: masculine. Not available, published in a rejected work on Official Index (Opinion 261).

Callichthys Scopoli, 1777: 451. Type species: *Silurus callichthys* Linnaeus, 1758. Gender: masculine. Original spelling not used subsequently and spelling in prevailing usage, *Callichthys*, is adopted here following Art. 33.3.1 of the Code.

Callichthys Meuschen, 1778: 39. Type species: *Silurus callichthys* Linnaeus, 1758. Gender: masculine.

Callichthys Linck, 1790: 32. Type species: *Silurus callichthys* Linnaeus, 1758. Gender: masculine.

Cataphractus Bloch, 1794: 80. Type species: *Silurus callichthys* Linnaeus, 1758. Type by subsequent designation. Gender: masculine.

***Callichthys callichthys* (Linnaeus, 1758)**

Silurus callichthys Linnaeus, 1758: 307. Type locality: in Americae rivulis. Syntypes: lost.

Callichthys asper Quoy & Gaimard, 1824: 232. Type locality: ruisseau qui coule devant la ferme de Santa-Anna, sur le chemin qui conduit de Rio de Janeiro à la colonie suisse [Brazil]. Syntypes: MNHN 1951 (2).

Cataphractus depressus Swainson, 1839: 304. Type locality: ? Based on Bloch 1794: pl. 377.

Callichthys asper Valenciennes in Cuvier & Valenciennes, 1840: 302 [225 in the Strasbourg deluxe edition]. Type locality: Cayenne [French Guiana]; Rio-Janéiro [Brazil].

Callichthys laeviceps Valenciennes in Cuvier & Valenciennes, 1840: 309 [229 in the Strasbourg deluxe edition]. Type locality: La Mana [French Guiana]. Syntypes: MNHN 1947 (1) La Mana R., MNHN 4259 (1) Rio de Janeiro, MNHN 4261 (1) La Mana R.

Callichthys caelatus Valenciennes in Cuvier & Valenciennes, 1840: 308 [229 in the Strasbourg deluxe edition]. Type locality: Bahia [Brazil]. Syntypes: MNHN 4258 (2), MNHN 4259 (2) Bahia.

Callichthys loricatus Gronow in Gray, 1854: 157. Type locality: Tropical America. Holotype: BMNH 1853.11.12.194.

Callichthys kneri Gill, 1858: 394. Type locality: Trinidad I., West Indies.

Callichthys tamoata Bleeker, 1864: 22. Type locality: Suriname.

Callichthys affinis Günther, 1864: 226. Type locality: Rio Grande [Brazil]. Syntypes: BMNH 1861.5.7.1-4 (4).

Callichthys hemiphractus Hensel, 1868: 374. Type locality: Costa da Serra [Rio Grande do Sul, Brazil]. Holotype: ZMB 7434.

Callichthys arcifer Hensel, 1868: 373. Type locality: Rio de Janeiro [Brazil]. Holotype: ZMB 7433.

Callichthys callichthys bolteni Hoedeman, 1952b: 9. Type locality: Surinam. Holotype: ZMA 100303a.

Callichthys callichthys demararae Hoedeman, 1952b: 10. Type locality: Demarara, British Guiana. Holotype: ZMA 100304.

Maximum length: 16.5 cm SL

Distribution: South America: Most Cis-Andean South American river drainages north of Buenos Aires.

Countries: Argentina, Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay, Venezuela

Remarks and references: See Reis (1997) for phylogeny.

Common names: Tamboatá (Brazil), Tamuatá (Brazil)

***Callichthys fabricioi* Román-Valencia, Lehmann-A & Muñoz, 1999**

Callichthys fabricioi Román-Valencia, Lehmann-A & Muñoz, 1999: 54, fig. 1. Type locality: Colombia, Departamento del Cauca, Municipio de Buenos Aires, Zanjón Bagazal afluyente del Río Cauca 980 meters (03°03'59"N y 76°33'55"W). Holotype: IUQ 295.

Maximum length: 12.5 cm SL
 Distribution: South America: Cauca River basin.
 Countries: Colombia
 Common names: Roño (Colombia)

CORYDORAS

Corydoras La Cepède, 1803: 147. Type species: *Corydoras geofroy* La Cepède, 1803. Type by monotypy. Gender: masculine.
Cataphractus punctatus Bloch, 1794 sometimes cited as type but not cited by La Cepède in this subgenus (see Nijssen & Isbrücker 1980b: 192).

Cordinus Rafinesque, 1815: 89. Type species: *Corydoras geofroy* La Cepède, 1803. Type by being a replacement name. Gender: masculine.

Hoplisoma Swainson, 1838: 336. Type species: *Cataphractus punctatus* Bloch, 1794. Type by original designation. Gender: neuter.

Scleromystax Günther, 1864: 225. Type species: *Callichthys barbatus* Quoy & Gaimard, 1824. Type by monotypy. Gender: masculine. Described as a subgenus in key (p. 225) with species on p. 229.

Gastrodermus Cope, 1878: 681. Type species: *Corydoras elegans* Steindachner, 1877. Type by subsequent designation. Gender: masculine. Type apparently first designated by Gosline (1940: 10).

Osteogaster Cope, 1894: 102. Type species: *Corydoras eques* Steindachner, 1877. Type by original designation. Gender: feminine.

Microcorydoras Myers, 1953: 270. Type species: *Corydoras hastatus* Eigenmann & Eigenmann, 1888. Type by original designation. Gender: masculine.

***Corydoras acrensis* Nijssen, 1972**

Corydoras acrensis Nijssen, 1972: 416, fig. 1. Type locality: Brazil, Est. Acre, Furo do Lago São Francisco, tributary at left bank of Rio Juruá, upstream of confluence with Mao at Cruzeiro do Sul. Holotype: IRSNB 505.

Maximum length: 3 cm SL
 Distribution: South America: Juruá River basin.
 Countries: Brazil

***Corydoras acutus* Cope, 1872**

Corydoras acutus Cope, 1872: 281. Type locality: Ambyiacu River [Shansho Caño, Loreto, Peru]. Neotype: SU 33307, designated by Nijssen & Isbrücker (1980: 215); original syntypes ANSP 8292-8293 lost.

Maximum length: 4.4 cm SL
 Distribution: South America: Amazon River basin in northern Peru and Ecuador.
 Countries: Ecuador, Peru
 Common names: Black top catfish (USA)

***Corydoras adolfoi* Burgess, 1982**

Corydoras adolfoi Burgess, 1982: 15, fig. 1. Type locality: Small tributary of the upper Rio Negro on the equator near São Gabriel da Cachoeira, Brazil. Holotype: MZUSP 26641.

Maximum length: 5.7 cm SL
 Distribution: South America: Negro River basin.
 Countries: Brazil
 Common names: Adolf's catfish (USA)

***Corydoras aeneus* (Gill, 1858)**

Hoplosoma aeneum Gill, 1858: 403. Type locality: Island of Trinidad, West Indies. Lectotype: USNM 1116, designated by Nijssen & Isbrücker (1980b: 208).

Corydoras microps Eigenmann & Kennedy, 1903: 506. Type locality: From a small lagoon, half dry, near the Rio Branco (Mato Grosso, Brazil). Holotype: CAS 20662.

Corydoras venezuelanus Ihering, 1911: 383. Type locality: Río

Cabriales, Valencia, Est. Carabobo, Venezuela. Lectotype: MZUSP 146, designated by Britski (1969: 208).

Corydoras macrosteus Regan, 1912: 219. Type locality: Rio Piracicaba, San Paulo, Brazil. Lectotype: BMNH 1905.6.9.12, designated by Nijssen & Isbrücker (1980: 208).

Corydoras schultzei Holly, 1940: 111. Type locality: Aquarium specimen (said to be from very small water-courses of the Amazon).

Maximum length: 7.5 cm SL
 Distribution: South America: Colombia and Trinidad to La Plata River basin east of the Andes.

Countries: Argentina, Bolivia, Brazil, Colombia, French Guiana, Guyana, Paraguay, Peru, Suriname, Trinidad and Tobago, Venezuela

Common names: Aeneus (France), Bronze catfish (USA)

***Corydoras agassizii* Steindachner, 1877**

Corydoras agassizii Steindachner, 1877: 138, pl. 12 (fig. 2). Type locality: Amazonenstrom bei Tabatinga [Brazil]. Lectotype: NMW 61112, designated by Nijssen & Isbrücker (1980: 195).

Maximum length: 5.2 cm SL
 Distribution: South America: Amazon River basin near border of Peru and Brazil.

Countries: Brazil, Peru

***Corydoras amandajanea* Sands, 1995**

Corydoras amandajanea Sands, 1995: 10, fig. 1. Type locality: Rio Miua system of streams, possibly the Uarinabe stream (Miua system) 10-12 kilometers away from its confluence of the upper Negro River, Brazil. Holotype: LIVCM 1994.4.21.

Maximum length: 5.88 cm SL
 Distribution: South America: Upper Negro River basin.
 Countries: Brazil

***Corydoras amapaensis* Nijssen, 1972**

Corydoras amapaensis Nijssen, 1972: 417, fig. 2, 3. Type locality: Brazil, Est. Amapa, Cachoera Creek at right bank of Río Amapari, 4 km downstream of Casa do 7. Holotype: IRSNB 476.

Maximum length: 7 cm SL
 Distribution: South America: Oyapockand Amapari rivers in Amapá State in Brazil and French Guiana.
 Countries: Brazil, French Guiana

***Corydoras ambiacus* Cope, 1872**

Corydoras ambiacus Cope, 1872: 280. Type locality: Ambyiacu River [Peru]. Holotype: ANSP 8291.

Corydoras grafi Holly, 1940: 108. Type locality: Aquarium specimen (said to be from very small water-courses of the Amazon). Holotype: Münchner Tierpark AG 92/139 (reportedly lost, but possibly = NMW 84287).

Corydoras melanistius longirostris Hoedeman, 1952b: 17, fig. 13. Type locality: Amazon area. Holotype: Münchner Tierpark A.G. 92/139 (lost).

Maximum length: 4.9 cm SL
 Distribution: South America: Upper Amazon River basin.
 Countries: Brazil, Colombia, Peru
 Common names: Spotted catfish (USA)

***Corydoras amphibelus* Cope, 1872**

Corydoras amphibelus Cope, 1872: 282. Type locality: Ambyiacu River [near Pebas, Peru, ca. 3°10'S, 71°50'W]. Holotype: ANSP 8290.

Distribution: South America: Upper Amazon River basin.
 Countries: Peru

***Corydoras approuaguensis* Nijssen & Isbrücker, 1983**

Corydoras approuaguensis Nijssen & Isbrücker, 1983c: 73, fig. 1. Type locality: fleuve Approuague [French Guiana]. Holotype: ZMA 119098.

Maximum length: 5.65 cm SL

Distribution: South America: Approuague River basin.
Countries: French Guiana

***Corydoras araguaiaensis* Sands, 1990**

Corydoras araguaiaensis Sands, 1990: no page, unnumbered fig.
Type locality: Rio Araguaia, Brazil. Holotype: RMNH ?.
Maximum length: 3.5 cm SL
Distribution: South America: Araguaia River basin.
Countries: Brazil

***Corydoras arcuatus* Elwin, 1939**

Corydoras arcuatus Elwin, 1939: 126, pl. 3. Type locality: Amazon River (aquarium specimen). Holotype: BMNH 1939.3.3.1.
Maximum length: 4 cm SL
Distribution: South America: Upper Amazon River basin.
Countries: Brazil, Colombia, Ecuador, Peru
Common names: Skunk catfish (USA)

***Corydoras areio* Knaack, 2000**

Corydoras areio Knaack, 2000: 47, unnumbered fig. Type locality: Brasilien, Mato Grosso (östlich von Cuiaba), in Fließgewässern des Cór. Areio-Systems, in der Umgebung von Vila Nova, an der Straße 373, ca. 8.5 kilometers (Foto Seite 45) und ca.13.5 km (Foto Seite 47) von der Ortschaft aus entfernt in Richtung Poxoreo. Holotype: ZMB 33113.
Maximum length: 5 cm SL
Distribution: South America: Upper Paraguay River basin.
Countries: Brazil

***Corydoras armatus* (Günther, 1868)**

Callichthys armatus Günther, 1868: 476. Type locality: Xeberus and Huallaga [Peru]. Lectotype: BMNH 1867.6.13.51, designated by Nijssen & Isbrücker (1980: 194).
Maximum length: 5 cm SL
Distribution: South America: Upper Amazon River basin.
Countries: Peru

***Corydoras atropersonatus* Weitzman & Nijssen, 1970**

Corydoras atropersonatus Weitzman & Nijssen, 1970: 123, fig. 2. Type locality: Ecuador, Río Conambo at mouth of Río Shione (about 2°00'S, 76°30'W), Río Tigre system, Est. Pastaza. Holotype: USNM 204359.
Maximum length: 4.5 cm SL
Distribution: South America: Upper Amazon River basin.
Countries: Ecuador, Peru

***Corydoras aurofrenatus* Eigenmann & Kennedy, 1903**

Corydoras aurofrenatus Eigenmann & Kennedy, 1903: 507. Type locality: Aguada, near Arroyo Trementina [Paraguay]. Holotype: CAS 20661.
Distribution: South America: Paraguay River basin.
Countries: Paraguay

***Corydoras axelrodi* Rössel, 1962**

Corydoras axelrodi Rössel, 1962a: 335, fig. 2. Type locality: Columbien, Río Meta. Holotype: SMF 5700.
Maximum length: 4.2 cm SL
Distribution: South America: Meta River basin.
Countries: Colombia

***Corydoras baderi* Geisler, 1969**

Corydoras baderi Geisler, 1969: 354, fig. 1. Type locality: Brasilien, Staat Para, Rio Paru de Oeste und Bäche bei der Missionsstation Tirió (2°12'N, 55°59'W) [Brasil]. Holotype: SMF 9651.
Corydoras oelemariensis Nijssen, 1970: 29, fig. 14. Type locality: Creek at left bank of Oelemari River, near airstrip, Marowijne, Suriname. Holotype: IRSNB 472.
Maximum length: 4.7 cm SL
Distribution: South America: Pará State in Brazil and Maroni

River in Suriname.
Countries: Brazil, Suriname

***Corydoras barbatus* (Quoy & Gaimard, 1824)**

Callichthys barbatus Quoy & Gaimard, 1824: 234. Type locality: ...petit ruisseaux qui aurosent, près de Rio de Janeiro, la ferme de Mandioca. [Neotype locality: Fazenda da Japuhya near Angra dos Reis, Rio de Janeiro, Brazil, 22°59'S, 44°17'W]. Neotype: CAS 16006, designated by Nijssen & Isbrücker (1980b: 202).
Corydoras kronei Miranda Ribeiro, 1907: 189, fig. unnumbered. Type locality: Iguape, Estado de São Paulo, Brasil. Lectotype: MNRJ 918A, designated by Nijssen & Isbrücker 1980: 202.
Corydoras eigenmanni Ihering, 1907: 34. Type locality: Riverlets by Cubatão and Raiz da Serra, State of São Paulo [Brazil]. Lectotype: MZUSP 153, designated by Britski (1969: 206).
Maximum length: 9.8 cm SL
Distribution: South America: Coastal drainages from Rio de Janeiro to Santa Catarina States.
Countries: Brazil
Common names: Bearded catfish (USA), Sarrinho (Brazil), Sarro (Brazil)

***Corydoras bicolor* Nijssen & Isbrücker, 1967**

Corydoras bicolor Nijssen & Isbrücker, 1967: 36, pl. 3 (fig. 3). Type locality: Sipaliwini River [near border with Brazil, Corantijn R. system, Paru Savanna, Nickerie, Suriname]. Holotype: ZMA 104627.
Maximum length: 3.02 cm SL
Distribution: South America: Coastal rivers of Suriname.
Countries: Suriname

***Corydoras bifasciatus* Nijssen, 1972**

Corydoras bifasciatus Nijssen, 1972: 420, fig. 4. Type locality: Brazil, Est. Para, creek at left bank of Río Cururu, tributary of upper Río Tapajós near Maloca do Conzalo (about 7°45'S, 58°00'W). Holotype: IRSNB 485.
Maximum length: 5.15 cm SL
Distribution: South America: Lower Amazon River basin.
Countries: Brazil

***Corydoras bilineatus* Knaack, 2002**

Corydoras bilineatus Knaack, 2002a: 52, unnumbered fig. Type locality: Santa Cruz, Santiesteban, Chané, Restgewässer eines großen Überflutungs-Nährungsgebietes zwischen den Flüssen Rio Piray and Rio Yapacarie und dem Rio Grande o Guapay mit abfluss (Regenzeit) in den Arroyo Chanè. Holotype: MTD F 25925.
Maximum length: 5.03 cm SL
Distribution: South America: Madeira River basin in Santa Cruz and Beni Departments of Bolivia.
Countries: Bolivia

***Corydoras blochi* Nijssen, 1971**

Corydoras blochi Nijssen, 1971: 92, fig. 2. Type locality: Guyana, district Essequibo, Moco Creek near Lehtem, tributary of Rio Tacutú, Rio Branco system. Holotype: FMNH 75951.
Maximum length: 4.9 cm SL
Distribution: South America: Venezuela, Guyana, and northern Brazil.
Countries: Brazil, Guyana, Venezuela

***Corydoras boehlkei* Nijssen & Isbrücker, 1982**

Corydoras boehlkei Nijssen & Isbrücker, 1982: 139, fig. 1. Type locality: Venezuela, Edo Bolivar, Río Cuchime (Cusimo), about 20 miles upstream from junction of Río Caura - Río Erebató (Entre Rios) at 5°45'N, 64°24'W. Holotype: ANSP 148097.
Maximum length: 2.57 cm SL
Distribution: South America: Caura River basin in the Orinoco River drainage.

Countries: Venezuela

***Corydoras boesemani* Nijssen & Isbrücker, 1967**

Corydoras boesemani Nijssen & Isbrücker, 1967: 37, pl. 4 (fig. 1).
Type locality: Little tributaries of Gran-Rio between Ligolio and Awaradam Falls [Brokopondo, Suriname]. Holotype: RMNH 25316.

Distribution: South America: Coastal rivers in Suriname.
Countries: Suriname

***Corydoras bondi* Gosline, 1940**

Corydoras bondi Gosline, 1940: 20. Type locality: Rio Yuruari, 3 km east of El Callao, Venezuela [7°18'N, 61°50'W]. Holotype: SU 35065.

Maximum length: 4.7 cm SL

Distribution: South America: Rio Yuruari in Venezuela, Corantijn and Rupununi River basins.

Countries: Guyana, Suriname, Venezuela

Common names: Bond's catfish (USA)

***Corydoras brei* Isbrücker & Nijssen, 1992**

Corydoras brei Isbrücker & Nijssen, 1992: 10, fig. 1. Type locality: Surinam, Corantijn river system, Kabalebo River, Avanavero Falls. Holotype: RMNH 31912.

Maximum length: 3.9 cm SL

Distribution: South America: Corantijn River basin.

Countries: Suriname

***Corydoras brevirostris* Fraser-Brunner, 1947**

Corydoras melanistius brevirostris Fraser-Brunner, 1947: 244.
Type locality: Orinoco [Venezuela (aquarium specimen)]. Holotype: BMNH 1946.10.10.1.

Maximum length: 5 cm SL

Distribution: South America: Orinoco River basin and coastal drainages in Suriname.

Countries: Suriname, Venezuela

***Corydoras burgessi* Axelrod, 1987**

Corydoras burgessi Axelrod, 1987: 22, unnumbered fig. Type locality: Rio Unini, tributary of the Rio Negro, Amazonas, Brazil. Holotype: MZUSP 37692.

Maximum length: 4.8 cm SL

Distribution: South America: Upper Negro River basin.

Countries: Brazil

***Corydoras carlae* Nijssen & Isbrücker, 1983**

Corydoras carlae Nijssen & Isbrücker, 1983c: 76, fig. 5. Type locality: Petit Arroyo, affluent rive gauche du Rio Iguazu, route no. 101 entre Porto Iguazu et Bernardino de Irigoyen, 50 km de Puerto Iguazu, bassin du Paraná [Misiones Prov., Argentina]. Holotype: IRSNB 688.

Maximum length: 4.2 cm SL

Distribution: South America: Lower Iguazu River basin.

Countries: Argentina

***Corydoras caudimaculatus* Rössel, 1961**

Corydoras caudimaculatus Rössel, 1961: 49, pl. 5 (fig. 1). Type locality: Brasilien, oberer Rio Guaporé (=Itenez) [Rondônia, Brazil]. Holotype: SMF 5291.

Maximum length: 4.15 cm SL

Distribution: South America: Guaporé River basin.

Countries: Brazil

***Corydoras cervinus* Rössel, 1962**

Corydoras cervinus Rössel, 1962b: 31, fig. 1. Type locality: Brasilien, oberer Rio Guaporé (=Itenez) [Rondônia, Brazil]. Holotype: SMF 5460.

Maximum length: 4.9 cm SL

Distribution: South America: Guaporé River basin.

Countries: Brazil

***Corydoras cochui* Myers & Weitzman, 1954**

Corydoras cochui Myers & Weitzman, 1954: 93. Type locality: Santa Maria Nova, Rio Araguaya, State of Goyaz, Brazil. Holotype: SU 47656.

Maximum length: 2.5 cm SL

Distribution: South America: Upper Araguaia River basin.

Countries: Brazil

***Corydoras concolor* Weitzman, 1961**

Corydoras concolor Weitzman, 1961: 105, fig. 1. Type locality: Las Mangas, in a tributary to the Río Parguaza, western part of the State of Bolivar, Venezuela, 6°20'N, 67°10'W. Holotype: SU 54131.

Maximum length: 5.4 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

***Corydoras condiscipulus* Nijssen & Isbrücker, 1980**

Corydoras condiscipulus Nijssen & Isbrücker, 1980b: 494, fig. 1. Type locality: French Guiana, Cumuri Creek at left bank of Oya-pock River, upstream of first rapids of Grande Roche, southwest of village Oiapoque. Holotype: IRSNB 617.

Maximum length: 5.1 cm SL

Distribution: South America: Oyapock River basin.

Countries: Brazil, French Guiana

***Corydoras copei* Nijssen & Isbrücker, 1986**

Corydoras copei Nijssen & Isbrücker, 1986: 70, fig. 11. Type locality: Loreto, cours inférieur du Río Huytoyacu, près du village Nuevo Progreso, affluent de la rive droite du Río Pastaza, environ 40 km N. du Lago Rimachi (4°13'S, 76°38'W) [Peru]. Holotype: ZMA 119305.

Maximum length: 3.9 cm SL

Distribution: South America: Pastaza River basin in Loreto.

Countries: Peru

***Corydoras copenamensis* Nijssen, 1970**

Corydoras bondi copenamensis Nijssen, 1970: 19, fig. 8. Type locality: Creek at left bank of Coppename River (3°52'N, 56°55'W) [Saramacca, Suriname]. Holotype: ZMA 105877.

Maximum length: 3.1 cm SL

Distribution: South America: Coppename River basin.

Countries: Suriname

***Corydoras coriatae* Burgess, 1997**

Corydoras coriatae Burgess, 1997: 140, unnumbered fig. Type locality: Río Aguaytia, a branch of the Río Ucayali, in jungles of Peru west of the city of Pucallpa. Holotype: MUSM [= MHNJP] 10701.

Maximum length: 6.48 cm SL

Distribution: South America: Ucayali River basin.

Countries: Peru

***Corydoras crimmeni* Grant, 1997**

Corydoras crimmeni Grant, 1997: 44, fig. 3. Type locality: Aquarium specimen, said to be from Brazil, Roraima State, near the city of Boa Vista, possibly from the Rio Branco. Holotype: MZUSP 52490.

Maximum length: 4 cm SL

Distribution: South America: Negro River basin.

Countries: Brazil

***Corydoras cruziensis* Knaack, 2002**

Corydoras cruziensis Knaack, 2002b: 63, fig. Unnumbered fig. Type locality: kleinerer Fließgewässer in Santa Cruz, Guarayos, A. Puente [Bolivia]. Holotype: MTD F 25930.

Maximum length: 4.26 cm SL

Distribution: South America: Madeira River basin in Santa Cruz and Beni Departments of Bolivia.

Countries: Bolivia

***Corydoras crypticus* Sands, 1995**

Corydoras crypticus Sands, 1995: 11, fig. 4. Type locality: Rio Miua system of streams, possibly the Uarinabe stream, 10-12 kilometers away from its confluence of the upper Negro River, Brazil. Holotype: LIVCM 1994.4.29.

Maximum length: 4.5 cm SL

Distribution: South America: Upper Negro River basin.

Countries: Brazil

***Corydoras davidsandsi* Black, 1987**

Corydoras davidsandsi Black, 1987: 74, unnumbered fig. Type locality: Rio Unini, Brazil. Holotype: MZUSP 38632.

Maximum length: 4.4 cm SL

Distribution: South America: Negro River basin.

Countries: Brazil

***Corydoras delphax* Nijssen & Isbrücker, 1983**

Corydoras delphax Nijssen & Isbrücker, 1983b: 55, fig. 3. Type locality: Guainía, Río Inírida system, Caño Bacón, Pueblo Bretania (3°43'N, 67°59'W) [Colombia]. Holotype: NRM 26073.

Maximum length: 4.9 cm SL

Distribution: South America: Inírida River and upper Orinoco River basin.

Countries: Colombia

Common names: False blochi catfish (USA)

***Corydoras difluviatilis* Britto & Castro, 2002**

Corydoras difluviatilis Britto & Castro, 2002: 1007, fig 1. Type locality: Brazil: São Paulo, Município de Santra Rita do Passa Quatro, Parque Estadual de Vassununga, Glepa Pé-do-Gigante, córrego Paulicéia, tributary of rio Pardo, rio Paraná system, 21°38'S, 47°38'W. Holotype: MZUSP 75268.

Maximum length: 4.7 cm SL

Distribution: South America: Upper Paraná and Grande River basins, Paraná River drainage, and Jequitaiá, Preto, and upper Da Prata rivers, São Francisco drainage.

Countries: Brazil

***Corydoras duplicareus* Sands, 1995**

Corydoras duplicareus Sands, 1995: 12, fig. 6. Type locality: Rio Poranga, 8 kilometers north of the Nobua oba, prior to where it joins a small tributary of the upper Negro River, Brazil. Holotype: LIVCM 1994.4.36.

Maximum length: 4 cm SL

Distribution: South America: Upper Negro River basin.

Countries: Brazil

***Corydoras ehrhardti* Steindachner, 1910**

Corydoras ehrhardti Steindachner, 1910: 60. Type locality: Flußgebiet des Jaraguá [Santa Catarina, Brazil]. Lectotype: NMW 61104, designated by Nijssen & Isbrücker (1980: 205).

Corydoras meridionalis Ihering, 1911: 380. Type locality: Colonia Hansa, Est. Santa Catharina [Brazil].

Maximum length: 4.1 cm SL

Distribution: South America: Coastal rivers in Santa Catarina and Paraná States and Iguaçú River basin.

Countries: Brazil

***Corydoras elegans* Steindachner, 1877**

Corydoras elegans Steindachner, 1877: 141. Type locality: Teffé [Amazonas, Brazil]. Lectotype: NMW 46729, designated by Nijssen & Isbrücker (1980: 213).

Corydoras pestai Holly, 1940: 107. Type locality: Aquarium specimen (said to be from very small water-courses of the Amazon). Holotype: Münchner Tierpark A.G. 81/1938 (destroyed in WWII).

Maximum length: 5.1 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Brazil, Colombia, Peru

Common names: Elegant catfish (USA)

***Corydoras ellisae* Gosline, 1940**

Corydoras ellisae Gosline, 1940: 17. Type locality: Arroyo Poná, Sapucay, Paraguay. Holotype: FMNH 57361.

Maximum length: 4.8 cm SL

Distribution: South America: Paraguay River basin.

Countries: Paraguay

***Corydoras ephippifer* Nijssen, 1972**

Corydoras ephippifer Nijssen, 1972: 422, fig. 5. Type locality: Brazil, Est. Amapa, Cachoera Creek at right bank of Río Amapari, 4 kilometers downstream of Casa do 7. Holotype: IRSNM 507.

Maximum length: 4.95 cm SL

Distribution: South America: Amapá State.

Countries: Brazil

***Corydoras eques* Steindachner, 1877**

Corydoras eques Steindachner, 1877: 140, pl. 12 (fig. 3). Type locality: Amazonenstrom bei Cudajas [Brazil]. Lectotype: NMW 61111, designated by Nijssen & Isbrücker (1980: 208).

Maximum length: 4.8 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil

***Corydoras esperanzae* Castro, 1987**

Corydoras esperanzae Castro, 1987: 34, fig. 2. Type locality: Caño Orocué at Orocué, Río Meta, Intendencia de Casanare (4°49'N, 71°20'W) [Colombia]. Holotype: UBJTL MM275.

Maximum length: 5.08 cm SL

Distribution: South America: Meta River basin.

Countries: Colombia

***Corydoras evelynae* Rössel, 1963**

Corydoras evelynae Rössel, 1963: 360, fig. 4. Type locality: Brazilian, oberer Rio Solimões. Holotype: SMF 6107.

Maximum length: 4 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil

***Corydoras filamentosus* Nijssen & Isbrücker, 1983**

Corydoras filamentosus Nijssen & Isbrücker, 1983c: 77, fig. 6. Type locality: Bassin de la rivière Corantijn, affluent du Sisa Creek, versant nord, environ 700 m en aval du croisement de Amatopo avec Camp Geologie Road, 03°42'N, 57°42'O [Suriname]. Holotype: USNM 225536.

Maximum length: 3.15 cm SL

Distribution: South America: Corantijn River basin.

Countries: Suriname

***Corydoras flaveolus* Ihering, 1911**

Corydoras flaveolus Ihering, 1911: 386. Type locality: Pequenos riachos afluentes do rio Piracicaba, acima do Salto, Est. S. Paulo [Brazil]. Lectotype: MZUSP 424, designation in Britski (1969: 207).

Maximum length: 3.36 cm SL

Distribution: South America: Upper Paraná River basin.

Countries: Brazil

Common names: Rouquinho (Brazil)

***Corydoras fowleri* Böhlke, 1950**

Corydoras fowleri Böhlke, 1950: 26. Type locality: Chanco Caño, near Pebas (3°10'S, 71°46'W), Peruvian Amazon, Peru. Holotype: SU 16115.

Maximum length: 6 cm SL

Distribution: South America: Western Amazon River basin.

Countries: Colombia, Peru

***Corydoras garbei* Ihering, 1911**

Corydoras garbei Ihering, 1911: 382. Type locality: Rio São Francisco, Est. da Bahia [Brazil]. Lectotype: MZUSP 711, designated by Britski (1969: 207) for *C. garbei* Ihering, not *C. garbei* of Miranda Ribeiro (1937); lectotype designated by Miranda Ribeiro (1953: 394) for *Corydoras garbei* of Miranda Ribeiro (1937).

Corydoras garbei Miranda Ribeiro, 1937: 54. Type locality: Rio S. Francisco, Estado da Bahia [Brazil]. Lectotype: MNRJ 1101A. Appeared as "*Corydoras garbei* sp. nov.," but the description was copied from Ihering (1911) (and not from Miranda Ribeiro 1911). Regarded by Britski (1969: 207) as a homonym and synonym of *Corydoras garbei* Ihering 1911, but the authorship "Mir. Rib." at the beginning of the account (p. 54) we regard as in error. Britski (1969: 207) designated MZUSP 711 as lectotype for *garbei* Ihering 1911.

Distribution: South America: São Francisco River basin.

Countries: Brazil

***Corydoras geoffroy* La Cepède, 1803**

Corydoras geoffroy La Cepède, 1803: 147. Type locality: Suriname. Neotype: ZMA 106017 (Holotype of *Corydoras octocirrus*), designated by Isbrücker (2000: 17).

Corydoras octocirrus Nijssen, 1970: 26, fig. 12. Type locality: Marchall Creek, East of the road Paranam-Afobaka, 1.5 km North of Marchall village, Suriname River system, Suriname. Holotype: ZMA 106017.

Maximum length: 7 cm SL

Distribution: South America: Coastal rivers of Suriname and French Guiana.

Countries: French Guiana, Suriname

***Corydoras geryi* Nijssen & Isbrücker, 1983**

Corydoras bolivianus Nijssen & Isbrücker, 1983c: 75, fig. 3. Type locality: Plaine inondée, à quelques kilomètres de Trinidad (14°46'S, 65°50'W) Bassin du Rio Mamoré [Beni Prov., Bolivia]. Holotype: MNHN 1983-528.

Corydoras geryi Nijssen & Isbrücker, 1983c: 78, fig. 7. Type locality: Plaine inondée, à quelques kilomètres de Trinidad (14°46'S, 65°50'O), bassin du Rio Mamoré [Beni Prov., Bolivia]. Holotype: MNHN 1983-529.

Maximum length: 5.8 cm SL

Distribution: South America: Mamoré River basin.

Countries: Bolivia

***Corydoras gomezi* Castro, 1986**

Corydoras gomezi Castro, 1986: 34, fig. 1. Type locality: Lakes of the Isla de Mocagua, Rio Amazonas/Solimões near Leticia, Comisaría del Amazonas (3°54'S, 70°14'W) [Colombia]. Holotype: UBJTL MM536.

Maximum length: 3.74 cm SL

Distribution: South America: Amazon River basin near the border of Colombia and Brazil.

Countries: Colombia

***Corydoras gossei* Nijssen, 1972**

Corydoras gossei Nijssen, 1972: 424, fig. 6. Type locality: Brazil, Est. Rondonia, creek near Guajará Mirim (10°50'S, 65°21'W), Río Mamoré system. Holotype: IRSNB 487.

Maximum length: 5.5 cm SL

Distribution: South America: Mamoré River basin.

Countries: Brazil

***Corydoras gracilis* Nijssen & Isbrücker, 1976**

Corydoras gracilis Nijssen & Isbrücker, 1976c: 91, fig. 1 (unnumbered). Type locality: Brazil, Est. Pará, tributary of Rio Tapajós, 66.5 kilometers west of Itaituba, 4°15'S, 55°56'W. Holotype: ZMA 114687. Type locality corrected in Nijssen & Isbrücker (1980: 214) to Rio Jauna (= R. Juma) at Trans-Amazonica high-

way, about 6°09'S, 59°55'W, tributary of Rio Aripuaña, Amazonas, Brazil.

Maximum length: 2.32 cm SL

Distribution: South America: Middle and lower Amazon River basin.

Countries: Brazil

***Corydoras griseus* Holly, 1940**

Corydoras griseus Holly, 1940: 110. Type locality: Aquarium specimen (said to be from very small water-courses of the Amazon). Holotype: Münchner Tierpark A.G. 72/1938 (lost in WWII).

Corydoras griseus deweyeri Meinken, 1957: 5, fig. 1 (unnumbered). Type locality: British-Guiana. Lectotype: ZMH H1186, designated by Nijssen & Isbrücker (1967: 35).

Maximum length: 4.2 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Guyana

***Corydoras guapore* Knaack, 1961**

Corydoras guapore Knaack, 1961: 135, fig. 32. Type locality: Main stream of upper Rio Guaporé, Rondônia, Brazil. Holotype: ZMB 21406.

Maximum length: 4.1 cm SL

Distribution: South America: Guaporé River basin.

Countries: Brazil

***Corydoras guianensis* Nijssen, 1970**

Corydoras guianensis Nijssen, 1970: 21, fig. 9. Type locality: Creek at right of Nickerie River, 12 kilometers W.S.W of Stondansie Fall [Nickerie, Suriname]. Holotype: ZMA 105933.

Maximum length: 4.2 cm SL

Distribution: South America: Coastal rivers of Suriname and French Guiana.

Countries: French Guiana, Suriname

***Corydoras habrosus* Weitzman, 1960**

Corydoras habrosus Weitzman, 1960b: 141, fig. 1. Type locality: Río Salinas, a branch of Río Pao Viejo, El Baúl, State of Cojedes, Venezuela [8°59'N, 68°16'W]. Holotype: SU 52351.

Maximum length: 2 cm SL

Distribution: South America: Upper Orinoco River basin.

Countries: Colombia, Venezuela

Common names: Salt and Pepper catfish (USA)

***Corydoras haraldschultzi* Knaack, 1962**

Corydoras haraldschultzi Knaack, 1962: 129, fig. 1. Type locality: Brasilien. Holotype: SMF 5475.

Maximum length: 5.9 cm SL

Distribution: South America: Brazil and Bolivia.

Countries: Bolivia, Brazil

***Corydoras hastatus* Eigenmann & Eigenmann, 1888**

Corydoras hastatus Eigenmann & Eigenmann, 1888: 166. Type locality: Villa Bella [= Parintins, 2°38'S, 56°45'W, Amazonas, Brazil]. Lectotype: MCZ 7747, designated by Nijssen & Isbrücker (1980: 213).

Corydoras australe Eigenmann & Ward in Eigenmann, McAtee & Ward, 1907: 123. Type locality: Corumba [19°00'S, 57°25'W, Rio Paraguay system, Mato Grosso, Brazil]. Holotype: CAS 77305.

Maximum length: 2.4 cm SL

Distribution: South America: Amazon and Paraguay River basins.

Countries: Argentina, Bolivia, Brazil

Common names: Tail spot pigmy catfish (USA)

***Corydoras heteromorphus* Nijssen, 1970**

Corydoras heteromorphus Nijssen, 1970: 22, fig. 10. Type locality: Creek at right bank of Coppename River (3°52'30"N, 56°53'W), Saramacca, Suriname. Holotype: ZMA 105880.

Maximum length: 5.3 cm SL

Distribution: South America: Coppename and Nickerie River basins.

Countries: Suriname

***Corydoras imitator* Nijssen & Isbrücker, 1983**

Corydoras imitator Nijssen & Isbrücker, 1983c: 79, fig. 8. Type locality: haut Rio Negro, localite exact inconnue [Brazil]. Holotype: MZUSP 27894.

Maximum length: 5.56 cm SL

Distribution: South America: Upper Negro River basin.

Countries: Brazil

***Corydoras incolicana* Burgess 1993**

Corydoras incolicana Burgess, 1993: 157, unnumbered fig. Type locality: Rio Içana, upper Rio Negro, Brazil. Holotype: MZUSP 45717.

Maximum length: 5.21 cm SL

Distribution: South America: Upper Negro River basin.

Countries: Brazil

***Corydoras julii* Steindachner, 1906**

Corydoras julii Steindachner, 1906: 480. Type locality: im Parahim, dem Ausflusse der Sess von Parnagua und an der Ausmündung des Baches bei Victoria [Creek into Rio Parnaíba near Alto Parnaíba (= Victoria, 9°08'S, 45°56'W), Maranhão, Brazil]. Lectotype: NMW 61105, designated by Nijssen & Isbrücker (1980b: 195).

Maximum length: 5.2 cm SL

Distribution: South America: Lower Amazon River and coastal rivers in northeastern Brazil.

Countries: Brazil

Common names: Julii catfish (USA)

***Corydoras kanei* Grant, 1997**

Corydoras kanei Grant, 1997: 41, fig. 1. Type locality: Aquarium specimens said to be from Brazil, Roraima State near Boa Vista, possibly from the Rio Branco. Holotype: MZUSP 52489.

Maximum length: 3.8 cm SL

Distribution: South America: Negro River basin.

Countries: Brazil

***Corydoras lacerdai* Hieronimus, 1995**

Corydoras lacerdai Hieronimus, 1995: 110, fig. 5. Type locality: Brasilien, Rio Ribeira da Terra Firme, zwischen den Städten Canavieiras und Ilheus, im Südosten des Bundesstaates Brasilien [Bahia]. Holotype: MZUSP 47682.

Maximum length: 3.36 cm SL

Distribution: South America: Ribeira da Terra Firme River, Bahia State.

Countries: Brazil

***Corydoras lamberti* Nijssen & Isbrücker, 1986**

Corydoras lamberti Nijssen & Isbrücker, 1986: 71, fig. 16. Type locality: Loreto, cours inférieur du Rio Huytoyacu, près du village Nuevo Progreso, affluent de la rive droite du Rio Pastaza, 40 kilometers environ au N. du Lago Rimachi (4°13'S, 76°38'W), Peru. Holotype: ZMA 119335.

Maximum length: 3.8 cm SL

Distribution: South America: Pastaza River basin.

Countries: Peru

***Corydoras latus* Pearson, 1924**

Corydoras latus Pearson, 1924: 19, pl. 3 (fig. 1). Type locality: Lagoons, Lake Rogoagua [Beni River basin, upper Amazon drainage, Beni, Bolivia]. Holotype: CAS 36452.

Maximum length: 5.2 cm SL

Distribution: South America: Beni River basin.

Countries: Bolivia

***Corydoras leopardus* Myers, 1933**

Corydoras leopardus Myers, 1933: 188. Type locality: Brazil [probably from a Brazilian coastal river south of the Amazon]. Lectotype: USNM 93305, designated by Nijssen & Isbrücker 1980: 197.

Corydoras funnelli Fraser-Brunner, 1947: 241, fig. 1. Type locality: Amazon ? (imported aquarium specimen). Holotype: USNM 102222.

Maximum length: 6.1 cm SL

Distribution: South America: Western Amazon River basin.

Countries: Brazil, Ecuador, Peru

Common names: Leopard catfish (USA)

***Corydoras leucomelas* Eigenmann & Allen, 1942**

Corydoras leucomelas Eigenmann & Allen, 1942: 178, pl. 12 (fig. 4). Type locality: Yarinacocha [cutoff lake at right bank of Río Pacaya, upper Amazon, Peru, about 5°15'S, 74°15'W]. Holotype: CAS 36561.

Corydoras caquetae Fowler, 1943: 248, fig. 26. Type locality: Florencia, Río Ortegusa, Colombia [Caquetá]. Holotype: ANSP 70509.

Maximum length: 4.5 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Colombia, Ecuador, Peru

Common names: False spotted catfish (USA)

***Corydoras loretoensis* Nijssen & Isbrücker, 1986**

Corydoras loretoensis Nijssen & Isbrücker, 1986: 68, fig. 4. Type locality: Loreto, Prov. Maynas, Río Nanay, plage sableuse, rive droite, environ 15 minutes en amont de Santa Clara, Peru. Holotype: NRM 26079.

Maximum length: 3.57 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

***Corydoras loxozonus* Nijssen & Isbrücker, 1983**

Corydoras loxozonus Nijssen & Isbrücker, 1983b: 67, fig. 12. Type locality: Meta, Lomalinda near Río Ariari, tributary to Río Guaviare, S.E. of Villavicencio [Colombia]. Holotype: ANSP 150170.

Maximum length: 4.9 cm SL

Distribution: South America: Meta River basin.

Countries: Colombia

***Corydoras macropterus* Regan, 1913**

Corydoras macropterus Regan, 1913: 232. Type locality: Parana-guá, Brazil [Paraná, 25°32'S, 48°36'W]. Lectotype: BMNH 1913.1.1.11, designated by Nijssen & Isbrücker (1980b: 206).

Corydoras bertonii Eigenmann in Eigenmann & Allen, 1942: 179. Type locality: Puerto Bertoni, Alto Paraná, Paraguay. Holotype: CAS [ex IU 15441] (missing in 1997).

Maximum length: 8.7 cm SL

Distribution: South America: Coastal rivers from São Paulo to Santa Catarina States and some upper Paraná River tributaries.

Countries: Brazil, Paraguay

***Corydoras maculifer* Nijssen & Isbrücker, 1971**

Corydoras maculifer Nijssen & Isbrücker, 1971: 183, fig. 1. Type locality: Brazil, Est. Mato Grosso, Sangadina stream, 2 kilometers W of Chavantina (14°45'S, 52°20'W), tributary of the Rio das Mortes. Holotype: BMNH 1970.10.30.3.

Maximum length: 5.9 cm SL

Distribution: South America: Upper Araguaia River basin.

Countries: Brazil

***Corydoras melanistius* Regan, 1912**

Corydoras melanistius Regan, 1912: 216. Type locality: Essequibo [Guyana]. Lectotype: BMNH 1864.1.21.86, designated by Nijssen & Isbrücker (1967: 32).

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- Corydoras wotroi* Nijssen & Isbrücker, 1967: 44, pl. 5 (fig. 3). Type locality: Outlet of Kleine Saramacca along and between sand bank [Saramacca River system, Brokopondo, Suriname]. Holotype: RMNH 25331. Maximum length: 5.1 cm SL. Distribution: South America: Coastal rivers of the Guianas. Countries: French Guiana, Guyana, Suriname. Common names: Spotted catfish (USA)
- Corydoras melanotaenia* Regan, 1912**
Corydoras melanotaenia Regan, 1912: 217. Type locality: Honda [Río Meta system of Río Orinoco, Tolima, Colombia, 12°21'N, 71°47'W]. Lectotype: BMNH 1909.7.23.41, designated by Nijssen & Isbrücker (1980b: 207). Maximum length: 5.8 cm SL. Distribution: South America: Meta River basin. Countries: Colombia. Common names: Green gold catfish (USA)
- Corydoras melini* Lönnberg & Rendahl, 1930**
Corydoras melini Lönnberg & Rendahl, 1930: 1, fig. 1. Type locality: Jauareté an dem Ausfluss des Rio Papuri in den Rio Uaupés [Iuareté (0°35'N, 69°13'W) at confluence of Rio Papuri and Rio Uaupés, Rio Negro system, Amazonas, Brazil]. Lectotype: NRM 11091, designated by Nijssen & Isbrücker (1980b: 209). Maximum length: 5 cm SL. Distribution: South America: Upper Negro and Meta River basins. Countries: Brazil, Colombia. Common names: False bandit catfish (USA)
- Corydoras metae* Eigenmann, 1914**
Corydoras metae Eigenmann, 1914: 230. Type locality: Barrigona, Rio Meta, Colombia. Holotype: CAS 36447. Holotype is figured in Eigenmann (1916: pl. 14). Maximum length: 4.8 cm SL. Distribution: South America: Meta River basin. Countries: Colombia. Common names: Bandit catfish (USA), Meta River catfish (USA)
- Corydoras micracanthus* Regan, 1912**
Corydoras micracanthus Regan, 1912: 211. Type locality: Salta, Argentina [24°46'S, 65°28'W]. Lectotype: BMNH 1897.1.27.8, designated by Nijssen & Isbrücker (1980: 206). Maximum length: 4 cm SL. Distribution: South America: Western tributaries of Paraná River in Salta Province. Countries: Argentina
- Corydoras multimaculatus* Steindachner, 1907**
Corydoras multimaculatus Steindachner, 1907a: 291. Type locality: Nebenarme des Rio Preto bei Sa. Rita im Staate Bahia [Brazil, about 11°00'S, 44°30'W]. Lectotype: NMW 46783, designated by Nijssen & Isbrücker (1980b: 196). Maximum length: 5.1 cm SL. Distribution: South America: Preto River basin in Bahia State. Countries: Brazil
- Corydoras nanus* Nijssen & Isbrücker, 1967**
Corydoras nanus Nijssen & Isbrücker, 1967: 41, pl. 5 (fig. 1). Type locality: Little tributaries of Gran-Rio between Ligolio and Awaradam Falls [Brokopondo, Suriname]. Holotype: RMNH 25333. Maximum length: 4.5 cm SL. Distribution: South America: Suriname and Maroni River basins in Suriname and Iracoubo River basin in French Guiana. Countries: French Guiana, Suriname. Common names: *Corydoras nain* (France)
- Corydoras napoensis* Nijssen & Isbrücker, 1986**
Corydoras napoensis Nijssen & Isbrücker, 1986: 73, fig. 25. Type locality: Napo, Lagartococha, affluent septentrional du Rio Aguatico, entre l'embouchure de la rivière (0°39'S, 75°16'W) et le village de Garzacochoa (0°28'S, 75°21'W), bassin du Rio Napo [Ecuador]. Holotype: ZMA 119226. Maximum length: 4.2 cm SL. Distribution: South America: Western Amazon River basin in eastern Ecuador and Loreto in Peru. Countries: Ecuador, Peru
- Corydoras narcissus* Nijssen & Isbrücker, 1980**
Corydoras narcissus Nijssen & Isbrücker, 1980b: 497, fig. 2. Type locality: Brazil, Est. Amazonas, Rio Purus system, creek into Rio Ipixuna, 7°31'S, 63°16'W, 30 km west of Humaitá. Holotype: ZMA 115178. Maximum length: 6.5 cm SL. Distribution: South America: Purus River basin in middle Amazon River basin. Countries: Brazil
- Corydoras nattereri* Steindachner, 1877**
Corydoras nattereri Steindachner, 1877: 143, pl. 11 (fig. 1). Type locality: Affluent of Rio Parahyba, 3 mi. up, Rio de Janeiro, Brazil. Neotype: MCZ 8229, designated by Nijssen & Isbrücker (1980: 3). *Corydoras juquiaae* Ihering, 1907: 36. Type locality: Juquiá River, Poço Grande, State of São Paulo [Brazil]. Lectotype: CAS 16016, designated by Ellis (1913: 403). *Corydoras nattereri triseriatus* Ihering, 1911: 386. Type locality: Rio Doce, Est. Espírito Santo [Brazil]. Lectotype: MZUSP 342, designated by Britski (1969: 207). Maximum length: 5.4 cm SL. Distribution: South America: Coastal rivers in southeastern Brazil from Espírito Santo to Paraná. Countries: Brazil. Common names: *Coridoras* (Brazil), Natterer's catfish (USA)
- Corydoras nijsseni* Sands, 1989**
Corydoras elegans nijsseni Sands, 1989: 45. Type locality: Tributary of the Rio Negro, Brazil. Holotype: RMNH ?. Maximum length: 3 cm SL. Distribution: South America: Negro River basin. Countries: Brazil
- Corydoras oiapoquensis* Nijssen, 1972**
Corydoras oiapoquensis Nijssen, 1972: 425, fig. 7. Type locality: French Guiana, Cumuri Creek at left bank of Rio Oiapoque (= Oyapock River), upstream of first rapids of Grande Roche, southwest of village Oiapoque (Brazil, 03°54'N, 51°46'W). Holotype: IRSNB 489. Maximum length: 4.5 cm SL. Distribution: South America: Oyapock River basin. Countries: Brazil, French Guiana
- Corydoras ornatus* Nijssen & Isbrücker, 1976**
Corydoras ornatus Nijssen & Isbrücker, 1976b: 126, fig. 1. Type locality: Brazil, Est. Pará, Rio Tapajós, 80 km E of Jacareacanga, 06°09'S, 58°15'W. Holotype: ZMA 114690. Maximum length: 4.9 cm SL. Distribution: South America: Lower Tapajós River basin. Countries: Brazil
- Corydoras orphnopterus* Weitzman & Nijssen, 1970**
Corydoras orphnopterus Weitzman & Nijssen, 1970: 125, fig. 3. Type locality: Ecuador, Lower Río Bobonaza between Montalvo (2°06'S, 76°59'W) and Chicherota, Rio Pastaza system, Est. Pastaza. Holotype: USNM 204361. Maximum length: 5.77 cm SL. Distribution: South America: Pastaza River basin. Countries: Ecuador

***Corydoras osteocarus* Böhlke, 1951**

Corydoras osteocarus Böhlke, 1951: 824. Type locality: San Fernando de Atabapo, where Rio Atabapo empties into the Orinoco, Venezuela (at approximately 04°03' North Latitude, 67°45' West Longitude). Holotype: SU 16333.

Maximum length: 4 cm SL

Distribution: South America: Orinoco River basin and coastal rivers in Suriname.

Countries: Suriname, Venezuela

***Corydoras ourastigma* Nijssen, 1972**

Corydoras ourastigma Nijssen, 1972: 428, fig. 8. Type locality: Brazil, Est. Acre, Rio Iquiri (= Rio Ituxi) at road Rio Branco vil-lage - Abuna, 47 kilometers from Rio Branco village (about 10°00'S, 67°30'W), Purus River system. Holotype: IRSNB 498.

Maximum length: 6 cm SL

Distribution: South America: Purus River basin.

Countries: Brazil

***Corydoras oxyrhynchus* Nijssen & Isbrücker, 1967**

Corydoras oxyrhynchus Nijssen & Isbrücker, 1967: 42, pl. 4 (fig. 3). Type locality: Gojo Creek above Posoegroenoe, tributary of Saramacca River [Brokopondo, Suriname]. Holotype: RMNH 25329.

Maximum length: 5 cm SL

Distribution: South America: Saramacca River basin.

Countries: Suriname

***Corydoras paleatus* (Jenyns, 1842)**

Callichthys paleatus Jenyns, 1842: 113. Type locality: South America [exact locality uncertain]. Lectotype: BMNH 1917.7.14.18, designated by Nijssen & Isbrücker (1980b: 204).

Corydoras maculatus Steindachner, 1879b: 32. Type locality: La Plata [Argentina]. No types known.

Corydoras punctatus argentina Steindachner, 1879a: 26. Type locality: Buenos Ayres [Argentina]. Not available, name only in synonymy of *Corydoras marmoratus*.

Corydoras marmoratus Steindachner, 1879a: 26, pl. 5 (fig. 1). Type locality: Montevideo [Uruguay] und ... La Plata innerhalb der Provinz Buenos-Ayres [Argentina]. Lectotype: NMW 5538, designated by Nijssen & Isbrücker (1980b: 204).

Corydoras microcephalus Regan, 1912: 211. Type locality: La Plata [Buenos Aires, Argentina]. Lectotype: BMNH 1890.3.12.4, designated by Nijssen & Isbrücker (1980b: 204).

Silurus quadricostatus Larrañaga, 1923: 376. Type locality: Uruguay. No type indicated.

Silurus 7-radiatus Larrañaga, 1923: 385. Type locality: Uruguay. No type indicated.

Maximum length: 5.9 cm SL

Distribution: South America: Lower Paraná River basin and coastal rivers in Uruguay and Brazil.

Countries: Argentina, Brazil, Paraguay, Uruguay

Common names: Peppered catfish (USA)

***Corydoras panda* Nijssen & Isbrücker, 1971**

Corydoras panda Nijssen & Isbrücker, 1971: 186, fig. 2. Type locality: Peru, Est. Huanuco, Aguas Amarillas, tributary of Río Pachitea, Ucayali river system. Holotype: BMNH 1969.7.15.8.

Maximum length: 3.8 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

Common names: Panda catfish (USA)

***Corydoras pantanalensis* Knaack, 2001**

Corydoras pantanalensis Knaack, 2001: 59, unnumbered fig. Type locality: Bolivien, Prov. Santa Cruz, Restgewässer im nördlichen Pantanal, Überschwemmungsgebiet im Raum San Lorenzo, Flusssystem Rio Cussis und Rio Las Petas. Koordinaten des Fundortes: 16°06' 525"S, 59°55'620"W. Holotype: MTD

24774.

Maximum length: 6.9 cm SL

Distribution: South America: Cussis and Las Petas River basins.

Countries: Bolivia

***Corydoras parallelus* Burgess 1993**

Corydoras parallelus Burgess, 1993: 154, unnumbered fig. Type locality: Rio Içana, upper Rio Negro, Brazil. Holotype: MZUSP 45716.

Maximum length: 5.15 cm SL

Distribution: South America: Upper Negro River basin.

Countries: Brazil

***Corydoras pastazensis* Weitzman, 1963**

Corydoras pastazensis Weitzman, 1963: 59, fig. 1. Type locality: Chicherata, near the mouth of the Río Bobonaza, a tributary of the Río Pastaza, itself a tributary of the Río Marañon, Pastaza Province, Ecuador, about 02°33'S latitude and 76°40'W longitude. Holotype: USNM 177216.

Corydoras pastazensis orcesi Weitzman & Nijssen, 1970: 120, fig. 1. Type locality: Ecuador, Río Conambo near village of Conambo (1°55'S, 76°51'W), Río Tigre system, Est. Pastaza. Holotype: USNM 204358.

Maximum length: 6.07 cm SL

Distribution: South America: Pastaza River basin.

Countries: Ecuador

***Corydoras pinheiroi* Dinkelmeyer, 1995**

Corydoras pinheiroi Dinkelmeyer, 1995: 60, unnumbered fig. Type locality: Brasilien, Est. Rondonia, in einem Nebenfluss des Rio Ribeiro bei der Ortschaft Guajará-Mirim. Holotype: MZUSP 48099.

Maximum length: 5.7 cm SL

Distribution: South America: Western Amazon River basin in Rondônia State.

Countries: Brazil

***Corydoras polystictus* Regan, 1912**

Corydoras virescens Miranda Ribeiro, 1912: 16. Type locality: Rio Paraguay, perto de Cáceres [Mato Grosso, Brazil 16°05'S, 57°40'W]. Holotype: MNRJ 3806.

Corydoras polystictus Regan, 1912: 216. Type locality: Descalvados, Matto Grosso [Brazil] [16°45'S, 57°40'W]. Lectotype: BMNH 1895.5.17.62, designated by Nijssen & Isbrücker (1980b: 197).

Maximum length: 3.2 cm SL

Distribution: South America: Paraguay River basin.

Countries: Brazil

***Corydoras potaroensis* Myers, 1927**

Corydoras potaroensis Myers, 1927: 126. Type locality: Br. Guiana: Creek below Potaro Landing [5°20'N, 59°05'W, Potaro River, Essequibo, Guyana]. Lectotype: CAS 24754, designated by Nijssen & Isbrücker (1980b: 208).

Maximum length: 4.12 cm SL

Distribution: South America: Potaro River basin.

Countries: Guyana

***Corydoras prionotos* Nijssen & Isbrücker, 1980**

Corydoras prionotos Nijssen & Isbrücker, 1980c: 5, figs. 6-7. Type locality: Linhares, 19°22'S, 40°04'W, Lagoa Juparanã, Rio Doce system [Espírito Santo, Brazil]. Holotype: MNRJ 10537.

Maximum length: 5.3 cm SL

Distribution: South America: Coastal rivers in southeastern Brazil from Espírito Santo to São Paulo.

Countries: Brazil

***Corydoras pulcher* Isbrücker & Nijssen, 1973**

Corydoras pulcher Isbrücker & Nijssen, 1973: 2, fig. 1. Type locality: Brazil, Est. Amazonas, Rio Purus, north of Lábrea

(7°20'S, 64°46'W), Rio Amazonas system. Holotype: SMF 9231.

Maximum length: 5 cm SL

Distribution: South America: Purus River basin.

Countries: Brazil

***Corydoras punctatus* (Bloch, 1794)**

Cataphractus punctatus Bloch, 1794: 90, pl. 377 (fig. 2). Type locality: Suriname [species occurs in Brokopondo, Suriname River system, Compagnie Creek]. Lectotype: ZMB 3149, designated by Nijssen & Isbrücker (1975: 63). Earlier neotype designation (RMNH 25301) invalidated by rediscovery of syntype series.

Maximum length: 6.6 cm SL

Distribution: South America: Suriname River basin in Suriname and Iracoubo River basin in French Guiana.

Countries: French Guiana, Suriname

***Corydoras pygmaeus* Knaack, 1966**

Corydoras pygmaeus Knaack, 1966: 168, fig. 1 (unnumbered). Type locality: einem Nebenfluß des Rio Madeira (Brasilien) [Near Calama, 8°05'S, 62°52'W, along Rio Madeira near mouth of Rio Jipirana (= R. Machado), Rondônia, Brazil]. Holotype: ZMB 21620.

Maximum length: 2.1 cm SL

Distribution: South America: Madeira River basin.

Countries: Brazil

Common names: Pygmy catfish (USA)

***Corydoras rabauti* La Monte, 1941**

Corydoras rabauti La Monte, 1941: 5. Type locality: A tributary of the Amazon River [Brazil]. Holotype: AMNH 15644.

Corydoras myersi Miranda Ribeiro, 1942: 427, fig. 1. Type locality: Rio Javari, Município de Benjamin Constant, Estado do Amazonas, Brasil. Holotype: MNRJ 3626.

Maximum length: 5 cm SL

Distribution: South America: Upper Amazon, Solimões, and Negro River basins.

Countries: Brazil, Colombia

Common names: Rabaut's catfish (USA)

***Corydoras reticulatus* Fraser-Brunner, 1938**

Corydoras reticulatus Fraser-Brunner, 1938: 208, fig. 2 (unnumbered). Type locality: No type locality published in 1938. As in 1947 Monte Alegre River, Amazon [Pará, Brazil] (2°00'S, 54°04'W). Neotype: BMNH 1926.10.27[or 24].333. Original two syntypes were lost, Fraser-Brunner (1947: 245) redescribed species with a "holotype" which Weitzman (1960a) designated as neotype (see Nijssen & Isbrücker 1980b: 197).

Maximum length: 6.1 cm SL

Distribution: South America: Lower Amazon River basin.

Countries: Brazil

Common names: Network catfish (USA)

***Corydoras reynoldsi* Myers & Weitzman, 1960**

Corydoras reynoldsi Myers & Weitzman, 1960: 105, fig. 2. Type locality: Tributary to the Río Ortegua, opposite the town and air base known as Tres Esquinas, Caquetá Province, Colombia. Holotype: SU 52349 (Fig. 2 lists SU 50702 as holotype).

Maximum length: 3.15 cm SL

Distribution: South America: Upper Caquetá River basin.

Countries: Colombia

***Corydoras robineae* Burgess, 1983**

Corydoras robineae Burgess, 1983: 42, unnumbered fig. Type locality: Rio Aiuana, a southern tributary of the middle Rio Negro, Amazonas, Brazil. Holotype: MZUSP 27175.

Maximum length: 4.39 cm SL

Distribution: South America: Upper Negro River basin.

Countries: Brazil

Common names: Bannertail catfish (USA), Flagtail catfish (USA)

***Corydoras robustus* Nijssen & Isbrücker, 1980**

Corydoras robustus Nijssen & Isbrücker, 1980b: 499, fig. 3. Type locality: Brazil, Est. Amazonas, Rio Purus system, creek into Rio Ipixuna, 07°31'S, 63°16'W, 30 km west of Humaitá. Holotype: ZMA 115179.

Maximum length: 7.12 cm SL

Distribution: South America: Purus River basin in middle Amazon.

Countries: Brazil

***Corydoras sanchesi* Nijssen & Isbrücker, 1967**

Corydoras sanchesi Nijssen & Isbrücker, 1967: 43, pl. 5 (fig. 2). Type locality: Gojo Creek above Posoegroenoe, tributary of Saramacca River [Brokopondo, Suriname]. Holotype: RMNH 25319.

Maximum length: 4.1 cm SL

Distribution: South America: Saramacca River basin.

Countries: Suriname

***Corydoras saramaccensis* Nijssen, 1970**

Corydoras saramaccensis Nijssen, 1970: 38, fig. 21. Type locality: Creek at right bank of Kleine Saramacca River, 11 km E.S.E. from junction with Saramacca River, Brokopondo, Suriname. Holotype: ZMA 106018.

Maximum length: 5.1 cm SL

Distribution: South America: Saramacca River basin.

Countries: Suriname

***Corydoras sararensis* Dinkelmeyer, 1995**

Corydoras saraarensis Dinkelmeyer, 1995: 61, unnumbered fig. Type locality: Brasilien, Est. Mato Grosso, Rio Sararé, rechter Nebenfluß des Rio Guaporé. Holotype: MZUSP 48100.

Maximum length: 4.4 cm SL

Distribution: South America: Guaporé River basin.

Countries: Brazil

***Corydoras schwartzi* Rössel, 1963**

Corydoras schwartzi Rössel, 1963: 359, fig. 1. Type locality: Brasilien, Mündungsgebiet des Rio Purus [Amazonas]. Holotype: SMF 6425.

Maximum length: 3.9 cm SL

Distribution: South America: Purus River basin.

Countries: Brazil

Common names: Schwartz's catfish (USA)

***Corydoras semiaquilus* Weitzman, 1964**

Corydoras semiaquilus Weitzman, 1964: 121, fig. 5. Type locality: Igarapé Preto, a small jungle rivulet at the headwaters of the black water creeks, which empty in the upper Solimões, State of Amazonas, Brazil. Holotype: SU 55939.

Maximum length: 6 cm SL

Distribution: South America: Western Amazon River basin.

Countries: Brazil, Peru

***Corydoras septentrionalis* Gosline, 1940**

Corydoras septentrionalis Gosline, 1940: 16. Type locality: Río Piña, north of Maturín, Venezuela [09°45'N, 63°10'W, Guara-piché River system, Monagas]. Holotype: SU 35055.

Corydoras cortesi Castro, 1987: 31, fig. 1. Type locality: Río Arauca near to Arauca, Intendencia de Arauca (7°03'N, 70°46'W) [Colombia]. Holotype: UBJTL MM671.

Maximum length: 4.9 cm SL

Distribution: South America: Orinoco River basin.

Countries: Colombia, Venezuela

***Corydoras serratus* Sands, 1995**

Corydoras serratus Sands, 1995: 14, fig. 7. Type locality: Rio Poranga, 8 kilometers north of the Nobua oba, where the two

streams join a small tributary of the upper Negro river, Brazil.
 Holotype: LIVCM 1994.4.38.
 Maximum length: 4.88 cm SL
 Distribution: South America: Upper Negro River basin.
 Countries: Brazil

***Corydoras seussi* Dinkelmeyer, 1996**

Corydoras seussi Dinkelmeyer, 1996: 25. Type locality: Brasilien, Est. Rondonia, kleiner Nebenfluß des Rio Pacaás Novos, eines rechtsseitigen Zuflusses des Rio Mamoré nahe bei Guajara-Mirim. Holotype: MZUSP 49322.
 Maximum length: 6 cm SL
 Distribution: South America: Mamoré River basin.
 Countries: Brazil

***Corydoras similis* Hieronimus, 1991**

Corydoras similis Hieronimus, 1991: 39, fig. 1. Type locality: Brasilien, in der Nähe der Stadt Ariquemes in einem Zufluß zum Rio Madeira, Bundesstaat Rondonia. Holotype: ZFMK 16400.
 Maximum length: 3.8 cm SL
 Distribution: South America: Madeira River basin.
 Countries: Brazil

***Corydoras simulatus* Weitzman & Nijssen, 1970**

Corydoras simulatus Weitzman & Nijssen, 1970: 126, fig. 4. Type locality: Colombia, Río Ocoá near Puerto López (04°06'N, 72°57'W), Río Meta system, Est. Meta. Holotype: USNM 197615.
 Maximum length: 4.9 cm SL
 Distribution: South America: Upper Meta River in Colombia.
 Countries: Colombia

***Corydoras sipaliwini* Hoedeman, 1965**

Corydoras punctatus sipaliwini Hoedeman, 1965: 87 fig. 46. Type locality: Sipalawini River [Re-established by Isbrücker (2000)]. Lectotype: ZMA 104.278, designated by Isbrücker (2000).
 Maximum length: 4.6 cm SL
 Distribution: South America: Coastal river basins of Guyana and Suriname.
 Countries: Guyana, Suriname

***Corydoras sodalis* Nijssen & Isbrücker, 1986**

Corydoras sodalis Nijssen & Isbrücker, 1986: 68, fig. 6. Type locality: Loreto, Rio Yavari, Cano de Guavariba dans le Lago Matamata (04°12'S, 70°17'W), Peru. Holotype: NRM 13713.
 Maximum length: 4.86 cm SL
 Distribution: South America: Amazon River in Loreto (Peru) and Amazonas State (Brazil).
 Countries: Brazil, Peru
 Common names: False network catfish (USA)

***Corydoras solox* Nijssen & Isbrücker, 1983**

Corydoras solox Nijssen & Isbrücker, 1983c: 80, fig. 9. Type locality: bassin du Rio Oiapoque, 60 km S du village Martinique (03°51'N, 51°53'O), Terr. Amapa, Brazil. Holotype: MNHN 1983-531.
 Maximum length: 6.25 cm SL
 Distribution: South America: Oyapock River basin and smaller coastal drainages in French Guiana.
 Countries: Brazil, French Guiana

***Corydoras spectabilis* Knaack, 1999**

Corydoras spectabilis Knaack, 1999: 74, unnumbered fig. Type locality: Brasilien, Mato Grosso, Oberlauf Rio Guaporé im Raum Vila Bela [15°00.397S, 59°57.348W]. Holotype: ZMB 33150.
 Maximum length: 4.9 cm SL
 Distribution: South America: Guaporé River basin.
 Countries: Brazil

***Corydoras spilurus* Norman, 1926**

Corydoras spilurus Norman, 1926: 95. Type locality: Iponcin Creek, into Approuague River, French Guiana. Lectotype: BMNH 1926.3.2.738, designated by Nijssen & Isbrücker (1967: 33).
 Maximum length: 5.8 cm SL
 Distribution: South America: Approuague River basin in French Guiana, and Suriname River basin in Suriname.
 Countries: French Guiana, Suriname

***Corydoras steindachneri* Isbrücker & Nijssen, 1973**

Corydoras steindachneri Isbrücker & Nijssen, 1973: 4, fig. 3. Type locality: Brazil, Est. Paraná, Paranaguá (25°32'S, 48°36'W). Holotype: NMW 1504.
 Maximum length: 5 cm SL
 Distribution: South America: Coastal rivers in Paraná State.
 Countries: Brazil

***Corydoras stenocephalus* Eigenmann & Allen, 1942**

Corydoras stenocephalus Eigenmann & Allen, 1942: 177, pl. 12 (fig. 2). Type locality: Yarinococha [08°15'S, 74°45'W, Río Ucayali system, Loreto, Peru]. Holotype: CAS 36386.
 Maximum length: 6.35 cm SL
 Distribution: South America: Eastern Ecuador and Ucayali River basin in Peru.
 Countries: Ecuador, Peru

***Corydoras sterbai* Knaack, 1962**

Corydoras sterbai Knaack, 1962: 131, pl. 12 (fig. 2). Type locality: Brasilien. Holotype: SMF 5476.
 Maximum length: 6.8 cm SL
 Distribution: South America: Central Brazil and Bolivia.
 Countries: Bolivia, Brazil

***Corydoras surinamensis* Nijssen, 1970**

Corydoras schwartzi surinamensis Nijssen, 1970: 39, fig. 22. Type locality: Creek at right bank of Coppename River (03°52'30"N, 56°53'00"W), Saramacca, Suriname. Holotype: ZMA 105876.
 Maximum length: 5.1 cm SL
 Distribution: South America: Coppename River basin.
 Countries: Suriname

***Corydoras sychri* Weitzman, 1960**

Corydoras sychri Weitzman, 1960b: 151, fig. 7. Type locality: Tropical South America [aquarium specimen]. Holotype: SU 51295.
 Maximum length: 4.3 cm SL
 Distribution: South America: Nanay River basin, Loreto.
 Countries: Peru
 Common names: Sychr's catfish (USA)

***Corydoras treitlii* Steindachner, 1906**

Corydoras treitlii Steindachner, 1906: 478. Type locality: Mündungstelle eines kleinen Baches gefangen, der bei dem Städtchen Victoria in der Parnahyba fällt [Creek into Parnaíba River near alto Parnaíba (= Victoria, 9°08'S, 45°56'W), Maranhão, Brazil]. Lectotype: NMW 61103, designated by Weitzman (1964: 116).
 Maximum length: 5.9 cm SL
 Distribution: South America: Coastal drainages in northeastern Brazil.
 Countries: Brazil
 Common names: Hognosed corydoras (USA)

***Corydoras trilineatus* Cope, 1872**

Corydoras trilineatus Cope, 1872: 281, pl. 6 (fig. 2). Type locality: Ambyiacu River [Peru]. Lectotype: ANSP 8294, designated by Nijssen & Isbrücker 1980: 194.
Corydoras episcopi Eigenmann & Allen, 1942: 177, pl. 12 (fig. 3). Type locality: Rio Morona. Holotype: CAS 36448.
Corydoras dubius Nijssen & Isbrücker, 1967: 38, pl. 4 (fig. 2).

Type locality: Suriname, surroundings of Paramaribo. Holotype: ZMA 104623.

Maximum length: 6.1 cm SL

Distribution: South America: Central Amazon River basin; Peruvian Amazon and coastal drainages of Suriname.

Countries: Brazil, Colombia, Peru, Suriname

Common names: Three line catfish (USA)

***Corydoras undulatus* Regan, 1912**

Corydoras undulatus Regan, 1912: 217. Type locality: La Plata [Buenos Aires, Argentina]. Holotype: BMNH 1912.4.10.5.

Maximum length: 4.4 cm SL

Distribution: South America: Lower Paraná River basin and coastal rivers in southern Brazil.

Countries: Argentina, Brazil

***Corydoras virginiae* Burgess, 1993**

Corydoras virginiae Burgess, 1993: 152, fig. unnumbered. Type locality: Rio Ucayali, Peru. Holotype: MZUSP 45715.

Maximum length: 5.1 cm SL

Distribution: South America: Ucayali River basin.

Countries: Peru

***Corydoras vittatus* Nijssen, 1971**

Corydoras blochi vittatus Nijssen, 1971: 97, fig. 7. Type locality: Brazil, Est. Maranhão, tributary of Rio Itapicurú at Caxias (4°53'S, 43°20'W). Holotype: ZMA 109990.

Maximum length: 3.6 cm SL

Distribution: South America: Itapicurú River basin in northeastern Brazil.

Countries: Brazil

***Corydoras weitzmani* Nijssen, 1971**

Corydoras weitzmani Nijssen, 1971: 91, fig. 1. Type locality: Peru, Est. Cuzco, at Cuzco (13°32'S, 71°57'W), Vilcanota river system. Holotype: FMNH 69934.

Distribution: South America: Western Amazon River basin.

Countries: Peru

***Corydoras xinguensis* Nijssen, 1972**

Corydoras xinguensis Nijssen, 1972: 429, fig. 9. Type locality: Brazil, Est. Mato Grosso, Suia Missú Creek, tributary of upper Río Xingu near Posto Diauarum (about 11°15'S, 53°00'W). Holotype: IRSNB 500.

Maximum length: 3.7 cm SL

Distribution: South America: Upper Xingu River basin.

Countries: Brazil

***Corydoras zygatus* Eigenmann & Allen, 1942**

Corydoras zygatus Eigenmann & Allen, 1942: 175, pl. 12 (fig. 1). Type locality: Creek, Yurimaguas [05°54'S, 76°04'W, Río Hualagua system, Loreto, Peru]. Holotype: CAS 24756.

Maximum length: 5.6 cm SL

Distribution: South America: Western Amazon River basin.

Countries: Ecuador, Peru

Common names: Black band catfish (USA)

DIANEMA

Dianema Cope, 1871: 112. Type species: *Dianema longibarbis* Cope, 1872. Type by subsequent monotypy by Cope (1872: 276). Gender: neuter. Appeared first as above, with brief description and no species; species added by Cope (1872: 276).

Decapogon Eigenmann & Eigenmann, 1888: 165. Type species: *Callichthys adpersus* Steindachner, 1877. Type by monotypy. Gender: masculine.

***Dianema longibarbis* Cope, 1872**

Dianema longibarbis Cope, 1872: 276, pl. 7 (fig. 1). Type locality: Ambyiacu River, Peru. Syntypes: ANSP 8285 (1), ANSP 21540

(1).

Callichthys adpersus Steindachner, 1877: 135, pl. 11 (fig. 2). Type locality: Stromgebiete des Amazonenflusses von Santarem bis Tabatinga ... im Xingu bei Porto do Moz, im Amazonenstrom bei Cudajas und bei Tabatinga. Syntypes: (several) MCZ 8223 (8), 8245 + 8265 (8), 18266 (1); NMW 47667-69 (2, 2, 2), 47672-73 (2, 2); USNM 41518 [ex MCZ 8245 or 8265] (2, now 1, 1 missing) Bourget, Tabatinga, Brazil.

Decapogon verissimi Miranda Ribeiro, 1911: 154, pl. 36 (fig. 1). Type locality: Pará [Brazil]. Lectotype: MNRJ 774A, designated by Miranda Ribeiro (1953: 395).

Maximum length: 8.2 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

Remarks and references: See Reis (1997) for phylogeny.

Common names: Porthole catfish (USA)

***Dianema urostriatum* (Miranda Ribeiro, 1912)**

Decapogon urostriatum Miranda Ribeiro, 1912: 15. Type locality: Manáos [Amazonas, Brazil]. Lectotype: MNRJ 1067A, designated by Miranda Ribeiro (1953: 395). Name originally spelled *urostriatum* in heading of account, but corrected in attached printed errata.

Maximum length: 8.4 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil

Remarks and references: See Reis (1997) for phylogeny.

Common names: Flagtail catfish (USA)

HOPLOSTERNUM

Hoplosternum Gill, 1858: 395. Type species: *Callichthys laevigatus* Valenciennes, 1836. Type by original designation. Gender: neuter.

Cascadura Ellis, 1913: 387. Type species: *Cascadura maculocephala* Ellis, 1913. Type by monotypy. Gender: feminine.

Cataphractops Fowler, 1915: 231. Type species: *Callichthys melampterus* Cope, 1872. Type by original designation. Gender: masculine.

Ellisichthys Miranda Ribeiro, 1920: 11. Type species: *Cascadura maculocephala* Ellis, 1913. Type by being a replacement name. Gender: masculine. Unneeded replacement for *Cascadura* Ellis, 1913, apparently not preoccupied.

***Hoplosternum littorale* (Hancock, 1828)**

Callichthys littoralis Hancock, 1828: 244, pl. 32 (fig. 1). Type locality: Demerara [Guyana]. BMNH 1996.7.11: 1.

Callichthys laevigatus Valenciennes, 1836: pl. 5 (fig. 2). Type locality: Buénos-Ayres [Argentina]. Syntypes: MNHN 4274 (1); 4272 (2); and 4271 (2). Name available from plate, description in Valenciennes (1847: 7).

Callichthys subulatus Valenciennes in Cuvier & Valenciennes, 1840: 311 [231 in the Strasbourg deluxe edition]. Type locality: Cayenne [French Guiana]; Buénos-Ayres [Argentina]. Syntypes: MNHN 4268 (1); 4269 (2); and 4270 (1).

Callichthys albidus Valenciennes in Cuvier & Valenciennes, 1840: 316 [235 in the Strasbourg deluxe edition]. Type locality: Cayenne [French Guiana]. Syntypes: MNHN 4276-77 (1, 1).

Callichthys chiquitos Castelnau, 1855: 38, pl. 18 (fig. 2). Type locality: la province de Chiquitos [Bolivia]. Holotype: MNHN 4285.

Hoplosternum stevardii Gill, 1858: 401. Type locality: Island of Trinidad, West Indies. Syntypes: (2) USNM 5944 (1).

Callichthys melampterus Cope, 1872: 275, pl. 14 (fig. 4). Type locality: Trinidad, W.I. [correct type locality: rio Ambyiacu, Peru]. Lectotype: ANSP 8318, designated by Reis (1997: 303).

Hoplosternum schreineri Miranda Ribeiro, 1911: 150, pl. 35 (fig. 3). Type locality: Amazonas, Brazil. Lectotype: MNRJ 1051A, designated by Miranda Ribeiro (1953: 396).

Cascadura maculocephala Ellis, 1913: 387, pl. 25 (fig. 3). Type locality: Uruguayana [Rio Grande do Sul, Brazil]. Holotype: FMNH 54878.

Hoplosternum shirui Fowler, 1940: 232, fig. 20. Type locality: Ucayali River basin, Contamana, Peru. Holotype: ANSP 68648.

Hoplosternum littorale daillyi Hoedeman, 1952b: 7. Type locality: Suriname (near Paramaribo). Holotype: ZMA 100277a.

Hoplosternum thoracatum cayennae Hoedeman, 1961: 130. Type locality: French Guiana: Ile de Cayenne. Holotype: ZMA 102238a.

Maximum length: 15.8 cm SL

Distribution: South America: Most Cis-Andean South American river drainages north of Buenos Aires.

Countries: Argentina, Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay, Venezuela

Remarks and references: See Reis (1997) for detailed description and Reis (1998) for phylogeny.

Common names: Tamboatá (Brazil), Tamoatá (Brazil)

***Hoplosternum magdalenae* Eigenmann, 1913**

Hoplosternum magdalenae Eigenmann in Ellis, 1913: 412. Type locality: Soplaviento, U.S. of Colombia. Holotype: FMNH 56281. Appeared above on 5 May; also appeared in Eigenmann (June) 1913: 30.

Maximum length: 9.6 cm SL

Distribution: South America: Magdalena and Sinu River basins.

Countries: Colombia, Venezuela

Remarks and references: See Reis (1997) for detailed description and Reis (1998) for phylogeny.

***Hoplosternum punctatum* Meek & Hildebrand, 1916**

Hoplosternum punctatum Meek & Hildebrand, 1916: 264, pl. 14. Type locality: Rio Marte Arnade, 6 miles east of Panama City [Panama]. Holotype: FMNH 8943.

Maximum length: 7.7 cm SL

Distribution: Central and South America: Pacific coastal drainages of Panama and in the Atrato River basin.

Countries: Colombia, Panama

Remarks and references: See Reis (1997) for detailed description and Reis (1998) for phylogeny.

LEPTHOPOSTERNUM

Lepthoplosternum Reis, 1997: 315. Type species: *Callichthys pectoralis* Boulenger, 1895. Type by original designation. Gender: neuter.

***Lepthoplosternum altamazonicum* Reis, 1997**

Lepthoplosternum altamazonicum Reis, 1997: 318, fig. 14. Type locality: Peru: Pucallpa: Río Ucayali. Holotype: MHNG 2551.01.

Maximum length: 5 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

Remarks and references: See Reis (1998) for phylogeny.

***Lepthoplosternum beni* Reis, 1997**

Lepthoplosternum beni Reis, 1997: 319, fig. 15. Type locality: Peru: Madre de Dios: Tambopata Reserve (12°15'S, 69°17'W). Holotype: USNM 329424.

Maximum length: 5 cm SL

Distribution: South America: Madeira River basin in the Beni region of Bolivia and Peru.

Countries: Bolivia, Peru

Remarks and references: See Reis (1998) for phylogeny.

***Lepthoplosternum pectorale* (Boulenger, 1895)**

Callichthys pectoralis Boulenger, 1895: 525. Type locality: Monte Sociedad, Paraguayan Chaco. Syntypes: BMNH 1895.5.17.57-61.

Maximum length: 6.03 cm SL

Distribution: South America: Paraguay River basin.

Countries: Argentina, Brazil, Paraguay

Remarks and references: See Reis (1998) for phylogeny.

Common names: Tamboatá (Brazil), Tamoatá (Brazil)

***Lepthoplosternum tordilho* Reis, 1997**

Lepthoplosternum tordilho Reis, 1997: 321, fig. 16. Type locality: Brazil: Rio Grande do Sul: Marginal lagoon near sanga do Junco, on dust road between hwy BR-116 and Barra do Ribeiro. Holotype: MCP 16310.

Maximum length: 4.58 cm SL

Distribution: South America: Northern tributaries of Laguna dos Patos in southern Brazil.

Countries: Brazil

Remarks and references: See Reis (1998) for phylogeny.

Common names: Cascudo (Brazil)

MEGALECHIS

Megalechis Reis, 1997: 310. Type species: *Callichthys thoracatus* Valenciennes, 1840. Type by original designation. Gender: feminine.

***Megalechis personata* (Ranzani, 1841)**

Callichthys personatus Ranzani, 1841: 113. Type locality: Unknown [Brazil]. Holotype: MZUB 934. Redescribed and illustrated in Ranzani (1842: 322, pl. 24, fig.1).

Callichthys exaratus Müller & Troschel, 1848: 630. Type locality: Britisch-Guiana.

Hoplosternum thoracatum surinamensis Hoedeman, 1952b: 5. Type locality: Surinam. Holotype: ZMA 100292.

Maximum length: 12.4 cm SL

Distribution: South America: Amazon, Orinoco and upper Paraguay River basins, as well as coastal rivers of the Guianas and northern Brazil.

Countries: Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Peru, Suriname, Venezuela

Remarks and references: See Reis (1997) for detailed description and Reis (1998) for phylogeny.

Common names: Tamboatá (Brazil), Tamoatá (Brazil)

***Megalechis thoracata* (Valenciennes, 1840)**

Callichthys thoracatus Valenciennes in Cuvier & Valenciennes, 1840: 309 [230 in the Strasbourg deluxe edition], pl. 443. Type locality: Mana [French Guiana]. Holotype: MNHN 4266.

Callichthys longifilis Valenciennes in Cuvier & Valenciennes, 1840: 317 [235 in the Strasbourg deluxe edition]. Type locality: Cayenne [French Guiana]. Holotype: MNHN 4284.

Callichthys pictus Müller & Troschel, 1848: 630. Type locality: Britisch-Guiana. Syntypes: ZMB 3151 (1).

Callichthys sulcatus Kner, 1855: 110. Type locality: Riobranco und Marabitanas [Brazil]. Lectotype: NMW 4775, designated by (Reis, 1997: 311).

Hoplosternum oronocoi Fowler, 1915: 229, fig. 8. Type locality: La Pedrita, Venezuela. Holotype: ANSP 37895.

Maximum length: 15.5 cm SL

Distribution: South America: Amazon and Orinoco River basins, as well as coastal rivers of the Guianas and northern Brazil.

Countries: Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Peru, Suriname, Trinidad and Tobago, Venezuela

Remarks and references: See Reis (1997) for detailed description and Reis (1998) for phylogeny.

Common names: Tamboatá (Brazil), Tamoatá (Brazil)

References

Axelrod, H.R. 1987. Two new species of catfishes (Siluriformes, Callichthyidae and Pimelodidae) from the Rio Unini, Amazonas, Brazil. *Trop. Fish Hobby.*, 35 (12): 22-25.

Check List of the Freshwater Fishes of South and Central America

- Black, B. 1987. A new species of *Corydoras*, *Corydoras david-sandsi* (Siluriformes, Callichthyidae) from the Rio Unini, Amazonas, Brazil. *Pract. Fishkeeping*, 1987: 74-75.
- Bleeker, P. 1864. Description des espèces de Silures de Suriname, conservées aux Musées de Leide et d'Amsterdam. *Natuurk. Verh. Holland. Maatsch. Wet. Haarlem* (Ser. 2), 20: 1-104, pls. 1-16.
- Bloch, M.E. 1794. *Naturgeschichte der ausländischen Fische*, vol. 8. Berlin. iv + 174 p., pls. 361-396.
- Böhlke, J.E. 1950. A new catfish of the genus *Corydoras* from the Peruvian Amazon. *Fish Culturist*, 30 (4): 26-27.
- Böhlke, J.E. 1951. A new miniature catfish of the genus *Corydoras* from the Rio Orinoco in Venezuela. *Ann. Mag. Nat. Hist.* (Ser. 12), 4 (44): 824-827.
- Boulenger, G.A. 1895. [Abstract of a report on a large collection of fishes formed by Dr. C. Ternetz in Matto Grosso and Paraguay, with descriptions of new species.]. *Proc. Zool. Soc. Lond.*, 1895 (pt 3): 523-529.
- Britski, H.A. 1969. Lista dos tipos de peixes das coleções do Departamento de Zoologia da Secretaria da Agricultura de São Paulo. *Pap. Avulsos Dep. Zool. (São Paulo)*, 22 (19): 197-215.
- Britto, M.R. 1998. Two new species of the genus *Aspidoras* (Siluriformes: Callichthyidae) from central Brazil. *Ichthyol. Explor. Freshwaters*, 8(4): 359-368.
- Britto, M. R. 2000. *Aspidoras depinnai* (Siluriformes: Callichthyidae): A new species from northeastern Brazil. *Copeia*, 2000 (4): 1048-1055.
- Britto, M.R. and R.M.C. Castro. 2002. New corydoradine catfish (Siluriformes: Callichthyidae) from the Upper Paraná and São Francisco: the sister group of *Brochis* and most of *Corydoras* species. *Copeia*, 2002 (4): 1006-1015.
- Britto, M.R., F.C.T. Lima and C.R. Moreira. 2002. *Aspidoras velites*, a new catfish from the upper Rio Araguaia basin, Brazil (Teleostei: Siluriformes: Callichthyidae). *Proceedings Biological Society of Washington*, 115 (4): 727-736.
- Burgess, W.E. 1982. *Corydoras adolfoi*, a new species of catfish (Siluriformes, Callichthyidae) from the upper Rio Negro, Brazil, near Sao Gabriel da Cachoeira. *Trop. Fish Hobby.*, 30 (7): 15-16.
- Burgess, W.E. 1983. *Corydoras robineae*, a new species of callichthyid catfish from Brazil. *Trop. Fish Hobby.*, 31 (9): 42-43.
- Burgess, W.E. 1993. Three new species of catfishes of the genus *Corydoras* (Callichthyidae: Siluriformes). *Trop. Fish Hobby.*, 41 (12): 152-158.
- Burgess, W.E. 1997. *Corydoras coriatae*, a new species of callichthyid catfish related to *Corydoras fowleri*. *Trop. Fish Hobby.*, 45 (8): 138, 140-142, 144, 146-147.
- Castelnau, F.L. 1855. Poissons. In: Animaux nouveaux or rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847, xii + 112 p., 50 pl.
- Castro, D.M. 1986. *Corydoras gomezi* a new species from Colombia (Pisces, Siluriformes, Callichthyidae). *Bol. Ecotropica*, (15): 33-38.
- Castro, D.M. 1987. The fresh-water fishes of the genus *Corydoras* from Colombia, including two new species (Pisces, Siluriformes, Callichthyidae). *Bol. Ecotropica*, (16): 23-57, pls. 1-11.
- Cope, E.D. 1871. [Some anatomical points of importance in the classification of the siluroids of the Amazon]. *Proc. Acad. Nat. Sci. Philadelphia*, 23: 112-113.
- Cope, E.D. 1872. On the fishes of the Ambyiacu River. *Proc. Acad. Nat. Sci. Philadelphia*, 23: 250-294, pls.
- Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. *Proc. Am. Philos. Soc.*, 17 (101): 673-701.
- Cope, E.D. 1894. On the fishes obtained by the Naturalist Expedition in Rio Grande do Sul. *Proc. Am. Philos. Soc.*, 33: 84-108, pls. 4-9.
- Cuvier, G. and A. Valenciennes. 1840. *Histoire naturelle des poissons*. Tome quinzisième. Suite du livre dix-septième. Siluroïdes. Ch. Pitois & V.° Levrault, Paris & Strasbourg. xxxi + 540 p., pls. 421-455.
- Dinkelmeyer, J. 1995. Zwei neue Arten von Panzerwelsen der Gattung *Corydoras* La Cepède, 1803 aus Brasilien (Pisces, Siluriformes, Callichthyidae). *Aquaristik Aktuell* 1995, (3): 60-61.
- Dinkelmeyer, J. 1996. *Corydoras seussi* n. sp., ein neuer Panzerwels aus Brasilien (Pisces, Siluriformes, Callichthyidae). *Aquaristik Aktuell*, 1996 (2): 25-26.
- Eigenmann, C. H. 1913. Some results from an ichthyological reconnaissance of Colombia, South America. Part II. *Indiana Univ. Studies*, no. 18: 1-32.
- Eigenmann, C.H. 1914. On new species of fishes from the Rio Meta basin of eastern Colombia and on albino or blind fishes from near Bogotá. *Indiana Univ. Studies*, no. 23: 229-230.
- Eigenmann, C.H. 1916. New and rare fishes from South American rivers. *Ann. Carnegie Mus.*, 10 (1-2): 77-86, pls. 13-16.
- Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II.- The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. *Univ. Kentucky*. xv + 494 p., 22 pl.
- Eigenmann, C.H. and R.S. Eigenmann. 1888. Preliminary notes on South American Nematognathi. I. *Proc. California Acad. Sci.* (Ser. 2), 1 (2): 119-172.
- Eigenmann, C.H. and C.H. Kennedy. 1903. On a collection of fishes from Paraguay, with a synopsis of the American genera of cichlids. *Proc. Acad. Nat. Sci. Philadelphia*, 55: 497-537.
- Eigenmann, C.H., W.L. McAtee and D.P. Ward. 1907. On further collections of fishes from Paraguay. *Ann. Carnegie Mus.*, 4 (2): 110-157, pls. 31-45.
- Ellis, M.D. 1913. The plated nematognaths. *Ann. Carnegie Mus.*, 8 (3-4): 384-413, pls. 25-31.
- Elwin, M.G. 1939. *Corydoras arcuatus* sp. n., an Amazonian catfish. *Ann. Mag. Nat. Hist.* (Ser. 11), 3 (13): 126-128, pl. 3.
- Fowler, H.W. 1915. Notes on nematognathous fishes. *Proc. Acad. Nat. Sci. Philadelphia*, 67: 203-243.
- Fowler, H.W. 1940. A collection of fishes obtained by Mr. William C. Morrow in the Ucayali River basin, Peru. *Proc. Acad. Nat. Sci. Philadelphia*, 91 (for 1939): 219-289.
- Fowler, H.W. 1943. A collection of fresh-water fishes from Colombia, obtained chiefly by Brother Nicéforo Maria. *Proc. Acad. Nat. Sci. Philadelphia*, 95: 223-266.
- Fraser-Brunner, A. 1938. Debutantes of the month. *Aquarist and Pond-keeper*, 8 (7): 207-208.
- Fraser-Brunner, A. 1947. New fishes of the genus *Corydoras*. *Proc. Zool. Soc. London*, 117 (1): 241-246, pl. 1.
- Gee, J.H. 1976. Buoyancy and aerial respiration: factors influencing the evolution of reduced swim-bladder volume of some Central American catfishes (Trichomycteridae, Callichthyidae, Loricariidae, Astroblepidae). *Can. J. Zool.*, 54 (7): 1030-1037.
- Gee, J.H. & J.B. Graham, 1978. Respiratory and hydrostatic functions of the intestine of the catfishes *Hoplosternum thoracatum* and *Brochis splendens* (Callichthyidae). *Journal of Experimental Biology*, 74: 1-16
- Geisler, R. 1969. *Corydoras baderi*, ein neuer Panzerwels, und sein Lebensraum im Grenzgebiet Brasilien--Surinam (Pisces, Teleostei, Callichthyidae). *Senckenb. Biol.*, 50: 353-357.
- Gill, T.N. 1858. Synopsis of the fresh water fishes of the western portion of the island of Trinidad, W. I. *Ann. Lyc. Nat. Hist. New York*, 6 (10-13): 363-430.
- Gosline, W.A. 1940. A revision of the Neotropical catfishes of the family Callichthyidae. *Stanford Ichthyol. Bull.*, 2 (1): 1-29.
- Grant, S. 1997. Descriptions of two new species of *Corydoras*, La Cepède, 1803 (Pisces, Siluriformes, Callichthyidae). *Aquarist and Pondkeeper*, 62 (10) 1998: 41-45.
- Gray, J.E. 1854. *Catalogue of fish collected and described by*

Check List of the Freshwater Fishes of South and Central America

- Laurence Theodore Gronow, now in the British Museum. London. vii + 196 p.
- Gronow, L.T. 1763. Zoophylacii Gronoviani fasciculus primus exhibens animalia quadrupeda, amphibia atque pisces, quae in museo suo adservat, rite examinavit, systematice disposuit, descripsit atque iconibus illustravit Laur. Theod. Gronovius, J.U.D.... Lugduni Batavorum. 136 p., 14 pl.
- Günther, A. 1864. Catalogue of the fishes in the British Museum. Catalogue of the Physostomi, containing the families Siluridae, Characinae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiidae in the collection of the British Museum. Trustees, London. xxii + 455 p.
- Günther, A. 1868. Diagnoses of some new freshwater fishes from Surinam and Brazil, in the collection of the British Museum. Ann. Mag. Nat. Hist. (Ser. 4), 1 (6): 475-481.
- Hancock, J. 1828. Notes on some species of fishes and reptiles, from Demerara, presented to the Zoological Society by John Hancock, Esq., corr. memb. Zool. Soc. In a letter addressed to the secretary of the Society. Zool. J., 4: 240-247.
- Hensel, R. 1868. Beiträge zur Kenntniss der Wirbelthiere Südbrasilien. Arch. Naturgeschichte, 34 (1): 323-375.
- Hieronimus, H. 1991. *Corydoras similis* spec. nov., ein neuer Panzerwels aus Brasilien (Pisces: Siluriformes: Callichthyidae). Z. Fischkunde, 1 (1): 39-46.
- Hieronimus, H. 1995. *Corydoras lacerdai* spec. nov., ein neuer Panzerwels aus Brasilien (Teleostei: Siluriformes: Callichthyidae). Zeitschrift Fischkunde, 3 (1): 107-116.
- Hoedeman, J.J. 1952a. Encyclopaedie voor de aquariumhouder. Amsterdam, De Regenboog. 17 p.
- Hoedeman, J.J. 1952b. Notes on the ichthyology of Surinam (Dutch Guiana). The catfish genera *Hoplosternum* and *Callichthys*, with key to the genera and groups of the family Callichthyidae. Beaufortia, 12: 1-11.
- Hoedeman, J.J. 1961. Notes on the ichthyology of Surinam and other Guianas. 8. Additional records of siluriform fishes (2). Bull. Aquatic Biol., 2 (23): 129-139.
- Hoedeman, J.J. 1965. Elsevier's pocketboek voor de aquariumliefhebber. Elsevierpocket (A) 108, Elsevier, Amsterdam/Brussels. 176 p.
- Holly, M. 1940. Vier noch nicht beschriebene *Corydoras* Arten. Anz. Akad. Wiss. Wien, 77: 107-112.
- Ihering, R. von. 1907. Diversas especies novas de peixes nematognathas do Brazil. Notas preliminares. Rev. Mus. Paulista, N. S., 1 (1): 13-39.
- Ihering, R. von. 1911. Algumas especies novas de peixes d'agua doce (Nematognatha) (*Corydoras*, *Plecotomus*, *Hemipsilichthys*). Rev. Mus. São Paulo, 8 (for 1910): 380-404.
- Isbrücker, I.J.H. 2000. *Corydoras geoffroy* and *Cataphractus punctatus*. History of both earliest discovered species of the subfamily Corydoradinae (Actinopterygii, Siluriformes, Callichthyidae). Cat Chat, 1(1): 11-18.
- Isbrücker, I.J.H. and H. Nijssen. 1973. Two new species of the callichthyid catfish genus *Corydoras* from Brazil (Pisces, Siluriformes, Callichthyidae). Beaufortia, 21 (272): 1-7.
- Isbrücker, I.J.H. and H. Nijssen. 1992. *Corydoras breei*, a new species of callichthyid catfish from the Corantijn River basin in Surinam (Pisces, Siluriformes, Callichthyidae). Beaufortia, 43 (2): 9-14.
- Jenyns, L. 1840-42. Fish. [part 4: xvi + 172 p, 29 pl.]. In: The zoology of the voyage of H. M. S. Beagle, under the command of Captain Fitzroy, R. N., during the years 1832 to 1836. Smith, Elder, and Co., Cornhill.
- Knaack, J. 1961. Ein neuer Panzerwels aus Brasilien (*Corydoras guapore*) (Pisces, Teleostei, Callichthyidae). Senck. B. Ges. Naturf. Fr. N. F., 1: 135-138.
- Knaack, J. 1962. Zwei neue Panzerwelse, *Corydoras haraldschultzi* und *Corydoras sterbai* (Pisces, Teleostei, Callichthyidae). Senckenb. Biol., 43 (2): 129-135, pls. 11-12.
- Knaack, J. 1966. Ein Zwergpanzerwels aus Brasilien: *Corydoras pygmaeus*. Neubeschreibung (Pisces, Teleostei, Callichthyidae). Aquarien-Terrar. Mschr. Ornith. Vivar., 13 (11): 364-365.
- Knaack, J. 1999. Erstbeschreibung *Corydoras spectabilis* n. sp. VDA-aktuell, 1: 74-79.
- Knaack, J. 2000. Eine weitere neue Art der Gattung *Corydoras* La Cepède, 1803 aus dem Mato Grosso (Pisces, Siluriformes, Callichthyidae). VDA-aktuell, 2: 45-56.
- Knaack, J. 2001. Ein weiterer neuer Panzerwels aus Bolivien: *Corydoras pantanalensis* n. sp. (Pisces, Siluriformes, Callichthyidae). Aqu. aktuell (Germany) 9-10/2001: 58-63.
- Knaack, J. 2002. *Corydoras bilineatus* n. sp. (Pisces, Siluriformes, Callichthyidae). Aquaristik Aktuell, 2002 (4): 50-56.
- Knaack, J. 2002. Ein weiterer neuer Panzerwels aus Bolivien: *Corydoras cruziensis* n. sp. (Pisces, Siluriformes, Callichthyidae). VDA-aktuell, 2002 (3): 60-69.
- Kner, R. 1855. Ichthyologische Beiträge. Sitzungsber. Akad. Wiss. Wien, 17: 92-162, pls. 1-6.
- Kohda, M., M. Tanimura, M. Kikue-Nakamura and S. Yamagishi, 1995. Sperm drinking by female catfishes: a novel mode of insemination. Environmental Biology of Fishes, 42: 1-6
- La Cepède, B.G.E. 1803. Histoire naturelle des poissons. Vol. 5. Plassan, Paris. lxxviii + 803 p. + index, 21 pl.
- La Monte, F. 1941. A new *Corydoras* from Brazil. Zoologica (New York), 26 (pt 1, no. 2): 5-6.
- Larrañaga, D.A. 1923. Escritos de Don Dámaso Antonio Larrañaga. Los Publica el Instituto Histórico y Geográfico del Uruguay. Edición Nacional. 512 p.
- Linck, H.F. 1790. Versuch einer Eintheilung der Fische nach den Zähnen. Mag. Neuste Phys. Naturgesch. Gotha, 6 (3): 28-38.
- Linnaeus, C. 1758. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Editio decima, reformata. Tomus I. Holmiae. ii + 824 p.
- Lönnberg, E. and H. Rendahl. 1930. Eine neue Art der Gattung *Corydoras*. Ark. Zool., 22 A (5): 1-6.
- Meek, S.E. and S.F. Hildebrand. 1916. The fishes of the fresh waters of Panama. Field Mus. Nat. Hist. Publ., Zool. Ser., 10 (15): 1-374, pls. 6-32.
- Meinken, H. 1957. Mitteilungen der Fischbestimmungsstelle des VDA. XXIV. Über zwei der Liebhaberei bislang unbekannte *Corydoras* - Neuheiten (Callichthyidae - Ostariophysi). Aquar. Terrar. Z., 10 (1): 4-7.
- Meuschen, F.C. 1778. Museum Gronovianum. Sive, Index rerum naturalium, tam mammalium, amphibiorum, piscium, insectorum, ... Lugundi Batavorum, T. Haak, J. Meerburg.
- Miranda Ribeiro, A. 1907. Peixes do Iporanga -- S. Paulo. Resultados de excursões do Sr. Ricardo Krone, membro correspondente do Museu Nacional do Rio de Janeiro. Bol. Soc. Nac. Agric., Rio de Janeiro [Lavoura], 11 (5): 185-190.
- Miranda Ribeiro, A. 1911. Fauna brasiliense. Peixes. Tomo IV (A) [Eleutherobranchios aspirophoros]. Arq. Mus. Nac. Rio de Janeiro, 16: 1-504, pls. 22-54.
- Miranda Ribeiro, A. 1912. Loricariidae, Callichthyidae, Doradidae e Trichomycteridae. In: Comissão de Linhas Telegraficas Estrategicas de Matto-Grosso ao Amazonas. 31 p., 1 pl.
- Miranda Ribeiro, A. 1920. Peixes (excl. Characinae). In: Comissão de Linhas Telegraficas Estrategicas de Matto-Grosso ao Amazonas. Historia Natural. Zoologia. 15 p., 17 unnum. pls.
- Miranda Ribeiro, A. 1937. Sobre uma collecção de vertebrados do nordeste brasileiro. Primeira parte: Peixes e batrachios. O Campo Rio de Janeiro, (1): 54-56.
- Miranda Ribeiro, P. 1942. Um novo "*Corydoras*" do Rio Javará, Amazonas, Brasil (Pisces, Callichthyidae). Rev. Bras. Biol., 2 (4): 427-428.
- Miranda Ribeiro, P. 1949. Duas novas espécies de peixes na coleção ictiológica do Museu Nacional (Pisces, Callichthyidae et Pygidiidae). Rev. Bras. Biol., 9 (2): 143-145.
- Miranda Ribeiro, P. 1953. Tipos das espécies e subespécies do Prof. Alipio de Miranda Ribeiro depositados no Museu Nacion-

Check List of the Freshwater Fishes of South and Central America

- al. Arq. Mus. Nac. Rio de Janeiro, 42: 389-417.
- Müller, J. and F.H. Troschel. 1848. Fische (pp. 618-644). In: Reisen in Britisch-Guiana in den Jahren 1840-44. Im Auftrag Sr. Majestat des Königs von Preussen ausgeführt von Richard Schomburgk. [Versuch einer Fauna und Flora von Britisch-Guiana.] vol. 3. Berlin.
- Myers, G.S. 1927. Descriptions of new South American freshwater fishes collected by Dr. Carl Ternetz. Bull. Mus. Comp. Zool., 68 (3): 107-135.
- Myers, G.S. 1933. New importations. Leopard *Corydoras*. Aquarium, Philadelphia, 2 (8): 188-189.
- Myers, G.S. 1953. A note on the habits and classification of *Corydoras hastatus*. Aquarium J., 24 (11): 268-270.
- Myers, G.S. and S.H. Weitzman. 1954. Another new *Corydoras* from Brazil. Aquarium J., 25 (4): 93-94.
- Myers, G.S. and S.H. Weitzman. 1960. Two new fishes collected by General Thomas D. White in eastern Colombia. Stanford Ichthyol. Bull., 7 (4): 98-109.
- Nijssen, H. 1970. Revision of the Surinam catfishes of the genus *Corydoras* La Cepède, 1803 (Pisces, Siluriformes, Callichthyidae). Beaufortia, 18 (230): 1-75.
- Nijssen, H. 1971. Two new species and one new subspecies of the South American catfish genus *Corydoras* (Pisces, Siluriformes, Callichthyidae). Beaufortia, 19 (250): 89-98.
- Nijssen, H. 1972. Records of the catfish genus *Corydoras* from Brazil and French Guiana with descriptions of eight new species (Pisces, Siluriformes, Callichthyidae). Netherlands J. Zool., 21 (4): 412-433, pls. 1-3.
- Nijssen, H. and I. J. H. Isbrücker. 1967. Notes on the Guiana species of *Corydoras* La Cepède, 1803, with descriptions of seven new species and designation of a neotype for *Corydoras punctatus* (Bloch, 1794) - (Pisces, Cypriniformes, Callichthyidae). Zool. Mededel., 42: 21-50, pls. 1-5.
- Nijssen, H. and I.J.H. Isbrücker. 1970. The South American catfish genus *Brochis* Cope, 1872 (Pisces, Siluriformes, Callichthyidae). Beaufortia, 18 (236): 151-168.
- Nijssen, H. and I.J.H. Isbrücker. 1971. Two new species of the catfish genus *Corydoras* from Brazil and Peru (Pisces, Siluriformes, Callichthyidae). Beaufortia, 18 (239): 183-189.
- Nijssen, H. and I.J.H. Isbrücker. 1975. *Cataphractus punctatus* Bloch, 1794 (Pisces, Siluriformes, Callichthyidae): request for invalidation of neotype and validation of a rediscovered syntype as lectotype. Bull. Zool. Nomencl., 32 (1): 63-64, pl. 1.
- Nijssen, H. and I.J.H. Isbrücker. 1976a. The South American plated catfish genus *Aspidoras* R. von Ihering, 1907, with descriptions of nine new species from Brazil (Pisces, Siluriformes, Callichthyidae). Bijdr. Dierkd., 46 (1): 107-131.
- Nijssen, H. and I.J.H. Isbrücker. 1976b. *Corydoras ornatus*, a new species of callichthyid catfish from the Rio Tapajós drainage, Brazil (Pisces, Siluriformes, Callichthyidae). Bull. Zool. Mus. Univ. Amsterdam, 5 (15): 125-129.
- Nijssen, H. and I.J.H. Isbrücker. 1976c. A new callichthyid catfish, *Corydoras gracilis*, from Brazil. Trop. Fish Hobby., 25 (1): 90-98.
- Nijssen, H. and I.J.H. Isbrücker. 1980a. *Aspidoras virgulatus* n. sp., a plated catfish from Espírito Santo, Brazil (Pisces, Siluriformes, Callichthyidae). Bull. Zool. Mus. Univ. Amsterdam, 7 (13): 133-139.
- Nijssen, H. and I.J.H. Isbrücker. 1980b. A review of the genus *Corydoras* La Cepède, 1803 (Pisces, Siluriformes, Callichthyidae). Bijdr. Dierkd., 50 (1): 190-220.
- Nijssen, H. and I.J.H. Isbrücker. 1980c. On the identity of *Corydoras nattereri* Steindachner 1877 with the description of a new species *Corydoras prionotos* (Pisces, Siluriformes, Callichthyidae). Beaufortia, 30 (1): 1-9.
- Nijssen, H. and I.J.H. Isbrücker. 1980d. Three new *Corydoras* species from French Guiana and Brazil (Pisces, Siluriformes, Callichthyidae). Netherlands J. Zool., 30 (3): 494-503.
- Nijssen, H. and I.J.H. Isbrücker. 1982. *Corydoras boehlkei*, a new catfish from the Rio Caura system in Venezuela (Pisces, Siluriformes, Callichthyidae). Proc. Acad. Nat. Sci. Philadelphia, 134: 139-142.
- Nijssen, H. and I.J.H. Isbrücker. 1983a. *Brochis britskii*, a new species of plated catfish from the Upper Rio Paraguai system, Brazil (Pisces, Siluriformes, Callichthyidae). Bull. Zool. Mus. Univ. Amsterdam, 9 (20): 177-186.
- Nijssen, H. and I.J.H. Isbrücker. 1983b. Review of the genus *Corydoras* from Colombia, with descriptions of two new species (Pisces, Siluriformes, Callichthyidae). Beaufortia, 33 (5): 53-71.
- Nijssen, H. and I.J.H. Isbrücker. 1983c. Sept espèces nouvelles de poissons-chats cuirassés du genre *Corydoras* La Cepède, 1803, de Guyane française, de Bolivie, d'Argentine, du Surinam et du Brésil (Pisces, Siluriformes, Callichthyidae). Rev. Fr. Aquariol., 10 (3): 73-84.
- Nijssen, H. and I.J.H. Isbrücker. 1986. Cinq espèces nouvelles de poissons-chats cuirassés du genre *Corydoras* La Cepède, 1803, du Pérou et de l'équateur (Pisces, Siluriformes, Callichthyidae). Rev. Fr. Aquariol., 12 (3, for 1985): 65-76.
- Norman, J.R. 1926. Descriptions of nine new freshwater fishes from French Guiana and Brazil. Ann. Mag. Nat. Hist. (Ser. 9), 18 (103): 91-97.
- Orcés V., G. 1960. Peces ecuatorianos de la familia Callichthyidae, con la descripción de una especie nueva. Cienc. Nat. (Quito), 3: 2-6, 1 pl.
- Pearson, N.E. 1924. The fishes of the eastern slope of the Andes. I. The fishes of the Rio Beni basin, Bolivia, collected by the Mulford expedition. Indiana Univ. Studies, 11 (64): 1-83, pls. 1-12.
- Quoy, J.R.C. and J.P. Gaimard. 1824-25. Description des Poissons. Chapter IX. In: Freycinet, L. de, Voyage autour du Monde...exécuté sur les corvettes de L. M. "L'Uranie" et "La Physicienne," pendant les années 1817, 1818, 1819 et 1820. Paris. 192-401 [1-328 in 1824; 329-616 in 1825], Atlas pls. 43-65.
- Rafinesque, C.S. 1815. Analyse de la nature, ou tableau de l'univers et des corps organisés. Palerme. 224 p.
- Ranzani, C. 1841. De nonnullis novis speciebus Piscium, Opusculum tertium. Nuovi Annali Scienze Naturale Anno III, 5: 60-66.
- Ranzani, C. 1842. De nonnullis novis speciebus piscium. Opusculum tertium. Novi Comment. Acad. Sci. Inst. Bonon., 5: 307-338, pls. 23-28.
- Regan, C.T. 1912. A revision of the South-American siluroid fishes of the genus *Corydoras*, with a list of the specimens in the British Museum (Natural History). Ann. Mag. Nat. Hist. (Ser. 8), 10 (no. 57): 209-220.
- Regan, C.T. 1913. Descriptions of two new fishes from Paranagua, Brazil, presented to the British Museum by Herr A. Rachow. Ann. Mag. Nat. Hist. (Ser. 8), 11 (62): 231-232.
- Reis, R.E. 1997. Revision of the Neotropical catfish genus *Hoplosternum* (Ostariophysi: Siluriformes: Callichthyidae), with the description of two new genera and three new species. Ichthyol. Explor. Freshwaters, 7 (3): 299-326.
- Reis, R.E. 1998a. Anatomy and phylogenetic analysis of the Neotropical callichthyid catfishes (Ostariophysi, Siluriformes). Zool. J. Linn. Soc., 124: 105-168.
- Reis, R.E. 1998b. Systematics, biogeography, and the fossil record of the Callichthyidae: A review of the available data. Pp. 351-362 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena & C.A.S. Lucena (eds.). Phylogeny and classification of Neotropical fishes. Edipucrs, Porto Alegre.
- Roman-Valencia, C., P.C. Lehmann and A. Munoz. 1999. Presencia del genero *Callichthys* (Siluriformes: Callichthyidae) en Colombia y descripción de una nueva especie para el alto Rio Cauca. Dahlia -- Rev. Asoc. Colomb. Ictiol. No. 3: 53-62.
- Rössel, F. 1961. *Corydoras caudimaculatus* ein neuer Panzerwels aus Brasilien. (Pisces, Teleostei, Callichthyidae). Senckenb. Biol., 42 (1/2): 49-50.
- Rössel, F. 1962a. *Corydoras axelrodi*, ein neuer Panzerwels aus

Check List of the Freshwater Fishes of South and Central America

- Columbien (Pisces, Teleostei, Callichthyidae). Senckenb. Biol., 43 (5): 31-33.
- Rössel, F. 1962b. *Corydoras cervinus*, ein neuer panzerwels aus Brasilien (Pisces, Teleostei, Callichthyidae). Senckenb. Biol., 43 (1): 31-33.
- Rössel, F. 1963. Neue und seltene *Corydoras* -Arten aus Brasilien (Pisces, Teleostei, Callichthyidae). Senckenb. Biol., 44 (5): 359-363.
- Sands, D. 1989. Mimicry unmasked. Pract. Fishkeeping, 44-46.
- Sands, D. 1990. A new species of callichthyid catfish, *Corydoras araguaiaensis* (Siluriformes, Callichthyidae) from the Rio Araguaia, Brazil. Fishes of the World, Suppl., 2 p.
- Sands, D. 1995. Four new *Corydoras* (Callichthyidae) species from Upper Negro River tributaries and a range extension, together with a discussion of *C. bicolor* Nijssen & Isbrücker. Freshwater Mar. Aquar., 18 (7): 8-12, 14, 16, 18.
- Scopoli, G.A. 1777. Introductio ad historiam naturalem, sistens genera lapidum, plantarum et animalium hactenus detecta, caracteribus essentialibus donata, in tribus divisa, subinde ad leges naturae. Prague. x + 506 p.
- Steindachner, F. 1877. Ichthyologische Beiträge (V). Sitzungsber. Akad. Wiss. Wien, 74: 49-240, pls. 1-15.
- Steindachner, F. 1879a. Über einige neue und seltene Fisch-Arten aus den k. k. zoologischen Museum zu Wien, Stuttgart, und Warschau. Denkschr. Akad. Wiss. Wien, 41: 1-52, pls. 1-9.
- Steindachner, F. 1879b. Über einige neue und seltene Fischarten aus den zoologischen Museen zu Wien, Stuttgart und Warschau. Anz. Akad. Wiss. Wien, 16 (4): 29-34.
- Steindachner, F. 1906. Ueber zwei neue *Corydoras* -Arten aus dem Parnahyba und Parahimflusse im Staate Piauhy. Anz. Akad. Wiss. Wien, 1906: 478-480.
- Steindachner, F. 1907a. Über drei neue Characinen und eine neue kleine *Corydoras*-Art aus dem Stromgebiete des Parnahyba und San Francisco... Anz. Akad. Wiss. Wien, 44 (6): 82-85.
- Steindachner, F. 1907b. Über eine neue *Coridoras*-Art aus dem Rio Preto, einem sekundären Nebenflusse des Rio San Francisco, und eine *Xenocara* -Art aus dem Parnahyba bei Victoria und Sa. Filomena. Anz. Akad. Wiss. Wien, 44 (17): 290-293.
- Steindachner, F. 1910. Über eine neue *Loricaria*-Art aus dem Flussgebiete des Jaraguá und der Ribeira im Staate S. Paulo und Sa. Catharina, über eine mit *Ancistrus aculeatus* (Parugia) = *Ancistrus gigas* (Blgr.) Reg. sehr nahe verwandte *Ancistrus*-Art aus dem Rio S. Francisco, über eine neue *Corydoras*-Art aus dem Jaraguá und über die äusseren Geschlechtsunterschiede von *Corydoras kronei*, Ribeira. Anz. Akad. Wiss. Wien, 47 (8): 57-62.
- Swainson, W. 1838. The natural history and classification of fishes, amphibians, & reptiles, or monocardian animals. London. Vol. 1, vi + 368 p.
- Swainson, W. 1839. The natural history and classification of fishes, amphibians, & reptiles, or monocardian animals. London. Vol. 2, vi + 448 p.
- Valenciennes, A. 1836. Poissons [Plate 6]. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivia, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Bertrand et Levrault, Paris.
- Valenciennes, A. 1847. Poissons. Catalogue des principales espèces de poissons, rapportées de l'Amérique Méridionale par M. d'Orbigny. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivia, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Vol. 5 (pt. 2). Paris, Bertrand et Levrault. 11 p.
- Weitzman, S.H. 1960a. Figures and description of a South American catfish, *Corydoras reticulatus* Fraser-Brunner. Stanford Ichthyol. Bull., 7 (4): 155-161.
- Weitzman, S.H. 1960b. Figures and description of four South American catfishes of the genus *Corydoras*, including two new species. Stanford Ichthyol. Bull., 7 (4): 140-154.
- Weitzman, S.H. 1961. A new catfish, *Corydoras concolor* (Callichthyidae) from Venezuela. Proc. Biol. Soc. Washington. 74: 105-110.
- Weitzman, S.H. 1963. A new catfish, *Corydoras pastazensis* (Callichthyidae) from Ecuador. Proc. Biol. Soc. Washington, 76: 59-64.
- Weitzman, S.H. 1964. One new species and two redescriptions of catfishes of the South American callichthyid genus *Corydoras*. Proc. U. S. Natl. Mus., 116 (3498): 115-126.
- Weitzman, S.H. and H. Nijssen. 1970. Four new species and one new subspecies of the catfish genus *Corydoras* from Ecuador, Colombia and Brazil (Pisces, Siluriformes, Callichthyidae). Beaufortia, 18 (233): 119-133.

Family Scoloplacidae (Spiny dwarf catfishes)

Scott A. Schaefer

The Scoloplacidae is a group of four species of minute catfishes, known from the Amazon, Tocantins, and Paraná/Paraguay rivers systems of South America. Scoloplacids are miniature catfishes, not known to exceed about 20 mm standard length. The smallest individuals of *Scoloplax dolicholophia* at 12 mm appear to be adults. They are immediately recognized by the presence of a movable rostral plate located on the head between the nares and bearing numerous large, recurved odontodes or dermal teeth. In addition, scoloplacids are unique among catfishes in the presence of two bilateral series of bony plates on the body, one located at the dorsal midline between the dorsal and caudal fins, the second along the ventral midline between the anal and caudal fins. The head is broad and depressed, the eyes project dorsally on the head, the trunk is straight and relatively slender, the mouth small, slightly subterminal; maxillary, mental, and mandibular barbels are present. The dorsal fin has a stout spine and 3-5 branched rays; the anal fin is short, first ray unbranched and slightly thickened, 4-5 branched rays, the pectoral fin has a large spine and 4-6 branched rays; the pelvic fin has a thickened unbranched first ray and 3-4 branched rays; the caudal fin has 10-12 principal rays. Odontodes occur on the head, body plates, fin spines, and pectoral girdle, but are absent from the branched fin rays. Males are smaller than females and sexually dimorphic with a fleshy opercular flap; females have a large, fleshy, sac-like genital papilla.

The Scoloplacidae is the most recent family of catfishes to be discovered. The first scoloplacid, *Scoloplax dicra*, was described by Bailey and Baskin (1976) from specimens collected in the Bolivian Amazon in 1964. In fact, a single specimen was collected in Brazil by Louis Agassiz as early as 1866, but was not recognized as distinctive and instead misidentified as a banjo catfish (Schaefer et al., 1989). Indeed, ichthyologists first suspected that the Bolivian specimens were representatives of *Bunocephalus* (Aspredinidae; Lundberg and Baskin, 1969) because of their general similarities in shape. Bailey and Baskin (1976) placed *Scoloplax dicra* in a new subfamily of the Loricariidae, the Scoloplacinae, based on the presence of bony dermal armor and overall morphological similarity to other loricariids. Isbrücker (1980) elevated the subfamily to family status and Howes (1983) confirmed that action via a cladistic analysis of higher loricarioid relationships, wherein scoloplacids were proposed as the sister-group to the astrolepids plus loricariids. Schaefer et al. (1989) described three additional species from the Amazon, Tocantins, and Paraná/Paraguay River systems. *Scoloplax dicra* is widely distributed in the Amazon basin, *S. empousa* is known from the Amazon and Paraná/Paraguay basins, *S. distolothrix* is known from the Xingu, Tocantins, and upper Paraguay basins, while *S. dolicholophia* is known only from the Río Negro of Brazil. Schaefer (1990) described their anatomy, offered a hypothesis of phylogenetic relationships among the species, and provided additional character support to the hypothesis of Howes (1983).

The general biology of scoloplacids is poorly known. Aspects of the natural history of *S. empousa* were studied by Sazima et al. (2000), who discovered that the fishes hide during the day in bottom debris and among roots of aquatic vegetation in shallow waters with sand and soft mud bottoms, and emerge at twilight to forage on chironomid insect larvae and oligochaete worms at night. Such cryptic behavior, coupled with their small size, may explain why scoloplacids are rarely observed even when abundant. The toothed rostral plate may aid in maintaining position among bottom debris. Sazima et al. (2000) reported the presence of sexually dimorphic males between 14 and 15 mm and females between 13 and 16 mm with up to 300 immature oocytes per ovary in a collection made at the end of the rainy season between May and August. They found fewer juveniles and a different size-frequency distribution of individuals in the August sample, suggesting that scoloplacids are annual fishes. Armbruster (1998) described specializations of the digestive tract presumably used for breathing air. Given that scoloplacids are small, not highly mobile, and prefer shallow reaches of oxbow lagoons and small streams, air breathing would be particularly advantageous for life in small, isolated patches of water that occur over extended periods during the dry season in these habitats.

Since the studies of Bailey and Baskin (1976) and Schaefer et al. (1989), much additional scoloplacid material has been discovered, but no new taxa have been proposed, suggesting that future studies are unlikely to uncover much additional diversity of scoloplacids. However, due to their small size, cryptic habits, and nocturnal activity, scoloplacids are not routinely collected in general ichthyological surveys and their study requires considerable effort. It is entirely possible that additional scoloplacid diversity awaits discovery in hitherto neglected, or overlooked habitats of several otherwise well-studied regions of lowland South America, such as the Orinoco and upper Paraná River basins.

SCOLOPLAX

Scoloplax Bailey & Baskin, 1976: 5. Type species: *Scoloplax dicra* Bailey & Baskin, 1976. Type by original designation. Gender: feminine. Review, with key to species, in Schaefer et al. (1989); anatomical and phylogenetic study in Schaefer (1990).

***Scoloplax dicra* Bailey & Baskin, 1976**

Scoloplax dicra Bailey & Baskin, 1976: 7, figs. 1-3. Type locality: Isolated Ox-Bow lagoon off the Río Iténez, ca. 400 m southwest of the river at a point opposite Costa Marques (Brazil), Dept. of Beni, Bolivia, 12°28.38'S, 64°16.59'W. Holotype: AMNH 32482.

Maximum length: 1.38 cm SL

Distribution: South America: Amazon and Paraguay River basins.

Countries: Bolivia, Brazil, Peru

Remarks and references: Redescribed in Schaefer et al. (1989: 185).

***Scoloplax distolothrix* Schaefer, Weitzman & Britski, 1989**

Scoloplax distolothrix Schaefer, Weitzman & Britski, 1989: 191, figs. 5, 6. Type locality: Small tributary of Rio Batovi, upper Rio Xingu, Mato Grosso, Brazil, approx. 12°58'S, 53°37'W. Holotype: MZUSP 39065.

Maximum length: 1.79 cm SL

Distribution: South America: Tocantins/Araguaia, Xingu, and Paraguay River basins.

Countries: Brazil, Paraguay

***Scoloplax dolicholopia* Schaefer, Weitzman & Britski, 1989**

Scoloplax dolicholopia Schaefer, Weitzman & Britski, 1989: 196, figs. 9, 10. Type locality: In Igarapé, trib. of Rio Tarumãzinho, approximately 45 km north of Manaus, Amazonas, Brazil, 2°42'S, 60°03'W. Holotype: MZUSP 6788.

Maximum length: 1.2 cm SL

Distribution: South America: Negro River basin.

Countries: Brazil

***Scoloplax empousa* Schaefer, Weitzman & Britski,**

1989

Scoloplax empousa Schaefer, Weitzman & Britski, 1989: 194, figs. 7, 8. Type locality: Rio Ivinheima 70 km upstream from its confluence with Rio Paraná and Rio dos Bandeirantes, Mato Grosso, Brazil, approx. 22°35'S, 53°30'W. Holotype: MZUSP 39075.

Maximum length: 1.99 cm SL

Distribution: South America: Amazon and Paraguay/Paraná River basins.

Countries: Bolivia, Brazil

Remarks and references: Natural history observations in Sazima et al. (2000).

References

- Ambruster, J.W. 1998. Modifications of the digestive tract for holding air in loricariid and scoloplacid catfishes. *Copeia*, 1998:663-675.
- Bailey, R.M. and J.N. Baskin. 1976. *Scoloplax dicra*, a new armored catfish from the Bolivian Amazon. *Occas. Pap. Mus. Zool. Univ. Michigan*, (674): 1-14.
- Howes, G.J. 1983. The cranial muscles of the loricarioid catfishes, their homologies and value as taxonomic characters (Teleostei: Siluroidei). *Bull. Br. Mus. (Nat. Hist.), Zool. Ser.*, 45:309-345.
- Isbrücker, I.J.H. 1980. Classification and catalogue of the mailed Loricariidae (Pisces, Siluriformes). *Versl. Tech. Gegevens*, No. 22: 1-181.
- Lundberg, J.G. and J.N. Baskin. 1969. The caudal skeleton of the catfishes, order Siluriformes. *Amer. Mus. Nov.*, 2398:1-49.
- Sazima, I., F.A. Machado and J. Zuanon. 2000. Natural history of *Scoloplax empousa* (Scoloplacidae), a minute spiny catfish from the Pantanal wetlands in western Brazil. *Ichthyol. Explor. Freshwaters*, 11: 89-95.
- Schaefer, S.A. 1990. Anatomy and relationships of the scoloplacid catfishes. *Proc. Acad. Nat. Sci. Philadelphia*, 142: 167-210.
- Schaefer, S.A., S.H. Weitzman and H.A. Britski. 1989. Review of the Neotropical catfish genus *Scoloplax* (Pisces: Loricarioidea: Scoloplacidae) with comments on reductive characters in phylogenetic analysis. *Proc. Acad. Nat. Sci. Philadelphia*, 141: 181-211.

Family Astroblepidae (Naked sucker-mouth catfishes)

Scott A. Schaefer

The family Astroblepidae is a group of distinctive Neotropical catfishes that live at moderate to high (to 3500 m) elevations. Most are of moderate to small size, typically less than 10 cm in length, but a few species can reach 30 cm or more as adults. Astroblepids can be recognized by the presence of a fleshy, suctorial mouth with expanded lips, naked body, and presence of a dorsal opening to the gill chamber between the dorsal opercle margin and ventral edge of the pterotic. Astroblepids have been classified either as a distinct family (Argiidae-- first recognized as distinct by Gill, 1872) or considered a degenerate (i.e., naked) subfamily of the Loricariidae (e.g., Regan, 1904; Gosline, 1947). One of the first classifications of catfishes (Swainson, 1838) placed the two astroblepid species known at that time in the subfamilies Pimelodinae and Aspredinae. Despite the fact that astroblepids share a number of specializations with the armored loricarioid catfishes (Callichthyidae, Scoloplacidae, Loricariidae), they are entirely devoid of bony dermal plates. The head is broad and depressed, the body is somewhat compressed and deep. The first unbranched ray of the dorsal, anal, pectoral and pelvic fins are thickened and robust, bearing enlarged odontodes, or dermal teeth; the first pelvic fin ray is greatly thickened; an adipose fin is present or absent, when present, an adipose spine is present or absent, often embedded within the fin. The dorsal fin is short, with 6 or 7 branched rays, the pectoral fin is broad, with 9-12 rays, the pelvic fin has 3 or 4 rays, the anal fin has 4-6 rays, and the caudal fin has 11 branched rays. The upper jaw is movably articulated with the skull, broad and flat, bearing several rows of teeth. Teeth vary in size and shape within an individual and include large, unicuspid teeth, both large and small symmetrically bifid teeth, and asymmetrically bifid teeth.

Astroblepids are unique among siluroids in a number of features. Most notable is the presence of a derived pelvic-fin musculature wherein the protractor ischii is completely separated from the hypaxialis muscle and developed as a pair of thin cords between the pectoral and pelvic-fin skeletons. Alternating contraction of the protractor and retractor ischii muscles, coupled with attachment via the suctorial mouth, gives astroblepids the capability of climbing vertical surfaces (Shelden, 1937). Astroblepids inhabit high elevation streams of the Andes from Panama, Colombia and Venezuela in the north to Bolivia in the south. Their distribution includes streams on both sides of the Andes draining into the Pacific Ocean, Caribbean Sea, and Amazon/Orinoco watersheds of the Atlantic Ocean. Two species, *Astroblepus pholeter* and *A. ribeirae*, inhabit caves and lack pigment; the former with minute eyes, and eyes completely absent in the latter species. There have been few reports of general biology and behavior. Males are sexually dimorphic, with an enlarged genital papilla and modified anal fin rays (Buitrago-Suárez and Galvis, 1997). Schaefer and Buitrago-Suárez (2002) discovered specialized skin surface features and a new type of odontode, or dermal tooth type, in three species.

Knowledge of the taxonomy, morphology, and ecology of astroblepids is rudimentary. Currently, one valid genus and 54 species are recognized. Most species are known only from their original description. Of these 54 nominal species, all but 4 were described before 1950 and 11 were described in the nineteenth century. As is typical of the taxonomic literature prior to the mid-twentieth century, these older descriptions are brief and often lack descriptive detail. At that time, most species were known only from a few specimens and, consequently, new species were often recognized without direct comparison to other species and on the basis of differences in proportional lengths of fins, head and body shape, and coloration. Many of these differences involve morphologies which are now known to be highly variable and considered of low systematic utility. There has been no attempt at review, reanalysis, and synthesis of astroblepid taxonomy since Regan (1904). Nevertheless, it seems reasonable to infer that astroblepid species-level taxonomy is over-split, and that once subjected to comprehensive revision, the number of valid astroblepid species will be considerably less than that recognized herein.

Astroblepids are not commercially important, not included among the ornamental fishes of the aquarium trade; however, some are consumed by locals.

ASTROBLEPUS

Astroblepus Humboldt, 1805a: 19. Type species: *Astroblepus grixalvii* Humboldt, 1805. Type by monotypy. Gender: masculine.

Cyclopium Swainson, 1838: 355. Type species: *Cyclopium humboldtii* Swainson, 1839. Type by monotypy. Gender: neuter. Genus dates to 1838, without species; species designated by Swainson (1839: 305).

Arges Valenciennes in Cuvier & Valenciennes, 1840: 333 [247 in Strasbourg deluxe ed.]. Type species: *Arges sabalo* Valenciennes, 1840. Type by monotypy. Gender: masculine.

Brontes Valenciennes in Cuvier & Valenciennes, 1840: 341 [254 in Strasbourg deluxe ed.]. Type species: *Brontes prenadilla* Valenciennes, 1840. Type by monotypy. Gender: masculine.

Strephon Gistel, 1848: VIII. Type species: *Brontes prenadilla* Valenciennes, 1840. Type by being a replacement name. Gender:

masculine. Replacement for *Brontes Valenciennes*, 1840, preoccupied by *Brontes Fabricius*, 1801 in Coleoptera, de Montfort, 1810 in Mollusca, and Goldfuss, 1839 in Trilobites.

Stygogenes Günther, 1864: 223. Type species: *Cyclopium humboldtii* Swainson, 1839. Type by subsequent designation of Jordan (1919: 332). Gender: masculine.

***Astroblepus boulengeri* (Regan, 1904)**

Arges boulengeri Regan, 1904: 310. Type locality: Canelos, Ecuador. Syntypes: BMNH 1890.6.13.12-13.

Maximum length: 7 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Ecuador

***Astroblepus brachycephalus* (Günther, 1859)**

Arges brachycephalus Günther, 1859: 92. Type locality: Andes of w. Ecuador. Syntypes: BMNH 1858.7.25.37-40.

Maximum length: 20 cm SL

Distribution: South America: Coastal Pacific drainages of Ecuador.

Countries: Ecuador

***Astroblepus caquetae* Fowler, 1943**

Astroblepus caquetae Fowler, 1943: 246, fig. 23-25. Type locality: Florencia, Río Ortegusa, Colombia. Holotype: ANSP 70506.

Maximum length: 7 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Colombia

***Astroblepus chapmani* (Eigenmann, 1912)**

Cyclopium chapmani Eigenmann, 1912: 13. Type locality: Boquia, Colombia. Holotype: FMNH 56071.

Maximum length: 8 cm SL

Distribution: South America: Magdalena River basin.

Countries: Colombia

***Astroblepus chimborazoi* (Fowler, 1915)**

Cyclopium chimborazoi Fowler, 1915: 241, fig. 11. Type locality: Junction of Chanchan and Chiguancay rivers. Province of Chimborazo, Ecuador. Holotype: ANSP 43523.

Maximum length: 2.5 cm SL

Distribution: South America: Pacific coastal drainages of Ecuador.

Countries: Ecuador

Remarks and references: Considered a junior synonym of *Astroblepus cyclopus* (Humboldt) by Gosline 1945: 114.

***Astroblepus chotae* (Regan, 1904)**

Arges chotae Regan, 1904: 313, pl. 21 (fig. 5). Type locality: Chota Valley, northern Ecuador. Holotype: BMNH 1898.11.4.22.

Maximum length: 10 cm TL

Distribution: South America: Pacific coastal drainages, Magdalena and Orinoco River basins.

Countries: Colombia, Ecuador, Peru, Venezuela

Common names: Baboso (Colombia)

***Astroblepus cirratus* (Regan, 1912)**

Arges cirratus Regan, 1912: 670. Type locality: Río Condoto, Río San Juan, S.W. Colombia. Holotype: BMNH 1912.3.2.7.

Maximum length: 3 cm SL

Distribution: South America: Pacific coastal drainage, San Juan River basin.

Countries: Colombia

***Astroblepus cyclopus* (Humboldt, 1805)**

Pimelodus cyclopus Humboldt, 1805b: 24, pl. 6. Type locality: Subterranean waters in Andes of Quito (basin of Río Esmeraldas), Ecuador.

Cyclopium humboldtii Swainson, 1839: 305. Type locality: ? No types known.

Stygogenes humboldtii Günther, 1864: 223. Type locality: No

locality. Syntypes: (4, missing) BMNH.

Maximum length: 3 cm SL

Distribution: South America: Esmeraldas River and Pacific coastal drainages of Ecuador.

Countries: Ecuador

Common names: Preñadilla (Ecuador)

***Astroblepus eigenmanni* (Regan, 1904)**

Arges eigenmanni Regan, 1904: 312, pl. 21 (fig. 3). Type locality: Cayambe and Machachi, Ecuador. Syntypes: BMNH 1892.5.14.1-8.

Maximum length: 10 cm SL

Distribution: South America: Pacific coastal drainages of Ecuador.

Countries: Ecuador

***Astroblepus festae* (Boulenger, 1898)**

Arges festae Boulenger, 1898: 9. Type locality: Vallée de Gualaquiza Equateur Oriental. Syntypes: BMNH 1898.11.4.23-29; MZUT 1486, 1497.

Maximum length: 10 cm SL

Distribution: South America: Upper Marañón River in southern Ecuador.

Countries: Ecuador

***Astroblepus fissidens* (Regan, 1904)**

Arges fissidens Regan, 1904: 316. Type locality: Andes of Ecuador. Syntypes: BMNH 1887.1.7.2, 1889.2.1.4397.

Maximum length: 9 cm SL

Distribution: South America: Andes of Ecuador.

Countries: Ecuador

***Astroblepus formosus* Fowler, 1945**

Astroblepus formosus Fowler, 1945: 10, fig. 1-2. Type locality: Acobamba, near Tarma, at 2900 meters elevation, Río Ucayali basin, Peru, Holotype: ANSP 71647.

Maximum length: 5 cm SL

Distribution: South America: Upper Ucayali River basin.

Countries: Peru

Common names: Bagre (Peru)

***Astroblepus frenatus* Eigenmann, 1918**

Astroblepus frenatus Eigenmann, 1918: 676. Type locality: Quebrada de San Joaquín, Santander, Colombia. Holotype: FMNH 58384.

Maximum length: 6 cm TL

Distribution: South America: Magdalena River basin.

Countries: Colombia

Common names: Baboso (Colombia)

***Astroblepus grixalvii* Humboldt, 1805**

Astroblepus grixalvii Humboldt, 1805a: 19, pl. 7. Type locality: Río Palacé, near Popayan, Colombia.

Maximum length: 30 cm SL

Distribution: South America: Magdalena River basin.

Countries: Colombia

Common names: El Capitan (Colombia), La Guapucha (Colombia), Pez negro (Colombia)

***Astroblepus guentheri* (Boulenger, 1887)**

Stygogenes guentheri Boulenger, 1887: 348. Type locality: Colombia. Syntypes: BMNH 1880.2.26.18-25.

Maximum length: 9 cm SL

Distribution: South America: Colombia.

Countries: Colombia

***Astroblepus heterodon* (Regan, 1908)**

Arges heterodon Regan, 1908: 799, pl. 49 (fig. 2, 2a&b). Type locality: Jimenez, western Colombia. Holotype: BMNH 1908.5.29.30.

Maximum length: 11 cm SL

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- Distribution: South America: Pacific coastal drainage of Colombia.
Countries: Colombia
- Astroblepus homodon* (Regan, 1904)**
Arges homodon Regan, 1904: 309, pl. 21 (fig. 1). Type locality: Villeta, Colombia, 3500 ft. Holotype: BMNH 1902.5.15.27.
Maximum length: 8 cm SL
Distribution: South America: Magdalena River basin.
Countries: Colombia
- Astroblepus jurubidae* Fowler, 1944**
Astroblepus jurubidae Fowler, 1944: 237, fig. 10-13. Type locality: Clear brook, tributary to Río Jurubidá, Colombia. Holotype: ANSP 71431.
Maximum length: 5 cm SL
Distribution: South America: Pacific coastal drainage of Colombia.
Countries: Colombia
- Astroblepus labialis* Pearson, 1937**
Astroblepus labialis Pearson, 1937: 95, pl. 13 (fig. 4). Type locality: Balsas, Peru. Syntypes: CAS 64617.
Maximum length: 7 cm SL
Distribution: South America: Marañón River basin.
Countries: Peru
- Astroblepus latidens* Eigenmann, 1918**
Astroblepus latidens Eigenmann, 1918: 674. Type locality: Pipe-
rel, Colombia. Holotype: FMNH 58366.
Maximum length: 8 cm SL
Distribution: South America: Upper Meta River basin.
Countries: Colombia
- Astroblepus longiceps* Pearson, 1924**
Astroblepus longiceps Pearson, 1924: 15, pl. 2 (fig. 5). Type locality: Río Colorado, Lower Bopi, Bolivia. Holotype: CAS 64618.
Maximum length: 6 cm SL
Distribution: South America: Upper Madeira River basin.
Countries: Bolivia, Peru
- Astroblepus longifilis* (Steindachner, 1882)**
Arges longifilis Steindachner, 1882: 177. Type locality: Río Huambo und de Tortora, Peru. Syntypes: NMW missing. Species described in more detail and illustrated in Steindachner (1882b).
Maximum length: 7 cm SL
Distribution: South America: Upper Huallaga River basin.
Countries: Peru
- Astroblepus mancoi* Eigenmann, 1928**
Astroblepus mancoi Eigenmann in Myers, 1928: 85. Type locality: Río Comerciato, Urubamba, Peru, 1800 feet. Syntypes: CAS 64620; MCZ 30969-70.
Maximum length: 8 cm SL
Distribution: South America: Upper Ucayali River basin.
Countries: Peru
- Astroblepus mariae* (Fowler, 1919)**
Cyclopium mariae Fowler, 1919: 125, pl. 8. Type locality: Brook near the small village of Choachi, 25 km east of Bogota, Colombia and at 1800 m. of altitude. Holotype: ANSP 49368.
Maximum length: 10 cm SL
Distribution: South America: Upper Meta River basin.
Countries: Colombia
- Astroblepus marmoratus* (Regan, 1904)**
Arges marmoratus Regan, 1904: 314, pl. 21 (fig. 6). Type locality: St. Augustin, Andes of Colombia, 5000 ft. Syntypes: BMNH 1899.8.21.10-11.
Maximum length: 7 cm SL
Distribution: South America: Upper Orinoco River basin.
Countries: Colombia
- Astroblepus micrescens* Eigenmann, 1918**
Astroblepus grixalvii micrescens Eigenmann, 1918: 677. Type locality: Quebrada de Agua Larga, w. slope of the e. Andes, north of Bogotá, Colombia. Holotype: FMNH 58376.
Maximum length: 9 cm SL
Distribution: South America: Upper Orinoco River basin.
Countries: Colombia
- Astroblepus mindoensis* (Regan, 1916)**
Cyclopium mindoense Regan, 1916: 80. Type locality: Mindo, western Ecuador. Holotype: BMNH 1916.8.1.1.
Maximum length: 7 cm SL
Distribution: South America: Pacific coastal drainage of Ecuador.
Countries: Ecuador
- Astroblepus nicefori* Myers, 1932**
Astroblepus nicefori Myers, 1932: 137. Type locality: Sonsón, Antioquia, Colombia. Holotype: SU 24796.
Maximum length: 7 cm SL
Distribution: South America: Magdalena River basin.
Countries: Colombia
- Astroblepus orientalis* (Boulenger, 1903)**
Arges orientalis Boulenger, 1903: 601. Type locality: Albirregas and Milla rivers above Merida, Venezuela, 3500 m. altitude. Syntypes: BMNH 1903.6.30.81-89, USNM 133142.
Maximum length: 8 cm SL
Distribution: South America: Lake Maracaibo drainage.
Countries: Venezuela
- Astroblepus peruanus* (Steindachner, 1876)**
Arges peruanus Steindachner, 1876: 601, pl. 9 (fig. 3-6). Type locality: Amable Maria, Peru. Syntypes: NMW 16974.
Maximum length: 6 cm SL
Distribution: South America: Upper Ucayali River basin.
Countries: Peru
- Astroblepus phelpsi* Schultz, 1944**
Astroblepus phelpsi Schultz, 1944: 283, pl. 7 (fig. D). Type locality: Río Cobre above its mouth near La Grita, tributary of Río Quinta, latter tributary to Río La Grita, Catatumbo system, Venezuela. Holotype: USNM 121126.
Maximum length: 7 cm SL
Distribution: South America: Lake Maracaibo drainage.
Countries: Venezuela
- Astroblepus pholeter* Collette, 1962**
Astroblepus pholeter Collette, 1962: 311, fig. 1-2. Type locality: Cave in Latas, 4 km north of Archidona, Napo Prov., eastern Ecuador. Holotype: USNM 196623.
Maximum length: 7 cm SL
Distribution: South America: Napo River basin.
Countries: Ecuador
- Astroblepus pirrensis* (Meek & Hildebrand, 1913)**
Cyclopium pirrense Meek & Hildebrand, 1913: 83. Type locality: Río Cana, Cana, Panama. Holotype: FMNH 7586.
Maximum length: 13 cm SL
Distribution: Central America: Cana River basin.
Countries: Panama
- Astroblepus praeliorum* Allen, 1942**
Astroblepus praeliorum Allen in Eigenmann & Allen, 1942: 169, pl. 13 (fig. 6-7). Type locality: Huancachupa Creek, Húanuco, Peru. Syntypes: CAS 7509, CAS 16114, CAS 16115, CAS 47068, CAS 47069.

Maximum length: 8 cm SL

Distribution: South America: Upper Marañón River basin.

Countries: Peru

***Astroblepus prenadillus* (Valenciennes, 1840)**

Brontes prenadilla Valenciennes, in Cuvier & Valenciennes, 1840: 343 [255 of the Strasbourg deluxe ed.], pl. 444-445. Type locality: Rivulets descending from Cotopaxi, Ecuador, elev. 5000 m. Syntypes: MNHN A.4227, 5164.

Maximum length: 20 cm SL

Distribution: South America: Andes of Ecuador.

Countries: Ecuador

***Astroblepus regani* (Pellegrin, 1909)**

Arges regani Pellegrin, 1909: 518. Type locality: Río Cariyacu, Ecuador, elev. 3100 m. Syntypes: MNHN 1903-108 to 110.

Maximum length: 16 cm SL

Distribution: South America: Mira River basin and Pacific coastal drainage of Ecuador.

Countries: Ecuador

***Astroblepus rengifoi* Dahl, 1960**

Astroblepus rengifoi Dahl, 1960: 459, fig. Type locality: small brook, tributary to the Atrato River on the left side, approx. 6 ks. [sic] above the town El Carmen de Atrato, Colombia. Holotype: unknown.

Maximum length: 5 cm SL

Distribution: South America: Atrato River basin.

Countries: Colombia

Common names: Capitán (Colombia)

***Astroblepus retopinnus* (Regan, 1908)**

Arges retopinna Regan, 1908: 800, pl. 48 (fig. 2). Type locality: Jimenez, western Colombia. Syntypes: BMNH 1908.5.29.81-82.

Maximum length: 7 cm SL

Distribution: South America: Dagua River basin and Pacific coastal drainage of Colombia.

Countries: Colombia

***Astroblepus riberae* Cardona & Guerao, 1994**

Astroblepus riberae Cardona & Guerao, 1994: 21, fig. Type locality: Cueva de Ninabamba, Peru, 06.33°S, 78.51°W. Holotype: UAB unnumbered.

Maximum length: 9 cm SL

Distribution: South America: Reque River basin and Pacific coastal drainage.

Countries: Peru

***Astroblepus rosei* Eigenmann, 1922**

Astroblepus rosei Eigenmann, 1922: 55. Type locality: Río Jequetepeque, Lllallán, Peru. Syntypes: CAS 64649, FMNH 58640.

Maximum length: 10 cm SL

Distribution: South America: Pacific coastal drainages of Cajamarca.

Countries: Peru

***Astroblepus sabalo* (Valenciennes, 1840)**

Arges sabalo Valenciennes, in Cuvier & Valenciennes, 1840: 335 [249 in Strasbourg deluxe ed.], pl. 444-445. Type locality: Río Apurimac, north of Cusco, Peru. Holotype: MNHN A.4226.

Distribution: South America: Upper Ucayali River basin.

Countries: Peru

***Astroblepus santanderensis* Eigenmann, 1918**

Astroblepus cyclopus santanderensis Eigenmann, 1918: 675. Type locality: Quebrada de Guapota, Colombia. Lectotype: FMNH 58433, designated by Henn (1928: 82).

Maximum length: 8 cm SL

Distribution: South America: Magdalena River basin.

Countries: Colombia

***Astroblepus simonsii* (Regan, 1904)**

Arges simonsii Regan, 1904: 317, pl. 21 (fig. 9). Type locality: Huaras, Peru, elev. 10700 ft. Syntypes: BMNH 1900.6.20.51-55.

Maximum length: 8 cm SL

Distribution: South America: Santa River basin and Pacific coastal drainages of Peru.

Countries: Peru

***Astroblepus stuebeli* (Wandolleck, 1916)**

Arges stuebeli Wandolleck, 1916: 158, fig. 1-4. Type locality: Lake Titicaca. Syntypes: MTD F977, MTD F4639-87.

Maximum length: 8 cm SL

Distribution: South America: Lake Titicaca basin.

Countries: Bolivia, Peru

***Astroblepus supramollis* Pearson, 1937**

Astroblepus supramollis Pearson, 1937: 94, pl. 13 (fig. 3). Type locality: Balsas, Peru. Syntypes: CAS 47012, 47015, 47022.

Maximum length: 8 cm SL

Distribution: South America: Marañón River basin.

Countries: Peru

***Astroblepus taczanowskii* (Boulenger, 1890)**

Arges taczanowskii Boulenger, 1890: 451, pl. 41 (fig. 1). Type locality: Amable Maria, Peruvian Andes. Holotype: BMNH 1875.10.14.19.

Maximum length: 8 cm SL

Distribution: South America: Upper Ucayali River basin.

Countries: Peru

***Astroblepus theresiae* (Steindachner, 1907)**

Arges theresiae Steindachner, 1907: 228. Type locality: Hohen Anden von Cayendelet. Syntypes: NMW 48091-92.

Maximum length: 8 cm SL

Distribution: South America: Pacific coastal drainage of Ecuador.

Countries: Ecuador

***Astroblepus trifasciatus* (Eigenmann, 1912)**

Cyclopium trifasciatum Eigenmann, 1912: 14. Type locality: Caldas, Colombia. Holotype: FMNH 56076.

Maximum length: 9 cm SL

Distribution: South America: Dagua River basin and Pacific coastal drainages of Colombia.

Countries: Colombia

***Astroblepus ubidiai* (Pellegrin, 1931)**

Cyclopium ubidiai Pellegrin, 1931: 114. Type locality: Lac St. Paul, near Otavalo, Imbabura Prov., Ecuador, elev. 2600 m. Syntypes: MNHN 1930-172 and 173.

Maximum length: 11 cm SL

Distribution: South America: Mira River basin and Pacific coastal drainages of Ecuador.

Countries: Ecuador

***Astroblepus unifasciatus* (Eigenmann, 1912)**

Cyclopium unifasciatum Eigenmann, 1912: 15. Type locality: Caldas, Colombia. Holotype: FMNH 56079.

Maximum length: 7 cm SL

Distribution: South America: Dagua River basin and Pacific coastal drainages of Colombia.

Countries: Colombia

***Astroblepus vaillanti* (Regan, 1904)**

Arges vaillanti Regan, 1904: 312. Type locality: Huamani Peak, Ecuador, elev. 10700 ft. Syntypes: BMNH 1897.2.16.2-4.

Maximum length: 10 cm SL

Distribution: South America: Pacific coastal drainages of Ecuador.

Countries: Ecuador

***Astroblepus vanceae* (Eigenmann, 1913)**

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Cyclopium vanceae Eigenmann, 1913: 421, pl. 32 (fig. 2). Type locality: Small stream in highlands, southeast of Tarma, Peru. Holotype: FMNH 56066.

Maximum length: 8 cm SL

Distribution: South America: Upper Ucayali River basin.

Countries: Peru

***Astroblepus ventralis* (Eigenmann, 1912)**

Cyclopium ventrale Eigenmann, 1912: 15. Type locality: Caldas, Colombia. Holotype: FMNH 56074.

Maximum length: 8 cm SL

Distribution: South America: Dagua River basin and Pacific coastal drainage of Colombia.

Countries: Colombia

***Astroblepus whymeri* (Boulenger, 1890)**

Arges whymeri Boulenger, 1890: 451, pl. 41 (fig. 2). Type locality: Milligalli, Andes of Ecuador. Holotype: BMNH 1887.1.7.1.

Maximum length: 9 cm SL

Distribution: South America: Esmeraldas River basin and Pacific coastal drainages of Ecuador.

Countries: Ecuador

References

- Boulenger, G.A. 1887. On new siluroid fishes from the Andes of Columbia. *Ann. Mag. Nat. Hist.* (Ser. 5), 19 (113): 348-350.
- Boulenger, G.A. 1890. Descriptions of two new species of the siluroid genus *Arges*. *Proc. Zool. Soc. London*, 1890 (3): 450-452, pl. 41.
- Boulenger, G.A. 1898. Viaggio del Dr. Enrico Festa nell' Ecuador e regioni vicine. Poissons de l'Équateur. [Part I]. *Boll. Mus. Zool. Anat. Comp. Torino*, 13 (329): 1-13.
- Boulenger, G.A. 1903. Description of a new fish of the genus *Arges* from Venezuela. *Ann. Mag. Nat. Hist.* (Ser. 7), 11 (66): 601-602.
- Buitrago-Suárez, U.A. and G. Galvis. 1997. Description of some accessory structures of the urogenital system in the Neotropical family Astroblepidae (Pisces, Siluroidei). *Rev. Acad. Col. Cienc.*, 21:347-352.
- Cardona, L. and G. Guerao. 1994. *Astroblepus riberae*, una nueva especie de siluriforme cavernícola del Perú (Osteichthyes: Astroblepidae). *Méms. Biospéléol.* (21): 21-24.
- Collette, B.B. 1962. *Astroblepus pholeter*, a new species of cave-dwelling catfish from eastern Ecuador. *Proc. Biol. Soc. Washington*, 75: 311-314.
- Cuvier, G. and A. Valenciennes. 1840. Histoire naturelle des poissons. Tome quinzième. Suite du livre dix-septième. Siluroïdes. Ch. Pitois & V.^c Levrault, Paris & Strasbourg. xxxi + 540 p., pls. 421-455.
- Dahl, G. 1960. New fresh-water fishes from western Colombia. *Caldasia*, 8 (39): 451-484.
- Eigenmann, C.H. 1912. Some results from an ichthyological reconnaissance of Colombia, South America. Part I. *Indiana Univ. Studies.* (16) [sic. 8]: 1-27.
- Eigenmann, C.H. 1913. On two new species of fishes collected by Miss Lola Vance in Peru. *Ann. Carnegie Mus.*, 8 (3/4): 421-422.
- Eigenmann, C.H. 1918. Eighteen new species of fishes from northwestern South America. *Proc. Am. Philos. Soc.*, 56 (7): 673-689.
- Eigenmann, C.H. 1922. The fishes of western South America, Part I. The fresh-water fishes of northwestern South America, including Colombia, Panama, and the Pacific slopes of Ecuador and Peru, together with an appendix upon the fishes of the Rio Meta in Colombia. *Mem. Carnegie Mus.*, 9 (1): 1-346, pls. 1-38.
- Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II. The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. *Univ. Kentucky.* xv + 494 p., 22 pl.
- Fowler, H.W. 1915. Notes on nematognathous fishes. *Proc. Acad. Nat. Sci. Philadelphia*, 67: 203-243.
- Fowler, H.W. 1919. A new siluroid fish of the genus *Cyclopium* from Colombia. *Proc. Acad. Nat. Sci. Philadelphia*, 71: 125-127, pl. 8.
- Fowler, H.W. 1943. A collection of fresh-water fishes from Colombia, obtained chiefly by Brother Nicéforo Maria. *Proc. Acad. Nat. Sci. Philadelphia*, 95: 223-266.
- Fowler, H.W. 1944. Fresh-water fishes from northwestern Colombia. *Proc. Acad. Nat. Sci. Philadelphia*, 96: 227-248.
- Fowler, H.W. 1945. Descriptions of seven new fresh-water fishes from Peru. *Not. Nat. (Philadelphia)* (159): 1-11.
- Gill, T. 1872. Arrangement of the families of fishes, or Classes Pisces, Marsipobranchii, and Leptocardi. *Smithsonian Contrib. Zool.*, (247):1-49.
- Gistel, J. 1848. *Naturgeschichte des Thierreichs, für höhere Schulen.* Stuttgart. xvi + 216 p., 32 pl.
- Gosline, W.A. 1945. Catálogo dos nematognatos de água-doce da América do sul e central. *Bol. Mus. Nac. Rio de Janeiro, Zool.*, 33: 1-138.
- Gosline, W.A. 1947. Contributions to the classification of the loricariid catfishes. *Arq. Mus. Nac.*, 41:79-134.
- Günther, A. 1859. List of the cold-blooded vertebrata collected by Mr. Fraser in the Andes of western Ecuador. *Proc. Zool. Soc. London*, 1859 (1): 89-93.
- Günther, A. 1864. Catalogue of the fishes in the British Museum, vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiidae in the collection of the British Museum. Trustees, London. xxii + 455 p.
- Henn, A.W. 1928. List of types of fishes in the collection of the Carnegie Museum on September 1, 1928. *Ann. Carnegie Mus.*, 19 (4): 51-99.
- Humboldt, F.H.A. von. 1805a. Mémoire sur l'*Eremophilus* et *Astroblepus*, deux nouveaux genres de l'ordre des apodes. p. 17-20, pls. 6-7. In: *Voyage de Humboldt et Bonpland, Deuxième partie. Observations de Zoologie et d'Anatomie comparée.* Paris.
- Humboldt, F.H.A. von. 1805b. Mémoire sur une nouvelle espèce de pimelode, jetée par les volcans du Royaume de Quito, p. 21-25, pl. 7. In: *Voyage de Humboldt et Bonpland, Deuxième partie. Observations de Zoologie et d'Anatomie comparée.* Paris.
- Meek, S.E. and S.F. Hildebrand. 1913. New species of fishes from Panama. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 10 (8): 77-91.
- Myers, G.S. 1928. New fresh-water fishes from Peru, Venezuela, and Brazil. *Ann. Mag. Nat. Hist.* (Ser. 10), 2 (7): 83-90.
- Myers, G.S. 1932. Notes on Colombian fresh-water fishes, with description of a new *Astroblepus*. *Copeia*, 1932 (3): 137-138.
- Orton, J. 1871. Contributions to the natural history of the Valley of Quito. McCalla & Stavely, Phila.
- Pearson, N.E. 1924. The fishes of the eastern slope of the Andes. I. The fishes of the Rio Beni basin, Bolivia, collected by the Mulford expedition. *Indiana Univ. Studies*, 11 (64): 1-83, pls. 1-12.
- Pearson, N.E. 1937. The fishes of the Atlantic and Pacific slopes near Cajamarca, Peru. *Proc. California Acad. Sci.* (Ser. 4), 23 (7): 87-98, pls. 12-13.
- Pellegrin, J. 1909. Mission géodésique de l'Équateur. Collections recueillies par M. le Dr. Rivet. Description de deux poissons nouveaux de la famille des Loricariidae. *Bull. Mus. Natl. Hist. Nat.*, 15 (8): 517-519.
- Pellegrin, J. 1931. Description d'un poisson nouveau de l'Equateur appartenant à la famille des Loricariidés. *Rev. Suisse Zool.*, 38 (8): 113-115.
- Regan, C.T. 1904. A monograph of the fishes of the family Loricariidae. *Trans. Zool. Soc. London*, 17 (3, no. 1): 191-350, pls. 9-21.

Check List of the Freshwater Fishes of South and Central America

- Regan, C.T. 1908. Descriptions of new loricariid fishes from South America. Proc. Zool. Soc. London, 1907 (4): 795-800, pls. 47-49.
- Regan, C.T. 1912. Descriptions of new fishes of the family Loricariidae in the British Museum Collection. Proc. Zool. Soc. London, 1912 (3): 666-670, pls. 75-77.
- Regan, C.T. 1916. A new loricariid fish of the genus *Cyclopium* from Ecuador. Ann. Mag. Nat. Hist. (Ser. 8), 18 (103): 80.
- Schaefer, S.A. and U. Buitrago-Suaréz. 2002. Odontode morphology and skin surface features of Andean astrolepid catfishes (Siluriformes, Astrolepididae). J. Morphol., 254: 139-148.
- Schultz, L.P. 1944. The catfishes of Venezuela, with descriptions of thirty-eight new forms. Proc. U. S. Natl. Mus., 94 (3172): 173-338, pls. 1-14.
- Shelden, F.F. 1937. Osteology, myology, and probable evolution of the nematognath pelvic girdle. Ann. N.Y. Acad. Sci., 37:1-96
- Steindachner, F. 1876. Ichthyologische Beiträge. IV. Sitzungsber. Akad. Wiss. Wien, 72: 551-616, pl. 1-13.
- Steindachner, F. 1882a. Beiträge zur Kenntniss der Flussfische Südamerikas (IV). Anz. Akad. Wiss. Wien, 19 (19): 175-180.
- Steindachner, F. 1882b. Beiträge zur Kenntniss der Flussfische Südamerikas. IV. Denkschr. Akad. Wiss. Wien, 46 (for 1883): 1-44, pls. 1-7.
- Steindachner, F. 1907. Ueber eine neue *Arges*-Art aus den Hohen Anden von Cayendelet *Arges theresiae*, n. sp. Anz. Akad. Wiss. Wien, 44 (12): 228-229.
- Swainson, W. 1838. The natural history and classification of fishes, amphibians, & reptiles, or monocardian animals. Vol. 1. London. vi + 368 p.
- Swainson, W. 1839. The natural history and classification of fishes, amphibians, & reptiles, or monocardian animals. Vol. 2. London. vi + 448.
- Wandolleck, B. 1916. *Arges stübeli* n. sp. Zool. Anz., 47: 158-162.

Family Loricariidae (Armored catfishes)

The armored catfish family Loricariidae is the largest family of catfishes in the Neotropics and, indeed, in the world. At present, 683 species are recognized as valid and more are described every year. Loricariids are distributed throughout most of the Neotropics, extending from Costa Rica in the north to Argentina in the south. The vast majority of species are found on the eastern side of the Andes, but several species are restricted to the western slopes of that mountain range.

Six subfamilies of the Loricariidae are recognized here: Ancistrinae (217 species), Hypoptopomatinae (79 species), Hypostominae (169 species), Lithogeneinae (1 species), Loricariinae (209 species), and Neoplecostominae (7 species). The subfamily-level classification presented here closely follows that of Isbrücker (1980), with a few modifications. The monophyly of some of the currently recognized subfamilies is under study at present and limits of one or more of the subfamilies presented here are likely to be changed in the future.

The loricariid subfamilies and summary accounts for each are presented below with separate authorship (except for the monotypic Lithogeneinae, which is presented here along with one species that cannot currently be assigned to any of the subfamilies).

SPECIES INCERTAE SEDIS IN LORICARIIDAE

Ancistrus salgadae Fowler, 1941

Ancistrus salgadae Fowler 1941: 154. Fig. 57. Type locality: Rio Salgado, Icó, Ceará; eastern Brazil [6°25'S, 38°50'W]. Holotype: ANSP 69440

Maximum length: 2 cm SL

Distribution: South America: Jaguaribe River basin.

Countries: Brazil

Remarks and references: Juvenile, identification uncertain (examined by S. Fisch-Muller). Details of type locality in Isbrücker (1980:56).

References

- Fowler, H.W. 1941. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. Proc. Acad. Nat. Sci. Philadelphia, 93: 123-199.
- Isbrücker, I.J.H. 1980. Classification and catalogue of the mailed Loricariidae (Pisces, Siluriformes). Versl. Tech. Gegevens No. 22: 1-181

Subfamily Lithogeneinae

Lithogenes villosus Eigenmann, 1909

Lithogenes villosus Eigenmann 1909: 6. Type locality: Aruataima Falls, Upper Potaro. [British Guiana]. Holotype: FMNH 52960 [ex CM 1002].

Maximum length: 4.4 cm SL

Distribution: South America: Essequibo River basin, Potaro River.

Countries: Guyana

References

- Eigenmann, C.H. 1909. Reports on the expedition to British Guiana of the Indiana University and the Carnegie Museum, 1908. Report no. 1. Some new genera and species of fishes from British Guiana. Ann. Carnegie Mus. 6 (1): 4-54.

Subfamily Neoplecostominae (Armored catfishes)

Carl J. Ferraris, Jr.

The Neoplecostominae was originally proposed by Regan (1904) for what was then considered to be a single species of armored catfish that did not fit into any of the existing subfamilies and, according to Regan, was a loricariid that was most closely related to the Astroblepidae. Currently, seven species are recognized within one genus in this subfamily.

Neoplecostomines are apparently restricted to the rivers of Southeastern Brazil. One species, *Neoplecostomus granosus*, was reported in its original description to have come from French Guiana, but Langeani (1990) questioned the validity of that claim, and no specimens of that species have been captured subsequently (Le Bail et al., 2000).

Species of *Neoplecostomus* are poorly known and little has been written on the species beyond their descriptions. Because nearly all of the known species were discovered within the past 15 years, it is likely that there are additional species that have yet to be collected or studied.

NEOPLECOSTOMUS

Neoplecostomus Eigenmann & Eigenmann, 1888: 171. Type species: *Plecostomus microps* Steindachner, 1877. Type by original designation. Gender: masculine.

Neoplecostomus espiritosantensis Langeani, 1990

Neoplecostomus espiritosantensis Langeani, 1990: 16, fig. 3. Type locality: rio Jacu (braço sul), Vitor Hugo, Mun. de Domingos Martins, ES [Brazil]. Holotype: MZUSP 38573.

Maximum length: 10.3 cm SL

Distribution: South America: Jacu and São Lourenço River basins, eastern slope of Serra do Mar.

Countries: Brazil

Neoplecostomus franciscoensis Langeani, 1990

Neoplecostomus franciscoensis Langeani, 1990: 22, fig. 5. Type locality: riacho afluente do córrego da Mutuca, à direita da estrada Belo Horizonte-Nova Lima, Km 20, MG, 20°06'S, 43°55'W [Brazil]. Holotype: MZUSP 38577.

Maximum length: 7.5 cm SL

Distribution: South America: Headwaters of Das Velhas and Paraopeba River basins, São Francisco River drainage.

Countries: Brazil

Neoplecostomus granosus (Valenciennes, 1840)

Hypostomus granosus Valenciennes in Cuvier & Valenciennes, 1840: 502 [371 in Strasbourg deluxe ed.]. Type locality: Cayenne [French Guiana]; Brésil, Rio de Janeiro [both localities apparently in error (Langeani, 1990)]. Syntypes: MNHN B.597 (6), MNHN B.598 (5), MNHN 9566 (3).

Maximum length: 8.6 cm SL

Distribution: South America: Southeastern Brazil (?).

Countries: Brazil (?)

Neoplecostomus microps (Steindachner, 1877)

Plecostomus microps Steindachner, 1877: 688, pl. 13. Type locality: der Umgebung von Rio Janeiro [Brazil]. Lectotype: NMW 45337.1, designated by Langeani (1990: 8).

Maximum length: 10.2 cm SL

Distribution: South America: Paraíba do Sul River basin.

Countries: Brazil

Neoplecostomus paranensis Langeani, 1990

Neoplecostomus paranensis Langeani, 1990: 12, figs. 2, 6. Type locality: Rio Cubatão, Faz. Santa Carlota, Cajuru, SP [Brazil]. Holotype: MZUSP 38572.

Maximum length: 9.3 cm SL

Distribution: South America: Upper Paraná River basin.

Countries: Brazil

Neoplecostomus ribeirensis Langeani, 1990

Neoplecostomus ribeirensis Langeani, 1990: 19, fig. 4. Type locality: riacho afluente do rio Bananal, km 7 da rodovia Biguá-Iguape (SP-222), SP [Brazil]. Holotype: MZUSP 38576.

Maximum length: 9 cm SL

Distribution: South America: Ribeira de Iguape River basin.

Countries: Brazil

Neoplecostomus variipictus Bizerril, 1995

Neoplecostomus variipictus Bizerril, 1995: 695, figs. 1-2. Type locality: rio Santo Antônio, tributário do rio Bengala, bacia do rio Paraíba do Sul, Firburgo, RJ [Brazil]. Holotype: MNRJ 12806.

Maximum length: 9 cm SL

Distribution: South America: Paraíba do Sul River basin.

Countries: Brazil

References

- Bizerril, C.R.S.F. 1995. Descrição de uma nova espécie de *Neoplecostomus* (Loricariidae, Neoplecostominae), com uma sinópsese da composição taxonômica dos Loricariidae no leste Brasileiro. Arq. Biol. Tecnol. 38(3): 693-704.
- Cuvier, G. and A. Valenciennes. 1840. Histoire naturelle des poissons. Tome quinzisième. Suite du livre dix-septième. Siluroïdes. Ch. Pitois & V. Levrault, Paris & Strasbourg. xxxi + 540, pls. 421-455.
- Eigenmann, C.H. and R.S. Eigenmann. 1888. Preliminary notes on South American Nematognathi. I. Proc. California Acad. Sci. (Ser. 2), 1 (2): 119-172.
- Langeani, F. 1990. Revisão do gênero *Neoplecostomus*, com a descrição de quatro espécies novas do sudeste brasileiro (Ostariophysi, Siluriformes, Loricariidae). Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre, 3 (1): 3-31.
- Le Bail, P.-Y., P. Keith and P. Planquette. 2000. Atlas des poissons d'eau douce de Guyane, vol. 2, part 2: Siluriformes. Patrimoines naturels (MNHN/SPN), 43(2):1-307.

Check List of the Freshwater Fishes of South and Central America

Regan, C.T. 1904. A monograph of the fishes of the family Loricariidae. Trans.Zool. Soc. London, 17(pt. 3, no. 1):191-324, pls. 9-21.

Steindachner, F. 1877. Die Süßwasserfische des südöstlichen Brasilien (III). Sitzungsber. Akad. Wiss. Wien, 74: 559-694, pls. 1-13.

Subfamily Hypoptopomatinae (Armored catfishes)

Scott A. Schaefer

The Hypoptopomatinae is a monophyletic subfamily of the family Loricariidae comprised of 16 genera and 79 species. Among loricariids, they are perhaps the most recognizable and distinctive assemblage of species. They are distributed widely throughout lowland cis-Andean South America from Venezuela to northern Argentina and occur in small to moderate-sized streams and rivers. Most species are relatively small as adults, ranging in size from 20-35 mm SL. Like other members of the family, hypoptopomatines are encased in dermal plates. These plates, and the dermal bones of the head and fin rays, bear numerous odontodes, or dermal teeth. The mouth is surrounded by expanded fleshy lips forming a suction mouth. Hypoptopomatines are distinguished from all other loricariids by the morphology of the pectoral fin skeleton, wherein the bones bear laminar extensions on their ventral surface that largely or entirely cover the fossae for the arrector muscles. The ventral surface of the pectoral fin skeleton is covered by thin skin and usually bears numerous odontodes, such that the bone appears to be exposed on the ventral surface. In contrast, the pectoral fin skeleton is covered ventrally by thick skin and/or dermal plates in all other Loricariidae, the bones of the pectoral fin skeleton lack the ventral laminar extensions and, consequently, the arrector fossae are not covered or occluded. Body shape of hypoptopomatines is quite variable among genera. The body is short and head deep in species of *Otocinclus* and *Hisonotus*, for example, whereas the body is elongate and the head is depressed in species of *Hypoptopoma* and *Oxyropsis*. The trunk is depressed and extremely narrow in species of *Oxyropsis* and *Niobichthys*, yielding the “whip-tail” morphology that is apparently independently derived and ubiquitous among members of the subfamily Loricariinae. The first unbranched ray of the dorsal, anal, pectoral and pelvic fins are thickened and robust, bearing enlarged odontodes. An adipose fin may be present or absent. The dorsal fin has 7 branched rays and sometimes a small spinelet and corresponding mechanism for locking the dorsal spine in an erect position, the pectoral fin has 6 rays, the pelvic fin has 4 rays, the anal fin has 4-5 rays, and the caudal fin has 12 or 14 branched rays. Jaw teeth occur in a single emergent (functional) row and several pre-emergent (non functional) rows below the skin within the cup-shaped jaw element. Teeth are asymmetrically bifid, the larger cusp is spatulate, never spoon-shaped or greatly enlarged. A few species also have accessory conical teeth (Reis & Schaefer, 1992).

Hypoptopomatines are mostly herbivorous and are typically diurnal in habits. Most hypoptopomatines are usually found at or near the water surface, typically in close association with marginal vegetation or subsurface structure. The fishes can often be observed clinging to the vegetation by clasping stems and leaf blades between the pelvic fins. The first unbranched ray of the pelvic fin is thickened and, along with the plates of the rostrum margin, bear numerous enlarged odontodes. Males of *Otocinclus* have a patch of odontodes near the caudal fin base which may function in adhesion during spawning and courtship (Aquino, 1994). The abundant odontode covering on the ventral body surfaces of hypoptopomatines may offer increased frictional surfaces relevant to ventral adhesion and attachment behaviors in high water velocities (Alexander, 1965; Macdonnell & Blake, 1990). Males are typically smaller than females and possess several sexual dimorphisms (Isbrucker & Nijssen, 1992; Aquino, 1994).

Among the subfamilies of the Loricariidae, the status of the taxonomy of the Hypoptopomatinae is the most current and comprehensive. The first major revisionary study of a hypoptopomatine was of *Parotocinclus* by Garavello (1977). Of the 16 genera currently recognized in the subfamily, four (*Acestridium*, *Otocinclus*, *Otothyris*, *Oxyropsis*) have been the subject of a thorough taxonomic revision within the last ten years, while during that same interval, 5 new genera (*Corumbataia*, *Epacionotus*, *Eurycheilichthys*, *Nannoptopoma*, *Niobichthys*) and 21 new species have been described. Revisions of *Hypoptopoma*, *Hisonotus*, and *Microlepidogaster* are in progress; once completed, all of the more speciose generic-level taxa within the Hypoptopomatinae will have been recently revised.

ACESTRIDIUM

Acestridium Haseman, 1911: 319. Type species: *Acestridium discus* Haseman, 1911. Type by monotypy. Gender: neuter.

Acestridium dichromum Retzer, Nico & Provenzano, 1999

Acestridium dichromum Retzer, Nico & Provenzano, 1999: 316, fig. 3(a-c). Type locality: Pozo Lucas, tributary of Río Orinoco, 7 km south of San Fernando de Atabapo, 4°02'N, 67°42'W, Amazonas State, Venezuela. Holotype: MBUCV-V-26780.

Maximum length: 6.3 cm SL

Distribution: South America: Upper Orinoco and Negro River basins.

Countries: Venezuela

Acestridium discus Haseman, 1911

Acestridium discus Haseman, 1911: 319, pls. 50 (fig. 1), 51. Type locality: Igarapé de Cachoeira Grande, near Manaus, Brazil. Holotype: FMNH 54339 [ex CM 2985].

Maximum length: 6.7 cm SL

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Distribution: South America: Lower Negro River basin.

Countries: Brazil

Acestridium martini Retzer, Nico & Provenzano, 1999

Acestridium martini Retzer, Nico & Provenzano, 1999: 318, fig. 3(d-f). Type locality: Caño Pozo Azul, tributary of Río Orinoco, near Balneario Pozo Azul, 5°45'49"N, 67°29'21"W, Amazonas State, Venezuela, elev. 75 m. Holotype: MCNG 36484.

Maximum length: 6.7 cm SL

Distribution: South America: Upper Orinoco and Negro River basins.

Countries: Venezuela

CORUMBATAIA

Corumbataia Britski, 1997:231. Type species: *Corumbataia cuestae* Britski, 1997. Type by original designation. Gender: feminine.

Corumbataia cuestae Britski, 1997

Corumbataia cuestae Britski, 1997: 234, fig. 3. Type locality: Cachoeira de Analândia, rio Corumbataí, Analândia, SP, Brazil. Holotype: MZUSP 51222.

Maximum length: 3.3 cm SL

Distribution: South America: Tietê River basin.

Countries: Brazil

Corumbataia tocantinensis Britski, 1997

Corumbataia tocantinensis Britski, 1997: 237, fig. 4. Type locality: rio Vermelho, Goiás, GO, Brazil. Holotype: MZUSP 51223.

Maximum length: 3.8 cm SL

Distribution: South America: Araguaia and Tocantins River basins.

Countries: Brazil

EPACTIONOTUS

Epactionotus Reis & Schaefer, 1998: 4. Type species: *Epactionotus bilineatus* Reis & Schaefer, 1998. Type by original designation. Gender: masculine.

Epactionotus bilineatus Reis & Schaefer, 1998

Epactionotus bilineatus Reis & Schaefer, 1998: 5, fig. 3. Type locality: Mouth of arroio do Ouro, which flows into rio Maquiné, between Barra do Ouro and Maquiné, 29°35'S, 50°17'W, Rio Grande do Sul State, Brazil. Holotype: MCP 20279.

Maximum length: 4 cm SL

Distribution: South America: Maquiné and Três Forquilhas River basins.

Countries: Brazil

Epactionotus gracilis Reis & Schaefer, 1998

Epactionotus gracilis Reis & Schaefer, 1998: 12, fig. 6. Type locality: Rio Jordão at Jordão Alto, 28°36'S, 49°29'W, Nova Veneza, Santa Catarina State, Brazil. Holotype: MCP 20282.

Maximum length: 3.9 cm SL

Distribution: South America: Araranguá River basin.

Countries: Brazil

Epactionotus itaimbezinho Reis & Schaefer, 1998

Epactionotus itaimbezinho Reis & Schaefer, 1998: 9, fig. 5. Type locality: Rio Canoas, tributary of rio Mampituba, ca. 8 km from Praia Grande in the direction of Mãe dos Homens, 29°14'S, 50°01'W, Rio Grande do Sul, Brazil. Holotype: MCP 20281.

Maximum length: 3.8 cm SL

Distribution: South America: Mampituba River basin.

Countries: Brazil

EURYPHEILICHTHYS

Eurycheilus Reis & Schaefer, 1992: 216. Type species: *Eurycheilus pantherinus* Reis & Schaefer, 1992. Type by monotypy. Gender:

masculine. Preoccupied by *Eurycheilus* Septfontaine, 1970, in fossil cephalopods, replaced by *Eurycheilichthys* Reis & Schaefer, 1993.

Eurycheilichthys Reis & Schaefer, 1993: 894. Type species: *Eurycheilus pantherinus* Reis & Schaefer, 1992. Type by being a replacement name. Gender: masculine. Replacement for *Eurycheilus* Reis & Schaefer, 1992, preoccupied by *Eurycheilus* Septfontaine, 1970, in fossil cephalopods.

Eurycheilichthys limulus Reis & Schaefer, 1998

Eurycheilichthys limulus Reis & Schaefer, 1998: 15, fig. 7. Type locality: Rio Jacuí on road RS-010, between Marau and Passo Fundo, 28°18'S, 52°18'W, Rio Grande do Sul State, Brazil. Holotype: MCP 20283.

Maximum length: 4.8 cm SL

Distribution: South America: Upper Jacuí River basin.

Countries: Brazil

Eurycheilichthys pantherinus (Reis & Schaefer, 1992)

Eurycheilus pantherinus Reis & Schaefer, 1992: 217, figs. 1-5. Type locality: Brazil: Rio Grande do Sul, creek tributary of rio dos Touros, at road from Silveira to Rondinha, Bom Jesus, approx. 28°42'S, 50°10'W. Holotype: MCP 13077.

Maximum length: 4.2 cm SL

Distribution: South America: Upper and middle Uruguay River basin.

Countries: Brazil

HISONOTUS

Hisonotus Eigenmann & Eigenmann, 1889b: 40. Type species: *Hisonotus notatus* Eigenmann & Eigenmann, 1889. Type by original designation. Gender: masculine.

Hisonotus depressicauda (Miranda Ribeiro, 1918)

Otocinclus depressicauda Miranda Ribeiro, 1918: 635. Type locality: Sorocaba [Paraná River, Estado de São Paulo, Brazil]. Lectotype: MZUSP 1004, designated by Britski (1969: 208).

Maximum length: 5 cm SL

Distribution: South America: Tietê River basin.

Countries: Brazil

Hisonotus depressinotus (Miranda Ribeiro, 1918)

Microlepidogaster depressinotus Miranda Ribeiro, 1918: 633. Type locality: Piracicaba [Estado de São Paulo, Brazil]. Holotype: MZUSP 2156.

Maximum length: 3 cm SL

Distribution: South America: Tietê River basin.

Countries: Brazil

Hisonotus francirochai (Ihering, 1928)

Otocinclus francirochai Ihering, 1928: 2, fig. 1. Type locality: Creeks by Pirangy, headwaters of the rio Turvo, Brazil. Lectotype: MZUSP 3258, designated by Britski (1969: 209).

Maximum length: 3.6 cm SL

Distribution: South America: Grande River basin.

Countries: Brazil

Hisonotus laevior Cope, 1894

Hisonotus laevior Cope, 1894: 95, pl. 8 [7] (figs. 12, 12a-b). Type locality: Rio Jacuhy, Rio Grande do Sul, Brazil. Holotype: ANSP 21563.

Maximum length: 5 cm SL

Distribution: South America: Jacuí River basin.

Countries: Brazil

Hisonotus leptochilus Cope, 1894

Hisonotus leptochilus Cope, 1894: 96, pl. 8 [7] (figs. 11 a-b). Type locality: Rio Grande do Sul, Brazil. Holotype: ANSP 21564.

Maximum length: 4 cm SL

Distribution: South America: Jacuí River basin.

Countries: Brazil

Hisonotus leucofrenatus (Miranda Ribeiro, 1908)

Otocinclus leucofrenatus Miranda Ribeiro, 1908: [2]. Type locality: Rio das Pedras [Ribeira de Iguape River basin, Brazil]. No types known.

Maximum length: 6 cm SL

Distribution: South America: Ribeira de Iguape River basin.

Countries: Brazil

Hisonotus maculipinnis (Regan, 1912)

Otocinclus maculipinnis Regan, 1912: 668, pl. 77 (fig. 3). Type locality: Rio de la Plata, South America. Syntypes: BMNH 1909.4.2.19-22.

Maximum length: 4 cm SL

Distribution: South America: Paraná/Paraguay and La Plata River basins.

Countries: Argentina

Hisonotus nigricauda (Boulenger, 1891)

Otocinclus nigricauda Boulenger, 1891: 234, pl. 25 (fig. 3). Type locality: Rio Grande do Sul, Brazil. Syntypes: BMNH 1891.3.16.53-62.

Maximum length: 5 cm SL

Distribution: South America: Paraná/Paraguay River basin.

Countries: Brazil

Hisonotus notatus Eigenmann & Eigenmann, 1889

Hisonotus notatus Eigenmann & Eigenmann, 1889b: 41. Type locality: Brazil [Stated "Santa Cruz and Juiz de Fora"]. Syntypes: MCZ 7764, 8177; ANSP 166924.

Hisonotus minutus Eigenmann & Eigenmann, 1890: 391. Type locality: Apparently a lapsus under *Hisonotus notatus* for *notatus* (Isbrücker 1980: 84, Schaefer 1996: 1034).

Maximum length: 4 cm TL

Distribution: South America: Southeastern Brazil.

Countries: Brazil

Hisonotus paulinus (Regan, 1908)

Otocinclus paulinus Regan, 1908: 799, fig. 208. Type locality: Rio Piracicaba, San Paulo, Brazil. Holotype: BMNH 1907.7.6.9.

Maximum length: 4 cm SL

Distribution: South America: Tietê River basin.

Countries: Brazil

Hisonotus ringueleti Aquino, Schaefer & Miquelarena, 2001

Hisonotus ringueleti Aquino, Schaefer & Miquelarena, 2001: 3, fig. 1. Type locality: Uruguay, Rivera State, upper Uruguay River drainage, Quaraf River drainage, creek at Km 18 of route joining Santa do Livramento, Brazil, and Rivera, Uruguay; close to border (ca. 31°00'S, 55°30'W). Holotype: ILPLA 886.

Maximum length: 3.9 cm SL

Distribution: South America: Upper Uruguay River basin.

Countries: Uruguay

Hisonotus taimensis (Buckup, 1981)

Microlepidogaster taimensis Buckup, 1981: 22, figs. 1-7. Type locality: Novo canal do Arroio Taim, Estação Ecológica do Taim, Rio Grande do Sul, Brazil. Holotype: MZUSP 14133.

Maximum length: 6.6 cm SL

Distribution: South America: Mirim Lagoon drainage.

Countries: Brazil

HYPOPTOPOMA

Hypoptopoma Günther, 1868a: 477. Type species: *Hypoptopoma thoracatum* Günther, 1868. Type by monotypy. Gender: neuter.

Aristommata Holmberg, 1893: 96. Type species: *Aristommata inexpectata* Holmberg, 1893. Type by monotypy. Gender: feminine.

Diapeltoplites Fowler, 1915: 237. Type species: *Hypoptopoma gulare* Cope, 1878. Type by original designation. Gender: masculine.

Hypoptopoma bilobatum Cope, 1870

Hypoptopoma bilobatum Cope, 1870: 566. Type locality: Pebas, Ecuador [=Peru]. Syntypes: ANSP 8280-81.

Maximum length: 6 cm SL

Distribution: South America: Amazon River basin.

Countries: Peru

Hypoptopoma guianense Boeseman, 1974

Hypoptopoma guianense Boeseman, 1974: 259, fig. 1; pl. 1. Type locality: Left tributary of the Nickerie River, a few km upstream from the Stondansi Falls, Surinam. Holotype: RMNH 26919.

Maximum length: 6.2 cm SL

Distribution: South America: Nickerie River basin.

Countries: Suriname

Hypoptopoma gulare Cope, 1878

Hypoptopoma gulare Cope, 1878: 679. Type locality: Peruvian Amazon. Holotype: ANSP 21477.

Maximum length: 10.5 cm SL

Distribution: South America: Amazon River basin.

Countries: Peru, Venezuela

Hypoptopoma inexpectatum (Holmberg, 1893)

Aristommata inexpectata Holmberg, 1893: 90, 354. Type locality: Río Paraguay, Formosa Prov., Argentina. Holotype: MACN 5164.

Hypoptopoma guentheri Boulenger, 1895: 526. Type locality: Descalvados, Mato Grosso [Brazil]. Syntypes: BMNH 1895.5.17.77-82.

Maximum length: 7.1 cm SL

Distribution: South America: Paraná/Paraguay River basin.

Countries: Argentina, Brazil, Paraguay

Hypoptopoma joberti (Vaillant, 1880)

Otocinclus joberti Vaillant, 1880: 147. Type locality: Calderon, Brésil. Holotype: MNHN A.1966.

Maximum length: 8 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

Hypoptopoma psilogaster Fowler, 1915

Hypoptopoma psilogaster Fowler, 1915: 235, fig. 9. Type locality: Peruvian Amazon. Holotype: ANSP 21922.

Maximum length: 7 cm SL

Distribution: South America: Amazon River basin.

Countries: Colombia, Peru

Hypoptopoma steindachneri Boulenger, 1895

Hypoptopoma steindachneri Boulenger, 1895: 526. Type locality: Amazonenstromen zunächst der mündung des Rio Negro. Holotype: NMW 46272.

Maximum length: 10 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Colombia, Peru

Hypoptopoma thoracatum Günther, 1868

Hypoptopoma thoracatum Günther, 1868a: 477. Type locality: Xeberos [upper Amazon River, Peru]. Holotype: BMNH 1867.6.13.38. Redescribed and illustrated in Günther (1868b: 234, fig. 2).

Maximum length: 8 cm TL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil, Colombia, Peru

MICROLEPIDOGASTER

Microlepidogaster Eigenmann & Eigenmann, 1889a: 8. Type species: *Microlepidogaster perforatus* Eigenmann & Eigenmann, 1889. Type by original designation. Gender: feminine.

***Microlepidogaster perforatus* Eigenmann & Eigenmann, 1889**

Microlepidogaster perforatus Eigenmann & Eigenmann, 1889a: 9. Type locality: Rio Carandahy, Brazil. Holotype: MCZ 8181 [incorrectly published as 8182].

Maximum length: 5 cm SL

Distribution: South America: Carandaí River in upper Paraná River basin.

Countries: Brazil

NANNOPTOPOMA

Nannoptopoma Schaefer, 1996a: 915. Type species: *Nannoptopoma spectabilis* Eigenmann, 1914. Type by original designation. Gender: neuter.

***Nannoptopoma spectabile* (Eigenmann, 1914)**

Otocinclus spectabilis Eigenmann, 1914: 229. Type locality: Quebrada Cramalote, 4°07'N, 73°36'W, Dpto. Meta, Villavicencio, Colombia. Holotype: CAS 33806 [ex IU 13253a].

Maximum length: 2.9 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Colombia

***Nannoptopoma sternoptychum* Schaefer, 1996**

Nannoptopoma sternoptychum Schaefer, 1996a: 920, fig. 4. Type locality: Quebrada Mariposa at Cosco-Amazonico Lodge, 12°36'S, 69°11'W, Puerto Maldonado, Tambopata, Madre de Dios, Peru. Holotype: MUSM 4097.

Maximum length: 3.3 cm SL

Distribution: South America: Lower Amazon River basin and tributaries below 200 m elevation.

Countries: Bolivia, Brazil, Ecuador, Peru

NIOBICHTHYS

Niobichthys Schaefer & Provenzano, 1998: 222. Type species: *Niobichthys ferrarisi* Schaefer & Provenzano, 1998. Type by original designation. Gender: masculine.

***Niobichthys ferrarisi* Schaefer & Provenzano, 1998**

Niobichthys ferrarisi Schaefer & Provenzano, 1998: 226, fig. 4. Type locality: Municipio Autónomo Río Negro, Río Baria, approximately 200 m above Neblina base camp, 0°55'N, 66°10'W, Amazonas State, Venezuela. Holotype: MBUCV V-20225.

Maximum length: 6.98 cm SL

Distribution: South America: Upper Baria River, Negro River basin.

Countries: Venezuela

OTOCINCLUS

Otocinclus Cope, 1871: 112. Type species: *Otocinclus vestitus* Cope, 1872. Type by subsequent monotypy. Gender: masculine.

Lampiella Isbrücker, in Isbrücker et al., 2001: 19. Type species: *Otocinclus gibbosus* Miranda Ribeiro, 1908. Type by original designation. Gender: feminine.

Macrotocinclus Isbrücker & Seidel, in Isbrücker et al., 2001: 20. Type species: *Otocinclus affinis* Steindachner, 1877. Type by original designation. Gender: masculine.

***Otocinclus affinis* Steindachner, 1877**

Otocinclus affinis Steindachner, 1877: 221. pl. 1 (figs. 1-1b). Type locality: Flüssen bei S. Crux in der umgebung von Rio de Janeiro, Brazil. Lectotype: NMW 45368: 1, designated by Schaefer (1997:

49).

Maximum length: 5 cm SL

Distribution: South America: vicinity of Rio de Janeiro.

Countries: Brazil

***Otocinclus bororo* Schaefer, 1997**

Otocinclus bororo Schaefer, 1997: 69, fig. 43. Type locality: Barra do Bugres, stream crossing road between Barra do Bugres and Cáceres, 51 km S of Barra Do Bugres, ca. 15°20'S, 57°12'W, Mato Grosso, Brazil. Holotype: MCP 19285.

Maximum length: 3.1 cm SL

Distribution: South America: Upper Paraguay River basin.

Countries: Brazil

***Otocinclus caxarari* Schaefer, 1997**

Otocinclus caxarari Schaefer, 1997: 71, fig. 44. Type locality: Region between Guajara-Mirim and Mato Grosso, ca. 10°48'S, 65°23'W, Rio Solimoes/Madeira/Guaporé drainage, Brazil/Bolivia border. Holotype: MZUSP 51102.

Maximum length: 2.6 cm SL

Distribution: South America: Upper Madeira River basin.

Countries: Brazil

***Otocinclus flexilis* Cope, 1894**

Otocinclus flexilis Cope, 1894: 97, pl. 8 (figs. 13, 13a-b). Type locality: Rio Jacuhy [Jacu], Rio Grande do Sul, Brazil. Lectotype: ANSP 21756.

Otocinclus fimbriatus Cope, 1894: 98, pl. 9 (figs. 16, 16a-b). Type locality: Rio Jacuhy [Jacu], Rio Grande do Sul, Brazil. Syntypes: ANSP 21752 (4), 21585-97 (14).

Otocinclus arnoldi Regan, 1909: 234. Type locality: Rio de la Plata, South America. Holotype: BMNH 1908.12.5.13.

Maximum length: 5.5 cm TL

Distribution: South America: Middle and lower Paraná/Paraguay, Uruguay and La Plata basins and Atlantic coastal streams of Southeastern Brazil.

Countries: Argentina, Brazil, Uruguay

***Otocinclus gibbosus* Miranda Ribeiro, 1908**

Otocinclus gibbosus Miranda Ribeiro, 1908: [2], Figs. 2-2a. Type locality: Rio Bethary [Bethari], São Paulo, Brazil. Holotype: MNRJ 1048.

Maximum length: 5 cm TL

Distribution: South America: Ribeira de Iguape River basin.

Countries: Brazil

***Otocinclus hasemani* Steindachner, 1915**

Otocinclus hasemani Steindachner, 1915: 348. Type locality: Engenhão de Agua, im flußgebiete des Paranahyba [ca. 4°52'S, 43°10'W, Maranhão State, Brazil]. Lectotype: NMW 45369: 1 (largest), designated by Schaefer (1997: 62).

Maximum length: 2.7 cm SL

Distribution: South America: Tocantins and Parnaíba River basins.

Countries: Brazil

***Otocinclus hoppei* Miranda Ribeiro, 1939**

Otocinclus hoppei Miranda Ribeiro, A., 1939: 359. Type locality: Belém, Pará, Brasil-Norte. Lectotype: MNRJ 1030, designated by Miranda Ribeiro (1953: 401).

Maximum length: 3.3 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil

***Otocinclus huaorani* Schaefer, 1997**

Otocinclus huaorani Schaefer, 1997: 74, fig. 46. Type locality: Trib. to Río San Miguel (km 50, 4.5 km S of Tipischca), ca. 0°10'N, 76°13'W, Río Amazonas/Napo drainage, Napo, Ecuador. Holotype: FMNH 101555.

Maximum length: 3.2 cm SL

Distribution: South America: Western upper Amazon and Orinoco

River basins.
Countries: Colombia, Ecuador, Peru

Otocinclus macrospilus Eigenmann & Allen, 1942
Otocinclus macrospilus Eigenmann & Allen, 1942: 201, pl. 13 (fig. 1). Type locality: Río Morona [Upper Amazon, Dpto Loreto, Peru]. Holotype: CAS 77335 [ex IU 15606].
Maximum length: 3.5 cm SL
Distribution: South America: Amazon River basin.
Countries: Peru

Otocinclus mariae Fowler, 1940
Otocinclus mariae Fowler, 1940: 83, figs. 41-43. Type locality: Boca Chapare, Río Chimore [tributary to Ichilo River] [Cochabamba, ca. 15°58'S, 64°42'W, Río Mamoré system] Bolivia. Holotype: ANSP 69068.
Maximum length: 3.3 cm SL
Distribution: South America: Upper Madeira and lower Amazon River basins.
Countries: Bolivia

Otocinclus mura Schaefer, 1997
Otocinclus mura Schaefer, 1997: 77, fig. 47. Type locality: Rio Sanabani, município de Silves (Lago Canaçari drainage into Rio Solimões mainstem), ca. 2°51'40"S, 58°15'40"W, rio Solimões/Sanabani/Lago Canaçari drainage, Brazil. Holotype: MZUSP 51101.
Maximum length: 3.6 cm SL
Distribution: South America: Upper Amazon River basin.
Countries: Brazil

Otocinclus tapirape Britto & Moreira, 2002
Otocinclus tapirape Britto & Moreira, 2002:1064, fig. 1. Type locality: Brazil: Goiás, córrego Água Parada, tributary of Rio Pintado, 11 km west from Novo Planalto, rio Araguaia system, 13°7'S, 49°62'W. Holotype: MZUSP 73975.
Maximum length: 2.4 cm SL
Distribution: South America: Upper and middle Araguaia River basin.
Countries: Brazil.

Otocinclus vestitus Cope, 1872
Otocinclus vestitus Cope, 1872: 283, pl. 4 (figs. 2a-c). Type locality: Tributaries of the Ambyiacu [Ampiyacu near Pebas, ca. 3°40'S, 71°45'W, Depto. Loreto, Peru]. Lectotype: ANSP 8283, designated by Schaefer (1997: 46).
Maximum length: 3.2 cm SL
Distribution: South America: Amazon and lower Paraná River basins.
Countries: Bolivia, Paraguay, Peru

Otocinclus vittatus Regan, 1904
Otocinclus vittatus Regan, 1904: 267, pl. 15 (fig. 3). Type locality: Descalvados, Mato Grosso, Brazil. Lectotype: BMNH 1895.5.17.83, designated by Schaefer (1997: 57).
Rhinolepis paraguensis Borodin, 1927: 7. Type locality: Paraguay. Holotype: AMNH 8641.
Maximum length: 3.3 cm TL
Distribution: South America: Amazon, Orinoco, Paraná/Paraguay, Xingu and Tocantins River basins.
Countries: Argentina, Bolivia, Brazil, Colombia, Paraguay, Peru, Venezuela

Otocinclus xakriaba Schaefer, 1997
Otocinclus xakriaba Schaefer, 1997: 79, fig. 48. Type locality: Rio Pau de Colher, on road between Guanambi and Mutas, 14°12'48"S, 42°49'29"W, rio São Francisco drainage, Bahia, Brazil. Holotype: MZUSP 51103.
Maximum length: 3.1 cm SL
Distribution: South America: São Francisco River basin.

Countries: Brazil

OTOTHYRIS

Otothyris Myers, 1927: 128. Type species: *Otothyris canaliferus* Myers, 1927. Type by original designation. Gender: feminine.

Otothyris juquiae Garavello, Britski & Schaefer, 1998
Otothyris juquiae Garavello, Britski & Schaefer, 1998: 8, fig. 4. Type locality: Juquiá creek at Cantagalo farm, São Paulo State, Brazil. Holotype: MZUSP 10309.
Maximum length: 3.15 cm SL
Distribution: South America: Ribeira de Iguape River basin.
Countries: Brazil

Otothyris lophophanes (Eigenmann & Eigenmann, 1889)

Rhinelepis lophophanes Eigenmann & Eigenmann, 1889a: 9. Type locality: Santa Cruz, Brazil. Holotype: MCZ 8164.
Otocinclus cephalacanthus Miranda Ribeiro, 1911: 93. Type locality: Brazil. Holotype: MNRJ 1050.
Otothyris canaliferus Myers, 1927: 128. Type locality: Hills in the vicinity of Rio de Janeiro, Brazil. Lectotype: MCZ 31577, designated in Garavello et al. (1998: 7).

Maximum length: 2.82 cm SL
Distribution: South America: Atlantic coastal streams of Rio de Janeiro State.
Countries: Brazil

Otothyris rostrata Garavello, Britski & Schaefer, 1998
Otothyris rostrata Garavello, Britski & Schaefer, 1998: 10, fig. 5. Type locality: Osório, Canal between lagoons Emboaba and Emboabinha, on the highway between Osório and Tramandai, Rio Grande do Sul State, Brazil. Holotype: MCP 14812.

Maximum length: 3.1 cm SL
Distribution: South America: Atlantic coast of Santa Catarina and Rio Grande do Sul States.
Countries: Brazil

Otothyris travassosi Garavello, Britski & Schaefer, 1998

Otothyris travassosi Garavello, Britski & Schaefer, 1998: 12, fig. 6. Type locality: Barra Sêca River at Linhares to São Mateus Road, Espírito Santo State, Brazil. Holotype: MNRJ 10177.
Maximum length: 3.2 cm SL
Distribution: South America: Atlantic coast of southeastern Brazil.
Countries: Brazil

OXYROPSIS

Oxyropsis Eigenmann & Eigenmann, 1889b: 39. Type species: *Oxyropsis wrightiana* Eigenmann & Eigenmann, 1889. Type by original designation. Gender: feminine. Revised by Aquino and Schaefer (2002).

Oxyropsis acutirostra Miranda Ribeiro, 1951

Oxyropsis acutirostris Miranda Ribeiro, 1951: 1, pls. 1-3 (figs. 2, 2). Type locality: Paricachoeira, Rio Taquié, afl. do vaupes que é afl. do Negro, Amazonas, Brazil. Holotype: MNRJ 5745.
Maximum length: 4.4 cm SL
Distribution: South America: Orinoco and Negro River basins.
Countries: Brazil, Colombia, Venezuela

Oxyropsis carinata (Steindachner, 1879)

Hypoptopoma carinatum Steindachner, 1879: 48, pl. 4 (fig. 3). Type locality: Einem nebenflusse des Amazonenstromes an der Peruanische Grenze. Holotype: NMW 46267.
Maximum length: 7.6 cm SL
Distribution: South America: Middle and upper Amazon River basin.

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Countries: Brazil, Colombia, Peru

Oxyropsis wrightiana Eigenmann & Eigenmann, 1889
Oxyropsis wrightiana Eigenmann & Eigenmann, 1889b: 39. Type locality: Lago Hyanuary [Amazonas, Brazil]. Holotype: MCZ 8055.

Oxyropsis wrightii Eigenmann & Eigenmann, 1891:40. Unjustified emendation of *Oxyropsis wrightiana*.

Maximum length: 5.6 cm SL

Distribution: South America: Middle and upper Amazon River basins.

Countries: Brazil, Colombia, Peru

PAROTOCINCLUS

Parotocinclus Eigenmann & Eigenmann, 1889b: 41. Type species: *Otocinclus maculicauda* Steindachner, 1877. Type by monotypy. Gender: masculine.

Parotocinclus amazonensis Garavello, 1977

Parotocinclus amazonensis Garavello, 1977: 7, figs. 21-22. Type locality: Ilha Sorubim, Rio Solimões, Amazonas, Brazil. Holotype: MZUSP 10145.

Maximum length: 2.45 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

Parotocinclus aripuanensis Garavello, 1988

Parotocinclus aripuanensis Garavello, 1988: 122, fig. 3. Type locality: Ingazeiro, 20 km upstream of Boca do Rio Canumã, Aripuanã, MT, Brazil. Holotype: MZUSP 36899.

Maximum length: 2.09 cm SL

Distribution: South America: Aripuanã River basin.

Countries: Brazil

Parotocinclus bahiensis (Miranda Ribeiro, 1918)

Microlepidogaster bahiensis Miranda Ribeiro, 1918: 635. Type locality: Villa Nova, Estado da Bahia, Brazil. Syntypes: MZUSP 1071

Distribution: South America: Bahia State.

Countries: Brazil

Remarks and references: Maximum length unknown, types lost (Britski, 1969).

Parotocinclus britskii Boeseman, 1974

Parotocinclus britskii Boeseman, 1974: 267, fig. 2; pl. 2. Type locality: Left tributary of Coppename River, Surinam, 3°51'N, 56°55'W. Holotype: ZMA 106593.

Maximum length: 6 cm TL

Distribution: South America: Orinoco River basin and Atlantic coastal drainages of the Guianas.

Countries: Guyana, Suriname, Venezuela

Parotocinclus cearensis Garavello, 1977

Parotocinclus cearensis Garavello, 1977: 14, figs. 19-20. Type locality: Cachoeira do Gusmão, Ipu, Ceará, Brazil. Holotype: MNRJ 10176.

Maximum length: 5 cm SL

Distribution: South America: Ceará State.

Countries: Brazil

Parotocinclus cesarpintoi Miranda Ribeiro, 1939

Parotocinclus cesarpintoi Miranda Ribeiro, P., 1939: 364, fig. Type locality: Quebrângulo, Alagôas, Brazil. Syntypes: (2) Seção de Zoologia do Museu Nacional, Brasil [? now MNRJ].

Maximum length: 4 cm TL

Distribution: South America: Paraíba do Sul River basin.

Countries: Brazil

Parotocinclus collinsae Schmidt & Ferraris, 1985

Parotocinclus collinsae Schmidt & Ferraris, 1985: 341, figs. 1-3.

Type locality: Tributary to Takutu River, ca. 2 mi. from Mazarhally Takutu Lumber Camp in Takutu mountains, 6°15'N, 59°5'W, Essequibo, Guyana. Holotype: AMNH 55433.

Maximum length: 5 cm SL

Distribution: South America: Essequibo River basin.

Countries: Guyana

Parotocinclus cristatus Garavello, 1977

Parotocinclus cristatus Garavello, 1977: 6, figs. 9-10. Type locality: Fazenda Almada, Ilhéus, Bahia, Brazil. Holotype: MNRJ 10132.

Maximum length: 4 cm TL

Distribution: South America: Coastal rivers near Ilhéus, Bahia State.

Countries: Brazil

Parotocinclus doceanus (Miranda Ribeiro, 1918)

Microlepidogaster doceanus Miranda Ribeiro, 1918: 634. Type locality: Rio Doce, Espírito Santo, Brazil. Holotype: MZUSP 1016.

Maximum length: 4 cm SL

Distribution: South America: Doce River basin.

Countries: Brazil

Parotocinclus eppleyi Schaefer & Provenzano, 1993

Parotocinclus eppleyi Schaefer & Provenzano, 1993: 46, figs. 5-6.

Type locality: Caño Curicurito, ca. 1 km above its mouth into the Río Autana, Amazonas, Venezuela, 4°47'N, 67°25'W. Holotype: MBUCV V-22530.

Maximum length: 2.98 cm SL

Distribution: South America: Upper and middle Orinoco River basin.

Countries: Venezuela

Parotocinclus haroldoi Garavello, 1988

Parotocinclus haroldoi Garavello, 1988: 118, fig. 1. Type locality: Córrego do Otaviano, Poço do Sanharó, Riacho Sanharó, Piauí, Brazil. Holotype: MNRJ 10531.

Maximum length: 3 cm SL

Distribution: South America: Piauí State.

Countries: Brazil

Parotocinclus jimi Garavello, 1977

Parotocinclus jimi Garavello, 1977: 9, figs. 25-26. Type locality: Rio do Peixe, small tributary of Rio de Contas, Fazenda Pedra Branca, Itagibá, Bahia, Brazil. Holotype: MZUSP 12133.

Maximum length: 4 cm TL

Distribution: South America: Bahia State.

Countries: Brazil

Parotocinclus jumbo Britski & Garavello, 2002

Parotocinclus jumbo Britski & Garavello, 2002: 280, fig. 1. Type locality: Brazil: Paraíba: rio Paraíba do Norte, at bridge on road PB 408, NW of Umbuzeiro (7°38'27"S 35°42'30"W). Holotype: MZUSP 69513.

Maximum length: 5.7 cm SL

Distribution: South America: Coastal rivers in Ceará, Paraíba, Pernambuco and Alagoas States.

Countries: Brazil

Parotocinclus longirostris Garavello, 1988

Parotocinclus longirostris Garavello, 1988: 120, fig. 2. Type locality: Rio Preto da Eva, Manaus-Itacoatiara highway, km 80, Manaus, Amazonas, Brazil. Holotype: MZUSP 36891.

Maximum length: 2.65 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil

Parotocinclus maculicauda (Steindachner, 1877)

Otocinclus maculicauda Steindachner, 1877: 222, pl. 1 (Figs. 2-

2b). Type locality: Santa Cruz, Rio Quenda in vicinity of Rio de Janeiro, Brazil. Lectotype: NMW 45381: 1, designated by Schaefer (1996b: 1034). Name spelled *caudimacula* once.

Parotocinclus steindachneri Di Caporiacco, 1948: 201, fig. 2. Type locality: Rio Novo, Santa Catarina, Brazil. Syntypes: MZUF 5565 [ex MZUF 994] (1).

Maximum length: 6 cm TL

Distribution: South America: Coastal rivers between Santa Catarina and Rio de Janeiro States.

Countries: Brazil

***Parotocinclus minutus* Garavello, 1977**

Parotocinclus minutus Garavello, 1977: 15, figs. 13-14. Type locality: Rio Vasa-Barris, Canudos, Bahia, Brazil. Holotype: MNRJ 10135.

Maximum length: 3 cm SL

Distribution: South America: Vasa-Barris River basin.

Countries: Brazil

***Parotocinclus polyochrus* Schaefer, 1988**

Parotocinclus polyochrus Schaefer, 1988: 184, figs. 1-2. Type locality: Río Mawarinuma tributary at Neblina base camp, Terr. Federal Amazonas, Venezuela, 0°55'N, 66°10'W, elev. 120 m. Holotype: AMNH 74482.

Maximum length: 3 cm SL

Distribution: South America: Upper Negro River basin.

Countries: Venezuela

***Parotocinclus prata* Ribeiro, Melo & Pereira, 2002**

Parotocinclus prata Ribeiro, Melo & Pereira, 2002: 218, fig. 1. Type locality: Brazil: Minas Gerais: rio São Francisco basin, município de Presidente Olegário, headwaters of rio da Prata, stream tributary of ribeirão Quiricó, fazenda São Zeferino, near Galena; approximately 18°22'S 46°14.3'W. Holotype: MZUSP 68359.

Maximum length: 4.2 cm SL

Distribution: South America: Upper São Francisco River basin.

Countries: Brazil

***Parotocinclus spilosoma* (Fowler, 1941)**

Plecostomus spilosoma Fowler, 1941: 152, figs. 53-55. Type locality: Campina Grande, Parahyba, Brazil. Holotype: ANSP 69410.

Maximum length: 6 cm TL

Distribution: South America: Paraíba State.

Countries: Brazil

***Parotocinclus spilurus* (Fowler, 1941)**

Plecostomus spilurus Fowler, 1941: 148, figs. 47-49. Type locality: Rio Salgade [Salgado], Icó, Ceará, Brazil. Holotype: ANSP 69403.

Maximum length: 4 cm SL

Distribution: South America: Ceará State.

Countries: Brazil

PSEUDOTOCINCLUS

Pseudotocinclus Nichols, 1919: 534. Type species: *Pseudotocinclus intermedius* Nichols, 1919. Type by monotypy. Gender: masculine.

***Pseudotocinclus tietensis* (Ihering, 1907)**

Otocinclus (Microlepidogaster) tietensis Ihering, 1907: 26. Type locality: Rio Tieté, São Paulo, Brazil. Holotype: DZSASP [now MZUSP] (not found).

Pseudotocinclus intermedius Nichols, 1919: 534. Type locality: Campo Grande, Mato Grosso, Brazil. Holotype: AMNH 7177.

Maximum length: 6 cm SL

Distribution: South America: Upper Tietê River at Paranapiacaba.

Countries: Brazil

PSEUDOTOTHYRIS

Pseudotothyris Britski & Garavello, 1984: 232. Type species: *Otocinclus obtusus* Miranda Ribeiro, 1911. Type by original designation. Gender: feminine.

***Pseudotothyris janeirensis* Britski & Garavello, 1984**

Pseudotothyris janeirensis Britski & Garavello, 1984: 234, figs. 9-10. Type locality: Rio dos Macacos, Represa Engenho da Serra, Paulo de Frontin, Rio de Janeiro, Brazil. Holotype: MNRJ 10278.

Maximum length: 5 cm SL

Distribution: South America: Rio de Janeiro State.

Countries: Brazil

***Pseudotothyris obtusa* (Miranda Ribeiro, 1911)**

Otocinclus obtusus Miranda Ribeiro, 1911: 95, pl. 29 (fig. 3). Type locality: Brazil. Lectotype: MNRJ 1026A, designated by Miranda Ribeiro (1953: 401). Spelled *obtusos* at heading of account and index (p. 498), and *obtusus* in etymology, index (p. 497), figure caption, and two additional places in text.

Maximum length: 4 cm SL

Distribution: South America: Southeastern Brazil.

Countries: Brazil

SCHIZOLECIS

Schizolecis Britski & Garavello, 1984: 228. Type species: *Microlepidogaster guntheri* Miranda Ribeiro, 1918. Type by original designation. Gender: feminine.

***Schizolecis guntheri* (Miranda Ribeiro, 1918)**

Microlepidogaster guntheri Miranda Ribeiro, 1918: 634. Type locality: Praia do Piraíque, Ilha de São Sebastião, Estado de São Paulo, Brazil. Lectotype: MZUSP 1015, designated by Britski (1969: 208). Spelled *guentheri* on p. 717.

Pseudotocinclus ribeiroi Gomes, 1955: 222, pl. 1. Type locality: Rio Branco, Bacia do rio Itanhaem, São Paulo, Brazil. Holotype: Est. Exp. Biol. Pisc. 110.

Maximum length: 4 cm SL

Distribution: South America: Southeastern Brazil.

Countries: Brazil

SPECIES INQUIRENDA

Microlepidogaster bourguyi Miranda Ribeiro, 1911: 90. Type locality: Brasil. Syntypes: MNRJ (12) Types apparently lost.

References

- Alexander, R.M. 1965. Structure and function in the catfish. *J. Zool.*, 148:88-152.
- Aquino, A.E. 1994. Secondary sexual dimorphism of the dermal skeleton in two species of the Hypoptopomatine genus *Otocinclus* (Siluriformes: Loricariidae). *Ichthyol. Explor. Freshwaters*, 5 (3): 217-222.
- Aquino, A.E. and S.A. Schaefer. 2002. Revision of *Oxyropsis* Eigenmann and Eigenmann, 1889 (Siluriformes, Loricariidae). *Copeia*, 2002 (2): 374-390.
- Aquino, A.E., S.A. Schaefer and A.M. Miquelarena. 2001. A new species of *Hisonotus* (Siluriformes, Loricariidae) of the upper Río Uruguay basin. *Amer. Mus. Novitates*, 3333: 1-12.
- Boeseman, M. 1974. On two Surinam species of Hypoptopomatinae, both new to science (Loricariidae, Siluriformes, Ostariophysii). *Proc. K. Ned. Akad. Wet. (Ser. C, Biol. Med. Sci.)*, 77 (3): 251-271.
- Borodin, N.A. 1927. Some new catfishes from Brazil. *Amer. Mus. Novitates*, 266: 1-7.
- Boulenger, G.A. 1891. An account of the siluroid fishes obtained by Dr. H. von Ihering and Herr Sebastian Wolff in the Province Rio Grande do Sul, Brazil. *Proc. Zool. Soc. London*, 1891 (pt 2): 231-235, pls. 25-26.

Check List of the Freshwater Fishes of South and Central America

- Boulenger, G.A. 1895. [Abstract of a report on a large collection of fishes formed by Dr. C. Ternetz in Matto Grosso and Paraguay, with descriptions of new species.]. Proc. Zool. Soc. London, 1895 (pt 3): 523-529.
- Britski, H.A. 1969. Lista dos tipos de peixes das coleções do Departamento de Zoologia da Secretaria da Agricultura de São Paulo. Pap. Avulsos Dep. Zool. (São Paulo), 22 (19): 197-215.
- Britski, H.A. 1997. Descrição de um novo genero de Hypoptopomatinae, com duas especies novas (Siluriformes, Loricariidae). Pap. Avulsos Dep. Zool. (São Paulo), 40 (15):231-255.
- Britski, H.A. and J.C. Garavello. 1984. Two new southeastern Brazilian genera of Hypoptopomatinae and a redescription of *Pseudotocinclus* Nichols, 1919 (Ostariophysi, Loricariidae). Pap. Avulsos Dep. Zool. (São Paulo), 35 (21): 225-241.
- Britski, H.A. and J.C. Garavello. 2002. *Parotocinclus jumbo*, a new species of the subfamily Hypoptopomatinae from northeastern Brazil (Ostariophysi: Loricariidae). Ichthyol. Explor. Freshwaters, 13 (3): 279-288.
- Britto, M.R. and C.R. Moreira. 2002. *Otocinclus tapirape*: a new hypoptopomatine catfish from central Brazil (Siluriformes: Loricariidae). Copeia, 2002 (4): 1063-1069.
- Buckup, P.A. 1981. *Microlepidogaster taimensis* sp. n., novo Hypoptopomatinae da Estação Ecológica do Taim, Rio Grande do Sul, Brasil (Ostariophysi, Loricariidae). Iheringia, Ser. Zool., Porto Alegre, No. 60: 19-31.
- Cope, E.D. 1870. Contribution to the ichthyology of the Marañon. Proc. Am. Philos. Soc., 11: 559-570.
- Cope, E.D. 1871. [Untitled report] "Professor Cope demonstrated some anatomical points of importance in the classification of some of the siluroids of the Amazon..." Proc. Acad. Nat. Sci. Philadelphia, 23:112-113.
- Cope, E.D. 1872. On the fishes of the Ambyiacu River. Proc. Acad. Nat. Sci. Philadelphia, 23: 250-294, pls.
- Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. Proc. Am. Philos. Soc., 17 (101): 673-701.
- Cope, E.D. 1894. On the fishes obtained by the Naturalist Expedition in Rio Grande do Sul. Proc. Am. Philos. Soc., 33: 84-108, pls. 4-9.
- Di Caporiacco, L. 1948. Miscellanea ichthyologica. Boll. Pesca Piscic. Idrobiol. Yr. 23 [vol. 2, N.S.]: 193-205.
- Eigenmann, C.H. 1914. On new species of fishes from the Rio Meta basin of eastern Colombia and on albino or blind fishes from near Bogotá. Indiana Univ. Studies, No. 23: 229-230.
- Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II. -- The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. Univ. Kentucky. xv + 494 p., pls. 1-22.
- Eigenmann, C.H. and R.S. Eigenmann. 1889a. Description of new nematognathoid fishes from Brazil. West Amer. Sci., 6 (42): 8-10.
- Eigenmann, C.H. and R.S. Eigenmann. 1889b. Preliminary notes on South American Nematognathi. II. Proc. Calif. Acad. Sci. (Ser. 2), 2: 28-56.
- Eigenmann, C.H. and R.S. Eigenmann. 1890. A revision of the South American Nematognathi or cat-fishes. Occas. Pap. Calif. Acad. Sci., No. 1: 1-508 + errata and map.
- Eigenmann, C.H. and R.S. Eigenmann. 1891. A catalogue of the fresh-water fishes of South America. Proc. U. S. Natl. Mus., 14: 1-81.
- Ferraris, C.J., Jr. and R.P. Vari. 1992. Catalog of type specimens of Recent fishes in the National Museum of Natural History, Smithsonian Institution, 4: Gonorynchiformes, Gymnotiformes, and Siluriformes (Teleostei: Ostariophysi). Smithson. Contrib. Zool., No. 535: 1-52.
- Fowler, H.W. 1915. Notes on nematognathous fishes. Proc. Acad. Nat. Sci. Philadelphia, 67: 203-243.
- Fowler, H.W. 1940. Zoological results of the second Bolivian expedition for the Academy of Natural Sciences of Philadelphia, 1936-1937. Part I.--The fishes. Proc. Acad. Nat. Sci. Philadelphia, 92: 43-103.
- Fowler, H.W. 1941. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. Proc. Acad. Nat. Sci. Philadelphia, 93: 123-199.
- Garavello, J.C. 1977. Systematics and geographical distribution of the genus *Parotocinclus* Eigenmann & Eigenmann, 1889 (Ostariophysi, Loricariidae). Arq. Zool. (São Paulo), 28 (4): 1-37.
- Garavello, J.C. 1988. Three new species of *Parotocinclus* Eigenmann & Eigenmann, 1889 with comments on their geographical distribution (Pisces, Loricariidae). Naturalia (São Paulo), 13: 117-128.
- Garavello, J. C., H. A. Britski and S. A. Schaefer. 1998. Systematics of the genus *Otothyris* Myers 1927, with comments on geographic distribution (Siluriformes: Loricariidae: Hypoptopomatinae). Am. Mus. Novit., no. 3222: 1-19.
- Gomes, A.L. 1955. Descrição de *Pseudotocinclus ribeiroi*, nova espécie de cascudinho (Loricariidae, Hypoptopomatinae) da bacia do rio Itanhaem, São Paulo. Arq. Mus. Nac. Rio de Janeiro, 42 (1): 221-227, pls. 1-2.
- Günther, A. 1868a. Diagnoses of some new freshwater fishes from Surinam and Brazil, in the collection of the British Museum. Ann. Mag. Nat. Hist. (Ser. 4), 1 (6): 475-481.
- Günther, A. 1868b. Descriptions of freshwater fishes from Surinam and Brazil. Proc. Zool. Soc. London, 1868 (pt 2): 229-247, pls. 20-22.
- Haseman, J.D. 1911. Descriptions of some new species of fishes and miscellaneous notes on others obtained during the expedition of the Carnegie Museum to central South America. Ann. Carnegie Mus., 7 (3-4): 315-328, pls. 46-52.
- Holmberg, E.L. 1893. Nombres vulgares de peces Argentinos con sus equivalencias científicas. Rev. Jardin Zool. Buenos Aires, 1 (3): 85-96.
- Ihering, R. von. 1907. Diversas especies novas de peixes nematognathas do Brazil. Notas preliminares. Rev. Mus. Paulista (N. S.), 1 (fasc. 1): 13-39.
- Ihering, R. von. 1928. Uma nova especie de *Otocinclus* (Pisces, Nematognatha) "cascudinho" de S. Paulo. Bol. Biol., Trab. Lab. Parasit. Fac. Med., S. Paulo, 11 (42): 1-3.
- Isbrücker, I.J.H. 1980. Classification and catalogue of the mailed Loricariidae (Pisces, Siluriformes). Versl. Tech. Gegevens, No. 22: 1-181.
- Isbrücker, I.J.H. and H. Nijssen. 1992. Sexualdimorphismus bei Harnischwelsen (Loricariidae). Odontoden, Zähne, Lippen, Tentakel, Genitalpapillen und Flossen. DATZ-Sonderheft (Harnischwelse): 19-33.
- Isbrücker, I.J.H., I. Seidel, J.P. Michels, E. Schraml and A. Werner. 2001. Diagnose vierzehn neuer Gattungen der Familie Loricariidae Rafinesque, 1815 (Teleostei, Ostariophysi). Datz Sonderheft Harnischwelse, 2:17-24.
- Macdonnell, A.J. and R.W. Blake. 1990. Rheotaxis in *Otocinclus* sp. (Teleostei: Loricariidae). Can. J. Zool. 68:599-601.
- Miranda Ribeiro, A. 1908. Peixes da Ribeira. Resultados de excursão do Sr. Ricardo Krone, membro correspondente do Museu Nacional do Rio de Janeiro. Kosmos, Rio de Janeiro [Rev. Art. Sci. Litt.], 5 (2): 5 unnum. pp.
- Miranda Ribeiro, A. 1911. Fauna brasiliense. Peixes. Tomo IV (A) [Eleutherobranchios Aspirophoros]. Arq. Mus. Nac. Rio de Janeiro, 16: 1-504, pls. 22-54.
- Miranda Ribeiro, A. 1918. Tres generos e dezeseite especies novas de peixes Brasileiros. Rev. Mus. Paulista, 10: 631-646, 1 pl.
- Miranda Ribeiro, A. 1939. Alguns novos dados ictiológicos da nossa fauna. Bol. Biol. Sao Paulo (N. S.), 4 (3): 358-363.
- Miranda Ribeiro, P. 1939. Um *Paraotocinclus* [sic] do Nordeste Brasileiro (Peixes--Larocaridae [sic]--Hypoptopomatinae). Bol. Biol. Sao Paulo (N. S.), 4 (3): 364-365.
- Miranda Ribeiro, P. 1951. Sôbre *Oxyropsis* Eigenmann & Eigenmann, 1889 (Pisces -- Nematognathi -- Loricariidae). Bol. Mus.

Check List of the Freshwater Fishes of South and Central America

- Nac. Zool. (N. S.), No. 104: 1-3, pls. 1-4.
- Miranda Ribeiro, P. 1953. Tipos das espécies e subespécies do Prof. Alípio de Miranda Ribeiro depositados no Museu Nacional. Arq. Mus. Nac. Rio de Janeiro, 42: 389-417.
- Myers, G.S. 1927. Descriptions of new South American freshwater fishes collected by Dr. Carl Ternetz. Bull. Mus. Comp. Zool., 68 (3): 107-135.
- Nichols, J.T. 1919. Um novo genero de cascudos da familia Loricariidae. Rev. Mus. Paulista, 11: 533-535, 539-540.
- Regan, C.T. 1904. A monograph of the fishes of the family Loricariidae. Trans. Zool. Soc. London, 17 (pt 3, no. 1): 191-350, pls. 9-21.
- Regan, C.T. 1908. Descriptions of new loricariid fishes from South America. Proc. Zool. Soc. London, 1907 (pt 4): 795-800, pls. 47-49.
- Regan, C.T. 1909. Descriptions of three new freshwater fishes from South America, presented to the British Museum by Herr J. Paul Arnold. Ann. Mag. Nat. Hist. (Ser. 8), 3 (14): 234-235.
- Regan, C.T. 1912. Descriptions of new fishes of the family Loricariidae in the British Museum Collection. Proc. Zool. Soc. London, 1912 (pt 3): 666-670, pls. 75-77.
- Reis, R.E. and S.A. Schaefer. 1992. *Eurycheilus pantherinus* (Siluroidei: Loricariidae), a new genus and species of Hypoptopomatinae from southern Brazil. Copeia, 1992 (1): 215-223.
- Reis, R.E. and S.A. Schaefer. 1993. *Eurycheilichthys* nom. nov., a substitute name for *Eurycheilus* Reis and Schaefer, 1992 (Siluridei: Loricariidae). Copeia, 1993 (3): 894.
- Reis, R.E. and S.A. Schaefer. 1998. New cascudinhos from southern Brazil: Systematics, endemism, and relationships (Siluriformes, Loricariidae, Hypoptopomatinae). Amer. Mus. Novitates, 3254:1-25.
- Retzer, M.E., L.G. Nico and F. Provenzano. 1999. Two new species of *Acestridium* (Siluriformes: Loricariidae) from southern Venezuela, with observations on camouflage and color change. Ichthyol. Explor. Freshwaters, 10:313-326.
- Ribeiro, A.C., A.L.A. Melo and E.H.L. Pereira. 2002. A new species of *Parotocinclus* (Siluriformes: Loricariidae) from the rio São Francisco basin, southeastern Brazil. Ichthyol. Explor. Freshwaters, 13 (3): 217-224.
- Schaefer, S.A. 1988. A new species of the loricariid genus *Parotocinclus* from southern Venezuela (Pisces: Siluroidei). Copeia, 1988 (1): 182-188.
- Schaefer, S.A. 1996a. *Nannoptopoma*, a new genus of loricariid catfishes (Siluriformes: Loricariidae) from the Amazon and Orinoco River basins. Copeia, 1996 (4): 913-926.
- Schaefer, S.A. 1996b. Type designations for some Steindachner loricariid material (Siluriformes: Loricariidae) in the Natural History Museum, Vienna. Copeia, 1996 (4): 1031-1035.
- Schaefer, S.A. 1997. The Neotropical cascudinhos: systematics and biogeography of the *Otocinclus* catfishes (Siluriformes: Loricariidae). Proc. Acad. Nat. Sci. Philadelphia, 148: 1-120.
- Schaefer, S.A. and F. Provenzano. 1993. The Guyana Shield *Parotocinclus*: systematics, biogeography, and description of a new Venezuelan species (Siluroidei: Loricariidae). Ichthyol. Explor. Freshwaters, 4 (1): 39-56.
- Schaefer, S.A. and F. Provenzano. 1998. *Niobichthys ferrarisi*, a new genus and species of armored catfish from southern Venezuela (Siluriformes: Loricariidae). Ichthyol. Explor. Freshwaters, 8: 21-230.
- Schmidt, R.E. and C.J. Ferraris, Jr. 1985. A new species of *Parotocinclus* (Pisces: Loricariidae) from Guyana. Proc. Biol. Soc. Washington, 98 (2): 341-346.
- Steindachner, F. 1877. Die Süßwasserfische des südöstlichen Brasilien. (IV). Sitzungsber. Akad. Wiss. Wien, 76: 217-230, pls. 1-2.
- Steindachner, F. 1879a. Über einige neue und seltene Fisch-Arten aus den k. k. zoologischen Museum zu Wien, Stuttgart, und Warschau. Denkschr. Akad. Wiss. Wien, 41: 1-52, pls. 1-9.
- Steindachner, F. 1879b. Über einige neue und seltene Fischarten aus den zoologischen Museen zu Wien, Stuttgart und Warschau. Anz. Akad. Wiss. Wien, 16 (4): 29-34.
- Steindachner, F. 1915. Ichthyologische Beiträge (XVIII). Anz. Akad. Wiss. Wien, 52 (27): 346-349.
- Vaillant, L.L. 1880. Note sur le genre *Otocinclus* et description d'une espèce nouvelle. Bull. Soc. Philomath. Paris (Ser. 7), 4: 145-148.

Subfamily Loricariinae (Armored catfishes)

Carl J. Ferraris, Jr.

The subfamily Loricariinae is composed of 31 genera and 209 species. The subfamily is diagnosed by a number of anatomical features (see Schaefer, 1987, for details), most of which can only be observed in skeletal preparations. In general, loricariines can generally be distinguished from other loricariids by having a depressed caudal peduncle with no adipose fin and, often, a depressed snout.

Most species of loricariines are small to medium sized fishes. The largest species, *Spatuloricaria euacanthagenys*, reaches to more than one-half meter in length, while the smallest, *Hartiella crassicauda*, only grows to about one-tenth of that size.

Loricariines exhibit a wide array of sexually dimorphic features, many of which are used to diagnose the species. Dimorphic features include the size and placement of odontodes on the head, body, and pectoral fin and the form of the lower lip. Males of species with enlarged lower lips, in the genera *Loricariichthys*, *Hemiodontichthys* and *Pseudoloricaria*, carry fertilized eggs attached to their lip until the larvae hatch.

Loricariines are distributed widely through the South American rivers, from the La Plata drainage in the south to the Caribbean coastal rivers in the North. A few species occur on the Pacific coastal rivers of Colombia, Ecuador, and Panama; one is known from the Caribbean drainages of Costa Rica.

The taxonomy of the Loricariinae is still young and likely to undergo substantial change. Various studies by Isaïc Isbrücker (sometimes with co-authors, especially Han Nijssen), resulted in the discovery and description of a large number of species and genera. Nonetheless, it is likely that there are still many species yet to be described. Revisionary studies of the larger genera (e. g., *Rineloricaria*, *Loricariichthys*, and *Harttia*) are needed as the only recent major revision was that of *Farlowella* (Retzer and Page, 1997).

Loricariines are generally not of much economic interest. Few species are large enough to be important for food and only a small number of species are readily available in the aquarium trade.

APISTOLORICARIA

Apistoloricaria Isbrücker & Nijssen, 1986a: 103. Type species: *Apistoloricaria condei* Isbrücker & Nijssen, 1986. Type by original designation. Gender: feminine. Review and key to species in Nijssen & Isbrücker (1988).

***Apistoloricaria condei* Isbrücker & Nijssen, 1986**

Apistoloricaria condei Isbrücker & Nijssen, 1986a: 104, fig. 1. Type locality: L'Equateur, Prov. Napo, bassin du Napo (haut Amazone) embouchure du Rio Tiputini dans le Rio Napo au confluent de l'affluent principal, en eau profonde (00°48.9'S, 75°32.5'O). Holotype: FMNH 94683.

Maximum length: 14.1 cm SL

Distribution: South America: Upper Amazon drainage, Napo River basin.

Countries: Ecuador

Common names: Carachama (Ecuador)

***Apistoloricaria laani* Nijssen & Isbrücker, 1988**

Apistoloricaria laani Nijssen & Isbrücker, 1988: 34, figs. 2-4. Type locality: Colombie, Dept. Meta, Río Metica, à El Aviso, environ 3°59'N, 72°59'O. Holotype: ANSP 131483.

Maximum length: 13 cm SL

Distribution: South America: Orinoco River drainage, Meta River basin.

Countries: Colombia

***Apistoloricaria listrorhinos* Nijssen & Isbrücker, 1988**

Apistoloricaria listrorhinos Nijssen & Isbrücker, 1988: 36, figs. 5-

7. Type locality: Colombie, Dept. Meta, Río Metica, à environ 1.5 km E. de Rajote, 3°56'N, 73°03'O. Holotype: ANSP 131482.

Maximum length: 13.6 cm SL

Distribution: South America: Orinoco River drainage, Metica River basin.

Countries: Colombia

***Apistoloricaria ommation* Nijssen & Isbrücker, 1988**

Apistoloricaria ommation Nijssen & Isbrücker, 1988: 37, figs. 8-10. Type locality: Pérou, Dept. Loreto, environs d'Iquitos, Rio Amazonas (Maranon) entre l'île Iquitos et l'île Lapuna, près du rivage d l'île Lapuna. Holotype: ANSP 138932.

Maximum length: 9.8 cm SL

Distribution: South America: Upper Amazon River drainage, Lower Marañón River.

Countries: Peru

APOSTURISOMA

Aposturisoma Isbrücker, Britski, Nijssen & Ortega, 1983: 34. Type species: *Aposturisoma myriodon* Isbrücker, Britski, Nijssen & Ortega, 1983. Type by original designation. Gender: neuter.

***Aposturisoma myriodon* Isbrücker, Britski, Nijssen & Ortega, 1983**

Aposturisoma myriodon Isbrücker, Britski, Nijssen & Ortega, 1983: 35, figs. 3-6. Type locality: Pérou, Dept. Ucayali, Prov. Coronel Portillo, bassin du Aguaytia, Rio Huacamayó (environ 09°00'S, 75°29.0'O) près de la roule de Pucallpa à Tingo Mario,

environ 8 km N.E. du village d' Aguaytia. Holotype: MZUSP 15328.
 Maximum length: 20 cm SL
 Distribution: South America: Upper Amazon River drainage, Aguaytia River basin.
 Countries: Peru
 Common names: Shitari (Peru)

BROCHILORICARIA

Brochiloricaria Isbrücker & Nijssen in Isbrücker, 1979: 90. Type species: *Brochiloricaria chauliodon* Isbrücker, 1979. Type by original designation. Gender: feminine.

***Brochiloricaria chauliodon* Isbrücker, 1979**

Brochiloricaria chauliodon Isbrücker, 1979: 102, fig. 15. Type locality: Argentine, Prov. Entre Rios, Isla El Dorado, Paraná Guaza (localité non précisée). Holotype: ZSM 23342.
 Maximum length: 28.2 cm
 Distribution: South America: La Plata River basin.
 Countries: Argentina

***Brochiloricaria macrodon* (Kner, 1853)**

Loricaria macrodon Kner, 1853: 12, 15, pl. 2. Type locality: Aus dem Cujabaflusse [Brazil]. Holotype: NMW 45087. Originally as *Lor. macrodon*.
 Maximum length: 26.8 cm SL
 Distribution: South America: Paraguay River basin.
 Countries: Brazil

CROSSOLORICARIA

Crossoloricaria Isbrücker, 1979: 90. Type species: *Loricaria variegata* Steindachner, 1879. Type by original designation. Gender: feminine.

***Crossoloricaria bahuaja* Chang & Castro, 1999**

Crossoloricaria bahuaja Chang & Castro, 1999: 83, fig. 1. Type locality: Peru, Departamento Madre de Dios, Provincia Tambopata, Río Tambopata, 12°47'05"S, 69°18'55"W. Holotype: MUSM 9916.
 Maximum length: 16.4 cm SL
 Distribution: South America: Madre de Dios River basin in Peru, Grande River in Bolivia and Manuripe River in Pando.
 Countries: Bolivia, Peru

***Crossoloricaria cephalaspis* Isbrücker, 1979**

Crossoloricaria cephalaspis Isbrücker, 1979: 102, fig. 18. Type locality: Colombie, Río Magdalena. Holotype: BMNH 1947.7.1.228.
 Maximum length: 10.9 cm SL
 Distribution: South America: Magdalena River basin.
 Countries: Colombia

***Crossoloricaria rhami* Isbrücker & Nijssen, 1983**

Crossoloricaria rhami Isbrücker & Nijssen, 1983: 9, fig. 1. Type locality: Pérou, Dept. Ucayali, Prov. Coronel Portillo, Bassin du Río Aguaytia, Río Huacamayo (ca. 9°S, 75°29'O) près de la route de Pucallpa à Tingo Maria (Carretera Federico Badadre), à environ 8 km au N. E. du village Aguaytia. Holotype: ZMA 116391.
 Maximum length: 12.7 cm SL
 Distribution: South America: Upper Amazon River basin.
 Countries: Ecuador, Peru
 Common names: Carachama (Ecuador, Peru)

***Crossoloricaria variegata* (Steindachner, 1879)**

Loricaria variegata Steindachner, 1879a: 151. Type locality: Mamoni (Mamoni-Flusses bei Chaop in Isthmus von Panama). Holotype: NMW 45138. Species later illustrated and described in more detail in Steindachner (1879b:165, pl. 3).
 Maximum length: 26.5 cm SL

Distribution: Central and South America: Mamoni, Tuirá, Yape River basins in Panama; San Juan and Sinu River basins in Colombia.

Countries: Colombia, Panama

Common names: Alcalde (Colombia), Baracalde (Colombia), Cuchilla (Colombia), Raspacaonia (Colombia), Varacalde (Colombia)

***Crossoloricaria venezuelae* (Schultz, 1944)**

Loricaria variegata venezuelae Schultz, 1944b: 329, pl. 12 (fig. C).
 Type locality: Río Palmar at the bridge about 70 km southwest of Maracaibo [Venezuela]. Holotype: USNM 121108.
 Maximum length: 18.3 cm SL
 Distribution: South America: Lake Maracaibo drainage.
 Countries: Colombia, Venezuela
 Common names: Paleta (Venezuela), Tabla (Venezuela)

CTENILORICARIA

Cteniloricaria Isbrücker & Nijssen in Isbrücker, 1979: 91. Type species: *Loricaria platystoma* Günther, 1868. Type by original designation. Gender: feminine.

***Cteniloricaria fowleri* (Pellegrin, 1908)**

Oxyloricaria Fowleri Pellegrin, 1908: 126. Type locality: Rivière Camopi (Guyane française). Holotype: MNHN 1901-372.
 Maximum length: 21 cm SL
 Distribution: South America: Oyapock River basin.
 Countries: Brazil, French Guiana
 Remarks and references: Species redescribed in le Bail et al. (2000).
 Common names: Acari (Brazil), Achiwa (French Guiana), Cachimbo (Brazil), Chichiwa (French Guiana), Goré (French Guiana), Lapipi (French Guiana), Santiwipi (French Guiana), Sisiwa (French Guiana)

***Cteniloricaria maculata* (Boeseman, 1971)**

Parasturisoma maculata Boeseman, 1971: 33, pl. 5. Type locality: Sipaliwini, near airstrip, upper Corantijn River basin, Surinam. Holotype: RMNH 26381 (170 mm).
 Maximum length: 17 cm SL
 Distribution: South America: Maroni and Corantijn River basins.
 Countries: French Guiana, Suriname
 Remarks and references: Species redescribed in le Bail et al. (2000).
 Common names: Acari (Brazil), Achiwa (French Guiana), Cachimbo (Brazil), Chichiwa (French Guiana), Lapipi (French Guiana), Santiwipi (French Guiana), Sisiwa (French Guiana)

***Cteniloricaria platystoma* (Günther, 1868)**

Loricaria platystoma Günther, 1868: 478. Type locality: Surinam. Lectotype: BMNH 1866.8.14.124, designated by Isbrücker (1979: 113).
 Maximum length: 20 cm
 Distribution: South America: Suriname.
 Countries: Suriname

DASYLORICARIA

Dasylicaria Isbrücker & Nijssen in Isbrücker, 1979: 90. Type species: *Loricaria filamentosa* Steindachner, 1878. Type by original designation. Gender: feminine.

***Dasylicaria capetensis* (Meek & Hildebrand, 1913)**

Loricaria capetensis Meek & Hildebrand, 1913: 80. Type locality: Río Capetí, Río Tuyra basin, Panama. Holotype: FMNH 7582.
 Maximum length: 16.4 cm SL
 Distribution: Central America: Tuirá River basin.
 Countries: Panama

***Dasylicaria filamentosa* (Steindachner, 1878)**

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- Loricaria filamentosa* Steindachner, 1878: 90. Type locality: Magdalena-Stromes [Colombia]. Lectotype: NMW 44874, designated by Isbrücker (1979: 113).
Maximum length: 26 cm SL
Distribution: South America: Magdalena River basin and, possibly, Catatumbo River.
Countries: Colombia
Common names: Alcalde, Cuchara, Cucho pitero, Raspacanoa, Zapatero (Colombia)
- Dasylicaria latiura* (Eigenmann & Vance, 1912)**
Loricaria filamentosa latiura Eigenmann & Vance in Eigenmann, 1912a: 13. Type locality: Boca de Certegai, Colombia. Syntypes: 122 specimens: originally CM 3806 and IU 12695, now FMNH 55115, USNM 79219, and 4 unaccounted for.
Maximum length: 35.5 cm SL
Distribution: Central and South America: Tuira and Atrato River basins.
Countries: Colombia, Panama
- Dasylicaria seminuda* (Eigenmann & Vance, 1912)**
Loricaria filamentosa seminuda Eigenmann & Vance in Eigenmann, 1912a: 13. Type locality: Colombia, Girardot. Holotype: FMNH 55117 [ex CM 1307].
Maximum length: 18.2 cm SL
Distribution: South America: Magdalena River basin.
Countries: Colombia
Common names: Cucho pitero (Colombia), Zapatero (Colombia)
- Dasylicaria tuyrensis* (Meek & Hildebrand, 1913)**
Loricaria tuyrensis Meek & Hildebrand, 1913: 81. Type locality: Río Tuyra, Boca de Cupe, Panama. Holotype: FMNH 7583.
Maximum length: 35.5 cm SL
Distribution: Central America: Tuira River basin.
Countries: Panama
- DENTECTUS**
Dentectus Martín Salazar, Isbrücker & Nijssen, 1982: 127. Type species: *Dentectus barbarmatus* Martín Salazar, Isbrücker & Nijssen, 1982. Type by original designation. Gender: masculine.
- Dentectus barbarmatus* Martín Salazar, Isbrücker & Nijssen, 1982**
Dentectus barbarmatus Martín Salazar, Isbrücker & Nijssen, 1982: 130, fig. 3. Type locality: Venezuela, Estado Cojedes, Río Salinas, a tributary of the Río Pao Viejo, N.E. of El Baul (9°13'N, 68°07'W). Holotype: MBUCV V-12780.
Maximum length: 13.7 cm SL
Distribution: South America: Western Orinoco River basin.
Countries: Venezuela
- FARLOWELLA**
Acestra Kner, 1853: 29. Type species: *Acestra acus* Kner, 1853. Type by subsequent designation by Bleeker (1862b: 4). Gender: feminine. Preoccupied by *Acestra* Bonaparte, 1846 in fishes and by Dallas, 1852 in Hemiptera; replaced by *Farlowella* Eigenmann & Eigenmann, 1889.
Farlowella Eigenmann & Eigenmann, 1889: 32. Type species: *Acestra acus* Kner, 1853. Type by being a replacement name. Gender: feminine. Replacement for *Acestra* Kner, 1853. Genus revised by Retzer & Page (1997).
- Farlowella acus* (Kner, 1853)**
Acestra acus Kner, 1853: 13, 29, pl. 8 (fig. 1). Type locality: Caracas [Venezuela]. Holotype: NMW 47795.
Loricaria scolopacina De Filippi, 1853: 166. Type locality: in rivis prov. Venezuelae, Caracas. Holotype: MZUT 22.
Maximum length: 16 cm SL
Distribution: South America: Lake Valencia and Torito River basins.
Countries: Venezuela
Remarks and references: Species redescribed by Retzer & Page (1997).
Common names: Aguja (Venezuela), Agujeta (Venezuela)
- Farlowella amazona* (Günther, 1864)**
Acestra amazonum Günther, 1864: 261. Type locality: Santarém [Brazil]. Holotype: BMNH 1856.3.25.22.
Acestra gladiolus Günther, 1864: 261. Type locality: Rio Cupai [Brazil]. Lectotype: BMNH 1853.3.19.66, designated by Isbrücker (1979: 114).
Farlowella carinata Garman in Eigenmann & Eigenmann, 1889: 32. Type locality: Santarem, Teffé, Gurupa, Obidos, Juthay, Tabatinga [restricted to Gurupá, Brazil]. Lectotype: MCZ 9830, designated by Isbrücker (1979: 114).
Farlowella pseudogradiolus Steindachner, 1910c: 405, figured on p. 405. Type locality: Amazonenstromes ohne nähere Angabe des Fundortes, wahrscheinlich aus dem Rio negro. Holotype: NMW 46498.
Farlowella paranaense Meinken, 1937: 78. Type locality: mittleren Paraná-gebiete [Argentina]. Holotype: lost in WW II (Eschmeyer 1998).
Farlowella pleurotaenia Miranda Ribeiro, A., 1939: 360. Type locality: Pará [Brazil]. Holotype: MNRJ 758.
Farlowella oliveirae Miranda Ribeiro, A., 1939: 359. Type locality: Pará [Brazil]. Holotype: MNRJ 757.
Maximum length: 22.5 cm SL
Distribution: South America: Amazon, Tocantins, and La Plata River basins.
Countries: Argentina, Brazil
Remarks and references: Species redescribed by Retzer & Page (1997).
- Farlowella colombiensis* Retzer & Page, 1997**
Farlowella colombiensis Retzer & Page, 1997: 62, fig. 33. Type locality: Colombia, Meta Department, area of Guaicaramo, Río Upia drainage. Holotype: SU 23733.
Maximum length: 16 cm SL
Distribution: South America: Orinoco River drainage, Meta River basin.
Countries: Colombia
- Farlowella curtirostra* Myers, 1942**
Farlowella curtirostra Myers, 1942: 102, fig. 11. Type locality: Quebrada Tabor, tributary of the Río Motatan system, 30 km north of Trujillo, Maracaibo basin, Venezuela. Holotype: SU 36508.
Maximum length: 15 cm SL
Distribution: South America: Lake Maracaibo drainage.
Countries: Venezuela
Remarks and references: Species redescribed by Retzer & Page (1997).
Common names: Aguja (Venezuela), Agujeta (Venezuela)
- Farlowella gracilis* Regan, 1904**
Farlowella gracilis Regan, 1904: 303, pl. 20 (fig. 3). Type locality: Río Caqueta, Cauca Valley, s. Colombia. Holotype: BMNH 1902.5.29.180.
Farlowella boliviana Steindachner, 1910c: 404. Type locality: Kolombien. Holotype: NMW (apparently lost, Isbrücker (1979: 114)).
Maximum length: 17.8 cm SL
Distribution: South America: Caqueta River basin, Upper Amazon River basin.
Countries: Colombia
Remarks and references: Species redescribed by Retzer & Page (1997).

***Farlowella hahni* Meinken, 1937**

Farlowella hahni Meinken, 1937: 77, fig. 2. Type locality: Río Paraná, ca. 2 km east of Ayolas, 27°24'S, 56°46'W, Misiones Dept., Paraguay. Neotype: UMMZ 228132, designated by Retzer & Page (1997: 76).

Maximum length: 20.1 cm SL

Distribution: South America: Middle Paraná River basin.

Countries: Argentina, Paraguay

Remarks and references: Species redescribed by Retzer & Page (1997).

***Farlowella hasemani* Eigenmann & Vance, 1917**

Farlowella hasemani Eigenmann & Vance, 1917: 301, pl. 30 (figs. 1-2). Type locality: Para [Brazil]. Holotype: FMNH 55089 [ex CM 3781a].

Maximum length: 17 cm SL

Distribution: South America: Pará State.

Countries: Brazil

Remarks and references: Species redescribed by Retzer & Page (1997).

***Farlowella henriquei* Miranda Ribeiro, 1918**

Farlowella henriquei Miranda Ribeiro, 1918: 636. Type locality: Rio Vermelho, aff do Araguaia (Sta. Rita das Antas) [Brazil]. Holotype: MZUSP 2159.

Maximum length: 16.5 cm SL

Distribution: South America: Araguaia River basin.

Countries: Brazil

Remarks and references: Species redescribed by Retzer & Page (1997).

***Farlowella isbruckeri* Retzer & Page, 1997**

Farlowella isbruckeri Retzer & Page, 1997: 55, fig. 24. Type locality: Brazil, Mato Grosso State, small river on highway from Cuibá to Porto Velho, approximately 32 km from Lacerda. Holotype: MZUSP 37641.

Maximum length: 13.4 cm SL

Distribution: South America: Upper Paraguay River basin.

Countries: Brazil

***Farlowella jauruensis* Eigenmann & Vance, 1917**

Farlowella jauruensis Eigenmann & Vance, 1917: 300, pl. 30 (fig. 3). Type locality: Jaura [Brazil]. Holotype: FMNH 55088 [ex CM 3780].

Maximum length: 13 cm SL

Distribution: South America: Upper Paraguay River basin.

Countries: Brazil

Remarks and references: Species redescribed by Retzer & Page (1997).

***Farlowella knerii* (Steindachner, 1882)**

Acestra knerii Steindachner, 1882a: 177. Type locality: Canelos [Ecuador]. Lectotype: NMW 47796, designated by Isbrücker (1979: 114).

Maximum length: 16.2 cm SL

Distribution: South America: Upper Amazon River drainage, Napo and Pastaza River basins.

Countries: Ecuador

Remarks and references: Species redescribed by Retzer & Page (1997).

Common names: Palito (Ecuador)

***Farlowella mariaelenae* Martín Salazar, 1964**

Farlowella mariaelenae Martín Salazar, 1964: 246, fig. 1. Type locality: río Salinas, brazo del río Pao Viejo, al noreste de El Baúl, brazo del río Portuguesa, Edo. Cojedes [Venezuela]. Holotype: MBUCV-V-11938 [ex AFY 50.060].

Maximum length: 17 cm SL

Distribution: South America: Western Orinoco River basin and,

possibly, Caribbean coastal rivers.

Countries: Venezuela

Remarks and references: Species redescribed by Retzer & Page (1997).

Common names: Aguja (Venezuela), Agujeta (Venezuela)

***Farlowella martini* Fernández-Yépez, 1972**

Farlowella martini Fernández-Yépez, 1972: 22, pl. 15. Type locality: la Estación 114 del Complejo Hidrográfico (04) "Río Yacucuy" [Coastal Caribbean drainage, Venezuela]. Syntypes: 2 (male and female "holotypes", whereabouts unknown).

Maximum length: 17 cm SL

Distribution: South America: Caribbean coastal rivers in Venezuela.

Countries: Venezuela

Remarks and references: Species redescribed by Retzer & Page (1997).

***Farlowella nattereri* Steindachner, 1910**

Farlowella nattereri Steindachner, 1910: 403c, figured on p. 404. Type locality: Aus dem mittleren Amazonas-Gebiete ohne nähere Angabe des Fundortes, wahrscheinlich aus dem Rio negro. Holotype: NMW 46497.

Farlowella hargreavesi Eigenmann, 1912b: 252, pl. 32 (fig. 3). Type locality: British Guiana. Holotype: Museum of Georgetown (apparently lost).

Farlowella azygia Eigenmann & Vance, 1917: 299, pl. 29 (figs. 1-2). Type locality: Santarem. Holotype: FMNH 55091 [ex CM 3782].

Farlowella acestrichthys Pearson, 1924: 25, pl. 8 (fig. 2). Type locality: Rurrenabaque, Bolivia. Syntypes: CAS 77322 (2), UMMZ 66480 (1).

Maximum length: 26.5 cm SL

Distribution: South America: Upper Amazon and Essequibo River basins.

Countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru

Remarks and references: Species redescribed by Retzer & Page (1997).

***Farlowella odontotumulus* Retzer & Page, 1997**

Farlowella odontotumulus Retzer & Page, 1997: 57, fig. 28. Type locality: Ecuador, Sucumbios Province, Río Aguarico, 4.7 km north of Lago Agrio at bridge on road to El Conejo, 0°07'42"S, 76°52'42"W. Holotype: FMNH 99135.

Maximum length: 17.5 cm SL

Distribution: South America: Aguarico River basin in Ecuador and Mavaca River basin in Venezuela.

Countries: Ecuador, Venezuela

***Farlowella oxyrryncha* (Kner, 1853)**

Acestra oxyrryncha Kner, 1853: 13, 31, pl. 8 (fig. 2). Type locality: Rio Mamoré -- Cachoeira da Bananeira [Brazil]. Holotype: NMW 47797. Name spelled *oxyrrhyncha* in figure captions, *oxyrryncha* in text; first reviser apparently Isbrücker (1980).

Acestra gladius Boulenger, 1898: 425, pl. 41 (fig. 2). Type locality: Rio Jurua [Brazil]. Lectotype: BMNH 1897.12.1.80, designated by Isbrücker (1979: 114).

Maximum length: 23 cm SL

Distribution: South America: Amazon and Orinoco River basins; coastal rivers of NE Brazil.

Countries: Bolivia, Brazil, Ecuador, Peru, Venezuela

Remarks and references: Species redescribed by Retzer & Page (1997).

Common names: Palito (Ecuador), Shitari (Peru)

***Farlowella paraguayensis* Retzer & Page, 1997**

Farlowella paraguayensis Retzer & Page, 1997: 78, fig. 54. Type locality: Paraguay, Canendiyu Department, Arroyo Carimbatay, 15.6 km WSW Curuguaty, 24°31'06"S, 56°43'30"W. Holotype: UMMZ 228129.

Maximum length: 17.5 cm SL

Distribution: South America: Paraguay River basin.

Countries: Brazil, Paraguay

***Farlowella platyrhyncha* Retzer & Page, 1997**

Farlowella platyrhynchus Retzer & Page, 1997: 71, fig. 44. Type locality: Peru, Ucayali Department, Pucallpa, Yarinachocha, Río Ucayali drainage, 8°23'S, 74°32'W. Holotype: MHNG 2389.57.

Maximum length: 19.4 cm SL

Distribution: South America: Upper and lower Amazon River basin.

Countries: Brazil, Peru

***Farlowella reticulata* Boeseman, 1971**

Farlowella reticulata Boeseman, 1971: 37, pl. 7 (right). Type locality: Maka Creek, left tributary of the Lawa River 10 km S of Stoelmanseiland, Marowijne River basin, Surinam. Lectotype: ZMA 106174, designated by Isbrücker (1979: 114).

Maximum length: 15.3 cm SL

Distribution: South America: Essequibo, Marowijne, and Oyapock River basins.

Countries: French Guiana, Guyana, Suriname

Remarks and references: Species redescribed by Retzer & Page (1997) and le Bail et al. (2000).

Common names: Goré-zégwi (French Guiana), Santiwipi (French Guiana), Teyoupétin (French Guiana)

***Farlowella rugosa* Boeseman, 1971**

Farlowella rugosa Boeseman, 1971: 40, pl. 7 (middle). Type locality: Kamaloea (or Saloea) Creek, right tributary of the Marowijne River, 9 km SE of the outlet of Gran Creek, French Guyane. Lectotype: ZMA 106208, designated by Isbrücker (1979: 114).

Farlowella parvicarinata Boeseman, 1971: 42, pl. 7 (left). Type locality: Right tributary of the Nickerie River, 12 km WSW of Stondansie Falls, Surinam. Lectotype: ZMA 105823, designated by Isbrücker (1979: 114).

Maximum length: 21.4 cm SL

Distribution: South America: Essequibo, Marowijne, and Corantijn River basins.

Countries: French Guiana, Guyana, Suriname

Remarks and references: Species redescribed by Retzer & Page (1997).

Common names: Goré-zégwi (French Guiana), Santiwipi (French Guiana), Teyoupétin (French Guiana)

***Farlowella schreitmülleri* Ahl, 1937**

Farlowella schreitmülleri Ahl, 1937: 446. Type locality: Santarem [Brazil]; Lectotype ZMB 20956, designated by Isbrücker (1979: 114).

Farlowella latisoma Miranda Ribeiro, A., 1939: 361. Type locality: Oriximiná Amazonas [Brazil]. Holotype: MNRJ 761.

Maximum length: 18.1 cm SL

Distribution: South America: Lower Amazon River basin.

Countries: Brazil

Remarks and references: Species redescribed by Retzer & Page (1997).

***Farlowella smithi* Fowler, 1913**

Farlowella smithi Fowler, 1913: 574, fig. 24. Type locality: Rio Madeira, about 200 miles east of W. Long. 62°20', Brazil. Holotype: ANSP 39313.

Maximum length: 10 cm SL

Distribution: South America: Middle Madeira River basin.

Countries: Brazil

Remarks and references: Species redescribed by Retzer & Page (1997).

***Farlowella taphorni* Retzer & Page, 1997**

Farlowella taphorni Retzer & Page, 1997: 51, fig. 19. Type local-

ity: Venezuela, Merida State, Río Muyapas (Río Torondoy-Lago Maracaibo drainage), 4.5 km S of Nueva Bolívai on highway 1. Holotype: INHS 60352.

Maximum length: 13.5 cm SL

Distribution: South America: Torondoy River basin, Maracaibo Lake drainage.

Countries: Venezuela

***Farlowella venezuelensis* Martín Salazar, 1964**

Farlowella acus venezuelensis Martín Salazar, 1964: 250. Type locality: río Colorado, de la Hoya del río Guarapiche, en San Antonio de Maturín, Monagas [Venezuela]. Lectotype: MBUCV-V-26150, designated by Retzer & Page (1997: 64).

Maximum length: 19.8 cm SL

Distribution: South America: Guarapiche River basin, lower Orinoco River basin.

Countries: Venezuela

Remarks and references: Species redescribed by Retzer & Page (1997).

Common names: Aguja (Venezuela), Agujeta (Venezuela)

***Farlowella vittata* Myers, 1942**

Farlowella vittata Myers, 1942: 103, fig. 12. Type locality: tributaries of the Río Uribanto, from San Cristobal to Ilanos, Venezuela. Holotype: SU 36512.

Farlowella angosturae Martín Salazar, 1964: 251, fig. 3. Type locality: Caño Largo al oeste de Ciudad Bolívar, Edo. Bolívar [Venezuela]. Holotype: MBUCV-V-11939.

Farlowella agustini Martín Salazar, 1964: 254, fig. 5. Type locality: Una quebrada límite entre los Estados Cojedes y Carabobo, carretera Campo Carabobo Taguanes, afluente del río Chirigua que a su vez lo es del río Pao [Venezuela]. Holotype: MBUCV-V-11940.

Farlowella guaricensis Martín Salazar, 1964: 253, fig. 4. Type locality: Río Guárico, en el puente de Uverito, carretera San Juan de Los Morros a Ortiz, Guárico [Venezuela]. Holotype: MBUCV-V-11941.

Farlowella roncallii Martín Salazar, 1964: 258, fig. 6. Type locality: la quebrada El Ahorcado Aguirre, afluente del Río Tirgua Carabobo [Venezuela]. Holotype: MBUCV-V-11949.

Maximum length: 22.5 cm SL

Distribution: South America: Orinoco River basin.

Countries: Colombia, Venezuela

Remarks and references: Species redescribed by Retzer & Page (1997).

Common names: Aguja (Venezuela), Agujeta (Venezuela)

FURCODONTICHTHYS

Furcodontichthys Rapp Py-Daniel, 1981: 2. Type species: *Furcodontichthys novaesi* Rapp Py-Daniel, 1981. Type by original designation. Gender: masculine.

***Furcodontichthys novaesi* Rapp Py-Daniel, 1981**

Furcodontichthys novaesi Rapp Py-Daniel, 1981: 4, figs. 1-6. Type locality: rio Solimões, lago Tefé, Caititu, Amazonas, Brasil. Holotype: INPA T.79-014.

Maximum length: 10.2 cm SL

Distribution: South America: Solimões River basin.

Countries: Brazil

HARTTIA

Harttia Steindachner, 1877: 668. Type species: *Harttia loricariiformis* Steindachner, 1877. Type by monotypy. Gender: feminine.

Quiritixys Isbrücker, in Isbrücker et al., 2001: 21. Type species: *Harttia leiopleura* Oyakawa, 1993. Type by original designation. Gender: feminine.

***Harttia carvalhoi* Miranda Ribeiro, 1939**

Harttia carvalhoi Miranda Ribeiro, P., 1939: 11, pl. 2 (upper).
Type locality: Rio Paquequer, Estado do Rio de Janeiro [Brazil].
Syntypes: MNRJ (?).
Maximum length: 7.1 cm SL
Distribution: South America: Paquequer River basin in Paraíba do Sul River drainage.
Countries: Brazil

***Harttia depressa* Rapp Py-Daniel & Oliveira, 2001**

Harttia depressa Rapp Py-Daniel & Oliveira, 2001: 87, fig. 5.
Type locality: Brazil: Amazonas, rio Pitinga, rio Uatumã basin, below the Paranapanema Enterprise dam, Cachoeira 40 Ilhas (59°34'24"W, 0°53'20"S). Holotype: INPA 3901.
Maximum length: 12.6 cm SL
Distribution: South America: Uatumã River basin.
Countries: Brazil

***Harttia dissidens* Rapp Py-Daniel & Oliveira, 2001**

Harttia dissidens Rapp Py-Daniel & Oliveira, 2001: 91, fig. 8.
Type locality: Brazil: Pará: rio Tapajós, Pimental (56°15'16"W, 4°35'22"S). Holotype: INPA 7739.
Maximum length: 15.2 cm SL
Distribution: South America: Tapajós River basin.
Countries: Brazil

***Harttia duriventris* Rapp Py-Daniel & Oliveira, 2001**

Harttia duriventris Rapp Py-Daniel & Oliveira, 2001: 84, fig. 3.
Type locality: Brazil: Pará: rio Tocantins, Igarapé Bacuri (49°30'32"W, 4°29'44"S). Holotype: INPA 2833.
Maximum length: 12.8 cm SL
Distribution: South America: Tocantins River basin, above Tucuruí dam.
Countries: Brazil

***Harttia garavelloi* Oyakawa, 1993**

Harttia garavelloi Oyakawa, 1993: 13, fig. 4. Type locality: Rio Fanado, ponte de cidade de Minas Novas, 17°15'S, 42°35'W, MG [Brazil]. Holotype: MZUSP 43266.
Maximum length: 8.6 cm SL
Distribution: South America: Fanado and Araçuaí River basins.
Countries: Brazil

***Harttia gracilis* Oyakawa, 1993**

Harttia gracilis Oyakawa, 1993: 16, fig. 5. Type locality: Riacho afluente dos rio São João município de Fortaleza de Minas, próximo à estrada de ferro Minas-Perobas, 20°58'S, 46°47'W, MG [Brazil]. Holotype: MZUSP 43267.
Maximum length: 10.1 cm SL
Distribution: South America: São João and upper Paraná River basin, Brazil.
Countries: Brazil

***Harttia guianensis* Rapp Py-Daniel & Oliveira, 2001**

Harttia guianensis Rapp Py-Daniel & Oliveira, 2001: 88, fig. 6.
Type locality: French Guiana: Approuague River, Saut Athanase (52°1'W, 4°11'N). Holotype: MNHN 1998-0395.
Maximum length: 17.5 cm SL
Distribution: South America: Sinnamary and Approuague River basins.
Countries: Brazil

***Harttia kronei* Miranda Ribeiro, 1908**

Harttia kronei Miranda Ribeiro, 1908: [2], figs. 3-3a. Type locality: Rio Bethary [Brazil]. Lectotype: MNRJ 713A, designated by Miranda Ribeiro (1953: 400).
Maximum length: 12 cm SL
Distribution: South America: Ribeira de Iguape River basin.
Countries: Brazil

***Harttia leiopleura* Oyakawa, 1993**

Harttia leiopleura Oyakawa, 1993: 5, fig. 1. Type locality: Riacho afluente do Córrego Mutuca, à direita da estrada Belo Horizonte Nova Lima, km 20, 20°60'S, 43°55'W, bacia do rio das Velhas MG [Brazil]. Holotype: MZUSP 43264.
Maximum length: 5.7 cm SL
Distribution: South America: Das Velhas River basin.
Countries: Brazil

***Harttia longipinna* Langeani, Oyakawa & Montoya-Burgos, 2001**

Harttia longipinna Langeani, Oyakawa & Montoya-Burgos, 2001: 137, fig. 1. Type locality: Brazil: Minas Gerais State: rio Pará, bridge on road BR 262 between Nova Serrana and Pará de Minas, approximately 19°53'S, 44°52'W. Holotype: MZUSP 54579.
Maximum length: 10.7 cm SL
Distribution: South America: Upper São Francisco River basin.
Countries: Brazil

***Harttia loricariformis* Steindachner, 1877**

Harttia loricariformis Steindachner, 1877: 669, pl. 6 (figs. 2, 2a-b). Type locality: Oberer Lafu des Rio Parahyba und dessen Nebenflüsse. Lectotype: NMW 46346, designated by Isbrücker (1979: 113).
Maximum length: 13 cm SL
Distribution: South America: Paraíba do Sul River basin.
Countries: Brazil

***Harttia novalimensis* Oyakawa, 1993**

Harttia novalimensis Oyakawa, 1993: 8, fig. 2. Type locality: Riacho afluente do Córrego Mutuca, à direita da estrada Belo Horizonte Nova Lima, km 20, 20°60'S, 43°55'W, bacia do rio das Velhas, MG [Brazil]. Holotype: MZUSP 43262.
Maximum length: 5.8 cm SL
Distribution: South America: Das Velhas River basin.
Countries: Brazil

***Harttia punctata* Rapp Py-Daniel & Oliveira, 2001**

Harttia punctata Rapp Py-Daniel & Oliveira, 2001: 82, fig. 2.
Type locality: Brazil: Pará: rio Tocantins, on rocks just below the Tucuruí dam (49°38'10"W, 3°49'43"S). Holotype: INPA 4714.
Maximum length: 13.3 cm SL
Distribution: South America: Upper and middle Tocantins River basin.
Countries: Brazil

***Harttia rhombocephala* Miranda Ribeiro, 1939**

Harttia rhombocephala Miranda Ribeiro, P., 1939: 11, pl. 2 (lower). Type locality: Rio Farias [Brazil]. Holotype: MNRJ (?).
Distribution: South America: Farias River basin.
Countries: Brazil

***Harttia surinamensis* Boeseman, 1971**

Harttia surinamensis Boeseman, 1971: 28, pl. 3. Type locality: Grandam, Gran Rio, upper Suriname River, Surinam. Holotype: RMNH 26388 (188 mm specimen). Holotype apparently not separated from paratypes.
Maximum length: 18.8 cm SL
Distribution: South America: Coastal rivers from Suriname River east to Approuague River.
Countries: French Guiana, Suriname
Remarks and references: Species redescribed by le Bail et al. (2000).
Common names: Acari (Brazil), Achiwa (French Guiana), Cachimbo (Brazil), Chichiwa (French Guiana), Goré (French Guiana), Lapipi (French Guiana), Santiwipi (French Guiana), Sisiwa (French Guiana)

***Harttia torrenticola* Oyakawa, 1993**

Harttia torrenticola Oyakawa, 1993: 10, fig. 3. Type locality: Riacho afluente do rio Paraopebá, Água Limpa, município de Noeda, 3 km da BR 040, acima das cachoeiras, 44°02'W, 20°20'S, bacia do rio São Francisco, MG [Brazil]. Holotype: MZUSP 43283.

Maximum length: 7.7 cm SL

Distribution: South America: Upper São Francisco River basin.

Countries: Brazil

***Harttia trombetensis* Rapp Py-Daniel & Oliveira, 2001**

Harttia trombetensis Rapp Py-Daniel & Oliveira, 2001: 89, fig. 7. Type locality: Brazil: Pará: rio Trombetas, Cachoeira Viramundo (57°03'38''W, 1°02'04''S). Holotype: INPA 4715.

Maximum length: 17.6 cm SL

Distribution: South America: Trombetas River basin, above Cachoeira Porteira falls.

Countries: Brazil

***Harttia uatumensis* Rapp Py-Daniel & Oliveira, 2001**

Harttia uatumensis Rapp Py-Daniel & Oliveira, 2001: 85, fig. 4. Type locality: Brazil: Amazonas: rio Uatumã, at Santa Luzia (59°28'36''W, 1°50'13''S). Holotype: INPA 2974.

Maximum length: 11.9 cm SL

Distribution: South America: Uatumã River basin.

Countries: Brazil

HARTTIELLA

Harttiella Boeseman, 1971: 25. Type species: *Harttia crassicauda* Boeseman, 1953. Type by original designation. Gender: feminine.

***Harttiella crassicauda* (Boeseman, 1953)**

Harttia crassicauda Boeseman, 1953: 10, fig. 2. Type locality: Nassau Mountains, in creek [Suriname]. Holotype: RMNH 19418 (largest of 15 specimens). Holotype apparently not separated from paratypes.

Maximum length: 4.9 cm SL

Distribution: South America: Marowijne River basin.

Countries: Suriname

Remarks and references: Species redescribed by le Bail et al. (2000).

HEMIODONTICHTHYS

Hemiodontichthys Bleeker, 1862b: 4. Type species: *Hemiodon acipenserinus* Kner, 1853. Type by original designation. Gender: masculine.

***Hemiodontichthys acipenserinus* (Kner, 1853)**

Hemiodon acipenserinus Kner, 1853: 12, 28, pl. 7 (fig. 2a-c). Type locality: Rio Guaporé, Matogrosso (Juquia) [Brazil]. Lectotype: NMW 46139, designated by Isbrücker & Nijssen (1974b: 204). Originally as *Hem. acipenserinus*.

Maximum length: 13.4 cm SL

Distribution: South America: Amazon, Essequibo, Oyapock, and Paraguay River basins.

Countries: Bolivia, Brazil, French Guiana, Guyana, Peru

Remarks and references: Species redescribed by le Bail et al. (2000).

Common names: Shitari (Peru)

IXINANDRIA

Ixinandria Isbrücker & Nijssen in Isbrücker, 1979: 91. Type species: *Loricaria steinbachi* Regan, 1906. Type by original designation. Gender: feminine.

***Ixinandria montebelloi* (Fowler, 1940)**

Canthopomus montebelloi Fowler, 1940b: 55, fig. 10. Type locality: Monte Bello, Tarija, Bolivia. Holotype: ANSP 68832.

Maximum length: 8.5 cm SL

Distribution: South America: Southern Bolivia.

Countries: Bolivia

***Ixinandria steinbachi* (Regan, 1906)**

Loricaria Steinbachi Regan, 1906: 97. Type locality: Salta, Argentina. Lectotype: BMNH 1906.5.31.37, designated by Isbrücker (1979: 113).

Maximum length: 10 cm SL

Distribution: South America: Salado River basin.

Countries: Argentina

Remarks and references: Species reviewed by Ringulet et al. (1967).

Common names: Vieja, Vieja de agua (Argentina)

LAMONTICHTHYS

Lamontichthys Miranda Ribeiro, P., 1939: 12. Type species: *Harttia filamentosa* La Monte, 1935. Type by original designation. Gender: masculine.

***Lamontichthys filamentosus* (La Monte, 1935)**

Harttia filamentosa La Monte, 1935: 5, fig. 4. Type locality: Brazilian Amazonas, Rio Jurua, in the vicinity of the mouth of the Rio Embira, a tributary of Rio Tarauaca, which, in turn, is a tributary of Rio Jurua, 70°15'W, 7°30'S. Holotype: AMNH 12616. *Harttia filamentissima* Eigenmann & Allen, 1942: 211, pl. 8 (figs. 1-2). Type locality: Rio Huallaga [Peru]. Holotype: CAS 28541 [ex IU 15378].

Maximum length: 16.7 cm SL

Distribution: South America: Western Amazon River basin.

Countries: Bolivia, Brazil, Peru

Common names: Raspabalsa (Ecuador), Shitari (Peru)

***Lamontichthys llanero* Taphorn & Lilyestrom, 1984**

Lamontichthys llanero Taphorn & Lilyestrom, 1984: 96, fig. 2. Type locality: Venezuela, Estado Portuguesa, Río Guanare Viejo cerca de Hoyada. Holotype: MCNG 10000.

Maximum length: 20.2 cm SL

Distribution: South America: Guanare Viejo River basin, Orinoco River drainage.

Countries: Venezuela

***Lamontichthys maracaibero* Taphorn & Lilyestrom, 1984**

Lamontichthys maracaibero Taphorn & Lilyestrom, 1984: 94, fig. 1. Type locality: Venezuela, Estado Zulia, Distrito Miranda, Río Motatán, en el puente en Agua Viva. Holotype: MCNG 3592.

Maximum length: 18.5 cm SL

Distribution: South America: Lake Maracaibo basin.

Countries: Venezuela

***Lamontichthys stibaros* Isbrücker & Nijssen, 1978**

Lamontichthys stibaros Isbrücker & Nijssen, 1978a: 66, fig. 8. Type locality: Ecuador, Prov. Pastaza, Río Amazonas system, Río Bobonaza at Chicherota, 2°25'S, 76°38'W, altitude approximately 260-280 m., upper Río Pastaza. Holotype: USNM 167914.

Maximum length: 24.2 cm SL

Distribution: South America: Bobonaza River basin.

Countries: Ecuador

Common names: Raspabalsa (Ecuador)

LIMATULICHTHYS

Limatulichthys Isbrücker & Nijssen in Isbrücker, 1979: 91. Type species: *Loricaria punctata* Regan, 1904. Type by original designation. Gender: masculine.

***Limatulichthys griseus* (Eigenmann, 1909)**

Loricaria punctata Regan, 1904: 285, pl. 17 (fig. 1). Type locality: Manaos, Rio Negro, middle Amazon, and Porto do Moz, lower Amazon. Syntypes: BMNH 1893.4.24.18, and MCZ (?). Preoccupied by *Loricaria punctata* Kner, 1854 [now *Glyptoperichthys punctatus*], apparently not replaced.

Loricaria griseus Eigenmann, 1909: 8. Type locality: Conawaruk [=Konawaruk, Guyana]. Holotype: FMNH 53077 [ex CM 1504].

Rhineloricaria petleyi Fowler, 1940a: 243, figs. 36-38. Type locality: Ucayali River basin, Contamana, Peru. Holotype: ANSP 68661.

Loricariichthys parnahybae Fowler, 1941: 161, fig. 70. Type locality: Rio Parnahyba, Therizina, Piauhy [Brazil]. Holotype: ANSP 69451.

Maximum length: 18 cm SL

Distribution: South America: Amazon, Tocantins, Essequibo, western Orinoco, and Parnafba River basins.

Countries: Brazil, Colombia, Ecuador, Guyana, Peru

Remarks and references: Synonymy follows Isbrücker (1980).

Common names: Carachama (Ecuador)

LORICARIA

Loricaria Linnaeus, 1758: 307. Type species: *Loricaria cataphracta* Linnaeus, 1758. Type by monotypy. Gender: feminine.

Fusiloricaria Fowler, 1940a: 247. Type species: *Loricaria (Fusiloricaria) clavipinna* Fowler, 1940. Type by original designation. Gender: feminine. Originally proposed as a subgenus of *Loricaria*.

Prolicoricaria Isbrücker, in Isbrücker et al., 2001: 21. Type species: *Loricaria prolixa* Isbrücker & Nijssen, 1978. Type by original designation. Gender: feminine.

***Loricaria apeltogaster* Boulenger, 1895**

Loricaria apeltogaster Boulenger, 1895: 528. Type locality: Paraguay. Lectotype: BMNH 1895.5.17.105, designated by Isbrücker (1979: 110).

Maximum length: 26 cm SL

Distribution: South America: Uruguay, Paraná and Paraguay River basins.

Countries: Argentina, Brazil, Paraguay

***Loricaria cataphracta* Linnaeus, 1758**

Loricaria cataphracta Linnaeus, 1758: 307. Type locality: In America meridionali. Lectotype: NRM 33, designated by Isbrücker (1979: 110). Earlier neotype designation by Isbrücker (1972: 173) invalidated by rediscovery of syntype series.

Loricaria cirrhosa Bloch & Schneider, 1801: 125, pl. 34. Type locality: America meridionali. Lectotype: ZMB 3160, designated by Isbrücker (1972: 170).

Loricaria setifera La Cépède, 1803: 140, 141. Type locality: In America meridionali. Holotype: NRM 33. Unneeded new name for *Loricaria cataphracta* Linnaeus.

Loricaria Dentata Shaw, 1804: 37. Type locality: Indian Seas, in error [South America]. Types: On Gronovius (1763: 127, pl. 2, figs. 1-2), Bloch (1794 pl. 375, figs. 3-4), and *Loricaria cataphracta* Linnaeus.

Plecostomus flagellaris Gronow in Gray, 1854: 158. Type locality: Surinam. Holotype: BMNH 1863.11.12.195 (dorsal surface of body) and 196 (ventral surface).

Loricaria carinata Castelnau, 1855: 46, pl. 23 (fig. 3). Type locality: De la rivières Amazones. Holotype: MNHN A.9562.

Loricaria dura Bleeker, 1862b: 3. Type locality: Surinam. Holotype: NRM 33. Unneeded new name for *Loricaria cataphracta* Linnaeus.

Maximum length: 29.5 cm SL

Distribution: South America: Amazon River basin, and coastal rivers of the Guianas.

Countries: Brazil, French Guiana, Guyana, Suriname

Remarks and references: Species redescribed by le Bail et al. (2000).

Common names: Acari (Brazil), Achiwa (French Guiana), Atomba (French Guiana), Cachimbo (Brazil), Chichiwa (French Guiana), Goré-fwèt (French Guiana), Krakakoe (French Guiana), Lapipi (French Guiana), Santipiwi (French Guiana), Sinwa (French Guiana), Sisiou (French Guiana), Tatoulouway (French Guiana)

***Loricaria clavipinna* Fowler, 1940**

Loricaria clavipinna Fowler, 1940a: 247, fig. 46. Type locality: Ucayali River basin, Contamana, Peru. Holotype: ANSP 68665.

Maximum length: 18 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

Common names: Shitari (Peru)

***Loricaria lata* Eigenmann & Eigenmann, 1889**

Loricaria lata Eigenmann & Eigenmann, 1889: 36. Type locality: Goyaz [Brazil]. Lectotype: MCZ 46721, designated by Isbrücker (1972: 179).

Maximum length: 27 cm SL

Distribution: South America: Araguaia River basin.

Countries: Brazil

***Loricaria lentiginosa* Isbrücker, 1979**

Loricaria prolixa lentiginosa Isbrücker, 1979: 97, fig. 9. Type locality: Brésil, Est. Sao Paulo, haut bassin du Rio Parana, Represa de Volta Grande, Rio Grande [Brazil]. Holotype: MZUSP 13188.

Maximum length: 29 cm SL

Distribution: South America: Upper Paraná River basin.

Countries: Brazil

***Loricaria nickeriensis* Isbrücker, 1979**

Loricaria nickeriensis Isbrücker, 1979: 97, figs. 11-13. Type locality: Surinam, district Nickerie, rapide dans la rivièr Fallawatra, 5 km SSW des chutes Stondansie. Holotype: ZMA 107561.

Maximum length: 12 cm SL

Distribution: South America: Nickerie and Marowijne River basins.

Countries: French Guiana, Suriname

***Loricaria parnahybae* Steindachner, 1907**

Loricaria parnahybae Steindachner, 1907a: 153. Type locality: dem Rio Parnahyba an der Mündung eines Baches bei Victoria [Brazil]. Lectotype: NMW 44854, designated by Isbrücker (1979: 110).

Loricaria piauhybae Fowler, 1941: 163, fig. 73. Type locality: Rio Parnahyba, Therezina, Piauhy [Brazil]. Holotype: ANSP 69452.

Maximum length: 16 cm SL

Distribution: South America: Coastal rivers of NE Brazil and French Guiana.

Countries: Brazil, French Guiana

Common names: Achiwa (French Guiana), Goret fouet (French Guiana)

***Loricaria piracicabae* Ihering, 1907**

Loricaria piracicabae Ihering, 1907: 28. Type locality: Piracicaba, Piracicaba River, State of S. Paulo [Brazil]. Holotype: MZUSP 2182.

Maximum length: 17 cm SL

Distribution: South America: Piracicaba River basin.

Countries: Brazil

***Loricaria prolixa* Isbrücker & Nijssen, 1978**

Loricaria prolixa Isbrücker & Nijssen, 1978b: 188, fig. 5. Type locality: Brazil, Est. São Paulo, Rio Piracicaba through River Tietê, Rio Paraná system [Piracicaba 22°45'S, 47°40'W]. Holotype: NMW 45091.

Maximum length: 35 cm SL

Distribution: South America: Upper Paraná River drainage, La Plata basin.
Countries: Brazil

***Loricaria simillima* Regan, 1904**

Loricaria simillima Regan, 1904: 292, pl. 17 (fig. 2). Type locality: Canelos, e. Ecuador. Lectotype: BMNH 1880.12.8.77, designated by Isbrücker (1979: 110).

Maximum length: 18 cm SL

Distribution: South America: Amazon, Orinoco and La Plata River basins.

Countries: Argentina, Brazil, Ecuador, Paraguay, Peru, Venezuela
Common names: Carachama (Ecuador), Paleta (Venezuela), Shitari (Peru), Tabla (Venezuela)

***Loricaria tucumanensis* Isbrücker, 1979**

Loricaria tucumanensis Isbrücker, 1979: 98, fig. 14. Type locality: Argentine, Prov. Tucuman, San Miguel de Tucuman, 26°47'S, 65°15'W (Rio Sali ?). Holotype: USNM 88669.

Maximum length: 12 cm SL

Distribution: South America: Dulce River basin.

Countries: Argentina

LORICARIICHTHYS

Plecostomus Swainson, 1839: 304. Type species: *Loricaria maculata* Bloch, 1794. Type by monotypy. Gender: masculine. Pre-dates *Loricariichthys* Bleeker, but not treated as valid since before 1899 and, therefore, permanently suppressed.

Loricariichthys Bleeker, 1862b: 3. Type species: *Loricaria maculata* Bloch, 1794. Type by original designation. Gender: masculine.

Parahemiodon Bleeker, 1862a: 373. Type species: *Parahemiodon typus* Bleeker, 1862. Type by original designation. Gender: masculine.

***Loricariichthys acutus* (Valenciennes, 1840)**

Loricaria acuta Valenciennes in Cuvier & Valenciennes, 1840: 472 (349 of Strasbourg deluxe ed.), pl. 452. Type locality: On peut croire qu'il venait du Brésil. Holotype: MNHN (apparently lost).

Maximum length: 20 cm

Distribution: South America: Brazil (?).

Countries: Brazil

***Loricariichthys anus* (Valenciennes, 1836)**

Loricaria anus Valenciennes, 1836: pl. 6 (fig. 1). Type locality: Not stated. Holotype: MNHN A.9456 or A.9455. Name made available from illustration of single specimen, which must be considered the holotype. Redescribed in Cuvier & Valenciennes (1840: 470 [p. 347 in Strasbourg deluxe ed.] from two specimens, with locality stated as: sur les bords de la rivière de La Plata près de Buénos-Ayres). Lectotype designation by Isbrücker (1979: 113) not valid.

Maximum length: 46 cm

Distribution: South America: Coastal rivers of southern Brazil, Uruguay and lower Paraná River basins.

Countries: Argentina, Brazil, Uruguay

***Loricariichthys cashibo* (Eigenmann & Allen, 1942)**

Loricaria cashibo Eigenmann & Allen, 1942: 205. Type locality: Lago Cashiboya [Peru]. Holotype: IU 15416 (not found, Isbrücker & Nijssen, 1976: 110).

Maximum length: 13 cm

Distribution: South America: Upper Amazon River basin.

Countries: Peru

Common names: Shitari (Peru)

***Loricariichthys castaneus* (Castelnau, 1855)**

Loricaria castanea Castelnau, 1855: 46, pl. 23 (fig. 4). Type local-

ity: donné a Rio de Janeiro, comme venant des rivières du voisinage [Brazil]. Holotype: MNHN A.9561.

Loricaria Spixii Steindachner, 1881a: 97. Type locality: Rio Quenda (originally: Rio Parahyba, Santa Cruz, Rio Quenda, Rio Muriahe, Sao Matheos, Sambaia, Rio Grande do Sul). Lectotype: NMW 45113, designated by Isbrücker (1979: 113). Illustrated and described in more detail in Steindachner (1881b:4, pl. 2 (figs. 1-1b)).

Maximum length: 25 cm

Distribution: South America: Coastal streams of SE Brazil between southern São Paulo and northern Espírito Santo, including the Paraíba do Sul River basin.

Countries: Brazil

***Loricariichthys chanjoo* (Fowler, 1940)**

Parahemiodon chanjoo Fowler, 1940a: 240, fig. 32. Type locality: Ucayali River basin, Contamana, Peru. Holotype: ANSP 68656.

Maximum length: 23 cm

Distribution: South America: Ucayali River basin.

Countries: Peru

Common names: Shitari (Peru)

***Loricariichthys derbyi* Fowler, 1915**

Loricariichthys derbyi Fowler, 1915a: 267, fig. 4. Type locality: Rio Jaguaribe at Barro Alto, Brazil. Holotype: ANSP 39932.

Maximum length: 18 cm

Distribution: South America: Jaguaribe River basin.

Countries: Brazil

***Loricariichthys edentatus* Reis & Pereira, 2000**

Loricariichthys edentatus Reis & Pereira, 2000: 1041, fig. 8. Type locality: rio Uruguay at brazo Itape, south of Isla Canario, Concepción del Uruguay, Argentina (32°29'S, 58°14'W). Holotype: MACN 4041.

Maximum length: 11.5 cm SL

Distribution: South America: Lower Uruguay River basin.

Countries: Argentina

***Loricariichthys hauxwelli* Fowler, 1915**

Loricariichthys hauxwelli Fowler, 1915b: 238, fig. 10. Type locality: Ambyiacu River, Ecuador. Holotype: ANSP 8301.

Maximum length: 18 cm

Distribution: South America: Ampyiacu River basin.

Countries: Peru

Common names: Shitari (Peru)

***Loricariichthys labialis* (Boulenger, 1895)**

Loricaria labialis Boulenger, 1895: 527. Type locality: Paraguay. Lectotype: BMNH 1895.5.17.98, designated by Isbrücker (1979: 113).

Maximum length: 22 cm SL

Distribution: South America: Paraguay and middle Paraná River basin.

Countries: Argentina, Brazil, Paraguay

Remarks and references: Reviewed in Ringulet et al. (1967), diagnosed in Britski et al. (1999).

Common names: Acari (Brazil), Cari (Brazil), Maimingué (Argentina), Rapa-canoa (Brazil), Vieja (Argentina), Vieja de agua (Argentina)

***Loricariichthys maculatus* (Bloch, 1794)**

Loricaria maculata Bloch, 1794: 73, pl. 375 (figs. 1-2). Type locality: No locality stated. Lectotype: ZMB 3163, designated by Isbrücker (1971: 12).

Loricaria accipenser Shaw, 1804: 36. Type locality: Indian seas, in error [South America]. Types: On Bloch (1794: pl. 375, fig. 1), Gronovius (1763: 127, no. 391), and *Loricaria cataphracta* Linnaeus.

Plecostomus cataphracta Gronow in Gray, 1854: 158. Type locality: No locality stated. Neotype: ZMB 3163, designated by

Isbrücker (1971b: 15).
Loricaria amazonica Castelnau, 1855: 46, pl. 23 (fig. 2). Type locality: Not stated. Holotype: MNHN A.9560.
 ?*Parahemiodon typus* Bleeker, 1862a: 373. Type locality: Surinam. Holotype: RMNH 3121.
 ?*Loricaria parahemiodon* Günther, 1864: 258. Type locality: Surinam. Holotype: RMNH 3121. Unneeded new name for *Parahemiodon typus* Bleeker.
 Distribution: South America: Rivers of Suriname.
 Countries: Suriname

***Loricariichthys melanocheilus* Reis & Pereira, 2000**
Loricariichthys melanocheilus Reis & Pereira, 2000: 1042, fig. 9. Type locality: mouth of rio Ijuí-Mirim, tributary of rio Ijuí, Pirapó, Rio Grande do Sul, Brazil (rio Uruguay drainage, 28°03'S, 55°11'W). Holotype: MCP 16961.
 Maximum length: 20.9 cm SL
 Distribution: South America: Lower Paraná and Uruguay River basins.
 Countries: Brazil

***Loricariichthys microdon* (Eigenmann, 1909)**
Loricaria microdon Eigenmann, 1909: 7. Type locality: Rupununi [Guyana]. Holotype: FMNH 53555 [ex CM 1507].
 Maximum length: 11 cm
 Distribution: South America: Rupununi River basin.
 Countries: Guyana

***Loricariichthys nudirostris* (Kner, 1853)**
Loricaria nudirostris Kner, 1853: 12, 22, pl. 4. Type locality: Barra do Rio negro [Manaus, Brazil]. Lectotype: NMW 45092: 1, designated by Isbrücker (1979: 113). Originally as *Lor. nudirostris*.
 Maximum length: 20 cm
 Distribution: South America: Amazon River basin.
 Countries: Brazil

***Loricariichthys platymetopon* Isbrücker & Nijssen, 1979**
Loricariichthys platymetopon Isbrücker & Nijssen, 1979: 203, fig. 7. Type locality: Paraguay, Lago Ypacarai, San Bernardino, 25°16'S, 57°16'W, Río Paraguay system. Holotype: USNM 181580.
 Maximum length: 30 cm SL
 Distribution: South America: La Plata River basin.
 Countries: Argentina, Brazil, Paraguay
 Common names: Acari (Brazil), Cari (Brazil), Rapa-canoa (Brazil)

***Loricariichthys rostratus* Reis & Pereira, 2000**
Loricariichthys rostratus Reis & Pereira, 2000: 1044, fig. 10. Type locality: rio São Francisco Falso, limit between Diamante do Oeste and Santa Helena, Paraná, Brazil (upper rio Paraná drainage, 24°54'S, 54°12'W). Holotype: MCP 16962.
 Maximum length: 27.5 cm SL
 Distribution: South America: Paraná River basin, above Paraguay River mouth.
 Countries: Brazil, Paraguay

***Loricariichthys stuebelii* (Steindachner, 1882)**
Loricaria Stuebelii Steindachner, 1882a: 175. Type locality: Aus dem Huallaga [Peru]. Lectotype: NMW 45110, designated by Isbrücker (1979: 113).
 Maximum length: 19 cm SL
 Distribution: South America: Upper Amazon drainage, Huallaga River basin.
 Countries: Peru
 Common names: Shitari (Peru)

***Loricariichthys ucayalensis* Regan, 1913**
Loricariichthys ucayalensis Regan, 1913: 282. Type locality:

River Ucayali, Peru. Lectotype: BMNH 1913.7.30.36, designated by Isbrücker & Nijssen (1979: 208).
 Maximum length: 22 cm TL
 Distribution: South America: Upper Amazon drainage, Ucayali River basin.
 Countries: Peru
 Common names: Shitari (Peru)

Species inquirenda
Loricaria brunnea Hancock, 1828: 247. Type locality: Venezuela, the branches and lakes of the Orinoko [sic]. Type or types not found (Isbrücker 1979: 113).

METALORICARIA
Metaloricaria Isbrücker, 1975a: 2. Type species: *Metaloricaria paucidens* Isbrücker, 1975. Type by original designation. Gender: feminine. Genus reviewed in Isbrücker & Nijssen (1982).

***Metaloricaria nijsseni* (Boeseman, 1976)**
Hartia nijsseni Boeseman, 1976: 170, pl. 8. Type locality: Sipaliwini River, southwestern Surinam. Holotype: RMNH 27498.
 Maximum length: 29.5 cm SL
 Distribution: South America: Suriname, Saramacca, Nickerie, and Corantijn River basins.
 Countries: Suriname
 Remarks and references: Species reviewed and reassigned to *Metaloricaria* in Isbrücker & Nijssen (1982).

***Metaloricaria paucidens* Isbrücker, 1975**
Metaloricaria paucidens Isbrücker, 1975a: 2, fig. 1. Type locality: Creek at right bank of Ouauqui River, upstream of Sant Bali, French Guiana. Holotype: IRSNB 549.
 Maximum length: 27 cm SL
 Distribution: South America: Oyapock, Sinnamary, and Marowijne River basins.
 Countries: French Guiana, Suriname
 Remarks and references: Species reviewed in Isbrücker & Nijssen (1982). Species redescribed by le Bail et al. (2000).
 Common names: Achiwa (French Guiana), Goré (French Guiana), Wapakani (French Guiana)

PARALORICARIA
Paraloricaria Isbrücker, 1979: 87, 90. Type species: *Loricaria vetula* Valenciennes, 1836. Type by original designation. Gender: feminine.

***Paraloricaria agastor* Isbrücker, 1979**
Paraloricaria agastor Isbrücker, 1979: 103, figs. 20 (right) -21 (right). Type locality: Paraguay (rio?) Paraguay. Holotype: BMNH 1895.5.17.108.
 Maximum length: 10.8 cm SL
 Distribution: South America: Paraguay River basin.
 Countries: Paraguay

***Paraloricaria commersonoides* (Devincenzi, 1943)**
Loricaria commersonoides Devincenzi, 1943: 3, fig. 2. Type locality: río Uruguay, frente a la ciudad de Paysandú [Uruguay]. Holotype: MHNM (apparently lost, Olazarri et al. 1970).
 Maximum length: 37 cm
 Distribution: South America: Uruguay River basin.
 Countries: Argentina, Brazil (?), Uruguay
 Remarks and references: Redescribed in Ringulet et al. (1967).
 Common names: Vieja (Argentina)

***Paraloricaria vetula* (Valenciennes, 1836)**
Loricaria vetula Valenciennes, 1836: pl. 6 (fig. 2). Type locality: Not stated. Holotype: MNHN A.8996. Described in Cuvier & Valenciennes (1840: 466 [344 in Strasbourg deluxe ed.]) with

locality stated as: des environs de Buéno-Ayres.
 Maximum length: 48 cm
 Distribution: South America: La Plata River basin.
 Countries: Argentina, Brazil
 Remarks and references: Reviewed in Ringulet et al. (1967).
 Common names: Vieja (Argentina), Vieja con barba (Argentina),
 Vieja de agua (Argentina), Vieja de cola (Argentina), Vieja de
 látigo (Argentina), Viola (Brazil)

PLANILORICARIA

Planiloricaria Isbrücker, 1971a: 276. Type species: *Pseudohemiodon (Planiloricaria) cryptodon* Isbrücker, 1971. Type by original designation. Gender: feminine. Originally proposed as a subgenus of *Pseudohemiodon*. Diagnosed and distinguished in key from related genera in Isbrücker (1986b).

***Planiloricaria cryptodon* (Isbrücker, 1971)**

Pseudohemiodon (Planiloricaria) cryptodon Isbrücker, 1971a: 278, fig. 3. Type locality: Peru: Río Ucayali near Pucallpa. Holotype: ZFMK 1865.
 Maximum length: 21.5 cm SL
 Distribution: South America: Upper Amazon drainage, Ucayali, Purus, and Mamoré River basins.
 Countries: Bolivia, Brazil, Peru
 Remarks and references: Redescribed in Isbrücker (1986b).
 Common names: Shitari (Peru)

PSEUDOHEMIODON

Pseudohemiodon Bleeker, 1862b: 3. Type species: *Hemiodon platycephalus* Kner, 1853. Type by original designation. Gender: masculine.

***Pseudohemiodon amazonus* (Delsman, 1941)**

Loricaria apeltogaster amazonum Delsman, 1941: 80. Type locality: Trombetas-river, near Obidos [Brazil]. Holotype: IRSNB 546. Originally as *Loricaria apeltogaster* var. *amazonum*.
 Maximum length: 9.2 cm SL
 Distribution: South America: Lower Amazon River basin.
 Countries: Brazil

***Pseudohemiodon apithanos* Isbrücker & Nijssen, 1978**

Pseudohemiodon apithanos Isbrücker & Nijssen, 1978b: 195, fig. 6. Type locality: Ecuador, Prov. Napo, Río Conejo, a tributary of Río San Miguel, vicinity of Santa Cecilia, 0°06'N, 76°51'W, upper Río Amazonas system. Holotype: ANSP 134370.
 Maximum length: 14.5 cm SL
 Distribution: South America: San Miguel River basin, Western Amazon River drainage.
 Countries: Ecuador
 Common names: Caracha (Ecuador)

***Pseudohemiodon devincenzii* (Soriano-Señorans, 1950)**

Loricaria devincenzii Soriano-Señorans, 1950: 265. Type locality: sobre fondo de arena fangosa con red de playa, a 200 metros aqua abajo d la desembocadura del arroyo Espinillar, en el Río Uruguay, Rep. Oriental del Uruguay, departamento de Salto. Holotype: MHNM (apparently lost, Olazarri et al. 1970).
 Maximum length: 14.3 cm SL
 Distribution: South America: Uruguay River basin.
 Countries: Uruguay

***Pseudohemiodon laminus* (Günther, 1868)**

Loricaria lamina Günther, 1868: 478. Type locality: Xeberos (Upper Amazon). Lectotype: BMNH 1867.6.13.33, designated by Isbrücker (1973: 186).
 Maximum length: 15.9 cm SL

Distribution: South America: Upper Amazon River basin.
 Countries: Peru
 Common names: Shitari (Peru)

***Pseudohemiodon laticeps* (Regan, 1904)**

Loricaria laticeps Regan, 1904: 295, pl. 20 (fig. 1). Type locality: Paraguay. Lectotype: BMNH 1895.5.17.113, designated by Isbrücker (1973: 187).
 Maximum length: 29.8 cm SL
 Distribution: South America: Uruguay, Paraná and Paraguay River basins.
 Countries: Argentina, Brazil, Paraguay
 Remarks and references:
 Common names: Vieja, Vieja de cola (Argentina)

***Pseudohemiodon platycephalus* (Kner, 1853)**

Hemiodon platycephalus Kner, 1853: 12, 25, pl. 1 (fig. 6), pl. 6 (fig. 2a-b). Type locality: Rio Cuiaba [Brazil]. Holotype: lost (Isbrücker 1980: 122). Originally as *Hem. ? platycephalus*.
 Maximum length: 18 cm SL
 Distribution: South America: Paraguay River basin.
 Countries: Brazil

***Pseudohemiodon thorectes* Isbrücker, 1975**

Pseudohemiodon thorectes Isbrücker, 1975b: 87, fig. 1. Type locality: Bolivia, Est. Santa Cruz, Buena Vista, 17°28'S, 63°37'W, west of Río Palacios, tributary of Río Mamoré, which is a tributary of Río Madeira, Río Amazonas system. Holotype: BMNH 1927.10.4.43.
 Maximum length: 11.7 cm SL
 Distribution: South America: Mamoré River basin.
 Countries: Bolivia

PSEUDOLORICARIA

Pseudoloricaria Bleeker, 1862b: 3. Type species: *Loricaria laeviscula* Valenciennes, 1840. Type by original designation. Gender: feminine.

***Pseudoloricaria laeviscula* (Valenciennes, 1840)**

Loricaria laeviscula Valenciennes in Cuvier & Valenciennes, 1840: 476 (p. 352 of Strasbourg deluxe ed.). Type locality: Not stated. Holotype: MNHN B.365.
 Maximum length: 30.5 cm SL
 Distribution: South America: Lower and middle Amazon basin, including Negro and Branco rivers.
 Countries: Brazil

PTEROSTURISOMA

Pterosturisoma Isbrücker & Nijssen, 1978a: 69. Type species: *Harttia microps* Eigenmann & Allen, 1942. Type by original designation. Gender: neuter.

***Pterosturisoma microps* (Eigenmann & Allen, 1942)**

Harttia microps Eigenmann & Allen, 1942: 211, pl. 9 (fig. 1). Type locality: Iquitos [Peru]. Lectotype: CAS 28543, designated by Isbrücker & Nijssen (1978a: 71).
 Maximum length: 16.1 cm SL
 Distribution: South America: Upper Amazon River basin.
 Countries: Peru
 Common names: Shitari (Peru)

PYXILORICARIA

Pyxiloricaria Isbrücker & Nijssen, 1984a: 163. Type species: *Pyxiloricaria menezesi* Isbrücker & Nijssen, 1984. Type by original designation. Gender: feminine.

***Pyxiloricaria menezesi* Isbrücker & Nijssen, 1984**

Pyxiloricaria menezesi Isbrücker & Nijssen, 1984a: 164, fig. 1.

Type locality: Brazil, Mato Grosso do Sul, Lagoas marginais da rodovia Transpantaneira, município de Miranda (20°10'S, 56°19'W).

Maximum length: 14 cm SL

Distribution: South America: Paraguay River basin.

Countries: Brazil

REGANELLA

Hemiodon Kner, 1853: 24. Type species: *Hemiodon depressus* Kner, 1853. Type by subsequent designation by Bleeker (1862b: 4). Gender: masculine. Preoccupied by *Hemiodon* Swainson, 1840 in Mollusca; replaced by *Reganella* Eigenmann, 1905.

Reganella Eigenmann, 1905: 793. Type species: *Hemiodon depressus* Kner, 1853. Type by being a replacement name. Gender: feminine. Replacement for *Hemiodon* Kner, 1853.

***Reganella depressa* (Kner, 1853)**

Hemiodon depressus Kner, 1853: 12, 27, pl. 7 (fig. 1a-c). Type locality: Marabitanos [=Marabitanas, 0°57'N, 66°55'W] (originally, Rio negro und Marabitanos). Lectotype: NMW 9438, designated by Isbrücker & Nijssen (1974b: 219). Originally as *Hem. depressus*.

Maximum length: 11.3 cm SL

Distribution: South America: Negro, Branco, and Tapajós River basins.

Countries: Brazil

RHADINOLORICARIA

Rhadinoloricaria Isbrücker & Nijssen, 1974a: 73. Type species: *Loricaria macromystax* Günther, 1869. Type by original designation. Gender: feminine.

***Rhadinoloricaria macromystax* (Günther, 1869)**

Loricaria macromystax Günther, 1869: 426, figs. 5-6. Type locality: Peruvian Amazonas. Holotype: BMNH 1869.5.21.8.

Maximum length: 14.2 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Ecuador, Peru

Common names: Carachama (Ecuador), Shitari (Peru)

RICOLA

Ricola Isbrücker & Nijssen, 1978b: 182. Type species: *Loricaria macrops* Regan, 1904. Type by original designation. Gender: feminine.

***Ricola macrops* (Regan, 1904)**

Loricaria macrops Regan, 1904: 290, pl. 17 (fig. 3). Type locality: the R. de la Plata. Lectotype: BMNH 1868.9.16.1, designated by Isbrücker & Nijssen (1978: 184).

Maximum length: 21 cm SL

Distribution: South America: Lower Paraná River basin.

Countries: Argentina, Uruguay

Remarks and references: Reviewed in Ringulet et al. (1967).

Common names: Vieja, Vieja de cola (Argentina)

RINELORICARIA

Hemiloricaria Bleeker, 1862b: 3. Type species: *Hemiloricaria caracasensis* Bleeker, 1862. Type by original designation. Gender: feminine.

Rineloricaria Bleeker, 1862b: 3. Type species: *Loricaria lima* Kner, 1853. Type by original designation. Gender: feminine.

Fonchiiichthys Isbrücker & Michels, in Isbrücker et al., 2001: 18. Type species: *Loricaria uracantha* Kner & Steindachner, 1863. Type by original designation. Gender: masculine.

Leliella Isbrücker, in Isbrücker et al., 2001: 20. Type species: *Loricaria heteroptera* Isbrücker & Nijssen, 1975. Type by original designation. Gender: feminine.

***Rineloricaria aequalicuspis* Reis & Cardoso, 2001**

Rineloricaria aequalicuspis Reis & Cardoso, 2001: 324, fig. 3.

Type locality: Brazil: Rio Grande do Sul: rio Três Forquilhas, opposite to church of Vila Itati (29°30'43"S 50°05'31"W). Holotype: MCP 25852.

Maximum length: 16.1 cm SL

Distribution: South America: Três Forquilhas and Maquiné River basins.

Countries: Brazil

***Rineloricaria altipinnis* (Breder, 1925)**

Loricaria altipinnis Breder, 1925: 1, fig. 1. Type locality: Río Chico, Darien, Panama. Holotype: AMNH 8404.

Maximum length: 15.4 cm SL

Distribution: Central America: Chico River basin.

Countries: Panama

***Rineloricaria beni* (Pearson, 1924)**

Loricaria beni Pearson, 1924: 25, pl. 5 (fig. 4). Type locality: Lagoons, Lake Rogoagua [Beni River basin, Bolivia]. Holotype: CAS 28772 [ex IU 17016].

Maximum length: 7.8 cm SL

Distribution: South America: Beni River basin.

Countries: Bolivia

***Rineloricaria cacerensis* (Miranda Ribeiro, 1912)**

Loricaria cacerensis Miranda Ribeiro, 1912: 11. Type locality: Caceres, M. Grosso (Agua do Paraguay) [Brazil]. Lectotype: MNRJ 645A, designated by Miranda Ribeiro (1953: 400).

Distribution: South America: Paraguay River basin.

Countries: Brazil

***Rineloricaria cadeae* (Hensel, 1868)**

Loricaria cadeae Hensel, 1868: 369. Type locality: Rio Cadéa [Rio Grande do Sul, Brazil]. Lectotype: ZMB 7430, designated by Isbrücker (1979: 112).

Maximum length: 11.2 cm SL

Distribution: South America: Laguna dos Patos basin.

Countries: Brazil

***Rineloricaria caracasensis* (Bleeker, 1862)**

Loricaria rostrata van der Hoeven, 1849: 90. Type locality: Caracas [Venezuela]. Holotype: RMNH 3120. Preoccupied by *Loricaria rostrata* Spix & Agassiz, 1829, replaced by *Hemiloricaria caracasensis* Bleeker, 1862.

Hemiloricaria caracasensis Bleeker, 1862b: 3. Type locality: Caracas [Venezuela]. Holotype: RMNH 3120. Replacement for *Loricaria rostrata* van der Hoeven, 1849.

Distribution: South America: Caribbean coastal drainages.

Countries: Venezuela

Common names: Paleta (Venezuela), Tabla (Venezuela)

***Rineloricaria castroi* Isbrücker & Nijssen, 1984**

Rineloricaria castroi Isbrücker & Nijssen, 1984b: 93, fig. 1. Type locality: Brazil, Est. Pará, Trápiche da Reserva Biológica de Trombetas, Rio Trombetas. Holotype: MZUSP 15731.

Maximum length: 16 cm SL

Distribution: South America: Trombetas River basin.

Countries: Brazil

***Rineloricaria catamarcensis* (Berg, 1895)**

Loricaria catamarcensis Berg, 1895: 137. Type locality: Provincia Catamarca [Argentina]. Holotype: not found (Isbrücker 1979: 113).

Maximum length: 11 cm

Distribution: South America: Tala and Salí River basins in Catamarca Province.

Countries: Argentina

Remarks and references: Reviewed in Ringulet et al. (1967).

Common names: Vieja (Argentina)

Rineloricaria cubataonis (Steindachner, 1907)

Loricaria cubataonis Steindachner, 1907b: 489. Type locality: aus dem Flusse Cubatão, im Staate Santa Catharina bei Theoresopolis (Brasilien). Holotype: NMW (not found, Isbrücker 1979: 113).

Maximum length: 5.4 cm SL

Distribution: South America: Coastal Atlantic rivers of southeastern Brazil.

Countries: Brazil

Rineloricaria eigenmanni (Pellegrin, 1908)

Loricaria Eigenmanni Pellegrin, 1908: 125. Type locality: Sarare (Venezuela). Lectotype: MNHN 1899-118, designated by Isbrücker (1979: 113).

Maximum length: 10.2 cm SL

Distribution: South America: Venezuela (?).

Countries: Venezuela

Common names: Paleta (Venezuela), Tabla (Venezuela)

Rineloricaria fallax (Steindachner, 1915)

Loricaria (Loricariichthys) fallax Steindachner, 1915b: 87, pl. 13 (figs. 1-4). Type locality: Brazil, Est. Roraima, Igarapé de Caraná (=Sa. Grande, 02°51'N, 60°43'W) near Bôa Vista (02°51'N, 60°3'W), altitude 200m above sea level, Rio Branco drainage, Rio Amazonas drainage (originally: Rio Rupununi, dem Rio Parimé dei Serra do Banco, aus einem Igarapé bei Capivari, dem Rio Branco bei Bem Querer und Conceição, einem Flusse bei Maguary an der Braganzabahn bei Pará). Lectotype: NMW 44864, designated by Isbrücker & Nijssen (1979: 198).

Maximum length: 15.7 cm SL

Distribution: South America: Upper Rupununi and Branco River basins.

Countries: Brazil, Guyana

Rineloricaria felipponei (Fowler, 1943)

Loricaria felipponei Fowler, 1943b: 319, fig. 9. Type locality: Uruguay. Holotype: ANSP 70324.

Maximum length: 11.3 cm

Distribution: South America: Lower La Plata River basin.

Countries: Uruguay

Rineloricaria formosa Isbrücker & Nijssen, 1979

Rineloricaria formosa Isbrücker & Nijssen, 1979: 192, fig. 1. Type locality: Colombia, Lagoon about 1 km upriver from Puerto Inírida, Río Orinoco basin. Holotype: FMNH 83713.

Maximum length: 15.2 cm SL

Distribution: South America: Western Orinoco and upper Amazon River basins.

Countries: Brazil, Colombia, Venezuela

Common names: Paleta (Venezuela), Tabla (Venezuela)

Rineloricaria hasemani Isbrücker & Nijssen, 1979

Rineloricaria hasemani Isbrücker & Nijssen, 1979: 200, fig. 4. Type locality: Brazil, Est. Pará, Maguary near Belém, along the Bragança railroad (Bragança, 1°02'S, 46°46'W), in forest streams. Holotype: NMW 44865.

Maximum length: 13.7 cm SL

Distribution: South America: Lower Amazon or Tocantins River basin.

Countries: Brazil

Rineloricaria henselii (Steindachner, 1907)

Loricaria henselii Steindachner, 1907b: 488. Type locality: Aus dem Flusse Cubatão im Staate Santa Catherina bei Theresopolis (Brasilien). Holotype: NMW (not found, Isbrücker 1979: 113).

Maximum length: 7.5 cm SL

Distribution: South America: Cubatão River in southern Santa Catarina State.

Countries: Brazil

Rineloricaria heteroptera Isbrücker & Nijssen, 1976

Rineloricaria heteroptera Isbrücker & Nijssen, 1976: 112, fig. 1.

Type locality: Brazil, Est. Amazonas. Creek in reserve Duce, near Manaus (03°06'S, 60°00'W). Holotype: IRSNB 555.

Maximum length: 13.3 cm SL

Distribution: South America: Amazon River basin, near Manaus.

Countries: Brazil

Rineloricaria hoehnei (Miranda Ribeiro, 1912)

Loricaria hoehnei Miranda Ribeiro, 1912: 11. Type locality: Coxim, no Rio Paraguay [Brazil]. Holotype: MNRJ 650.

Maximum length: 5.8 cm SL

Distribution: South America: Paraguay River basin.

Countries: Brazil

Rineloricaria jaraguensis (Steindachner, 1909)

Loricaria jaraguensis Steindachner, 1909: 196. Type locality: dem Jaraguá und dessen Nebenflüssen in brasilianischen Staate Sa. Catharina. Lectotype: NMW 44886, designated by Isbrücker (1979: 113).

Maximum length: 18.5 cm

Distribution: South America: Jaraguá River basin in Santa Catarina State.

Countries: Brazil

Rineloricaria jubata (Boulenger, 1902)

Loricaria jubata Boulenger, 1902: 70. Type locality: Northwestern Ecuador, St. Javier (60 feet), and the Rio Durango elev. (350 feet) [restricted to the Durango River]. Lectotype: BMNH 1902.5.27.45, designated by Isbrücker (1979: 112).

Maximum length: 21 cm SL

Distribution: South America: Mira and Esmeraldas River basins, Pacific drainage.

Countries: Ecuador

Common names: Carachama (Ecuador), Guitarra (Ecuador), Palo seco (Ecuador)

Rineloricaria konopickyi (Steindachner, 1879)

Loricaria konopickyi Steindachner, 1879d: 34. Type locality: dem mittleren Laufe des Amazonenstromes. Holotype: NMW 44934.

Maximum length: 9.6 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil

Rineloricaria kronei (Miranda Ribeiro, 1911)

Loricaria kronei Miranda Ribeiro, 1911: 132, pl. 34 (fig. 2). Type locality: Rio Iporanga, S. Paulo [Brazil]. Holotype: MNRJ (?), not found.

Distribution: South America: Ribeira de Iguape River basin.

Countries: Brazil

Rineloricaria lanceolata (Günther, 1868)

Loricaria lanceolata Günther, 1868: 477. Type locality: Xeberos.

Holotype: BMNH 1867.6.13.79.

Maximum length: 9.5 cm

Distribution: South America: Upper Amazon River basin.

Countries: Peru

Common names: Shitari (Peru)

Rineloricaria latirostris (Boulenger, 1900)

Loricaria paulina Boulenger, 1900: 166. Type locality: Southern Brazil, Province São Paulo, Mogy-guassu River. Lectotype: BMNH 1899.12.18.8, designated by Isbrücker (1979: 112).

Loricaria latirostris Boulenger, 1900: 165. Type locality: Southern Brazil, Province São Paulo, Mogy-guassu River about 250 miles inland of Santos. Lectotype: BMNH 1899.12.18.6, designated by Isbrücker (1979: 112).

Maximum length: 36 cm TL

Distribution: South America: Upper Paraná River basin.

Countries: Brazil

***Rineloricaria lima* (Kner, 1953)**

Loricaria lima Kner, 1853: 12, 25, pl. 6 (fig. 1a-b). Type locality: aus Brasilien durch Natterer, ober ohne nähere Angabe des Fundortes. Holotype: NMW (probably lost, Isbrücker 1980: 107). Originally as *Lor.?* *lima*.
Distribution: South America: distribution unknown.
Countries: Brazil

***Rineloricaria longicauda* Reis, 1983**

Rineloricaria longicauda Reis, 1983: 64, figs. 5-7. Type locality: Banhado do Taim, município de Rio Grande, RS [Brazil]. Holotype: MZUSP 16078.
Maximum length: 10.9 cm SL
Distribution: South America: Coastal drainages of Rio Grande do Sul State, between Chuí and Tramandaí.
Countries: Brazil

***Rineloricaria magdalenae* (Steindachner, 1879)**

Loricaria magdalenae Steindachner, 1879e: 74. Type locality: Magdalena-Stromes [Colombia]. Lectotype: NMW 45080, designated by Isbrücker (1979: 112).
Maximum length: 20 cm
Distribution: South America: Sinú, Magdalena and, possibly, Catatumbo River basins.
Countries: Colombia, Venezuela
Common names: Alcalde (Colombia), Paleta (Venezuela), Raspacanoa (Colombia), Tabla (Venezuela)

***Rineloricaria maquinensis* Reis & Cardoso, 2001**

Rineloricaria maquinensis Reis & Cardoso, 2001: 321, fig. 1. Type locality: Brazil: Rio Grande do Sul: arroio Água Parada, tributary to rio Maquiné (approximately 29°40'S 50°12'W), Maquiné. Holotype: MCP 25817.
Maximum length: 8.5 cm SL
Distribution: South America: Maquiné and Araranguá River basins in southern Brazil.
Countries: Brazil

***Rineloricaria melini* (Schindler, 1959)**

Loricariichthys melini Schindler, 1959: 387, fig. 1. Type locality: Rio Solimoes beim Ort Manacapuru, nahe der Mündung des Rio Negro [Brazil]. Holotype: NRM 10830.
Maximum length: 13 cm SL
Distribution: South America: Amazon River basin.
Countries: Brazil

***Rineloricaria microlepidogaster* (Regan, 1904)**

Loricaria microlepidogaster Regan, 1904: 283, pl. 15 (fig. 4). Type locality: Rio Grande do Sul [Brazil]. Holotype: BMNH 1884.2.5.41.
Maximum length: 18.5 cm SL
Distribution: South America: Laguna dos Patos basin.
Countries: Brazil

***Rineloricaria microlepidota* (Steindachner, 1907)**

Loricaria lima microlepidota Steindachner, 1907a: 154. Type locality: dem Juruá [Brazil]. Syntypes: NMW (?), not found (Isbrücker 1979: 113). Originally as *Loricaria lima* var. *microlepidota*.
Maximum length: 14.5 cm
Distribution: South America: Juruá River basin.
Countries: Brazil

***Rineloricaria morrowi* Fowler, 1940**

Rineloricaria morrowi Fowler, 1940a: 244, fig. 41. Type locality: Ucayali River basin, Contamana, Peru. Holotype: ANSP 68663.
Maximum length: 16.5 cm
Distribution: South America: Ucayali River basin.
Countries: Peru
Common names: Shitari (Peru)

***Rineloricaria nigricauda* (Regan, 1904)**

Loricaria nigricauda Regan, 1904: 275, pl. 16 (fig. 2). Type locality: Porto Real, Province Rio Janeiro [Brazil]. Lectotype: BMNH 1891.6.16.32, designated by Isbrücker (1979: 113).
Maximum length: 6.5 cm
Distribution: South America: Coastal streams in Rio de Janeiro State.
Countries: Brazil

***Rineloricaria pareiacantha* (Fowler, 1943)**

Loricaria pareiacantha Fowler, 1943b: 321, fig. 12. Type locality: Rio Santa Lucia, Canelones [Uruguay]. Holotype: ANSP 67815.
Maximum length: 10 cm
Distribution: South America: Santa Lucia River basin.
Countries: Uruguay

***Rineloricaria parva* (Boulenger, 1895)**

Loricaria parva Boulenger, 1895: 527. Type locality: Descalvados, Matto Grosso [Brazil]. Lectotype: BMNH 1895.5.17.91, designated by Isbrücker (1979: 112).
Maximum length: 11 cm SL
Distribution: South America: Paraguay River basin.
Countries: Argentina, Brazil
Remarks and references: Reviewed in Ringulet et al. (1967).
Common names: Vieja (Argentina), Vieja de agua (Argentina)

***Rineloricaria pentamaculata* Langeani & Araujo, 1994**

Rineloricaria pentamaculata Langeani & Araujo, 1994: 153, fig. 1. Type locality: rio Turvo, Ourinhos, São Paulo, Brasil. Holotype: MZUSP 43051.
Distribution: South America: Turvo River basin in São Paulo State.
Countries: Brazil

***Rineloricaria phoxocephala* (Eigenmann & Eigenmann, 1889)**

Loricaria phoxocephala Eigenmann & Eigenmann, 1889: 37. Type locality: Coary [Brazil]. Lectotype: MCZ 8030, designated by Isbrücker (1979: 112).
Maximum length: 15 cm SL
Distribution: South America: Amazon River basin.
Countries: Brazil

***Rineloricaria platyura* (Müller & Troschel, 1848)**

Loricaria platyura Müller & Troschel, 1848: 631. Type locality: dem Rupununi [Guyana]. Holotype: ZMB 3166.
Loricaria submarginatus Eigenmann, 1909: 10. Type locality: Creek below Potaro Landing [Guyana]. Holotype: FMNH 53080 [ex CM 1510].
Maximum length: 14 cm SL
Distribution: South America: Various coastal rivers from near Amazon mouth to Essequibo River.
Countries: Brazil, French Guiana, Guyana
Remarks and references: Species redescribed by le Bail et al. (2000).
Common names: Achiwa (French Guiana), Chichiwa (French Guiana), Goré-fwèt (French Guiana), Lapipi (French Guiana), Sisiou (French Guiana), Tatoulouway (French Guiana)

***Rineloricaria quadrensis* Reis, 1983**

Rineloricaria quadrensis Reis, 1983: 66, figs. 15-17. Type locality: Lagoa dos Quadros, município de Osório, RS [Brazil]. Holotype: MZUSP 14363.
Maximum length: 14.7 cm SL
Distribution: South America: Coastal streams and lagoons in Rio Grande do Sul, between Tramandaí and Torres.
Countries: Brazil

***Rineloricaria rupestris* (Schultz, 1944)**

Loricaria uracantha rupestre Schultz, 1944b: 325, pl. 12 (figs. A-B). Type locality: Río San Pedro at bridge south of Mene Grande, Río Motatán system, Maracaibo basin [Venezuela]. Holotype: USNM 121102.

Maximum length: 9 cm SL

Distribution: South America: Rivers of the Lake Maracaibo basin, in lower and middle reaches of rivers.

Countries: Venezuela

Common names: Paleta (Venezuela), Tabla (Venezuela)

***Rineloricaria sneiderni* (Fowler, 1944)**

Loricaria sneiderni Fowler, 1944: 240, fig. 18. Type locality: Río Jurubidá, Nuquí, in brook [Colombia].

Holotype: ANSP 71433.

Maximum length: 18 cm

Distribution: South America: Pacific versant: Jurubidá River basin.

Countries: Colombia

***Rineloricaria steindachneri* (Regan, 1904)**

Loricaria steindachneri Regan, 1904: 281. Type locality: Eastern Brazil, from the R. Preto to the R. Parahyba. Lectotype: NMW 45016: 1, designated by Isbrücker (1979: 113).

Maximum length: 19 cm TL

Distribution: South America: Coastal rivers of northeastern Brazil.

Countries: Brazil

***Rineloricaria stewarti* (Eigenmann, 1909)**

Loricaria stewarti Eigenmann, 1909: 9. Type locality: Chipoo Creek, a tributary of the Ireng [Guyana]. Holotype: FMNH 53330 [ex CM 1508].

Maximum length: 10 cm SL

Distribution: South America: Coastal rivers of the Guianas.

Countries: French Guiana, Guyana, Suriname

Remarks and references: Species redescribed by le Bail et al. (2000).

Common names: Achiwa (French Guiana), Atomba (French Guiana), Chichiwa (French Guiana), Goré fwèt (French Guiana), Krakakoe (French Guiana), Lapipi (French Guiana), Santipiwí (French Guiana)

***Rineloricaria strigilata* (Hensel, 1868)**

Loricaria strigilata Hensel, 1868: 368. Type locality: Südbrasilien, in eimen steinigem Bache bei Santa Cruz. Holotype: ZMB 7429.

Maximum length: 11 cm SL

Distribution: South America: Laguna dos Patos basin.

Countries: Brazil

***Rineloricaria teffeana* (Steindachner, 1879)**

Loricaria teffeana Steindachner, 1879d: 34. Type locality: Teffé, Amazonenstrom [Brazil]. Lectotype: NMW 45134: 1, designated by Isbrücker (1979: 112).

Loricaria Valenciennesii Vaillant, 1880: 157. Type locality: Calderon [Brazil]. Holotype: MNHN A.1985.

Maximum length: 14 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil

***Rineloricaria thrissoceps* (Fowler, 1943)**

Loricaria thrissoceps Fowler, 1943b: 322, fig. 15. Type locality: Río Santa Lucia, Canelones [Uruguay]. Holotype: ANSP 67796.

Maximum length: 10.6 cm

Distribution: South America: Santa Lucia River basin.

Countries: Uruguay

***Rineloricaria uracantha* (Kner, 1863)**

Loricaria uracantha Kner, 1863: 228, fig. 18. Type locality: Aus dem Río Chagres, Nordseite von Panama. Syntypes: NMW, probably lost (Isbrücker 1979: 112). Originally as *Lor. uracantha*. Also appeared as new in Kner & Steindachner (1864:56, Pl.

6 (fig. 3)).

Loricaria bransfordi Gill, 1877: 338. Type locality: Isthmus of Panama, Empire Station. Holotype: USNM 16673.

Maximum length: 16.5 cm SL

Distribution: Central America: Atlantic and Pacific versant rivers.

Countries: Costa Rica, Panama

Remarks and references: Diagnosis and ecological notes in Bussing (1998).

Common names: Alcalde (Costa Rica), Cuchara (Costa Rica), Zapatero (Costa Rica)

***Rineloricaria wolfei* Fowler, 1940**

Rhineloricaria wolfei Fowler, 1940a: 241, fig. 35. Type locality: Ucayali River basin, Contamana, Peru. Holotype: ANSP 68660.

Maximum length: 14.9 cm

Distribution: South America: Ucayali River basin.

Countries: Peru

Common names: Shitari (Peru)

SPATULORICARIA

Spatuloricaria Schultz, 1944b: 287, 334. Type species: *Spatuloricaria phelpsi* Schultz, 1944. Type by original designation. Gender: feminine.

Euacanthagenys Fowler, 1945: 123. Type species: *Euacanthagenys caquetae* Fowler, 1945. Type by original designation. Gender: feminine.

***Spatuloricaria atratoensis* Schultz, 1944**

Spatuloricaria atratoensis Schultz, 1944a: 155. Type locality: Río Truando, tributary of Río Atrato, Colombia. Holotype: USNM 93810.

Maximum length: 33.8 cm SL

Distribution: South America: Atrato River basin.

Countries: Colombia

***Spatuloricaria caquetae* (Fowler, 1943)**

Loricaria caquetae Fowler, 1943a: 261, fig. 61. Type locality: Florencia, Río Ortegusa, Colombia. Holotype: ANSP 70526.

Maximum length: 37 cm

Distribution: South America: Ortegusa River basin.

Countries: Colombia

***Spatuloricaria curvispina* (Dahl, 1942)**

Loricaria curvispina Dahl, 1942: 85, figs. 5-7. Type locality: Río Batatal, tributary to Río San Jorge, which is next to Río Cauca the largest tributary to Río Magdalena. Department of Bolivar, Republic of Colombia. Holotype: ZMUL (?).

Maximum length: 40 cm SL

Distribution: South America: Magdalena River basin.

Countries: Colombia

Common names: Bigutudo (Colombia)

***Spatuloricaria euacanthagenys* Isbrücker, 1979**

Euacanthagenys caquetae Fowler, 1945: 125, figs. 37-39. Type locality: Morelia, Río Caquetá drainage, Colombia. Holotype: ANSP 71718. Preoccupied in *Spatuloricaria* by *Loricaria caquetae* Fowler, 1943, replaced by *Spatuloricaria euacanthagenys* Isbrücker, 1979.

Spatuloricaria euacanthagenys Isbrücker, 1979: 113, figs. 24-26. Type locality: Morelia, Río Caquetá drainage, Colombia. Holotype: ANSP 71718. Replacement name for *Euacanthagenys caquetae* Fowler, 1945.

Maximum length: 52 cm

Distribution: South America: Caquetá River basin.

Countries: Colombia

***Spatuloricaria evansii* (Boulenger, 1892)**

Loricaria Evansii Boulenger, 1892: 10, pl. 1. Type locality: Janganda [Matto Grosso, Brazil]. Holotype: BMNH 1892.4.20.29.

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Loricaria cirrhosa Perugia, 1897: 22. Type locality: Río Beni, Mission Mosetenes, Bolivia. Syntypes: MSNG 8850, 43118, and one specimen not found. Preoccupied by *Loricaria cirrhosa* Bloch & Schneider, 1801, apparently not replaced.

Maximum length: 20 cm SL

Distribution: South America: Paraguay and Beni River basins.

Countries: Argentina, Bolivia, Brazil

***Spatuloricaria fimbriata* (Eigenmann & Vance, 1912)**

Loricaria fimbriata Eigenmann & Vance in Eigenmann, 1912a: 12. Type locality: Boca de Certegai [Colombia]. Holotype: FMNH 55117 [ex CM 3808].

Maximum length: 8 cm SL

Distribution: Central and South America: Tuira River, Magdalena River and Boca de Certegai.

Countries: Colombia, Panama

Common names: Cucho pitero (Colombia), Zapatero (Colombia)

***Spatuloricaria gymnogaster* (Eigenmann & Vance, 1912)**

Loricaria gymnogaster Eigenmann & Vance in Eigenmann, 1912a: 12. Type locality: Apulo [Colombia]. Holotype: CAS 28773 [ex IU 12691].

Maximum length: 25 cm SL

Distribution: South America: Upper Magdalena River basin.

Countries: Colombia

Common names: Alcalde (Colombia), Cucho pitero (Colombia), Zapatero (Colombia)

***Spatuloricaria lagoichthys* (Schultz, 1944)**

Loricaria gymnogaster lagoichthys Schultz, 1944b: 331, pl. 13. Type locality: Río Palmar near Totuma, about 100 km southwest of Maracaibo [Venezuela]. Holotype: USNM 121092.

Maximum length: 30.5 cm SL

Distribution: South America: Lake Maracaibo basin.

Countries: Venezuela

Common names: Paleta (Venezuela), Tabla (Venezuela)

***Spatuloricaria nudiventris* (Valenciennes, 1840)**

Loricaria nudiventris Valenciennes in Cuvier & Valenciennes, 1840: 469 (346 of Strasbourg deluxe ed.). Type locality: la rivière de Saint-François au Brésil. Holotype: MNHN A.9558.

Distribution: South America: São Francisco River basin.

Countries: Brazil

***Spatuloricaria phelpsi* Schultz, 1944**

Spatuloricaria phelpsi Schultz, 1944b: 335, pl. 14. Type locality: Río Socuy, 3 km above its mouth, Maracaibo basin, Venezuela. Holotype: USNM 121121.

Maximum length: 33.8 cm SL

Distribution: South America: Lake Maracaibo basin.

Countries: Venezuela

***Spatuloricaria pujanensis* (Pearson, 1937)**

Loricaria pujanensis Pearson, 1937: 96. Type locality: Pusoc, Río Marañón, Peru. Lectotype: CAS 28776 [ex IU 17656], designated by Isbrücker (1979: 113).

Maximum length: 22 cm

Distribution: South America: Marañón River basin.

Countries: Peru

Common names: Shitari (Peru)

STURISOMA

Sturisoma Swainson, 1838: 333. Type species: *Loricaria rostrata* Spix & Agassiz, 1829. Type by monotypy. Gender: neuter.

Oxyloricaria Bleeker, 1862b: 3. Type species: *Loricaria barbata* Kner, 1853. Type by original designation. Gender: feminine.

Parasturisoma Miranda Ribeiro, 1911: 109. Type species: *Loricaria (Rineloricaria) brevirostris* Eigenmann & Eigenmann, 1889.

Type by monotypy. Gender: neuter.

***Sturisoma aureum* (Steindachner, 1900)**

Loricaria aurea Steindachner, 1900: 206. Type locality: Bodega central, Río Magdalena [Colombia]. Holotype: NMW (?).

Maximum length: 20 cm SL

Distribution: South America: Magdalena, San Jorge and Cesar River basins.

Countries: Colombia

Common names: Palito (Colombia)

***Sturisoma barbatum* (Kner, 1853)**

Loricaria barbata Kner, 1853: 12, 23, pl. 5. Type locality: Rio Cuibá, Cujaba-Fluss [Brazil]. Holotype: NMW 46155. Originally *Lor. barbata*.

Maximum length: 28 cm SL

Distribution: South America: Paraguay River basin.

Countries: Brazil

***Sturisoma brevirostre* (Eigenmann & Eigenmann, 1889)**

Loricaria brevirostris Eigenmann & Eigenmann, 1889: 35. Type locality: Iça [Brazil]. Holotype: MCZ 8095.

Maximum length: 20.7 cm SL

Distribution: South America: Içá River basin.

Countries: Brazil

***Sturisoma dariense* (Meek & Hildebrand, 1913)**

Oxyloricaria dariensis Meek & Hildebrand, 1913: 81. Type locality: Río Tuyra, Boca de Cupe, Panama. Holotype: FMNH 7584.

Maximum length: 25.4 cm

Distribution: Central America: Tuira River basin.

Countries: Panama

***Sturisoma festivum* Myers, 1942**

Sturisoma festivum Myers, 1942: 100, fig. 8. Type locality: Río Monay, 35 km north of Trujillo, Motatan system, Maracaibo basin, Venezuela. Holotype: SU 36505.

Maximum length: 16.9 cm SL

Distribution: South America: Lake Maracaibo basin.

Countries: Venezuela

***Sturisoma frenatum* (Boulenger, 1902)**

Loricaria frenata Boulenger, 1902: 69. Type locality: Salidero, Ecuador (Originally: Northwestern Ecuador, St. Javier (60 feet), Saildero (350 feet), and Río Durango (350 feet)). Lectotype: BMNH 1901.8.3.29, designated by Isbrücker (1979: 113).

Maximum length: 24 cm SL

Distribution: South America: Pacific versant rivers.

Countries: Ecuador

Common names: Raspabalsa (Ecuador)

***Sturisoma guentheri* (Regan, 1904)**

Oxyloricaria guentheri Regan, 1904: 299, pl. 18 (fig. 1). Type locality: Xeberos, Upper Amazon [Peru]. Holotype: BMNH 1867.6.13.36.

Maximum length: 23 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

Common names: Shitari (Peru)

***Sturisoma lyra* (Regan, 1904)**

Oxyloricaria lyra Regan, 1904: 300, pl. 19 (fig. 2). Type locality: Río Jurua. Lectotype: BMNH 1897.12.1.64, designated by Isbrücker (1979: 113).

Maximum length: 25 cm TL

Distribution: South America: Juruá River basin.

Countries: Brazil, Peru

Common names: Shitari (Peru)

***Sturisoma monopelte* Fowler, 1914**

Sturisoma monopelte Fowler, 1914: 274, fig. 18. Type locality: Rupununi River, British Guiana. Holotype: ANSP 39346. Maximum length: 26.5 cm
Distribution: South America: Rupununi River basin.
Countries: Guyana

***Sturisoma nigrirostrum* Fowler, 1940**

Sturisoma nigrirostrum Fowler, 1940a: 249, fig. 50. Type locality: Ucayali River basin, Contamana, Peru. Holotype: ANSP 68666. Maximum length: 22 cm
Distribution: South America: Ucayali River basin.
Countries: Peru
Common names: Shitari (Peru)

***Sturisoma panamense* (Eigenmann & Eigenmann, 1889)**

Loricaria panamensis Eigenmann & Eigenmann, 1889: 34. Type locality: Panama. Holotype: MCZ 8126. Maximum length: 26 cm SL
Distribution: Central and South America: Pacific slope rivers of Panama, Colombia, and Ecuador; Caribbean slope rivers of Colombia.
Countries: Colombia, Ecuador, Panama
Common names: Alcalde (Colombia), Chuzo (Colombia), Guitarera (Ecuador), Palito (Colombia), Pitero (Colombia)

***Sturisoma robustum* (Regan, 1904)**

Oxyloricaria robusta Regan, 1904: 300, pl. 19 (fig. 1). Type locality: Rio Paraguay. Lectotype: BMNH 1895.5.17.89, designated by Isbrücker (1979: 113). Maximum length: 25 cm SL
Distribution: South America: La Plata River basin.
Countries: Argentina, Brazil, Paraguay
Remarks and references: Reviewed in Ringulet et al. (1967).
Common names: Acari (Brazil), Cari (Brazil), Rapa-canoa (Brazil)

***Sturisoma rostratum* (Spix & Agassiz, 1829)**

Loricaria rostrata Spix & Agassiz, 1829: 5, pl. 3. Type locality: Brasiliae fluvii. Holotype: lost (Isbrücker 1979: 113). Maximum length: 19 cm
Distribution: South America: Brazil (?)
Countries: Brazil

***Sturisoma tenuirostre* (Steindachner, 1910)**

Oxyloricaria tenuirostris Steindachner, 1910b: 410. Type locality: dem Rio Meta in Venezuela. Holotype: NMW 45453. Maximum length: 12.6 cm SL
Distribution: South America: Meta River basin.
Countries: Venezuela

STURISOMATICHTHYS

Sturisomatichtchys Isbrücker & Nijssen in Isbrücker, 1979: 91. Type species: *Oxyloricaria leightoni* Regan, 1912. Type by original designation. Gender: masculine.

***Sturisomatichtchys caquetae* (Fowler, 1945)**

Harttia caquetae Fowler, 1945: 126, fig. 43. Type locality: Morelia, Rio Caquetá drainage, Colombia. Holotype: ANSP 71719. Maximum length: 19.3 cm
Distribution: South America: Caquetá River basin.
Countries: Colombia

***Sturisomatichtchys citurensis* (Meek & Hildebrand, 1913)**

Oxyloricaria citurensis Meek & Hildebrand, 1913: 82. Type locality: Río Cupe at Cituro, Panama, Tuyra River basin. Holotype: FMNH 7585.

Maximum length: 25 cm SL

Distribution: Central America: Tuirá and Bayano River basins.
Countries: Panama

***Sturisomatichtchys leightoni* (Regan, 1912)**

Oxyloricaria leightoni Regan, 1912: 669, pl. 77 (fig. 2). Type locality: Honda, Colombia, 300-400 ft. Lectotype: BMNH 1909.7.23.45, designated by Isbrücker (1979: 113). Maximum length: 18 cm SL
Distribution: South America: Upper Magdalena and Cauca River basins.
Countries: Colombia
Common names: Baracalde (Colombia), Cucho pitero (Colombia)

***Sturisomatichtchys tamanae* (Regan, 1912)**

Oxyloricaria tamanae Regan, 1912: 669, pl. 77 (figs. 1, 1a & b). Type locality: the Rio Tamana, Río San Juan, Choco, S.W. Colombia. Lectotype: BMNH 1910.7.11.133, designated by Isbrücker (1979: 113). Maximum length: 22.5 cm TL
Distribution: South America: San Juan River basin.
Countries: Colombia

References

- Ahl, E. 1937. Zwei neue Süßwasserfische aus Südamerika. Sitzungsber. Ges. Naturf. Freunde Berlin: 445-447.
Berg, C. 1895. Sobre peces de agua dulce nuevos ó poco conocidos de la República Argentina. An. Mus. Nac. Hist. Nat. B. Aires, 4: 121-165, pls. 2-3.
Bleeker, P. 1862a. Descriptions de quelques espèces nouvelles de Silures de Suriname. Versl. Akad. Amsterdam, 14: 371-389.
Bleeker, P. 1862b. Atlas ichthyologique des Indes Orientales Néerlandaises, publié sous les auspices du Gouvernement colonial néerlandais. Tome II. Siluroïdes, Chacoïdes et Hétérobranchoïdes. Amsterdam. 112 p., pls. 49-101.
Bloch, M.E. 1794. Naturgeschichte der ausländischen Fische, vol. 8. Berlin. iv + 174 p., pls. 361-396.
Bloch, M.E. and J.G. Schneider. 1801. M. E. Blochii, Systema Ichthyologiae iconibus cx illustratum. Post obitum auctoris opus inchoatum absolvit, correxit, interpolavit Jo. Gottlob Schneider, Saxo. Berolini. Sumtibus Austoris Impressum et Bibliopolio Sanderiano Commisum. lx + 584 p., pls. 1-110.
Boeseman, M. 1953. Scientific results of the Surinam Expedition 1948-1949. Part II. Zoology No. 2. The Fishes (I). Zool. Meded. (Leiden), 32 (1): 1-24.
Boeseman, M. 1971. The "comb-toothed" Loricariinae of Surinam, with reflections on the phylogenetic tendencies within the family Loricariidae (Siluriformes, Siluroidei). Zool. Verh. (Leiden), no. 116: 1-56, pls. 1-8.
Boeseman, M. 1976. A short review of the Surinam Loricariinae; with additional information on Surinam Harttiinae, including the description of a new species (Loricariidae, Siluriformes). Zool. Meded. (Leiden), 50 (11): 153-177, pls. 1-8.
Boulenger, G.A. 1892. On some new or little-known fishes obtained by Dr. J. W. Evans and Mr. Spencer Moore during their recent expedition to the Province of Matto Grosso, Brazil. Ann. Mag. Nat. Hist. (Ser. 6), 10 (55): 9-12, Pls. 1-2.
Boulenger, G.A. 1895. [Abstract of a report on a large collection of fishes formed by Dr. C. Ternetz in Matto Grosso and Paraguay, with descriptions of new species.]. Proc. Zool. Soc. London, 1895 (pt 3): 523-529.
Boulenger, G.A. 1898. On a collection of fishes from the Rio Jurua, Brazil. Trans. Zool. Soc. London, 14 (pt 7, no. 2): 421-428, pls. 39-42.
Boulenger, G.A. 1900. Descriptions of three new species of silurid fishes from southern Brazil. Ann. Mag. Nat. Hist. (Ser. 7), 5 (26): 165-166.
Boulenger, G.A. 1902. Descriptions of two new fishes of the genus

Check List of the Freshwater Fishes of South and Central America

- Loricaria* from north-western Ecuador. Ann. Mag. Nat. Hist. (Ser. 7), 9 (49): 69-71.
- Breder, C.M., Jr. 1925. New loriciate, characin and poeciliid fishes from the Rio Chucunaque, Panama. Am. Mus. Novit., no. 180: 1-9.
- Britski, H.A. 1969. Lista dos tipos de peixes das coleções do Departamento de Zoologia da Secretaria da Agricultura de São Paulo. Pap. Avulsos Dep. Zool. (São Paulo), 22 (19): 197-215.
- Britski, H. A., K. Z. de S. de Silimon and B. S. Lopes. 1999. Peixes do Pantanal: manual de identificação. Embrapa, Brasília. 184 p.
- Bussing, W. A. 1998. Peces de las aguas continentales de Costa Rica. [Freshwater Fishes of Costa Rica.]. Rev. Biol. Trop., 46 (suppl. 2): 1-468.
- Castelnau, F.L. 1855. Poissons. In: Animaux nouveaux ou rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847 xii + 112 p., pls. 1-50.
- Chang, F. and E. Castro. 1999. *Crossoloricaria bahuaja*, a new loriciid fish from Madre de Dios, southeastern Peru. Ichthyol. Explor. Freshwaters, 10 (1): 81-88.
- Cuvier, G. 1829. Le Règne Animal, distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Edition 2. xviii + 532 p.
- Cuvier, G. and A. Valenciennes. 1840. Histoire naturelle des poissons. Tome quinzième. Suite du livre dix-septième. Siluroïdes. Ch. Pitois & V.° Levrault, Paris & Strasbourg. xxxi + 540 p., pls. 421-455.
- Dahl, G. 1942. Three new fishes of the family Loricariidae from the Magdalena system. K. Fysiogr. Sällsk. Lund Förh., 11 (8): 80-86.
- De Filippi, F. 1853. Nouvelles espèces de poissons. Rev. Mag. Zool. (Ser. 2), 5: 164-171.
- Delsman, N.C. 1941. Résultats scientifiques des croisières du Navire-école Belge "Mercator", vol. III, No. 3. Pisces. Mém. Mus. R. Hist. Nat. Belg. (Ser. 2), no. 21: 47-82.
- Devincenzi, G.J. 1943. El género *Loricaria* en la cuenca Platense; descripción de una nueva especie, *Loricaria commersonoides* n. sp. Comun. Zool. Mus. Hist. Nat. Montevideo, 1 (1): 1-6, 1 plate.
- Eigenmann, C.H. 1905. The mailed catfishes of South America. Science (n. s.), 21 (542): 792-795.
- Eigenmann, C.H. 1909. Reports on the expedition to British Guiana of the Indiana University and the Carnegie Museum, 1908. Report no. 1. Some new genera and species of fishes from British Guiana. Ann. Carnegie Mus., 6 (1): 4-54.
- Eigenmann, C.H. 1912a. Some results from an ichthyological reconnaissance of Colombia, South America. Part I. Indiana Univ. Studies, no. 16 [sic no. 8]: 1-27.
- Eigenmann, C.H. 1912b. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II.- The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. Univ. Kentucky. xv + 494 p., pls. 1-22.
- Eigenmann, C.H. and R.S. Eigenmann. 1889. Preliminary notes on South American Nematognathi. II. Proc. Calif. Acad. Sci. (Ser. 2), 2: 28-56.
- Eigenmann, C.H. and L. Vance. 1917. Some species of *Farlowella*. Ann. Carnegie Mus., 11 (1-2): 297-303, pls. 29-31.
- Fernández-Yépez, A. 1972. Análisis ictiológico del complejo hidrográfico (04) "Río Yaracuy". Direccion de Obras Hidráulicas, Ministerio de Obras Publicas, Republica de Venezuela. 1-25, pls. 1-41.
- Fowler, H.W. 1913. Fishes from the Madeira River, Brazil. Proc. Acad. Nat. Sci. Philadelphia, 65: 517-579.
- Fowler, H.W. 1914. Fishes from the Rupununi River, British Guiana. Proc. Acad. Nat. Sci. Philadelphia, 66: 229-284.
- Fowler, H.W. 1915a. Cold-blooded vertebrates from Florida, the West Indies, Costa Rica, and eastern Brazil. Proc. Acad. Nat. Sci. Philadelphia, 67: 244-269.
- Fowler, H.W. 1915b. Notes on nematognathous fishes. Proc. Acad. Nat. Sci. Philadelphia, 67: 203-243.
- Fowler, H.W. 1940a. A collection of fishes obtained by Mr. William C. Morrow in the Ucayali River basin, Peru. Proc. Acad. Nat. Sci. Philadelphia, 91 (for 1939): 219-289.
- Fowler, H.W. 1940b. Zoological results of the second Bolivian expedition for the Academy of Natural Sciences of Philadelphia, 1936-1937. Part I.--The fishes. Proc. Acad. Nat. Sci. Philadelphia, 92: 43-103.
- Fowler, H.W. 1941. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. Proc. Acad. Nat. Sci. Philadelphia, 93: 123-199.
- Fowler, H.W. 1943a. A collection of fresh-water fishes from Colombia, obtained chiefly by Brother Nicéforo Maria. Proc. Acad. Nat. Sci. Philadelphia, 95: 223-266.
- Fowler, H.W. 1943b. Notes and descriptions of new or little known fishes from Uruguay. Proc. Acad. Nat. Sci. Philadelphia, 95: 311-334.
- Fowler, H.W. 1944. Fresh-water fishes from northwestern Colombia. Proc. Acad. Nat. Sci. Philadelphia, 96: 227-248.
- Fowler, H.W. 1945. Colombian zoological survey. Pt. I.-- The freshwater fishes obtained in 1945. Proc. Acad. Nat. Sci. Philadelphia, 97: 93-135.
- Gill, T.N. 1877. Notes on fishes from the Isthmus of Panama, collected by Dr. J. F. Bransford, U. S. N. Proc. Acad. Nat. Sci. Philadelphia, 28 (for 1876): 335-339.
- Gray, J.E. 1854. Catalogue of fish collected and described by Laurence Theodore Gronow, now in the British Museum. London. vii + 196 p.
- Gronovius, L. T. 1763. Zoophylacii Gronoviani fasciculus primus exhibens animalia quadrupeda, amphibia atque pisces, quae in museo suo adersvat, rite examinavit, systematice disposuit, descripsit atque iconibus illustravit Laur. Theod. Gronovius, J.U.D.... Lugduni Batavorum. 136 p., 14 pls.
- Günther, A. 1864. Catalogue of the fishes in the British Museum, vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomatidae in the collection of the British Museum. Trustees, London. xxii + 455 p.
- Günther, A. 1868. Diagnoses of some new freshwater fishes from Surinam and Brazil, in the collection of the British Museum. Ann. Mag. Nat. Hist. (Ser. 4), 1 (6): 475-481.
- Günther, A. 1869. Descriptions of some species of fishes from the Peruvian Amazons. Proc. Zool. Soc. London, 1869 (pt 2): 423-429.
- Hancock, J. 1828. Notes on some species of fishes and reptiles, from Demerara, presented to the Zoological Society by John Hancock, Esq., corr. memb. Zool. Soc. In a letter addressed to the secretary of the Society. Zool. J., 4: 240-247.
- Hensel, R. 1868. Beiträge zur Kenntniss der Wirbelthiere Südbrasilien. Arch. Naturgeschichte, 34 (pt 1): 323-375.
- Ihering, R. von. 1907. Diversas especies novas de peixes nematognathas do Brazil. Notas preliminares. Rev. Mus. Paulista (N. S.), 1 (1): 13-39.
- Isbrücker, I.J.H. 1971a. *Pseudohemiodon (Planiloricaria) cryptodon*, a new species and subgenus from Peru (Pisces, Siluriformes, Loricariidae). Bonner Zool. Beitr., 21 (3/4) (for 1970): 274-283, 7 pls.
- Isbrücker, I.J.H. 1971b. A redescription of the South American catfish *Loricariichthys maculatus* (Bloch, 1794), with designation of the lectotype and restriction of its type locality (Pisces, Siluriformes, Loricariidae). Bijdr. Dierkd., 41 (1): 10-18.
- Isbrücker, I.J.H. 1972. The identity of the South American catfish

Check List of the Freshwater Fishes of South and Central America

- Loricaria cataphracta* Linnaeus, 1758, with descriptions of the original type specimens of four other nominal *Loricaria* species (Pisces, Siluriformes, Loricariidae). Beaufortia, 19 (255): 163-191.
- Isbrücker, I.J.H. 1973. Status of the primary homonymous South American catfish *Loricaria cirrhosa* Perugia, 1897, with remarks on some other loricariids (Pisces, Siluriformes, Loricariidae). Ann. Mus. Civ. Stor. Nat. Genova, 79: 172-191.
- Isbrücker, I.J.H. 1975a. *Metaloricaria paucidens*, a new species and genus of mailed catfish from French Guiana (Pisces, Siluriformes, Loricariidae). Bull. Inst. R. Sci. Nat. Belg. Biol., 50 (4): 1-9, pls. 1-3.
- Isbrücker, I.J.H. 1975b. *Pseudohemiodon thorectes*, a new species of mailed catfish from the Rio Mamoré system, Bolivia (Pisces, Siluriformes, Loricariidae). Beaufortia, 23 (300): 85-92.
- Isbrücker, I.J.H. 1979. Descriptions préliminaires de nouveaux taxa de la famille des Loricariidae, poissons-chats cuirassés néotropicaux, avec un catalogue critique de la sous-famille nominale (Pisces, Siluriformes). Rev. Fr. Aquariol., 5 (4, for 1978): 86-117.
- Isbrücker, I.J.H. 1980. Classification and catalogue of the mailed Loricariidae (Pisces, Siluriformes). Versl. Tech. Gegevens, no. 22: 1-181.
- Isbrücker, I.J.H. 1981. Revision of *Loricaria* Linnaeus, 1758 (Pisces, Siluriformes, Loricariidae). Beaufortia, 31 (3): 51-96.
- Isbrücker, I.J.H., H.A. Britski, H. Nijssen and H. Ortega. 1983. *Aposturisoma myriodon*, une espèce et un genre nouveaux de Poisson-Chat cuirassé, tribu Farlowellini Fowler, 1958 du Bassin du Rio Ucayali, Pérou (Pisces, Siluriformes, Loricariidae). Rev. Fr. Aquariol., 10 (2): 33-42.
- Isbrücker, I.J.H. and H. Nijssen. 1974a. *Rhadinoloricaria* gen. nov. and *Planiloricaria* two genera of South American mailed catfishes (Pisces, Siluriformes, Loricariidae). Beaufortia, 22 (290): 67-81.
- Isbrücker, I.J.H. and H. Nijssen. 1974b. On *Hemiodontichthys acipenserinus* and *Reganella depressa*, two remarkable mailed catfishes from South America (Pisces, Siluriformes, Loricariidae). Beaufortia, 22 (294): 193-222.
- Isbrücker, I.J.H. and H. Nijssen. 1976. *Rineloricaria heteroptera*, a new species of mailed catfish from Rio Amazonas near Manaus, Brazil (Pisces, Siluriformes, Loricariidae). Zool. Anz., 196 (1-2): 109-124.
- Isbrücker, I.J.H. and H. Nijssen. 1978a. The Neotropical mailed catfishes of the genera *Lamontichthys* P. de Miranda Ribeiro, 1939 and *Pterosturisoma* n. gen., including the description of *Lamontichthys stibaros* n. sp. from Ecuador (Pisces, Siluriformes, Loricariidae). Bijdr. Dierkd., 48 (1): 57-80.
- Isbrücker, I.J.H. and H. Nijssen. 1978b. Two new species and a new genus of Neotropical mailed catfishes of the subfamily Loricariinae Swainson, 1838 (Pisces, Siluriformes, Loricariidae). Beaufortia, 27 (339): 177-206.
- Isbrücker, I.J.H. and H. Nijssen. 1979. Three new South American mailed catfishes of the genera *Rineloricaria* and *Loricariichthys* (Pisces, Siluriformes, Loricariidae). Bijdr. Dierkd., 48 (2): 191-211.
- Isbrücker, I.J.H. and H. Nijssen. 1982. New data on *Metaloricaria paucidens* from French Guiana and Surinam (Pisces, Siluriformes, Loricariidae). Bijdr. Dierkd., 52 (2): 155-168.
- Isbrücker, I.J.H. and H. Nijssen. 1983. *Crossoloricaria rhami* n. sp., un nouveau poisson-chat cuirassé du Rio Huacamayo, Pérou (Pisces, Siluriformes, Loricariidae). Rev. Fr. Aquariol., 10 (1): 9-12.
- Isbrücker, I.J.H. and H. Nijssen. 1984a. *Pyxiloricaria menezesi*, a new genus and species of mailed catfish from Rio Miranda and Rio Cuiabá, Brazil (Pisces, Siluriformes, Loricariidae). Bijdr. Dierkd., 54 (2): 163-168.
- Isbrücker, I.J.H. and H. Nijssen. 1984b. *Rineloricaria castroi*, a new species of mailed catfish from Rio Trombetas, Brazil (Pisces, Siluriformes, Loricariidae). Beaufortia, 34 (3): 93-99.
- Isbrücker, I.J.H. and H. Nijssen. 1986a. *Apistoloricaria condei*, nouveau genre et nouvelle espèce de poisson-chat cuirassé, tribu Loricariini Bonaparte, 1831, du bassin du Rio Napo, haute Amazone, Equateur (Pisces, Siluriformes, Loricariidae). Rev. Fr. Aquariol., 12 (4, for 1985): 103-108.
- Isbrücker, I. J. H. and H. Nijssen. 1986b. New records of the mailed catfish *Planiloricaria cryptodon* from the Upper Amazon in Peru, Brazil and Bolivia, with a key to the genera of the Planiloricariina. Bijdr. Dierkd., 56 (1): 39-46.
- Isbrücker, I.J.H., I. Seidel, J.P. Michels, E. Schraml and A. Werner. 2001. Diagnose vierzehn neuer Gattungen der Familie Loricariidae Rafinesque, 1815 (Teleostei, Ostariophysii). Datz Sonderheft Harnischwelse, 2:17-24.
- Kner, R. 1853. Die Panzerwelse des K.K. Hof-naturalien-Cabinetes zu Wien. I. Abtheilung: Loricariinae. Denkschr. Akad. Wiss. Wien, 6 (for 1854):1-34 pls. 1-8 (separate, apparently published before volume).
- Kner, R. 1863. Eine Uebersicht der ichthyologischen Ausbeute des Herrn Professors Dr. Mor. Wagner in Central-Amerika. Sitzungsber. Konigl. Bayer. Akad. Wiss. Muenchen, 2: 220-230.
- Kner, R. and F. Steindachner. 1864. Neue Gattungen und Arten von Fischen aus Central-Amerika; gesammelt von Prof. Moritz Wagner. Abh. Bayer. Akad. Wiss., 10: 1-61, pls. 1-6.
- La Monte, F. 1935. Fishes from Rio Jurua and Rio Purus, Brazilian Amazonas. Am. Mus. Novit. No. 784: 1-8.
- La Cepède, B.G.E. 1803. Histoire naturelle des poissons, vol. 5. Plassan, Paris. lxxviii + 803 p. + index, pls. 1-21.
- Langeani, F. and R.B. Araujo. 1994. O gênero *Rineloricaria* Bleeker, 1862 (Ostariophysii, Siluriformes) na bacia do Rio Paraná superior: *Rineloricaria pentamaculata* sp. n. e *Rineloricaria latirostris* (Boulenger, 1900). Commun. Mus. Ciênc. PUCRGS, Ser. Zool., no. 7: 151-166.
- Langeani, F., O.T. Oyakawa and J.-I. Montoya-Burgos. 2001. New species of *Harttia* (Loricariidae, Loricariinae) from the Rio São Francisco basin. Copeia, 2001(1): 136-142.
- Le Bail, P.-Y., P. Keith and P. Planquette. 2000. Atlas des poissons d'eau douce de Guyane. Tome 2, fascicule II, Siluriformes. Publications scientifiques du MNHN, Service du Patrimoine Naturel, Paris. 307 p.
- Linnaeus, C. 1758. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Tomus I. Editio decima, reformata. Holmiae. ii + 824 p.
- Martín Salazar, F.J. 1964. Las especies del genero *Falowella* de Venezuela (Pisces - Nematognathi - Loricariidae) Con descripción de 5 especies y 1 sub-especies nuevas. Mem. Soc. Cienc. Nat. La Salle, 24 (no. 69): 242-261.
- Martín Salazar, F.J., I.J.H. Isbrücker and H. Nijssen. 1982. *Dentectus barbarmatus*, a new genus and species of mailed catfish from the Orinoco basin of Venezuela (Pisces, Siluriformes, Loricariidae). Beaufortia, 32 (8): 125-137.
- Meek, S.E. and S.F. Hildebrand. 1913. New species of fishes from Panama. Field Mus. Nat. Hist. Publ. Zool. Ser., 10 (8): 77-91.
- Meinken, H. 1937. Beiträge zur Fischfauna des mittleren Paraná III. Blätt. Aquar. Terrarienkunde, 48 (4): 73-80.
- Miranda Ribeiro, A. 1908. Peixes da Ribeira. Resultados de excursão do Sr. Ricardo Krone, membro correspondente do Museu Nacional do Rio de Janeiro. Kosmos, Rio de Janeiro [Rev. Art. Sci. Litt.], 5 (2): 5 unnum. pp.
- Miranda Ribeiro, A. 1911. Fauna brasileira. Peixes. Tomo IV (A) [Eleutherobranchios Aspirophoros]. Arq. Mus. Nac. Rio de Janeiro, 16: 1-504, pls. 22-54.
- Miranda Ribeiro, A. 1912. Loricariidae, Callichthyidae, Doradidae e Trichomycteridae. In: Comissão de Linhas Telegraficas Estrategicas de Matto-Grosso ao Amazonas. 1-31, 1 pl.
- Miranda Ribeiro, A. 1918. Tres generos e dezeseite especies novas de peixes Brasileiros. Rev. Mus. Paulista, 10: 631-646, 1 pl.
- Miranda Ribeiro, A. 1939. Alguns novos dados ictiológicos da nossa fauna. Bol. Biol. Sao Paulo (N. S.), 4 (3): 358-363.

Check List of the Freshwater Fishes of South and Central America

- Miranda Ribeiro, P. 1939. Sobre o gênero *Harttia*, Steind. (Peixes: Loricariidae). Bol. Biol. Sao Paulo (N. S.), 4 (1): 11-13, pl. 2.
- Miranda Ribeiro, P. 1953. Tipos das espécies e subespécies do Prof. Alipio de Miranda Ribeiro depositados no Museu Nacional. Arq. Mus. Nac. Rio de Janeiro, 42: 389-417.
- Müller, J. and F.H. Troschel. 1848. Fische (pp. 618-644). In: Reisen in Britisch-Guiana in den Jahren 1840-44. Im Auftrag Sr. Majestat des Königs von Preussen ausgeführt von Richard Schomburgk. [Versuch einer Fauna und Flora von Britisch-Guiana.] vol. 3. Berlin. .
- Myers, G.S. 1942. Studies on South American fresh-water fishes. I. Stanford Ichthyol. Bull., 2 (4): 89-114.
- Nijssen, H. and I.J.H. Isbrücker. 1988. Trois nouvelles espèces du genre *Apistoloricaria* de Colombie et du Pérou, avec illustration du dimorphisme sexuel secondaire des lèvres de *A. condei* (Pisces, Siluriformes, Loricariidae). Rev. Fr. Aquariol., 15 (2): 33-38.
- Nijssen, H., L. van Tuijl and I.J.H. Isbrücker. 1982. A catalogue of the type-specimens of Recent fishes in the Institute of Taxonomic Zoology (Zoölogisch Museum), University of Amsterdam, The Netherlands. Versl. Tech. Gegevens No. 33: 1-173.
- Olazarri, J., A. Mones A. Ximénez and M. E. Philippi. 1970. Lista de los ejemplares-tipo depositados en el Museo Nacional de Historia Natural de Montevideo, Uruguay. Comun. Zool. Mus. Hist. Nat. Montevideo, 10 (131): 1-12.
- Oyakawa, O.T. 1993. Cinco espécies novas de *Harttia* Steindachner, 1876 da região sudeste do Brasil, de comentários sobre o gênero (Teleostei, Siluriformes, Loricariidae). Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre, 6: 3-27.
- Pearson, N.E. 1924. The fishes of the eastern slope of the Andes. I. The fishes of the Rio Beni basin, Bolivia, collected by the Mulford expedition. Indiana Univ. Studies, 11 (64): 1-83, pls. 1-12.
- Pearson, N.E. 1937. The fishes of the Atlantic and Pacific slopes near Cajamarca, Peru. Proc. California. Acad. Sci. (Ser. 4), 23 (7): 87-98, pls. 12-13.
- Pellegrin, J. 1908. Description de deux poissons nouveaux de l'Amérique du Sud, de la famille des Loricariidés. Bull. Soc. Zool. Fr., 33: 125-127.
- Perugia, A. 1897. Di alcuni pesci raccolti in Bolivia dal Prof. Luigi Balzan. Ann. Mus. Civ. Stor. Nat. Genova (Ser. 2a), 18: 16-27.
- Rapp Py-Daniel, L.H. 1981. *Furcodontichthys novaesi* n. gen., n. sp. (Osteichthyes, Siluriformes; Loricariidae) na bacia Amazônia, Brasil. Bol. Mus. Para. Emilio Goeldi Nova Ser. Zool., no. 105: 1-17.
- Rapp Py-Daniel, L.H. and E.C. Oliveira. 2001. Seven new species of *Harttia* from the Amazonian-Guyana region (Siluriformes: Loricariidae). Ichthyol. Explor. Freshwaters, 12 (1): 79-96.
- Regan, C.T. 1904. A monograph of the fishes of the family Loricariidae. Trans. Zool. Soc. London, 17 (pt 3, no. 1): 191-350, pls. 9-21.
- Regan, C.T. 1906. Notes on some loricariid fishes, with descriptions of two new species. Ann. Mag. Nat. Hist. (Ser. 7), 17 (97): 94-98
- Regan, C.T. 1912. Descriptions of new fishes of the family Loricariidae in the British Museum Collection. Proc. Zool. Soc. London, 1912 (3): 666-670, pls. 75-77.
- Regan, C.T. 1913. Fishes from the River Ucayali, Peru, collected by W. Mounsey. Ann. Mag. Nat. Hist. (Ser. 8), 12 (69): 281-283.
- Reis, R.E. 1983. *Rineloricaria longicauda* e *Rineloricaria quadrensis*, duas novas especies de Loricariinae do sul do Brasil (Pisces, Siluriformes, Loricariidae). Iheringia, Ser. Zool., Porto Alegre, no. 62: 61-80.
- Reis, R.E. and A.R. Cardoso. 2001. Two new species of *Rineloricaria* from southern Santa Catarina and northeastern Rio Grande do Sul, Brazil (Teleostei: Loricariidae). Ichthyol. Explor. Freshwaters, 12 (4): 319-332.
- Reis, R.E. and E.H.L. Pereira. 2000. Three new species of the loricariid catfish genus *Loricariichthys* (Teleostei: Siluriformes) from southern South America. Copeia, 2000 (4): 1029-1047.
- Retzer, M.E. and L.M. Page. 1997. Systematics of the stick catfishes, *Farlowella* Eigenmann & Eigenmann (Pisces, Loricariidae). Proc. Acad. Nat. Sci. Philadelphia, 147: 33-88.
- Ringuelet, R.A., R.H. Aramburu and A.A. Aramburu. 1967. Los peces Argentinos de agua dulce. Comision de Investegacion Cientifica, La Plata. 602 p.
- Schindler, O. 1959. *Loricariichthys melini* nov. spec. Ark. Zool., 12 (26): 387-389.
- Schultz, L.P. 1944a. A new loricariid catfish from the Rio Truando, Colombia. Copeia, 1944 (3): 155-156.
- Schultz, L.P. 1944b. The catfishes of Venezuela, with descriptions of thirty-eight new forms. Proc. U. S. Natl. Mus., 94 (3172): 173-338, pls. 1-14.
- Soriano-Señorans, J. 1950. Nota preliminar sobre *Loricaria* (*Loricaria*) *devicenzii* [sic] n. sp. de la Cuenca del Río Uruguay. Rev. Fac. Human. Cienc., Montevideo, 4 (5): 265-266.
- Shaw, G. 1804. General zoology or systematic natural history ... Pisces, vol. 5. G. Kearsley, London, (pt 1): i-v + 1-250, pls. 93-132, 43+, 65+, 6+, 74+ and (pt 2): i-vi + 251-463, pls. 132-182, 158+.
- Spix, J.B. von and L. Agassiz. 1829-31. Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXVII-MDCCCXX jussu et auspiciis Maximiliani Josephi I.... colleget et pingendo curavit Dr J. B. de Spix.... Monachii. Part 1: i-xvi + i-ii + 1-82, Pls. 1-48; part 2: 83-138, pls. 49-101.
- Steindachner, F. 1877. Die Süßwasserfische des südöstlichen Brasilien (III). Sitzungsber. Akad. Wiss. Wien, 74: 559-694, pls. 1-13.
- Steindachner, F. 1878. Zur Fischfauna des Magdalenen-Stromes. Anz. Akad. Wiss. Wien, 15 (12): 88-91.
- Steindachner, F. 1879a. Beiträge zur Kenntniss der Süßwasserfische Südamerikas. Anz. Akad. Wiss. Wien, 16 (15): 149-152.
- Steindachner, F. 1879b. Beiträge zur Kenntniss der Flussfische Südamerika's. Denkschr. Akad. Wiss. Wien, 41: 151-179, pls. 1-4.
- Steindachner, F. 1879c. Über einige neue und seltene Fisch-Arten aus den k. k. zoologischen Museum zu Wien, Stuttgart, und Warschau. Denkschr. Akad. Wiss. Wien, 41: 1-52, pls. 1-9.
- Steindachner, F. 1879d. Über einige neue und seltene Fischarten aus den zoologischen Museen zu Wien, Stuttgart und Warschau. Anz. Akad. Wiss. Wien, 16 (4): 29-34.
- Steindachner, F. 1879e. Zur Fisch-fauna des Magdalenen-Stromes. Denkschr. Akad. Wiss. Wien, 39: 19-78, pls. 1-15.
- Steindachner, F. 1881a. Beiträge zur Kenntniss der Flussfische Südamerika's (III) und Ichthyologische Beiträge (XI). Anz. Akad. Wiss. Wien, 18 (11): 97-100.
- Steindachner, F. 1881b. Beiträge zur Kenntniss der Flussfische Südamerika's. III. Denkschr. Akad. Wiss. Wien, 44 (for 1882): 1-18, Pls. 1-5
- Steindachner, F. 1882a. Beiträge zur Kenntniss der Flussfische Südamerika's (IV). Anz. Akad. Wiss. Wien, 19 (19): 175-180.
- Steindachner, F. 1882b. Beiträge zur Kenntniss der Flussfische Südamerikas. IV. Denkschr. Akad. Wiss. Wien, 46 (for 1883): 1-44, pls. 1-7.
- Steindachner, F. 1900. Erstattungen eines vorläufigen Berichtes über einige von Ihrer königlichen Hoheit Frau Prinzessin Therese von Bayeren während einer Reise nach Südamerika 1898 gesammelte neue Fischarten. Anz. Akad. Wiss. Wien, 37 (18): 206-208.
- Steindachner, F. 1902. Herpetologische und ichthyologische Ergebnisse einer Reise nach Sädamerika, mit einer Einleitung con Therese Prinzessin von Bayern. Denkschr. Akad. Wiss. Wien, 72: 89-148, pls. 1-6.
- Steindachner, F. 1907a. Über zwei neue Arten von Süßwasserfischen aus dem Stromgebiete des Parnahyba. Anz. Akad. Wiss. Wien, 44 (10): 152-155.
- Steindachner, F. 1907b. Ueber einige Fischarten aus dem Flusse

Check List of the Freshwater Fishes of South and Central America

- Cubataõ im Staate Santa Catharina bei Theresopolis (Brasilien). Sitzungsber. Akad. Wiss. Wien, 116: 475-492, 2 pls.
- Steindachner, F. 1909. Über eine neue *Brachyplatystoma*-art aus der Umgebung von Pará, welche während der brasilianischen Expedition der kaiserl. Anz. Akad. Wiss. Wien, 46 (12): 195-197.
- Steindachner, F. 1910a. Über eine neue *Loricaria*-Art aus dem Flussgebiete des Jaraguá und der Ribeira im Staate S. Paulo und Sta. Catharina. Anz. Akad. Wiss. Wien, 47 (8): 57-62.
- Steindachner, F. 1910b. Über eine noch unbeschriebene *Oxyloricaria*- (= *Sturisoma*) Art aus dem Rio Meta in Venezuela und über die relativen Längenmasse bei *O. rostrata* (Sp.). Anz. Akad. Wiss. Wien, 47 (25): 410-411.
- Steindachner, F. 1910c. Über einige *Ageneiosus*- und *Farlowella*-Arten etc. Ann. Naturh. Hofmus. Wien, 24: 399-408.
- Steindachner, F. 1915a. Beiträge zur Kenntnis der Flussfische Südamerikas V. Anz. Akad. Wiss. Wien, 52 (18): 217-219.
- Steindachner, F. 1915b. Beiträge zur Kenntniss der Flussfische Südamerikas. V. Denkschr. Akad. Wiss. Wien, 93 (for 1917): 15-106, pls. 1-13.
- Swainson, W. 1838. The natural history and classification of fishes, amphibians, & reptiles, or monocardian animals. vol. 1. London. vi + 368 p.
- Swainson, W. 1839. The natural history and classification of fishes, amphibians, & reptiles, or monocardian animals. Vol. II. London. vi + 448 p.
- Taphorn, D.C. and C.G. Lilyestrom. 1984. *Lamontichthys maracaibero* y *L. llanero* dos especies nuevas para Venezuela (Pisces, Loricariidae). Rev. Unellez Cien. Tec., 2 (2): 93-100.
- Vaillant, L. 1880. Synopsis des espèces de Siluridae recueillies par M. le Dr. Jobert, à Caldéron (Haute-Amazone). Bull. Soc. Philomath. Paris (Ser. 7), 4: 150-159.
- Valenciennes, A. 1836. Poissons [pl. 6]. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivia, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Paris, Bertrand et Levrault.
- Valenciennes, A. 1847. Poissons. Catalogue des principales espèces de poissons, rapportées de l'Amérique méridionale, 1-11. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivia, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Vol. 5 (pt. 2). Paris, Bertrand et Levrault.
- van der Hoeven, J. 1849. Handboek der dierkunde; tweede verbeterde uitgave; met bijvoegsels en aanmerkingen door Leuckart. Edition 2. Amsterdam. 3 vols.

Subfamily Hypostominae (Armored catfishes)

Claude Weber

The genera of the subfamily Hypostominae differ from Ancistrinae by the absence of evertible bristle-like odontodes in the interopercular area, from Hypoptopomatinae, in having the pectoral girdle not exposed and from Loricariinae, in having a compressed or cylindrical caudal peduncle.

This subfamily has numerous nominal species with unclear status, especially in the genus *Hypostomus*. The particularly high intraspecific variability in morphology and color pattern prompted authors to describe new taxa that were misunderstood in terms of this variability. Recent molecular analyses are shedding new light on Hypostominae systematics and numerous modifications of the nomenclature have to be expected. Based on molecular investigations, it seems that one third of the recent species is undescribed.

In general, Hypostominae seem to be restricted to freshwaters, except for *Hypostomus watwata* which lives in estuarine brackish waters of the rivers of Guianas. Most of the species live in the bottom and the banks of sandy and rocky rivers. During the day they stay under rocks or boughs of dead trees. Most of them start to activate after sunset. No cave-dwelling species is known.

Sexual dimorphism is poorly developed. Only in some genera, such as *Aphanotorulus*, mature males show more spiny body and fins and some modifications of the teeth.

Most species are medium sized. The large sized ones belong to *Glyptoperichthys*, *Hypostomus*, *Liposarcus*, *Pterygoplichthys* and *Squaliforma*. *Isorineloricaria spinosissima* is the longest hypostomine, which can reach 50 centimeters in total length.

The most important generic diversity is found in the Eastern and Southeastern Brazilian Coastal Drainages, with ten genera, mostly endemic. The most speciose genus is *Hypostomus*, with more than hundred species.

SPECIES INCERTAE SEDIS IN HYPOSTOMINAE

***Hypostomus itacua* Valenciennes, 1836**

Hypostomus itacua Valenciennes, 1836 [1847]: pl. 7 (fig. 1). Type locality: not explicitly given, restricted to tributaries of La Plata. Holotype not found in MNHN.

Maximum length: 11 cm TL

Distribution: South America: Middle Paraná River basin.

Countries: Argentina, Brazil?, Paraguay?

Common name: Yaru itacua (in Valenciennes, 1836) = Jaryi Itakua (Guarani).

Remarks and references: No description, only a figure in Valenciennes, 1836 [1847]. Type locality restricted by Valenciennes, in Cuvier and Valenciennes (1840: 506). New combination *Chaetostoma (Hemiancistrus) itacua* (Ancistrinae) in Günther (1864: 243), based on complementary description of Valenciennes, in Cuvier and Valenciennes (1840: 505), which does not fit with the specimen figured in Valenciennes (1836). *Hemiancistrus itacua* in Isbrücker (1980: 50) and in Eschmeyer (1998: 795). As the original plate 7 is reminiscent of *Hypostomus* without clear diagnostic characters, *Hypostomus itacua* is placed here in Incertae Sedis of Hypostominae.

***Plecostomus obtusirostris* (Steindachner, 1907)**

Plecostomus obtusirostris Steindachner, 1907b: 490. Type locality: Rio Cubatao, Santa Catherina by Theresopolis, Brazil. Holotype not found in NMW.

Maximum length: 5.9 cm TL

Distribution: South America: Southeastern Brazilian coastal drainage.

Countries: Brazil

Remarks and references: *Hypostomus obtusirostris* in Isbrücker (1980: 29), but the description of the holotype does not fit with the genus *Hypostomus*, by mention of presence of hypertrophied odontodes on each side of the head.

APHANOTORULUS

Aphanotorulus Isbrücker & Nijssen, 1983: 105. Type species: *Aphanotorulus franki* Isbrücker & Nijssen, 1983. Type by original designation. Gender: masculine. Recent revisions in Armbruster and Page (1996) and Armbruster (1998a).

***Aphanotorulus ammophilus* Armbruster & Page, 1996**

Aphanotorulus ammophilus Armbruster & Page, 1996: 385, fig. 2 (middle). Type locality: Venezuela, Estado Cojedes, Rfo San Carlos, R. Portuguesa drainage at Caño Hondo, 2 km west of Las Vegas on the road from Las Vegas to Campo Alegre - 9°31'51"N, 68°39'39"W. Holotype: INHS 32035.

Maximum length: 16.1 cm SL

Distribution: South America: Portuguesa River basin.

Countries: Venezuela

Remarks and references: Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig 2; EMBL/GenBank AJ318346).

***Aphanotorulus unicolor* (Steindachner, 1908)**

Plecostomus unicolor Steindachner, 1908b: 164. Type locality: Rio Purús [Restricted to Purus River, between Cachoeira (7°42'S, 65°59'W) and Porto Alegre (8°57'S, 67°52'W)]. Lectotype: NMW 44271: 2, designated by Armbruster (1998a: 254).

Plecostomus madeiræ Fowler, 1913: 571, fig. 23. Type locality: Madeira river, about 200 miles east of W. long. 63°54'W, Brazil. Holotype: ANSP 39312. Synonymized by Armbruster (1998a: 254).

Plecostomus popoi Pearson, 1924: 20, pl. 3 (fig. 2). Type locality: Popoi River, Upper Río Beni, Bolivia. Holotype: CAS 77346 [ex IU 17010]. Synonymized by Armbruster (1998a: 254).

Plecostomus micropunctatus La Monte, 1935: 1, fig. 1. Type locality: Rio Purus: [...] in the vicinity of the mouth of Rio Macuhan, a tributary of Rio Iaco which, in turn, is a tributary of Rio Purus (70°15'W, 7°30'S.). Holotype: AMNH 12598. Synonymized by Armbruster (1998a: 254).

Plecostomus chaparæ Fowler, 1940b: 81, fig. 39. Type locality: Boca Chapare, Río Chimore, Cochabamba, Bolivia. In introduction (p.73): at the mouth of the Rio Chapare at its junction with the Rio Chimore, in the Department of Cochabamba. Holotype: ANSP 69067. Synonymized by Armbruster (1998a: 254).

Aphanotorulus franki Isbrücker & Nijssen, 1983: 108, figs. 1-2. Type locality: [...] du Pérou, Dept. Ucayali, Prov. Coronel Portillo, système du Rio Aguaytia. Rio Neshua (environ 08°36'S, 74°50'W), 60 km S.O. de Pucallpa, le long de la route de Tingo Maria. Holotype: ZMA 116.640. Synonymized by Armbruster (1998a: 254).

Maximum length: 13.9 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Bolivia, Brazil, Ecuador, Peru

Remarks and references: Type locality restricted here, based on Snethlage (1909: 449) and a map in Snethlage (1908: 43).

CORYMBOPHANES

Corymbophanes Eigenmann, 1909: 5. Type species: *Corymbophanes andersoni* Eigenmann, 1909. Type by monotypy. Gender: masculine. Revision in Armbruster & al. (2000: 998).

Corymbophanes andersoni Eigenmann, 1909

Corymbophanes andersoni Eigenmann, 1909: 5, pl. 27 (fig.1) in Eigenmann, 1912. Type locality: Aruataima Falls, Upper Potaro R., British Guiana [in title]. Holotype: FMNH 52675 [ex CM 1001].

Maximum length: 8.6 cm SL

Distribution: South America: Essequibo River drainage, upper Potaro River, upstream Kaieteur Falls.

Countries: Guyana

Remarks and references: Redescription in Armbruster & al. (2000: 1001). Biology: found in shallow riffles, in the main channel; substratum: bedrock with numerous crevices and small patches of gravel and cobble.

Corymbophanes kaiei Armbruster & Sabaj, 2000

Corymbophanes kaiei Armbruster & Sabaj, in Armbruster et al., 2000: 1002, fig. 3 (middle). Type locality: Guyana, Potaro-Siparuni Region, Oung Creek (Chenapou River-Potaro River Drainage) about one hour hike southwest of coordinates 04°58'26"N, 59°34'41"W (mouth of Chenapou River). Holotype: UG/CSBD F644.

Maximum length: 6.6 cm SL

Distribution: South America: Essequibo river drainage, upper Potaro River basin.

Countries: Guyana

Remarks and references: Biology: found among cobble and submerged logs in sun-lit areas of swift riffles.

DELTURUS

Delturus Eigenmann & Eigenmann, 1889: 45. Type species: *Del-*

turus parahybae Eigenmann & Eigenmann, 1889. Type by original designation. Gender: masculine.

Carinotus La Monte, 1933: 1. Type species: *Plecostomus (Carinotus) carinotus* La Monte, 1933. Type by original designation. Gender: masculine. Synonymized by Gosline (1947: 106).

Delturus angulicauda (Steindachner, 1877)

Plecostomus angulicauda Steindachner, 1877a: 672, pl. 12. Type locality: Rio Mucuri bei Santa Clara; Rio Parahyba. Syntypes: NMW 44069-70 (only 2 found, one from Mucuri, the other from Paraíba do Sul).

Maximum length: 27 cm SL

Distribution: South America: Mucuri River basin.

Countries: Brazil

Remarks and references: New combination in Eigenmann and Eigenmann (1889: 45).

Delturus carinotus (La Monte, 1933)

Plecostomus (Carinotus) carinotus La Monte, 1933: 2, fig. 1(a). Type locality: Rio Doce, Estado do Espírito Santo, eastern Brazil. Holotype: AMNH 11911.

Maximum length: 23.5 cm SL

Distribution: South America: Doce River basin.

Countries: Brazil

Remarks and references: New combination in Gosline (1947: 106).

Delturus parahybae Eigenmann & Eigenmann, 1889

Delturus parahybae Eigenmann & Eigenmann, 1889: 45. Type locality: Parahyba [Brazil]. Syntypes: MCZ 7726 (2).

Maximum length: 24 cm SL

Distribution: South America: Paraíba do Sul River basin.

Countries: Brazil

GLYPTOPERICHTHYS

Glyptoperichthys Weber, 1991: 639. Type species: *Ancistrus lituratus* Kner, 1854. Type by original designation. Gender: masculine. Complementary description in Weber (1992: 14).

Glyptoperichthys gibbiceps (Kner, 1854)

Ancistrus gibbiceps Kner, 1854: 284, pl. 5 (fig. 2). Type locality: aus dem Rio Negro bei Marabitanos [Brazil]. Holotype: whereabouts unknown (Eschmeyer 1998: 641). Originally proposed as *Anc. gibbiceps*.

Liposarcus altipinnis Günther, 1864: 239. Type locality: Rio Cupari [restricted to Cupari River, Tapajós River basin, Amazon drainage, Amazonas State, Brazil, by Weber, 1992: 29]. Holotype: BMNH 1853.3.19.34. Synonymized by Weber (1992: 29).

Maximum length: 50 cm TL

Distribution: South America: Middle and upper Amazon and Orinoco basins.

Countries: Bolivia, Brazil, Ecuador, Peru, Venezuela

Remarks and references: New combination in Weber (1991: 639), redescription in Weber (1992: 17).

Common names: Carachama (Ecuador).

Glyptoperichthys joselimaianus Weber, 1991

Glyptoperichthys joselimaianus Weber, 1991: 640, pl. 15 (b) in Weber, 1992: 20. Type locality: Rio Araguaya, affl. du Tocantins, système de l'Amazone, Aruanã, Goiás, Brésil. Holotype: MZUSP 4873.

Maximum length: 30.5 cm SL

Distribution: South America: Tocantins River basin.

Countries: Brazil

Remarks and references: 12S and 16S mitochondrial rRNA gene sequences used in a molecular phylogeny of Loricariidae by Montoya-Burgos et al. (1997: fig. 4; EMBL/GenBank Y08286, Y08334).

Common names: Acari bodó (Brazil); White-spot Glyptoperichthys (English); L 001 (Aqualog).

***Glyptoperichthys lituratus* (Kner, 1854)**

Ancistrus lituratus Kner, 1854: 285, pl. 5 (fig. 3). Type locality: aus dem Rio Guaporé bei cidade do Matogrosso [Amazon system, Brazil]. Lectotype: NMW 16416. Originally as *Anc. [istrus] lituratus*.

Maximum length: 37 cm SL

Distribution: South America: Madeira River basin.

Countries: Bolivia, Brazil

Remarks and references: New combination in Weber (1991: 639); Lectotype designation and redescription in Weber (1992: 28).

Common names: Guapore-salifin (English); L 196 (Aqualog).

***Glyptoperichthys parnaibae* Weber, 1991**

Glyptoperichthys parnaibae Weber, 1991: 641 [pl. 16 (b) in Weber (1992: 21)]. Type locality: Lac de Parnaguá, Rio Paraim, bassin de Parnaíba, sys. côtier brésilien; Maranhão, Brésil. Holotype: NMW 48034.

Maximum length: 29 cm SL

Distribution: South America: Parnaíba River basin.

Countries: Brazil

***Glyptoperichthys punctatus* (Kner, 1854)**

Loricaria punctata Kner, 1854: 281. Type locality: S. Vincente [...] aus einer Lache [Restricted to Guaporé River, Amazon basin, San Vincente = Arraial de São Vincente, bourgade disparue au N. de Mato Grosso, Brésil]. Holotype: NMW 76587.

Maximum length: 28.5 cm SL

Distribution: South America: Madeira, Purus, Jurua and Marañón River basins.

Countries: Bolivia, Brazil, Ecuador, Peru

Remarks and references: New combination in Weber (1991: 635); type locality restricted and redescription by Weber (1992: 31 and 22).

Common names: Carachama (Ecuador).

***Glyptoperichthys scrophus* (Cope, 1874)**

Liposarcus scrophus Cope, 1874: 136. Type locality: Nauta [Peru]. Syntypes: The two syntypes cannot be located.

Maximum length: 27.5 cm SL

Distribution: South America: Marañón and Ucayali River basins.

Countries: Peru

Remarks and references: Complementary description and new combination in Page et al. (1996: 186). Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig 2, EMBL/GenBank AJ318362).

Common names: White-tail (English); L 198 (Aqualog).

***Glyptoperichthys xinguensis* Weber, 1991**

Glyptoperichthys xinguensis Weber, 1991: 640 [illustrated on pl. 14, fig b, in Weber (1992)]. Type locality: Rio Fresco, affl. du Rio Xingu, système de l'Amazone; Aldeio Gorotire, municípe de São Felix do Xingu, Pará, Brésil. Holotype: MZUSP 35961.

Maximum length: 27 cm SL

Distribution: South America: Xingu River basin.

Countries: Brazil

HEMIPSILICHTHYS

Xenomystus Lütken, 1874a: 217. Type species: *Xenomystus gobio* Lütken, 1874. Type by original designation. Gender: masculine. Preoccupied by *Xenomystus* Günther, 1868.

Hemipsilichthys Eigenmann & Eigenmann, 1889: 46. Type species: *Xenomystus gobio* Lütken, 1874. Type by being a replacement name. Gender: masculine. Replacement name for *Xenomystus* Lütken, 1874.

Psilichthys Steindachner, 1907a: 82. Type species: *Psilichthys cameroni* Steindachner, 1907. Type by monotypy. Gender: masculine. Preoccupied by *Psilichthys* Hall, 1899 (in fossil fishes).

Pareiorhaphis Miranda Ribeiro, 1918c: 106. Type species: *Hemip-*

silichthys calmoni [= *Psilichthys cameroni* Steindachner, 1907]. Type by subsequent designation by Regan (1920: 14). Gender: feminine. Type designation made with the unjustified emended name of *Hemipsilichthys calmoni*, and, erroneously, with Miranda Ribeiro as author. Subsequent designation by Gosline (1947: 102) of *Hemipsilichthys duseni* as type is invalid (see Derijst, 1996: 63).

Upsilonodus Miranda Ribeiro, 1924: 365. Type species: *Upsilonodus victori* Miranda Ribeiro, 1924. Type by monotypy. Gender: masculine. Synonymized by Pereira and Reis (2002: 99).

Diagnosis, nomenclatural revision and key to species in Pereira and Reis (2002).

***Hemipsilichthys azygolechis* Pereira and Reis, 2002**

Hemipsilichthys azygolechis Pereira and Reis, 2002: 129, fig. 20 (middle). Type locality: Brazil: Paraná: Guaratuba; rio Araraquara ca. 8 km N of Guaruva (25°57'58"S 48°49'43"W). Holotype: MCP 19670.

Maximum length: 11.6 cm SL

Distribution: South America: São João River basin.

Countries: Brazil

Remarks and references: Biologie: Sympatric and syntopic with *H. splendens*.

***Hemipsilichthys bahianus* (Gosline, 1947)**

Corymbophanes bahianus Gosline, 1947: 107, pl. 3 (fig. 6). Type locality: Fazenda Almada, Ilheus, Bahia [Brazil]. Holotype: MNRJ 4243.

Maximum length: 7.4 cm SL

Distribution: South America: Small drainages near Ilhéus, between Pado and Contas River basins.

Countries: Brazil

Remarks and references: New combination in Armbruster et al. (2000: 997), redescription and distribution in Pereira and Reis (2002: 113).

***Hemipsilichthys calmoni* (Steindachner, 1907)**

Psilichthys cameroni Steindachner, 1907a: 82. Type locality: aus dem Fluss Cubataõ im Staate Santa Catharina, Brazilien [restricted to: im Flusse Cubataõ, welcher das Gebeit der Exkolonie Theresopolis im Staate Santa Catharina durchfließt, in einer Höhe von 800 bis 100 Fuß über dem Meere (= ao rio Cubatão situado no municípe de Aguas Mornas)]. Lectotype: NMW 46414. Originally proposed as *Ps. cameroni*. Name rejected by Pereira and Reis (2002: 106, see "Comments") as incorrect spelling published in an abstract (Steindachner, 1907a: 82) of the full description (Steindachner 1907b: 475), where the mistake was clear (481).

Hemipsilichthys calmoni Steindachner, 1908a: 31. (Correction of name only).

Maximum length: 10.4 cm SL

Distribution: South America: Cubatão (southern), Tubarão and Araranguá River basins.

Countries: Brazil

Remarks and references: New combination in Steindachner (1907b: 475). Type locality restricted by Steindachner (1907b: 481) and relocated by Lucena and Lucena (1990: 100) Redescription, distribution and designation of the lectotype in Pereira and Reis (2002: 104).

***Hemipsilichthys cerosus* Miranda Ribeiro, 1951**

Hemipsilichthys cerosus Miranda Ribeiro, 1951: 39. Type locality: Not explicitly given. Syntypes: MNRJ 648 (2).

Maximum length: 11 cm SL

Distribution: South America: Eastern Brazilian coastal basin (?).

Countries: Brazil

Remarks and references: Not explicit then invalid designation of a lectotype in Miranda Ribeiro (1953: 400). Redescription and designation of a lectotype in Pereira and Reis (2002: 115) Only

known from two type specimens.

***Hemipsilichthys eurycephalus* Pereira & Reis, 2002**

Hemipsilichthys eurycephalus Pereira & Reis, 2002: 0131, fig 21 (middle). Type locality: Brazil: Santa Catarina: Urubici: creek tributary of Rio Canoas East of vila São José, on road to serra do Corvo Branco (28°03'33"S 49°25'42"W). Holotype: MCP 19778.

Maximum length: 6.3 cm SL

Distribution: South America: Upper Canoas River basin.

Countries: Brazil

***Hemipsilichthys garbei* Ihering, 1911**

Hemipsilichthys garbei Ihering, 1911: 399. Type locality: no curso superior, montanha acima, do Rio Macahé, no Est. do Rio de Janeiro [...] im Staat Rio de Janiero, im Gebirgeflusse Macahé (ca. 10-15m. Breite, flach und Steinig) im Oberlaufe, d.h. am Gebirgsrande [Brazil]. Lectotype: MZUSP 1163, designated by Oliveira (1997:117).

Maximum length: 11.2 cm SL

Distribution: South America: Macaé River basin.

Countries: Brazil

Remarks and references: Redescription and distribution in Pereira and Reis (2002: 107)

***Hemipsilichthys gobio* (Lütken, 1874)**

Xenomystus gobio Lütken, 1874a: 217, pl. 4 (fig. 1). Type locality: not explicitly given [restricted to Paraíba do Sul River basin]. Holotype: ZMUC 76.

Upsilodus victori Miranda Ribeiro, 1924: 366. Type locality: Paquequer ad Theresopolis, Rio de Janeiro [Brazil]. Lectotype: MNRJ 639, designated by Gosline (1947: 100). Synonymized by Pereira and Reis (2002: 100).

Maximum length: 15.6 cm SL

Distribution: South America: Paraíba do Sul River basin.

Countries: Brazil

Remarks and references: Type locality restricted by Pereira & al. (2000: 382). Lives in a small shallow stream, with clear water and moderate to strong current. Bottom formed by rocks, loose stones and gravel. Redescription and distribution in Pereira and Reis (2002: 100)

***Hemipsilichthys hypselurus* Pereira & Reis, 2002**

Hemipsilichthys hypselurus Pereira & Reis, 2002: 136, fig 23 (middle). Type locality: Brazil: Rio Grande do Sul: Maquiné; rio Forqueta tributary to rio Maquiné, 29° 32'42"S 50°14'21"W. Holotype MCP 19665.

Maximum length: 7 cm SL

Distribution: South America: Maquiné, Três Forquillas, Mampituba and Araranguá River basins.

Countries: Brazil

***Hemipsilichthys hystrix* Pereira & Reis, 2002**

Hemipsilichthys hystrix Pereira & Reis, 2002: 134, fig 22 (middle). Type locality: Brazil: Rio Grande do Sul: Bom Jesus; creek tributary of rio dos Touros, on road from Silveira to Rondinha, 28° 39'18"S 50°18'25"W. Holotype MCP 19779

Maximum length: 11.5 cm SL

Distribution: South America: Headwaters of Pelotas, Ijuí and Piratinim River basins; upper Taquari River basin.

Countries: Brazil

***Hemipsilichthys mutuca* Oliveira & Oyakawa, 1999**

Hemipsilichthys mutuca Oliveira & Oyakawa, 1999: 75, fig. 1 (top). Type locality: Brazil: Minas Gerais: Rio das Velhas drainage, County of Nova Lima, Córrego Mutuca, at right side of the road from Belo Horizonte to Nova Lima, km 20 (approx. 20°60'S, 43°55'W). Holotype: MZUSP 37148.

Maximum length: 9.6 cm SL

Distribution: South America: Headwaters of Das Velhas River

basin.

Countries: Brazil

Remarks and references: Redescription in Pereira and Reis (2002: 124)

***Hemipsilichthys nudulus* Reis & Pereira, 1999**

Hemipsilichthys nudulus Reis & Pereira, 1999: 46, fig. 2 (top). Type locality: Rio Jordão, at Jordão Alto (approx. 28°35'S, 49°27'W), Nova Veneza, Santa Catarina, Brazil. Holotype: MCP 20278.

Maximum length: 4.2 cm SL

Distribution: South America: Araranguá, Mapituba, Três Forquillas, and Maquiné River basins.

Countries: Brazil

Remarks and references: Redescription and distribution in Pereira and Reis (2002: 122)

***Hemipsilichthys papillatus* Pereira, Oliveira & Oyakawa, 2000**

Hemipsilichthys papillatus Pereira, Oliveira & Oyakawa, 2000: 378, fig. 1. Type locality: Brazil: Minas Gerais: rio Paraíba do Sul drainage, County of Rio Preto, ribeirão Santana, tributary of rio Preto (approx. 22°02'S 43°47'W). Holotype: MZUSP 53085.

Maximum length: 9.2 cm SL

Distribution: South America: Preto River basin of Paraíba do Sul River drainage.

Countries: Brazil

***Hemipsilichthys regani* Giltay, 1936**

Hemipsilichthys regani Giltay, 1936: 6, fig. 2. Type locality: Rio Curi Curiay, au S. du Rio Negro (Amazoné, Brésil). Holotype: IRSNB 47.

Maximum length: 11.5 cm TL

Distribution: South America: Curicuriari and possibly Jaú River basins in the Negro River drainage.

Countries: Brazil

Remarks and references: Diagnosis and distribution in Pereira and Reis (2002: 112)

***Hemipsilichthys splendens* Bizerril, 1995**

Hemipsilichthys splendens Bizerril, 1995: 118, fig. 2. Type locality: Brazil: State of Santa Catarina, river Cubatão: near to the city of Joinville. Holotype: MNRJ 13325.

Maximum length: 6.5 cm SL

Distribution: South America: Cubatão (northern), Itajaí-Açu, Cubatão (southern), Nhundiaquara and São João River basins .

Countries: Brazil

Remarks and references: Redescription and distribution in Pereira and Reis (2002: 120) Biology: caught in small crevices formed by loose stones; clear and fast flowing water with a gravel and rock bottom composition.

***Hemipsilichthys stephanus* Oliveira & Oyakawa, 1999**

Hemipsilichthys stephanus Oliveira & Oyakawa, 1999: 77, fig. 4 (top). Type locality: Brazil: Minas Gerais: Rio Jequitinhonha drainage, County of Diamantina, ribeirão das Pedras, ca. 1300 masl, 3 km north of Diamantina (approx. 18°10'S, 43°37'W). Holotype: MZUSP 36971.

Maximum length: 9.7 cm SL

Distribution: South America: Jequitinhonha River basin.

Countries: Brazil

Remarks and references: Redescription in Pereira and Reis (2002: 126)

***Hemipsilichthys steindachneri* Miranda Ribeiro, 1918**

Hemipsilichthys steindachneri Miranda Ribeiro, 1918a: 107. Type locality: Flum. Rio Itapucú (Santa Catharina) [= rio Itapocu on brazilian map, Brazil]. Lectotype: NMW 92790, designated by

Pereira & Reis (2002: 109). Originally proposed as *H. steindachneri*. Described as belonging to the new genus *Pareiorhaphis*.

Pseudancistrus luderwaldti Miranda Ribeiro 1918c: 632. Type locality: Hansa, Santa Catharina, Brasil [margens do rio Itajaí, perto de Blumenau, Estado de Santa Catarina]. Holotype: MZUSP 2109. Details on type locality and data on holotype from Britski (1969: 210).

Maximum length: 14.3 cm SL

Distribution: South America: Cubatão (northern), Itapocu, Itajaí-Açu, and Cubatão (southern) River basins.

Countries: Brazil

Remarks and references: Redescription, distribution and designation of lectotype in Pereira and Reis (2002: 109). The priority of *steindachneri* upon *luderwaldti* is not clearly established. Nevertheless, *luderwaldti* was mentioned only in few checklists as belonging to *Pseudancistrus*, without any published nomenclatural act. For this reason, and for the stability of the nomenclature, in case of priority of this last name, it should be rejected as *nomen oblitum* (Reis, pers. comm.).

***Hemipsilichthys stomias* Pereira & Reis, 2002**

Hemipsilichthys stomias Pereira & Reis, 2002: 139, fig 24 (middle). Type locality: Brazil: Santa Catarina: Treviso: rio Mãe Luzia at Forquilha, 28°27'66"S 49°30'06"W. Holotype MCP 19666

Maximum length: 5.2 cm SL

Distribution: South America: Ararangua and Tubarão River basins.

Countries: Brazil

***Hemipsilichthys vestigipinnis* Pereira & Reis, 1992**

Hemipsilichthys vestigipinnis Pereira & Reis, 1992: 113, fig. 2(b).

Type locality: Creek tributary of the Rio Caveiras at Painel, on the road from São Joaquim to Lares (approximately 27°55'S, 50°05'W) Lajes, Santa Catarina, Brazil. Holotype: MCP 14344.

Maximum length: 9.8 cm SL

Distribution: South America: Headwaters of Canoas River basin.

Countries: Brazil

Remarks and references: Redescription and distribution in Pereira and Reis (2002: 118).

HYPOSTOMUS

Plecostomus Gronow in Walbaum, 1792: 663. Type species: *Acipenser plecostomus* Linnaeus, 1758. Type by subsequent designation. Gender: masculine. Non-binominal and therefore invalid (Boeseman, 1968:32).

Hypostomus La Cepède, 1803: 145. Type species: *Hypostomus guacari* La Cepède, 1803. Type by monotypy. Gender: masculine. *Hypostomus guacari* La Cepède is an unneeded substitute for *Acipenser plecostomus* Linnaeus, 1758.

Cochliodon Heckel in Kner, 1854: 265. Type species: *Hypostomus cochliodon* Kner, 1854. Type by monotypy. Gender: masculine. Synonymized after results based on morphological data by Weber and Montoya-Burgos (2002: 365), and molecular data by Montoya-Burgos & al. (2002: 377).

Cheiridodus Eigenmann, 1922: 70. Type species: *Plecostomus hondae* Regan, 1912. Type by original designation. Gender: masculine. Synonymized by Dahl (1971: 87) with *Cochliodon*.

Watawata Isbrücker & Michels, in Isbrücker et al., 2001: 21. Type species: *Hypostomus microstomus* Weber 1987. Type by original designation. Gender: feminine. Synonymized here. *Watawata* is only based on a unique teeth character not sufficient as diagnostic generic criterion (see also Weber & Montoya-Burgos, 2002: 365).

Revisions in Boeseman (1968, Suriname), Weber (1986, Paraguay), Reis et al. (1990, Rio Grande do Sul), López & Miquelarena (1991, Argentina) and Le Bail et al. (2000, French Guiana). Molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002).

***Hypostomus affinis* (Steindachner, 1877)**

Plecostomus affinis Steindachner, 1877a: 685. Type locality: aus dem Rio Mucury bei Santa Clara [...] im Rio Parahyba und dessen Nebenflusse Muriahé, im Rio Mucury und S. Antonio bei S. Antonio de Ferros [Brazil - Restricted to Campos, in the rio Paraíba do Sul basin]. Lectotype: NMW 44041: 1 designated by Mazzoni et al. (1994:5 and 7).

Maximum length: 39.7 cm SL

Distribution: South America: Paraíba do Sul River basin.

Countries: Brazil

Remarks and references: Lectotype designation, and type locality restriction in Mazzoni et al. (1994: 5 and 7). 12S and 16S mitochondrial rRNA gene sequences used in a molecular phylogeny of Loricariidae by Montoya-Burgos et al. (1997: fig. 4; EMBL/GenBank Y08288, Y08336); mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig 2; EMBL/GenBank AJ318358). Biology: found in large and small waters, in lentic or rapid sections of the river, on rocky or sandy-rocky bottom. Young specimens inhabit the riparian vegetation along those habitats.

***Hypostomus agna* (Miranda Ribeiro, 1907)**

Plecostomus agna Miranda Ribeiro, 1907: 188. Type locality: Rio da Ribeira. In title: da Iporanga - S. Paulo [Brazil]. Holotype: whereabouts unknown.

Maximum length: 22 cm TL

Distribution: South America: Ribeira de Iguapé River basin.

Countries: Brazil

Common names: Anhá (Brazil).

***Hypostomus alatus* Castelnau, 1855**

Hypostomus alatus Castelnau, 1855: 41, pl. 20 (fig. 1). Type locality: du rio Sabara, dans la province de Minas Geraës (Brésil).

Holotype: MNHN A.9441.

Maximum length: 27 cm SL

Distribution: South America: Upper São Francisco River basin.

Countries: Brazil

Common names: Acari (Brazil); anhá, Cascudo (Brazil).

***Hypostomus albopunctatus* (Regan, 1908)**

Plecostomus albopunctatus Regan, 1908b: 797, pl. 49 (fig. 1).

Type locality: Rio Piracicaba, Sao Paulo, Brazil. Lectotype: BMNH 1907.7.6.15 designated by Weber (1987: 279).

Maximum length: 27 cm SL

Distribution: South America: Upper Paraná River basin.

Countries: Brazil, Paraguay (?)

Remarks and references: Specimens collected in Paraguay (middle Paraguayan Paraná basin) identified as *Hypostomus albopunctatus* based on morphology (Weber et al. 1992: 13). Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig 2; EMBL/GenBank AJ318379).

Common names: Cascudo ferro (Brazil).

***Hypostomus ancistroides* (Ihering, 1911)**

Plecostomus ancistroides Ihering, 1911: 396. Type locality: Rio Tatuhy, affluente do lado esquerdo do Rio Sorocaba, Rio Piracicaba, Est. de S. Paulo [Brazil]. Syntypes: cannot be located in MZUSP (Britski, 1969: 200).

Maximum length: 21 cm TL

Distribution: South America: Tietê River basin.

Countries: Brazil

Remarks and references: Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig 2; EMBL/GenBank AJ318369). Biology: strictly herbivorous; found mainly in riffle stretches of small forest streams (Castro and Casatti, 1997, Casatti et al., 2001).

***Hypostomus angipinnatus* (Leege, 1922)**

Plecostomus angipinnatus Leege, 1922: 152, pl. 9 (fig. 1). Type locality: Mato Grosso (?) [Brazil]. Holotype not found in Phyletisch Museum, Jena.

Maximum length: 15 cm (axial length)

Distribution: South America: La Plata drainage: Paraguay basin?

Countries: Brazil

***Hypostomus argus* (Fowler, 1943)**

Plecostomus argus Fowler, 1943: 249, fig. 31. Type locality: Villavicencio, Río Meta basin, Colombia. Holotype: ANSP 70510.

Maximum length: 11.6 cm SL

Distribution: South America: Upper Meta River basin.

Countries: Colombia

***Hypostomus asperatus* Castelnau, 1855**

Hypostomus asperatus Castelnau, 1855: 41, pl. 20 (fig. 2). Type locality: de l'Araguay [Brazil]. Holotype: MNHN A.9442.

Maximum length: 22.9 cm SL

Distribution: South America: Tocantins River basin.

Countries: Brazil

Remarks and references: Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig 2; EMBL/GenBank AJ318370).

***Hypostomus aspilogaster* (Cope, 1894)**

Plecostomus aspilogaster Cope, 1894: 100, pl. 7 [pl. 7 reversed 8] (fig. 14). Type locality: from the Jacuhy, Rio Grande do Sul. Lectotype: ANSP 21781.

Maximum length: 26.5 cm SL

Distribution: South America: Uruguay River basin and Laguna dos Patos drainage.

Countries: Brazil

Remarks and references: Redescription and lectotype designated by Reis et al. (1990: 733). Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig 2; EMBL/GenBank AJ318375).

***Hypostomus atropinnis* (Eigenmann & Eigenmann, 1890)**

Plecostomus lima atropinnis Eigenmann & Eigenmann, 1890: 410 (Description in key p. 399). Type locality: Goiás, Brazil, defined as: Brazil, Est. Goiás, rio Araguaia drainage, upper course of rio Vermelho at Goiás (15°57' S, 50°07' W). Holotype: MCZ 27265 [ex MCZ 7871a].

Maximum length: 21 cm TL

Distribution: South America: Tocantins River basin.

Countries: Brazil

Remarks and references: Available from description in key (p. 399); raised to species level by Eigenmann (1910: 406). Type locality located by Isbrücker (1973: 174, in footnote).

***Hypostomus auroguttatus* Kner, 1854**

Hypostomus auroguttatus Kner, 1854: 269, pl. 2 (fig. 3). Type locality: Not explicitly given, restricted to Rio Parahyba [Brazil]. Syntypes not found in NMW. Originally proposed as *Hyp. auroguttatus*.

Plecostomus luetkeni Steindachner, 1877b: 217. Type locality: Im Rio Parahyba, R. Mucuri, R. San Antonio, R. Quenda, R. de Pedra [restricted to rio Parafba do Sul and tributaries, State of Rio de Janeiro, Brazil by Mazzoni et al. (1994: 10)]. Lectotype: NMW 44196: 1.

Maximum length: 28.6 cm TL

Distribution: South America: Parafba do Sul River basin.

Countries: Brazil

Remarks and references: Type locality, based on Natterer's notes, restricted by Steindachner (1881b: 6); *H. auroguttatus* auctorum is referred below to *Hypostomus meleagris* (Marini, Nichols & La Monte, 1933). Biology: found in big and rapid waters with

rocky bottom.

***Hypostomus bolivianus* (Pearson, 1924)**

Plecostomus bolivianus Pearson, 1924: 21, pl. 4 (fig. 1). Type locality: Popoi River, Upper Beni, Bolivia. Holotype: CAS 77347 [ex IU 17011] (largest specimen).

Maximum length: 15 cm TL

Distribution: South America: Beni River basin.

Countries: Bolivia

***Hypostomus borellii* (Boulenger, 1897)**

Plecostomus borellii Boulenger, 1897: 2. Type locality: Mission de San Francisco [Pilcomayo River, Bolivia]. Syntypes: BMNH 1897.1.27.19 (1); MZUT 1393 (1).

Maximum length: 16.1 cm SL

Distribution: South America: Upper and middle Pilcomayo River basin.

Countries: Argentina, Bolivia

Remarks and references: Reported from Argentina by Arratia et al. (1983).

Common names: Vieja, Vieja de agua (Bolivia, Argentina).

***Hypostomus boulengeri* (Eigenmann & Kennedy, 1903)**

Plecostomus boulengeri Eigenmann & Kennedy, 1903: 502. Type locality: Matto Grosso or Asuncion [Brazil or Paraguay]. Holotype: CAS 58554 [ex IU 9868].

Maximum length: 24.5 cm SL

Distribution: South America: Paraguay River basin.

Countries: Argentina, Brazil, Paraguay

Remarks and references: Redescription in Weber (1986: 982).

Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002 fig 2; EMBL/GenBank AJ318344).

Common names: Cascarudo (Paraguay); guaimingué, pirá tatu (Paraguay, Guarani); cascudo (Brazil).

***Hypostomus brevicauda* (Günther, 1864)**

Plecostomus brevicauda Günther, 1864: 235. Type locality: Bahia [Brazil]. Syntypes: BMNH 1864.1.19.16-17 (2).

Maximum length: 19.3 cm SL

Distribution: South America: Eastern Brazilian coastal drainage.

Countries: Brazil

***Hypostomus brevis* (Nichols, 1919)**

Plecostomus brevis Nichols, 1919: 413, 423. Type locality: no Estado de S. Paulo [...] in the state of São Paulo [Brazil]. Holotype: AMNH 7150.

Maximum length: 7.4 cm SL

Distribution: South America: Paraná River basin; or eastern Brazilian coastal drainage?

Countries: Brazil

Remarks and references: Only known from holotype.

***Hypostomus carinatus* (Steindachner, 1881)**

Plecostomus carinatus Steindachner, 1881a: 108, pl. 4 (fig. 2).

Type locality: aus dem Amazonen - Strome, ohne nähere Angabe des Fundortes; [...], von Jatuarana [=probably in the Parintins, near Barreirinha], Ueranduba [=lago Iranduba], und aus dem See Saraca [=lago de Sarac]. Syntypes: (several) ?MCZ 27266 (1); NMW 44094 (1), 44096 (1).

Maximum length: 24.8 cm SL

Distribution: South America: Middle Amazon River basin.

Countries: Brazil

Remarks and references: Some diagnostic characters in Rapp Py-Daniel (1988: 17 and tab. 3).

***Hypostomus carvalhoi* (Miranda Ribeiro, 1937)**

Plecostomus carvalhoi Miranda Ribeiro, 1937: 54. Type locality: Rio Granjeiro - Crato - Ceará. Syntypes: MNRJ 924 (2 of 4

found).
 Maximum length: 14.2 cm SL
 Distribution: South America: Jaguaribe River basin.
 Countries: Brazil
 Remarks and references: Not explicit then invalid designation of a lectotype in Miranda Ribeiro (1953: 401).

***Hypostomus cochliodon* Kner, 1854**

Hypostomus cochliodon Kner, 1854: 265, pl. 2 (fig. 1). Type locality: Rio Cuyaba. Syntypes: NMW 44101 (1), 46277 (1), 59395 (1); RMNH D1897 (1).

Loricaria melanoptera Kner, 1854: 265. Name not available, published as a synonym of *Hypostomus cochliodon* Kner, 1854, as in Natterer notes.

Cochliodon hypostomus Kner, 1854: 265. Name not available, published as a synonym of *Hypostomus cochliodon* Kner, 1854, as in Heckel ms.

Maximum length: 23 cm SL

Distribution: South America: Paraguay and middle Paraná River basins.

Countries: Argentina, Brazil, Paraguay

Remarks and references: First record in Argentina and complementary description in Lopez & Miquelarena (1991a: 4); combination revalidated in Weber and Montoya-Burgos (2002: 366).

***Hypostomus commersoni* Valenciennes, 1836**

Hypostomus commersoni Valenciennes, 1836 [1847]: pl. 7 (fig. 2). Type locality: not stated [restricted to La Plata River, Parana River basin, Montevideo, Uruguay]. Holotype: MNHN A.9444.

Plecostomus spiniger Hensel, 1870: 73. Type locality: Rio Cadea [=Cadeia River, Rio Grande do Sul, Brazil]. Holotype: ZMB 7444. Synonymized by Malabarba (1989: 152).

Plecostomus limosus Eigenmann & Eigenmann, 1888: 167. Type locality: Rio Grande do Sul [Brazil]. Lectotype: MCZ 7869, designated by Reis et al. (1990: 737). Synonymized by Malabarba (1989: 152).

Maximum length: 42.5 cm SL

Distribution: South America: Middle and lower Paraná and Uruguay River basins; Laguna dos Patos basin.

Countries: Argentina, Brazil, Paraguay, Uruguay

Remarks and references: No description, only a figure in Valenciennes, 1836 [1847]. In Weber (1986: 994), restriction of the type locality and unjustified designation of a lectotype but implicitly recognition of the holotype based on plate (MNHN 939.24.5.7 given as lectotype, corresponds as classification's number to A.9444). Populations of the Rio Grande do Sul in Reis et al. (1990: 736). Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig 2; EMBL/GenBank AJ318356).

Common names: Cascudo panaque, coroncho (Brazil); vieja negra (Argentina, Uruguay).

***Hypostomus coppenamensis* Boeseman, 1969**

Hypostomus coppenamensis Boeseman, 1969: 120, fig. 3. Type locality: tributary of Left Coppename River, 3°54'N, 56°46'W, Surinam. Holotype: ZMA 105856.

Maximum length: 12.5 cm SL

Distribution: South America: Upper Coppename River basin.

Countries: Suriname

Remarks and references: Found in a river having a width of 4 meters, a depth of 30-150cm. and a bottom of sand and loam with rocks.

***Hypostomus corantijni* Boeseman, 1968**

Hypostomus corantijni Boeseman, 1968: 40, pl. 4 (fig. 1). Type locality: Sipaliwini River, Surinam. Holotype: RMNH 25471 (largest of 3).

Maximum length: 18.8 cm SL

Distribution: South America: Corantijn River basin, upstream first

cataracts.

Countries: Suriname

Remarks and references: Lives in cataracts, rapids and falls, or in pools or creeks nearby, usually in rapidly flowing water.

***Hypostomus cordovae* (Günther, 1880)**

Hypostomus paranensis Weyenbergh, 1877: 9. No types known. Nomen oblitum.

Plecostomus cordovae Günther, 1880: 11. Type locality: Cordova [Argentina]. Holotype: BMNH 1878.4.4.1. Nomen protectum.

Maximum length: 18.1 cm SL

Distribution: South America: Bermejo, Dulce, Uno, Secundo, and middle Paraná River basins.

Countries: Argentina, Paraguay (?)

Remarks and references: Diagnosed in Weber (1985: 966, tab. 2). Found among aquatic plants of ponds.

Common names: Vieja de agua (Argentina).

***Hypostomus crassicauda* Boeseman, 1968**

Hypostomus crassicauda Boeseman, 1968: 42, pl. 17 (fig. 1). Type locality: Sipaliwini River, Surinam. Holotype: RMNH 25489.

Maximum length: 14.3 cm SL

Distribution: South America: Upper Sipaliwini River basin.

Countries: Suriname

Remarks and references: Lives in cataracts, rapids and falls, or in pools or creeks nearby, usually in rapidly flowing water.

***Hypostomus derbyi* (Haseman, 1911)**

Plecostomus derbyi Haseman, 1911: 384, pl. 79. Type locality: Porto União da Victoria [Iguaçu River basin, Brazil]. Holotype: FMNH 54246 [ex CM 2865].

Maximum length: 30.5 cm SL

Distribution: South America: Iguaçu River and Uruga-í Creek basins, Paraguayan tributaries of Paraná River.

Countries: Argentina, Brazil, Paraguay

Remarks and references: First record in Argentina and complementary description in Gomez et al. (1990:145); specimens collected in Paraguay (middle Paraguayan Paraná basin) identified as *Hypostomus derbyi* based on morphology (Weber et al. 1992: 13) and description of teeth in Muller and Weber (1992: 750, fig. 2 f).

Common names: Cascudo (Brazil); vieja de agua (Argentina).

***Hypostomus dlouhyi* Weber, 1985**

Hypostomus dlouhyi Weber, 1985: 956, fig. 1 (middle). Type locality: système du Rio Paraná, sur un bras du lac de retenue du Rio Yguazú (non Iguaçu, Brésil) à la hauteur de la localité Juan E. O'Leary, 55°20' Ouest, 25°25'30' Sud, Paraguay, dép. Alto Parana. Holotype: MHNG 2229.43.

Maximum length: 24.5 cm SL

Distribution: South America: Yguazú River basin in middle Paraná River drainage.

Countries: Paraguay

Remarks and references: Collected in a temporary arm of a reservoir of a small dam, muddy bottom.

Common names: Cascarudo (Paraguay); guaimingué pirá tatu (Paraguay, Guarani).

***Hypostomus eptingi* Fowler, 1941**

Chaetostomus eptingi Fowler, 1941: 158, fig. 67. Type locality: Forteleza [=Fortaleza], Ceará, Brazil. Holotype: ANSP 69447.

Maximum length: 12.2 cm SL

Distribution: South America: Northern Brazilian coastal drainage.

Countries: Brazil

Remarks and references: New combination in Isbrücker (2001:28)

***Hypostomus fluviatilis* (Schubart, 1964)**

Plecostomus fluviatilis Schubart, 1964: 7, figs. 1-4. Type locality: Corrego da Lazica, perto de Ouro Fino (MG); Cachoeira do Es-

praiado, no alto Mogi Guaçu, acima do Soledade, Ouro Fino (MG); Alto Mogi Guaçu, 5 km jusante de Inconfidentes (mun. Ouro Fino, MG). Syntypes not found after extensive search in 1993.

Maximum length: 16.5 cm SL

Distribution: South America: Grande River basin.

Countries: Brazil

Common names: Cascudo (Brazil).

***Hypostomus fonchii* Weber & Montoya-Burgos, 2002**

Hypostomus fonchii Weber & Montoya-Burgos, 2002: 357, fig. 3 (b). Type locality: Peru: Ucayali: Quebrada John, lower part, near mouth in the Rio Pauya, in shallow water with emerging rocks, 06° 36' 7.0"S/75°56'26.3"W (GPS), alt. 360 m., Rio Cushabatay drainage, Rio Ucayali basin (Station 1). Holotype: MHNG 2613.66.

Maximum length: 14.1 cm SL

Distribution: South America: Cushabatay River basin.

Countries: Peru

Remarks and references: Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig. 2; EMBL/GenBank AJ318350). Biology: collected in transparent water, substrate composed by large rocks on fine sand, clay or shingle. No aquatic vegetation but leaves and dead woods. Water characteristics: depth of water: < 200 mm, temperature 25-26°.

***Hypostomus francisci* (Lütken, 1874)**

Plecostomus francisci Lütken, 1874b: 30. Type locality: in flumine Sti. Francisci [=São Francisco River, Brazil]. Holotype: ZMUC 60. Originally proposed as *Pl. francisci*.

Maximum length: 36 cm SL

Distribution: South America: Upper São Francisco River basin.

Countries: Brazil

***Hypostomus garmani* (Regan, 1904)**

Plecostomus garmani Regan, 1904: 214, pl. 10 (fig. 1). Type locality: Rio das Velhas, Eastern Brazil. Holotype: BMNH 1904.1.28.3.

Distribution: South America: São Francisco River basin.

Countries: Brazil

Remarks and references: Biology: Nocturnal benthic algae grazer (Casatti & Castro, 1998)

***Hypostomus goyazensis* (Regan, 1908)**

Plecostomus goyazensis Regan, 1908b: 798, fig. 207(a). Type locality: Goyaz [Brazil] defined as: Brazil, Est. Goiás, rio Araguaia drainage, upper course of rio Vermelho at Goiás (15°57' S, 50°07' W). Holotype: BMNH 1889.11.14.49.

Maximum length: 26 cm TL

Distribution: South America: Upper Araguaia River basin.

Countries: Brazil

Remarks and references: Type locality located by Isbrücker (1973: 174, in footnote).

***Hypostomus gymnorhynchus* (Norman, 1926)**

Plecostomus gymnorhynchus Norman, 1926: 95. Type locality: Iponcin Creek, into Approuague River, French Guiana. Holotype: BMNH 1926.3.2.74-5 [sic].

Maximum length: 17 cm SL

Distribution: South America: Guianan coastal drainages, from Oyapock westward to Maroni basin.

Countries: French Guiana, Suriname

Remarks and references: Usually lives in cataracts, rapids and falls, or in pools or creeks nearby. Redescription in Le Bail et al. (2000: 254).

Common names: Acari (Brazil); goré-riviè (French Guiana, Creole); kabitanka, kokoudu, wala wala, wara wara (Guyana, Suriname, French Guiana, Amerindian).

***Hypostomus hemiurus* (Eigenmann, 1912)**

Plecostomus hemiurus Eigenmann, 1912: 224, fig. 34, pl. 25 (fig. 1). Type locality: Amatuk [Potaro River, Guyana]. Holotype: FMNH 53110 [ex CM 1544].

Maximum length: 20.1 cm SL

Distribution: South America: Guianan coastal drainages.

Countries: Guyana

Remarks and references: Appeared first as name only in Eigenmann (1910: 407). Some diagnostic characters given in Boeseman (1968: 55 and tab. 17).

***Hypostomus hermanni* (Ihering, 1905)**

Plecostomus Hermanni Ihering, 1905: 560. Type locality: Rio Piracicaba, São Paulo, Brazil. Holotype: BMNH 1905.6.9.5.

Maximum length: 24 cm TL

Distribution: South America: Tietê River basin.

Countries: Brazil

***Hypostomus hondae* (Regan, 1912)**

Plecostomus hondae Regan, 1912: 666, pl. 76 (fig. 3). Type locality: Honda, Colombia (300-400 ft.). Syntypes: BMNH 1909.7.23.43-44 (2).

Cochliodon pospisili Schultz, 1944: 312, pl. 11 (figs. C-D). Type locality: Rio Palmar near Totuma, about 100 km. southwest of Maracaibo [Venezuela]. Holotype: USNM 121003. Synonymized by Lilyestrom (1984: 43).

Maximum length: 35 cm SL

Distribution: South America: Magdalena River and Lake Maracaibo basins.

Countries: Colombia, Venezuela

Remarks and references: Redescription in Lilyestrom (1984: 43).

New combination in Weber and Montoya-Burgos (2002: 366). Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig 2; EMBL/GenBank AJ318348).

Common names: Coroncoro, cucho (Colombia).

***Hypostomus hoplonites* Rapp Py-Daniel, 1988**

Hypostomus hoplonites Rapp Py-Daniel, 1988: 14, fig. 2(6). Type locality: Brasil: Amazon (Rio Solimões, complexo de lagos do Janauacá). Holotype: INPA 109.2.

Maximum length: 32.5 cm SL

Distribution: South America: Middle Amazon basin.

Countries: Brazil

Remarks and references: Collected in a complex of lakes, connected to the main stream during 9 to 10 months.

Common names: Acari-bodó (Brazil).

***Hypostomus iheringii* (Regan, 1908)**

Plecostomus iheringii Regan, 1908b: 795, pl. 47 (fig. 1). Type locality: Rio Piracicaba, San Paulo, Brazil. Holotype: BMNH 1907.7.6.13.

Maximum length: 11.6 cm SL

Distribution: South America: Tietê River basin.

Countries: Brazil

***Hypostomus interruptus* (Miranda Ribeiro, 1918)**

Plecostomus interruptus Miranda Ribeiro, 1918c: 632. Type locality: Rio Juquiá [restricted by Britski (1969: 209) to rio Juquiá, Poço Grande, Estado de São Paulo, Brazil]. Holotype: MZUSP 2110.

Maximum length: 12 cm SL

Distribution: South America: Ribeira de Iguape River basin.

Countries: Brazil

***Hypostomus isbrueckeri* Reis, Weber & Malabarba, 1990**

Hypostomus isbrueckeri Reis, Weber & Malabarba, 1990: 752, fig. 22. Type locality: Rio Conceição, Ijuí, Rio Grande do Sul, Bra-

zil. Holotype: MCP 10488.
 Maximum length: 24.6 cm SL
 Distribution: South America: Middle and upper Uruguay River basin.
 Countries: Brazil
 Remarks and references: Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig. 2; EMBL/GenBank AJ318376).

***Hypostomus jaguribensis* (Fowler, 1915)**

Plecostomus jaguribensis Fowler, 1915b: 264, fig. 3. Type locality: Rio Jaguaribé at Barro Alto, Brazil. Holotype: ANSP 39930.
 Maximum length: 12 cm TL
 Distribution: South America: Jaguaribe River basin.
 Countries: Brazil

***Hypostomus johnii* (Steindachner, 1877)**

Plecostomus johnii Steindachner, 1877a: 691. Type locality: Rio Puty und Rio Preto [Brazil]. Syntypes: (several) MCZ 7831 (1), 7863-64 (4, 2); NMW 44191-93 (2, 2, 2).
 Maximum length: 11.3 cm SL
 Distribution: South America: Parnaíba and São Francisco River basins.
 Countries: Brazil

***Hypostomus laplatae* (Eigenmann, 1907)**

Plecostomus laplatae Eigenmann, 1907: 450, pl. 21 (fig. 1). Type locality: Buenos Aires [Argentina]. Holotype: Princeton Univ.
Plecostomus taeniatus Regan, 1908a: 358. Type locality: Río La Plata, Argentina. Syntypes: BMNH 1908.8.29.17 (1), ZMB 16817 (1). Synonymized by Gosline (1947: 129).
Plecostomus rachovii Regan, 1913: 555. Type locality: Near Rio Janeiro. Probably wrong, only known from the holotype presented by A. Rachow. Holotype: BMNH 1913.10.30.15. Synonymized here after comparison of holotypes of *H. rachovii* and *H. taeniatus*.
Plecostomus commersonoides Marini, Nichols & La Monte, 1933: 3. Type locality: Dársena Norte, Buenos Aires, Argentina. Holotype: AMNH 12243. Synonymized by Gosline (1947: 130).
 Maximum length: 69 cm TL
 Distribution: South America: La Plata River basin.
 Countries: Argentina, Uruguay.
 Remarks and references: Redescription in Lopez & Miquelarena (1991b: 28).

***Hypostomus latifrons* Weber, 1986**

Hypostomus latifrons Weber, 1986: 991, fig. 6 (middle). Type locality: Río Aguaray-guazú, bassin du río Paraguay système du río Paraná, Transchaco 117 km 58°00'00" Ouest, 24°22'50" Sud, dép. Presidente Hayes, Paraguay. Holotype: MHNG 2256.67.
 Maximum length: 28.7 cm SL
 Distribution: South America: Paraguay River basin.
 Countries: Paraguay
 Remarks and references: Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig. 2; EMBL/GenBank AJ318378).
 Common names: Cascarudo (Paraguay); guaimingué, pirá tatu (Paraguay, Guaraní).

***Hypostomus latirostris* (Regan, 1904)**

Plecostomus latirostris Regan, 1904: 213, pl. 11 (fig. 1). Type locality: Rio Jungada, Matto Grosso [Brazil]. Syntypes: BMNH 1892.4.20.26-27 (2).
 Maximum length: 26 cm TL
 Distribution: South America: Paraguay River basin.
 Countries: Brazil, Paraguay
 Remarks and references: Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig. 2; EMBL/GenBank

AJ318373).
 Common names: Cascarudo (Paraguay); guaimingué, pirá tatu (Paraguay, Guaraní).

***Hypostomus levis* (Pearson, 1924)**

Rhinelepis levis Pearson, 1924: 22, pl. 5 (fig. 1). Type locality: Huachi, Bolivia [in introduction:] Huachi, altitude 2,235 feet. Huachi overlooks the junction of the Bopi and Cochabamba rivers which here form the Beni. Holotype: CAS 77349 [ex IU 17014].
 Maximum length: 15.5 cm SL
 Distribution: South America: Madeira River basin.
 Countries: Bolivia
 Remarks and references: New combination in Weber and Montoya-Burgos (2002: 366).

***Hypostomus lexi* (Ihering, 1911)**

Plecostomus lexi Ihering, 1911: 387. Type locality: Rio Pardo, perto de Barretos (Est. S. Paulo) quasi na foz do rio que é afluente do Rio Grande, por sua vez tributario do lado esquerdo do Rio Paraná [Brazil]. Holotype: MZUSP 2126.
 Maximum length: 46 cm SL
 Distribution: South America: Grande River basin.
 Countries: Brazil

***Hypostomus lima* (Lütken, 1874)**

Plecostomus lima Lütken, 1874b: 29. Type locality: in rivulus flumini Rio da Velhas affluentibus [restricted to "Ribeirão do Mato" og andre smaa Bifloder til Rio d. Velhas]. Syntypes: BMNH 1876.1.10.1-2 [ex ZMUC]; NMW 44194 (1), 44195 (1); ZMUC 51 (1), 56 (1), 57 (1), 58 (1), 59 (1), 611 (1).
 Maximum length: 9.4 cm SL
 Distribution: South America: São Francisco River basin.
 Countries: Brazil
 Remarks and references: Type locality restricted by Lütken (1875: 140, in labels: Lagoa Santa or Ribeirão do Mato). MNHN 9573 [ex ZMUC], given as "paratype" in Bertin & Estève (1950: 71), is not a species of *Hypostomus*.

***Hypostomus longiradiatus* (Holly, 1929)**

Plecostomus longiradiatus Holly, 1929: 118. Type locality: aus dem Rio Guaná, vermutlich einem Nebenflusse des Madeira, der selbst ein Nebenfluß des Amazonenstromes ist [...] (Brasilien). Holotype: Not found.
 Maximum length: 39.5 cm TL
 Distribution: South America: Guamá River basin.
 Countries: Brazil
 Remarks and references: Type locality: Madeira basin is doubtful: Rio Guaná should be Guamá River, a river with the "Ilha das Onças" (given as locality of the paratype) at mouth, near Belém (Pará).

***Hypostomus luteomaculatus* (Devincenzi 1942)**

Plecostomus luteomaculatus Devincenzi in Devincenzi and Teague, 1942: 20, pl. 3 (fig. 3). Type locality: Río Uruguay [at Paysandú, Uruguay]. Holotype: MHNM CI 359.
 Maximum length: 28 cm SL
 Distribution: South America: Uruguay River basin.
 Countries: Argentina, Brazil, Uruguay
 Remarks and references: Species revalidated in Isbrücker (2001: 31) and Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig. 2; EMBL/GenBank AJ318372).
 Common names: Cascudo amarelo, cascudo chita, chitão (Brazil); vieja (Uruguay); vieja de agua (Argentina).

***Hypostomus luteus* (Godoy, 1980)**

Plecostomus luteus Godoy, 1980: 29, fig. 15. Type locality: Rio Pelotas, Volta Grande 2, Marcelino Ramos, RS [Brazil]. Holotype: in the personal coll. of M. Godoy.

Maximum length: 31 cm SL
 Distribution: South America: Upper Uruguay River basin.
 Countries: Brazil
 Remarks and references: Redescription by Reis & al. (1990: 741). Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002 fig. 2; EMBL/GenBank AJ318350).
 Common names: Cascudo-amarelo (Brazil); Gold-yellow-Hypostomus (USA); L 200 (Aqualog).

***Hypostomus macrophthalmus* Boeseman, 1968**
Hypostomus pseudohemius macrophthalmus Boeseman, 1968: 56, pl. 10 (fig. 1). Type locality: Sipaliwini River, near air strip, Surinam. Holotype: RMNH 25514.
 Maximum length: 7.9 cm SL
 Distribution: South America: Sipaliwini River basin.
 Countries: Suriname
 Remarks and references: Raised to species level by Isbrücker (1980: 27). Collected in or near rapids.

***Hypostomus macrops* (Eigenmann & Eigenmann, 1888)**
Plecostomus macrops Eigenmann & Eigenmann, 1888: 170. Type locality: Rio das Velhas [Brazil]. Holotype: MCZ 7888.
 Maximum length: 28 cm SL
 Distribution: South America: Das Velhas River basin.
 Countries: Brazil
 Remarks and references: Available from description in key.

***Hypostomus margaritifer* (Regan, 1908)**
Plecostomus margaritifer Regan, 1908b: 796, pl. 47 (fig. 2). Type locality: Rio Piracicaba, San Paulo, Brazil. Holotype: BMNH 1907.7.6.14.
Plecostomus margaritifer butantanis Ihering, 1911: 394. Type locality: no Rio Pinheiros, perto de São Paulo (Capital) [Brazil]. Holotype: not found in MZUSP. Considered here as a synonym of *Hypostomus margaritifer*, based on observations of the pattern variability of this species.
 Maximum length: 33 cm TL
 Distribution: South America: Upper and middle Paraná River basin.
 Countries: Brazil, Paraguay (?).

***Hypostomus meleagris* (Marini, Nichols & La Monte, 1933)**
Plecostomus meleagris Marini, Nichols & La Monte, 1933: 4. Type locality: Southeastern Brazil [restricted herein to upper and middle Paraná drainage]. Holotype: AMNH 12246.
 Maximum length: 30 cm SL
 Distribution: South America: Upper and Middle Paraná River basin.
 Countries: Argentina, Brazil, Paraguay.
 Remarks and references: Morphological characters of *Hypostomus auroguttatus* auctorum (see Steindachner, 1881b: 6, Gosline, 1947: 117, Fowler, 1954: 176, Mazzoni et al., 1994:11), fit with *H. meleagris*, the true *H. auroguttatus* Kner, 1854, being now senior synonym of *H. luetcheni* (Steindachner, 1877).

***Hypostomus micromaculatus* Boeseman, 1968**
Hypostomus micromaculatus Boeseman, 1968: 49, 77 [addendum], pl. 7 (figs. 1-4). Type locality: Mamadam (falls), Surinam River, Surinam. Holotype: RMNH 25487 (largest).
 Maximum length: 18.5 cm SL
 Distribution: South America: Upper and middle Suriname River basin.
 Countries: Suriname
 Remarks and references: Found in or near rapids and cataracts and falls.

***Hypostomus microstomus* Weber, 1987**
Hypostomus microstomus Weber, 1987: 275, fig. 2 (middle). Type locality: système du río Paraná, río Alto-Paraná, Paraguay, dpt Itapua, 15 km SE Encarnacion, Campichuelo, 55°45' Ouest, 27°26' Sud. Holotype: MHNG 2367.90.
 Maximum length: 24 cm SL
 Distribution: South America: Middle Paraná River basin.
 Countries: Argentina, Paraguay
 Common names: Cascarudo (Paraguay); guaimingué, pirá tatu (Paraguay, Guarani); vieja de agua (Argentina).

***Hypostomus mutuae* Knaack, 1999**
Hypostomus mutuae Knaack, 1999: 102, fig. p. 102, Type locality: Brazil, Mato Grosso, rio Mutuca. Holotype: MCP 28669
 Maximum length: 10 cm TL
 Distribution: South America: Cuiabá River basin.
 Countries: Brazil

***Hypostomus myersi* (Gosline, 1947)**
Plecostomus myersi Gosline, 1947: 116, pl. 5 (fig. 9). Type locality: Rio Iguazu at Porto União, State of Paraná [Brazil]. Holotype: MNRJ 4251.
 Maximum length: 20.7 cm SL
 Distribution: South America: Iguazu River and Uruga-í Creek basins.
 Countries: Argentina, Brazil
 Remarks and references: Various ecological studies in Agostinho and Gomes (1997); first record in Argentina and complementary description in Gomez et al. (1990: 142).
 Common names: Cascudo (Brazil); vieja de agua (Argentina).

***Hypostomus nematopterus* Isbrücker & Nijssen, 1984**
Hypostomus nematopterus Isbrücker & Nijssen, 1984: 9, fig. 1 (middle). Type locality: French Guyana, Alikene Creek, left bank tributary to Camopi River, Oyapock river system. Holotype: IRSNB 689.
 Maximum length: 10.7 cm SL
 Distribution: South America: Oyapock River basin.
 Countries: French Guiana
 Remarks and references: Only known from the two type specimens.

***Hypostomus niceforoi* (Fowler, 1943)**
Hemiancistrus niceforoi Fowler, 1943: 250, fig. 35. Type locality: Florencia, Río Ortegusa, Colombia. Holotype: ANSP 70511.
 Maximum length: 13.5 cm SL
 Distribution: South America: Upper Japurá River basin.
 Countries: Colombia
 Remarks and references: New combination in Isbrücker (1980: 28).

***Hypostomus nickeriensis* Boeseman, 1969**
Hypostomus nickeriensis Boeseman, 1969: 125, fig. 4(a). Type locality: Stondansie Falls, Nickerie River, Surinam. Holotype: ZMA 105.765.
 Maximum length: 17 cm SL
 Distribution: South America: Upper Nickerie River basin.
 Countries: Suriname
 Remarks and references: Found in rapids or in pools below the falls, the bottom covered with rocks, sand and rotten wood.

***Hypostomus niger* (Marini, Nichols & La Monte, 1933)**
Plecostomus niger Marini, Nichols & La Monte, 1933: 4. Type locality: Southeastern Brazil. Holotype: AMNH 12245.
 Maximum length: 24.5 cm SL
 Distribution: South America: Rivers of southeastern Brazil.
 Countries: Brazil
 Remarks and references: Only known from the holotype.

***Hypostomus nigromaculatus* (Schubart, 1964)**

Plecostomus nigromaculatus Schubart, 1964: 2, fig. 2. Type locality: Rio Mogi Guaçu, Cachoeira de Emas, na região da corredeira (topava) (Mun. Pirassununga, Est. São Paulo) [Brazil]. Holotype: EEBP 304 (123 mm) not found after extensive search in 1993.

Maximum length: 10.2 cm SL

Distribution: South America: Middle and upper Paraná River basin.

Countries: Brazil

Remarks and references: Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig. 2; EMBL/GenBank AJ318355). Biology: benthic algae grazer (Casatti et al., 2001).

***Hypostomus nudiventris* (Fowler, 1941)**

Plecostomus nudiventris Fowler, 1941: 147, figs. 44-46. Type locality: Rio Choró, Ceará, near Fortaleza [Brazil]. Holotype: ANSP 69402.

Maximum length: 5.7 cm SL

Distribution: South America: Northern Brazilian coastal drainages.

Countries: Brazil

***Hypostomus obtusirostris* (Steindachner, 1907)**

Plecostomus obtusirostris Steindachner, 1907b: 490. Type locality: Rio Cubatao, Santa Catherina by Theresopolis, Brazil. Holotype: Not found in NMW.

Maximum length: 5.9 cm TL

Distribution: South America: Southeastern Brazilian coastal drainages.

Countries: Brazil

***Hypostomus occidentalis* Boeseman, 1968**

Hypostomus gymnorhynchus occidentalis Boeseman, 1968: 47, pl. 6 (figs. 1-4). Type locality: Surinam River near Brokopondo, Surinam. Holotype: RMNH 25520.

Maximum length: 14.6 cm SL

Distribution: South America: Suriname River basin.

Countries: Suriname

Remarks and references: Raised to specific level by Isbrücker (1980: 29). Lives in pools near rapids or cataracts in the main river.

***Hypostomus oculus* (Fowler, 1943)**

Panaque oculus Fowler, 1943: 256, fig. 51. Type locality: Florencia, Rio Ortegusa, Colombia. Holotype: ANSP 70518.

Maximum length: 20 cm TL

Distribution: South America: Upper Japurá River basin.

Countries: Colombia

Remarks and references: New combination in Weber and Montoya-Burgos (2002: 366).

***Hypostomus pantherinus* Kner, 1854**

Hypostomus pantherinus Kner, 1854: 267. Type locality: Rio Guaporé, ohne nähere Angaben [Brazil]. Holotype: NMW 44206. Originally proposed as *Hyp. pantherinus*.

Maximum length: 4.8 cm SL

Distribution: South America: Madeira River basin.

Countries: Brazil

Remarks and references: Known only from holotype (juvenile).

***Hypostomus papariae* (Fowler, 1941)**

Plecostomus plecostomus papariae Fowler, 1941: 145, fig. 42. Type locality: Lago Papary, Rio Grande do Norte [Brazil]. Holotype: ANSP 69398.

Maximum length: 11.4 cm TL

Distribution: South America: Grande do Norte River basin.

Countries: Brazil

Remarks and references: Raised to specific level by Isbrücker (1980: 29).

***Hypostomus paucimaculatus* Boeseman, 1968**

Hypostomus paucimaculatus Boeseman, 1968: 52, pl. 8 (fig. 1). Type locality: Surinam River, near Brokopondo, Surinam. Holotype: RMNH 25468.

Maximum length: 12 cm SL

Distribution: South America: Upper and middle Suriname River basin.

Countries: Suriname

Remarks and references: Juveniles found in or near rapids.

***Hypostomus paulinus* (Ihering, 1905)**

Plecostomus paulinus Ihering, 1905: 560. Type locality: Rio Piracicaba, São Paulo, Brazil. Holotype: BMNH 1905.6.9.4.

Maximum length: 13.1 cm SL

Distribution: South America: Tietê River basin.

Countries: Brazil, Paraguay.

Remarks and references: Specimens collected in Paraguay (middle Paraguayan Paraná basin) identified as *Hypostomus paulinus* based on morphology (Weber et al., 1992: 13).

***Hypostomus piratatu* Weber, 1986**

Hypostomus piratatu Weber, 1986: 987, fig. 3 (middle). Type locality: Bras intermittent du Río Tebicuary, bassin du rio Paraguay, système du Río Paraná; Sapucáí, dép. Paraguari, Paraguay. Holotype: MHNG 2265.03.

Maximum length: 27.5 cm SL

Distribution: South America: Eastern Paraguay River tributaries.

Countries: Paraguay

Remarks and references: Description of teeth in Muller and Weber (1992: 750, fig. 2d).

Common names: cascarudo (Paraguay); pirá tatu, guaimingué (Paraguay, Guarani).

***Hypostomus plecostomoides* (Eigenmann, 1922)**

Cochliodon plecostomoides Eigenmann, 1922: 225, pl. 11 (fig. 1). Type locality: Quebrada Cramalote, Villavicencio [Colombia, in label: brook at Villavicencio]. Holotype: CAS 82501 [ex IU 15043] [lost in 1959 (Eschmeyer, 1998)].

Maximum length: 25.6 cm TL

Distribution: South America: Meta River basin.

Countries: Colombia

Remarks and references: Redescription in Lilyestrom (1984: 45). New combination in Weber and Montoya-Burgos (2002: 366). Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig. 2; EMBL/GenBank AJ318349).

Common names: Panaque (Venezuela)

***Hypostomus plecostomus* (Linnaeus, 1758)**

Acipenser plecostomus Linnaeus, 1758: 238. Type locality: India [=Suriname] or Surinam River outlet. Syntype: NRM 32 (smallest) and possible syntypes: NRM 32 (larger two) or neotype RMNH 18240 (see remarks).

Hypostomus guacari La Cepède, 1803: 144, 145, pl. 4 (fig. 2). Type locality: India [=Suriname]. Unneeded substitute name for *Hypostomus plecostomus* (Linnaeus, 1758).

Loricaria flava Shaw, 1804: 38, pl. 101. Type locality: Indian Seas [South America]. No types known.

Plecostomus bicirrosus Gronow in Gray, 1854: 158. Type locality: Tropical America. No types known.

Plecostomus brasiliensis Bleeker, 1864: 7. Type locality: Suriname; Mexico; Cuba; Chile [restricted to Suriname by designation of a lectotype by Boeseman (1968: 38)]. Lectotype: RMNH 3102. Pre-Linnaean name adopted by Bleeker.

Maximum length: 50 cm SL

Distribution: South America: Guianan coastal drainages.

Countries: Guyana, Suriname

Remarks and references: Neotype designation of *Acipenser plecostomus* and type locality restriction in Boeseman (1968: 11) may

be invalid if the smallest specimen in NRM LP 32 is part of the type series; for more details on synonymy of *Hypostomus plecostomus* see Boeseman (1968: 32) and Isbrücker (1980: 30). Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig. 2; EMBL/GenBank AJ318351).

Common names: Acari (Brazil); goré-jonn, goré-kron-kron (French Guiana, Creole); koko, wala wala, wara wara, wawa (Guyana, Suriname, French Guiana, Amerindian).

***Hypostomus pseudohemiurus* Boeseman, 1968**

Hypostomus pseudohemiurus Boeseman, 1968: 54, pl. 9 (fig. 1). Type locality: Kabalebo River, Corantijn River basin, Surinam. Holotype: RMNH 25516 (largest).

Maximum length: 6.2 cm SL

Distribution: South America: Corantijn River basin.

Countries: Suriname

Remarks and references: Collected in pools in or near rapids or cataracts.

***Hypostomus punctatus* Valenciennes, 1840**

Hypostomus punctatus Valenciennes in Cuvier & Valenciennes, 1840: 493 [364 in Strasbourg deluxe ed.]. Type locality: Rio Janéiro [Brazil]. Holotype: not found.

Maximum length: 30 cm TL

Distribution: South America: Southeastern Brazilian coastal drainages.

Countries: Brazil

Remarks and references: 12S and 16S mitochondrial rRNA gene sequences used in a molecular phylogeny of Loricariidae by Montoya-Burgos et al. (1997: fig. 4; EMBL/GenBank Y08289, Y08337). Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig. 2; EMBL/GenBank AJ318357).

Common names: Cascudo (Brazil).

***Hypostomus pusarum* (Starks, 1913)**

Plecostomus pusarum Starks, 1913: 36, pl. 6. Type locality: at Ceará Mirim [Brazil]. Holotype: SU 22225.

Maximum length: 20.3 cm TL

Distribution: South America: Northern Brazilian coastal drainages.

Countries: Brazil

Remarks and references: Found in little disconnected ponds and in a muddy stream.

***Hypostomus pyrineusi* (Miranda Ribeiro, 1920)**

Cochliodon pyrineusi Miranda Ribeiro, 1920: 9 [3rd unnumbered pl]. Type locality: provaveimente Jamary [Brazil]. Holotype: MNRJ 863.

Maximum length: 26 cm TL

Distribution: South America: Madeira River basin (?).

Countries: Brazil

Remarks and references: New combination in Weber and Montoya-Burgos (2002: 366).

***Hypostomus regani* (Ihering, 1905)**

Plecostomus regani Ihering, 1905: 558. Type locality: Rio Piracicaba, São Paulo, Brazil. Lectotype: BMNH 1905.6.7.2, designated by Reis et al. (1990: 745).

Maximum length: 30 cm TL

Distribution: South America: Paraná, Paraguay and Uruguay River basins.

Countries: Brazil, Paraguay, Uruguay

Remarks and references: Redescription by Reis et al. (1990: 745). Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig. 2; EMBL/GenBank AJ318371).

Common names: Cascudo-chita, cascudo-chitão, chitão (Brazil); cascarudo (Paraguay); guaimingué, pirá tatu (Paraguay, Guarani).

***Hypostomus robinii* Valenciennes, 1840**

Hypostomus robinii Valenciennes, in Cuvier and Valenciennes 1840: 501 [370 in Strasbourg deluxe ed.]. Type locality: de la Trinité [...] des affluens da la Plata [restricted to La Trinité (Trinidad Island)]. Lectotype: MNHN A.9569, designated by Boeseman (1968: 36).

Maximum length: 16 cm SL

Distribution: South America: Trinidad Island.

Countries: Trinidad and Tobago

Remarks and references: Type locality restricted to Trinidad by designation of the lectotype.

Common names: Anne-marie, tata, teta. Found in running or still waters

***Hypostomus rondoni* (Miranda Ribeiro, 1912)**

Plecostomus rondoni Miranda Ribeiro, 1912: 6. Type locality: S. Manoel - Rio Tapajós [Brazil]. Holotype: MNRJ 741. Specific name spelled *rondini* in heading of account, but corrected in attached printed errata.

Maximum length: 8 cm TL

Distribution: South America: Tapajós River basin.

Countries: Brazil

***Hypostomus roseopunctatus* Reis, Weber & Malabarba, 1990**

Hypostomus roseopunctatus Reis, Weber & Malabarba, 1990: 756, figs. 2, 26. Type locality: Rio Pelotas at road from Esmeralda to Anita Garibaldi, Rio Grande do Sul, Brazil. Holotype: MCP 12239.

Maximum length: 23.3 cm SL

Distribution: South America: Uruguay River basin.

Countries: Argentina, Brazil.

***Hypostomus saramaccensis* Boeseman, 1968**

Hypostomus saramaccensis Boeseman, 1968: 58, pl. 2 (fig. 1). Type locality: Feddiprati (rapids), middle Saramacca River, Surinam. Holotype: RMNH 25488 (largest).

Maximum length: 11.5 cm SL

Distribution: South America: Guianan coastal drainages.

Countries: Suriname

Remarks and references: Found in a large shallow pool below extensive fall.

***Hypostomus scabriceps* (Eigenmann & Eigenmann, 1888)**

Plecostomus commersonii scabriceps Eigenmann & Eigenmann, 1888: 168. Type locality: Sao Matheos [Brazil]. Syntypes: MCZ 7894 (2), BMNH 1904.1.28.2 [ex MCZ] (1).

Maximum length: 35 cm TL

Distribution: South America: São Mateus River basin.

Countries: Brazil

Remarks and references: Available from description in key. Raised to specific level by Isbrücker (1980: 33).

***Hypostomus scaphyceps* (Nichols, 1919)**

Plecostomus scaphyceps Nichols, 1919: 425 [in English portion of original description]. Type locality: Cerqueira Cezar, Estado de São Paulo [Brazil]. Holotype: AMNH 7152.

Plecostomus scapyiceps Nichols, 1919: 416 [in Portuguese portion of original description]. Incorrect original spelling.

Maximum length: 3.5 cm SL

Distribution: South America: Paranapanema River basin.

Countries: Brazil

Remarks and references: Holotype juvenile. Earliest first reviser located is Fowler (1954: 194) who selected *scaphyceps* (Eschmeyer 1998: 1514).

***Hypostomus seminudus* (Eigenmann & Eigenmann, 1888)**

- Plecostomus seminudus* Eigenmann & Eigenmann, 1888: 169.
Type locality: Brazil? Holotype: MCZ 28981.
Distribution: South America: Brazil (?).
Countries: Brazil
Remarks and references: Available from description in key. Only known from holotype.
- Hypostomus sipaliwini* Boeseman, 1968**
Hypostomus sipaliwini Boeseman, 1968: 60, pl. 12 (fig. 1). Type locality: Sipaliwini River, upper Corantijn River basin, Surinam. Holotype: RMNH 25481 (larger).
Maximum length: 12.6 cm SL
Distribution: South America: Upper Corantijn River basin.
Countries: Suriname.
Remarks and references: Collected in pools in or near rapids or cataracts.
- Hypostomus strigaticeps* (Regan, 1908)**
Plecostomus strigaticeps Regan, 1908b: 796, pl. 48 (fig. 1). Type locality: Rio Piracicaba, San Paulo, Brazil. Syntypes: BMNH 1907.7.6.10-11.
Maximum length: 15 cm SL
Distribution: South America: Tietê River basin.
Countries: Brazil
- Hypostomus subcarinatus* Castelnau, 1855**
Hypostomus subcarinatus Castelnau, 1855: 42, p. 21 (fig. 1). Type locality: des rivières de la province des Mines [Brazil]. Holotype: MNHN A.9575.
Maximum length: 31 cm TL
Distribution: South America: Eastern Brazilian coastal drainage, including São Francisco River basin (?).
Countries: Brazil
- Hypostomus surinamensis* Boeseman, 1968**
Hypostomus surinamensis Boeseman, 1968: 61, pl. 13 (fig. 1). Type locality: Surinam River near Brokopondo, Surinam. Holotype: RMNH 25497 (larger).
Maximum length: 16.5 cm SL
Distribution: South America: Suriname River basin.
Countries: Suriname
Remarks and references: Collected in or near rapids, falls or cataracts and in pools.
- Hypostomus tapanahoniensis* Boeseman, 1969**
Hypostomus gymnorhynchus tapanahoniensis Boeseman, 1969: 129, figs. 5 (b, d). Type locality: Upper Tapanahoni River, Surinam. Holotype: RMNH 25476. Originally proposed *H. gymnorhynchus tapanahoniensis*.
Maximum length: 17 cm SL
Distribution: South America: Maroni River basin.
Countries: Suriname
Remarks and references: Raised to specific level by Isbrücker (1980: 35).
- Hypostomus taphorni* (Lilyestrom, 1984)**
Cochliodon taphorni Lilyestrom, 1984: 43, fig. 8. Type locality: Río Botanamo, cerca del puente en la vía a Bochinche, Edo. Bolívar, Venezuela. Holotype: MCNG 8084.
Maximum length: 18.5 cm SL
Distribution: South America: Essequibo River basin.
Countries: Venezuela
Remarks and references: New combination in Weber and Montoya-Burgos (2002: 366).
- Hypostomus ternetzi* (Boulenger, 1895)**
Plecostomus ternetzi Boulenger, 1895: 525. Type locality: Paraguay. Holotype illustrated in Boulenger (1896 pl. 5, bottom). Holotype: BMNH 1895.5.17.64.
Maximum length: 17.5 cm SL
Distribution: South America: Middle Paraná, Paraguay, and Uruguay River basins.
Countries: Argentina, Brazil, Paraguay, Uruguay
Common names: Cascarudo (Paraguay); guaimingué, pirá tatu (Paraguay, Guaraní).
- Hypostomus tietensis* (Ihering, 1905)**
Plecostomus tietensis Ihering, 1905: 559. Type locality: Rio Tietê, São Paulo, Brazil. Holotype: BMNH 1905.6.9.1.
Maximum length: 12.5 cm SL
Distribution: South America: Tietê River basin.
Countries: Brazil
- Hypostomus topavae* (Godoy, 1969)**
Plecostomus topavae Godoy, 1969: 176, fig. 1. Type locality: na região da topava [...] Cachoeira de Emas, Rio Mogi Guassu, Estado de São Paulo, Brasil. Holotype: EEBP 315a.
Maximum length: 70 cm SL
Distribution: South America: Grande River basin.
Countries: Brazil
Remarks and references: Only known from the holotype.
- Hypostomus unae* (Steindachner, 1878)**
Plecostomus unae Steindachner, 1878a: 383. Type locality: Rio Una [(südlich von Bahia) [Brazil]], in Steindachner (1877a: 676)].
Syntypes: NMW 44259 (4).
Maximum length: 17.1 cm SL
Distribution: South America: Una River basin in Bahia State.
Countries: Brazil
- Hypostomus uruguayensis* Reis, Weber & Malabarba, 1990**
Hypostomus uruguayensis Reis, Weber & Malabarba, 1990: 760, fig. 30. Type locality: Rio Uruguay at “Rancho da Amizade”, São Borja, Rio Grande do Sul, Brazil. Holotype: MCP 11874.
Maximum length: 26 cm SL
Distribution: South America: Uruguay River basin.
Countries: Argentina, Brazil, Uruguay (?)
Remarks and references: Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig 2; EMBL/GenBank AJ318377).
- Hypostomus vaillanti* (Steindachner, 1877)**
Plecostomus vaillanti Steindachner, 1877b: 225. Type locality: Rio Preto [at Villa de Santa Rita, Bahia, Brazil (Thayer expedition)].
Syntypes: MCZ 7842 (2); NMW 44273 (1), 44276 (3), 44277 (1).
Maximum length: 16.1 cm SL
Distribution: South America: Preto River basin of São Francisco River drainage.
Countries: Brazil
Remarks and references: Distribution restricted in Mazzoni et al. (1994: 12).
- Hypostomus variipictus* (Ihering, 1911)**
Plecostomus variipictus Ihering, 1911: 390. Type locality: Rio Pardo, perto de Barretos, Estado de São Paulo, quasi em sua foz no Rio Grande, tributario do lado esquerdo do Rio Paraná, Brazil. Holotype: MZUSP 2114.
Maximum length: 37 cm TL
Distribution: South America: Grande River basin.
Countries: Brazil
- Hypostomus varimaculosus* (Fowler, 1945)**
Plecostomus varimaculosus Fowler, 1945a: 113, fig. 15. Type locality: Morelia, Río Caquetá drainage, Colombia. Holotype: ANSP 71707.
Maximum length: 6 cm SL
Distribution: South America: Upper Japurá River basin.
Countries: Brazil, Colombia

***Hypostomus variostictus* (Miranda Ribeiro, 1912)**

Plecostomus variostictus Miranda Ribeiro, 1912: 6. Type locality: Coxim, M [ato] Grosso [Brazil]. Holotype: MNRJ 1072. Maximum length: 5.7 cm TL. Distribution: South America: Upper Paraguay River basin. Countries: Brazil. Remarks and references: Only known from holotype, a juvenile specimen almost decayed.

***Hypostomus ventromaculatus* Boeseman, 1968**

Hypostomus ventromaculatus Boeseman, 1968: 65, pl. 15 (fig. 1). Type locality: Surinam River between Afobaka and Brokopondo, Surinam. Holotype: RMNH 25507. Maximum length: 25 cm SL. Distribution: South America: Guianan coastal drainages from Oyapock River to Suriname river. Countries: French Guiana, Suriname. Remarks and references: Redescription in Le Bail et al. (2000: 256). Lives in lower part of the rivers, downstream the last falls but not in the estuarine brackish waters. Common names: Acari (Brazil); goré-jonn, goré-kron-kron (French Guiana, Creole) koko, wala wala, wara wara, wawa (Guyana, Suriname, French Guiana, Amerindian).

***Hypostomus vermicularis* (Eigenmann & Eigenmann, 1888)**

Plecostomus vermicularis Eigenmann & Eigenmann, 1888: 171. Type locality: Rio Parahyba; Rio Janeiro; Mendez; Macacos, Goiás [Brazil]. Syntypes: (35) MCZ 7814 (1), 7848 (12), 7849 (1), 7850 (4), 7851 (1), 7857 (1), 91352 (12); NMW 44279 (1); USNM 123010 [ex MCZ 7850] (3). Maximum length: 19 cm SL. Distribution: South America: Eastern Brazilian coastal drainages. Countries: Brazil. Remarks and references: Available from description in key. Synonyms from Paraíba do Sul River belong to *Hypostomus luetkeni* (Mazzoni et al. 1994: 8), this species needs a revision.

***Hypostomus watwata* Hancock, 1828**

Hypostomus watwata Hancock, 1828: 246. Type locality: Demerara [...] on the sea-shores [restricted to Berbice River, Guyana] by designation of a neotype. Neotype: BMNH 1932.11.10.31, designated by Boeseman (1868: 71, pl. 16, fig. 1). *Hypostomus verres* Valenciennes in Cuvier & Valenciennes, 1840: 494 [365 in Strasbourg deluxe ed.]. Type locality: envoyés de Cayenne [French Guiana]. Lectotype: MNHN A.9450, designated by Boeseman (1968: 70). Synonymized here. Maximum length: 45 cm SL. Distribution: South America: Guianan coastal drainages from Oyapock River to Demerara River. Countries: French Guiana, Guyana, Suriname, Venezuela.

Remarks and references: Last redescription and biology in Le Bail et al. (2000: 260). Regarded as *Squaliforma* by Isbrücker et al. (2001:22), but not confirmed by Montoya-Burgos et al. (2002, fig 2, Mitochondrial D-loop sequences; EMBL/GenBank AJ318362 to AJ318364). Biology: Seems to be the unique species of *Hypostomus* living in brackish waters. Occurs the lower part and the mouth of the rivers, found even along the nearby seashore. Common names: Acari do mar, caraboï (Brazil); atipa-lanmè, goré-kron-kron, goré-nwè (French Guiana, Creole); hu, koko, wala wala, wara wara, wawa (Guyana, Suriname, French Guiana, Amerindian).

***Hypostomus winzi* (Fowler, 1945)**

Plecostomus winzi Fowler, 1945b: 9, fig. 7. Type locality: Honda, Colombia. Holotype: ANSP 71623. Maximum length: 4.2 cm SL. Distribution: South America: Magdalena River basin.

Countries: Colombia

Remarks and references: Only known from holotype, a juvenile specimen.

***Hypostomus wuchereri* (Günther, 1864)**

Plecostomus wuchereri Günther, 1864: 235. Type locality: Brazil [...] Bahia. Syntypes: (4) BMNH 1863.3.27.15 (1). Maximum length: 20 cm SL. Distribution: South America: Paraguaçu River basin (?). Countries: Brazil

ISBRUECKERICHTHYS

Isbrueckerichthys Derijst, 1996: 64. Type species: *Hemipsilichthys duseni* Miranda Ribeiro, 1907. Type by original designation. Gender: masculine. New name for *Pareiorhaphis* sensu Gosline (1947: 102).

Diagnosis, nomenclatural revision and key to species in Pereira and Reis (2002: 141).

***Isbrueckerichthys alipionis* (Gosline, 1947)**

Pareiorhaphis alipionis Gosline, 1947: 104. Type locality: Rio Bethary, São Paulo [Brazil]. Holotype: MNRJ 4241. Maximum length: 8.2 cm SL. Distribution: South America: Betari River basin in Ribeira de Iguape River drainage. Countries: Brazil. Remarks and references: Locality restricted to Ribeirão do Mojo-linho, in the Iporanga basin, São Paulo, by Isbrücker (1980: 13). New combination by Derijst (1996: 64). Redescription and distribution in Pereira and Reis (2002: 143)

***Isbrueckerichthys duseni* (Miranda Ribeiro, 1907)**

Hemipsilichthys duseni Miranda Ribeiro, 1907: 187, unnumbered pl. (same page). Type locality: Paraná and Ribeirão do Monjolinho, á 300 metros sobre o mar [Iporanga River, São Paulo, Brazil]. Lectotype: MNRJ 772, designated by Gosline (1947: 102). Maximum length: 10 cm SL. Distribution: South America: Upper Ribeira de Iguape River in Paraná State. Countries: Brazil. Remarks and references: Type locality restricted to "Paraná" by lectotype designation. New combination in Derijst (1996: 64). Redescription and distribution in Pereira and Reis (2002: 141). Biology: found in torrents with rocks. Common names: Cascudinho (Brazil)

ISORINELORICARIA

Isorineloricaria Isbrücker, 1980: 15. Type species: *Plecostomus spinosissimus* Steindachner, 1880. Type by original designation. Gender: feminine.

***Isorineloricaria spinosissima* (Steindachner, 1880)**

Plecostomus spinosissimus Steindachner, 1880: 98, pl. 5 (figs. 1-1a). Type locality: Guayaquil [Ecuador] [from title, p. 94]. Holotype: NMW 55027. *Plecostomus festae* Boulenger, 1898: 11. Type locality: Río Vices and Río Peripa, Ecuador. Syntypes: BMNH 1898.11.4.32 (1), ZMUT 1518 (1). Synonymized by Eigenmann (1922: 68). Maximum length: 56.5 cm TL. Distribution: South America: Pacific versant rivers in Ecuador. Countries: Ecuador. Remarks and references: New combination by Isbrücker (1980: 17). Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig 2; EMBL/GenBank AJ318365). Common names: Raspabalsa (Ecuador); Longtail-pleco (English); L 131 (Aqualog).

KRONICHTHYS

Kronichthys Miranda Ribeiro, 1908: [27th unnumbered page]. Type species: *Kronichthys subteres* Miranda Ribeiro, 1908. Type by monotypy. Gender: masculine. Redescription in Gosline (1947: 105).

***Kronichthys heylandi* (Boulenger, 1900)**

Plecostomus heylandi Boulenger, 1900: 165. Type locality: Mountain stream in the Province São Paulo [...] 400 feet above sea-level near Santos [Brazil]. Holotype: BMNH 1899.12.18.1.

Maximum length: 12.8 cm SL

Distribution: South America: Eastern Brazilian coastal streams between Santos and Rio de Janeiro.

Countries: Brazil

Remarks and references: New combination in Miranda Ribeiro (1918b: 716) and redescription in Gosline (1947: 106).

***Kronichthys lacerta* (Nichols, 1919)**

Plecostomus lacerta Nichols, 1919: 414. Type locality: Poço Grande (Estado de São Paulo) Rio Juquia, Brazil. Holotype: AMNH 7151 or 7152 (published).

Maximum length: 10.7 cm SL

Distribution: South America: Baía de Paranaguá basin and Ribeira de Iguape River basin.

Countries: Brazil

Remarks and references: Partial redescription and new combination in Armbruster & Page (1997: 228).

***Kronichthys subteres* Miranda Ribeiro, 1908**

Kronichthys subteres Miranda Ribeiro, 1908: [28th unnumbered page], fig. 1. Type locality: Rios Betharí, Pardo e Iporanga [Brazil]. Syntypes: MNRJ 655 (4).

Maximum length: 12.7 cm TL

Distribution: South America: Ribeira de Iguape River basin.

Countries: Brazil

Common names: Mãe-do-anhá (Brazil)

LIPOSARCUS

Liposarcus Günther, 1864: 238. Type species: *Hypostomus multiradiatus* Hancock, 1828. Type by subsequent designation by Jordan (1919: 332). Gender: masculine. Revalidation in Weber (1991: 638) and redescription in Weber (1992: 8).

***Liposarcus anisitsi* (Eigenmann & Kennedy, 1903)**

Liposarcus ambrosettii Holmberg, 1893: 354. Type locality: Río Paraguay, in front of Formosa. No types known. Nomen oblitum in Weber (1992: 28).

Pterygoplichthys anisitsi Eigenmann & Kennedy, 1903: 503. Type locality: Laguna of the Rio Paraguay at Asuncion. Holotype: IU 9873. Nomen protectum.

Pterygoplichthys juvenis Eigenmann & Kennedy, 1903: 504. Type locality: Asuncion, Río Paraguay, Paraguay. Holotype: CAS 59784 [ex IU 9876]. Synonymized by López & Miquelarena (1991b: 39).

Ancistrus multiradiatus alternans Regan, 1904: 229. Type locality: Paraguay and Southern Bolivia [restricted by Weber (1992: 28) to: Paraguayan Chaco [...] región Vila Concepción (=Concepción) - Caraya Vuelta -2/3 Piste Pozo Colorado, probablemente Waikth-latingmayalwa (=Mission Inglesia)]. Lectotype: BMNH 1898.7.4.5, designated by Weber (1992: 28). Originally proposed as *A. multiradiatus* var. *alternans*. Synonymized by Weber (1992: 28).

Maximum length: 42 cm TL

Distribution: South America: Paraguay, middle Paraná, Bermejo, and Uruguay River basins.

Countries: Argentina, Brazil, Paraguay

Remarks and references: Complementary description and new combination in Weber (1992: 13, 28).

Common names: Guaimingué (Paraguay, Guaraní); vieja de agua (Argentina); Snow king pleco (English); L021a (Aqualog).

***Liposarcus disjunctivus* Weber, 1991**

Liposarcus disjunctivus Weber, 1991: 638 [pl. 9 in Weber 1992].

Type locality: Rio Madeira, système de l'Amazonas, Restauração, Amazonas, Brésil. Holotype: MZUSP 28360.

Distribution: South America: Madeira River basin.

Countries: Bolivia, Brazil

Remarks and references: Complementary description in Weber (1992: 12).

***Liposarcus multiradiatus* (Hancock, 1828)**

Hypostomus multiradiatus Hancock, 1828: 246. Type locality: Demerara [in title] [...] Lakes [...] on the slime [restricted to env. de Santa Catalina, Terr. Féd du delta Amacuro, sys. De l'Orénoque: Vénézuéla (localité probable), Guyana]. Holotype: BMNH 1857.6.13.162.

Maximum length: 50 cm TL

Distribution: South America: Orinoco River basin.

Countries: Guyana (?), Venezuela

Remarks and references: New combination in Günther (1864: 238). Redescription and type locality restriction in Weber (1992: 9, 27). Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig 2; EMBL/GenBank AJ318361).

***Liposarcus pardalis* (Castelnau, 1855)**

Hypostomus pardalis Castelnau, 1855: 42, pl. 20 (fig. 3). Type locality: l'Amazone [Brazil]. Holotype: MNHN A.9574.

Liposarcus varius Cope, 1872: 284. Type locality: Ambyiacu River [=Ampyiacu, Loreto, Peru]. Lectotype: ANSP 21931, designated by Fowler (1915a: 233).

Liposarcus jeansianus Cope, 1874: 135. Type locality: Nauta, Peru (= Marañón River, Amazon basin). Lectotype: ANSP 8241, designated by Weber (1992: 27).

Maximum length: 40 cm TL

Distribution: South America: Lower, middle and upper Amazon River basin.

Countries: Brazil, Peru

Remarks and references: New combination in Günther (1864: 239). Ecology and economic value in Serpa (1967); redescription with new synonyms in Weber (1992: 10).

Common names: Cascudo (Brazil); carachama (Ecuador); cachga, cachpas, cajas, carachama, vieja (Peru).

PAREIORHINA

Pareiorhina Gosline, 1947: 104. Type species: *Rhinelepis rudolphi* Miranda Ribeiro, 1911. Type by original designation. Gender: feminine.

***Pareiorhina rudolphi* (Miranda Ribeiro, 1911)**

Plecostomus (Rhinelepis) microps Ihering, 1907: 24. Type locality: Piquete (Lorena), Estado de São Paulo [Brazil]. Holotype: MZUSP 2154. Preoccupied by *Plecostomus microps* Steindachner, 1876.

Rhinelepis rudolphi Miranda Ribeiro, 1911: 84. Type locality: Replacement name for *Plecostomus microps* Ihering, 1907.

Maximum length: 5 cm SL

Distribution: South America: Streams tributary to Paraíba do Sul River near Lorena in São Paulo State.

Countries: Brazil

Remarks and references: New combination in Gosline (1947: 104).

POGONOPOMA

Pogonopoma Regan, 1904: 205. Type species: *Plecostomus wertheimeri* Steindachner, 1867. Type by subsequent designation by Eigenmann (1910: 407). Gender: neuter. Originally proposed as

subgenus of *Plecostomus* Gronow. Revision of the genus by Quevedo and Reis (2002: 402).

Pogonopomoides Gosline, 1947: 109. Type species: *Rhinelepis parahybae* Steindachner, 1877. Type by original designation. Gender: masculine. Synonymized by Quevedo and Reis (2002: 404).

***Pogonopoma obscurum* Quevedo & Reis, 2002**

Pogonopoma obscurum Quevedo & Reis, 2002: 405, fig. 3 (middle). Type locality: Rio Canoas at road from Anita Garibaldi to Abdon Batista (approximately 27°39'S, 51°05'W) Santa Catarina, Brazil. Holotype MCP 25036.

Maximum length: 24.5 cm SL.

Distribution: South America: Upper Uruguay River basin.

Countries: Brazil

Remarks and references: Inhabits stretches of the main river and its tributaries, with relatively rapid water currents over bottom usually formed by rocks and boulders.

***Pogonopoma parahybae* (Steindachner, 1877)**

Rhinelepis parahybae Steindachner, 1877b: 218, pl. 2 (top). Type locality: aus dem Parahyba [Brazil]. Syntypes: MCZ 7756 (4); NMW 44556 (1), 44557 (1), 44558 (1) (Eschmeyer, 1998: 1285).

Maximum length: 26.3 cm SL

Distribution: South America: Paraíba do Sul River basin.

Countries: Brazil

Remarks and references: Redescription (as unique species of *Pogonopomoides*) in Armbruster (1998b: 629) and new combination in Quevedo and Reis (2002: 404)

***Pogonopoma wertheimeri* (Steindachner, 1867)**

Plecostomus wertheimeri Steindachner, 1867a: 119, pl. 1 (fig. 1) in Steindachner (1867b). Type locality: dem Fluss Mucuri im gleichnamige Districte bei Santa Clara, in Brasilien. Holotype: NMW 44288.

Maximum length: 22.3 cm SL

Distribution: South America: Mucuri and São Mateus River basins.

Countries: Brazil

Remarks and references: Redescription (as species of *Pogonopoma*) in Armbruster (1998b: 629).

PSEUDORINELEPIS

Pseudorinelepis Bleeker, 1862: 3. Type species: *Rinelepis genibarbis* Valenciennes, in Cuvier and Valenciennes 1840. Type by original designation. Gender: feminine.

Canthopomus Eigenmann, 1910: 407. Type species: *Rhinelepis genibarbis* Valenciennes, in Cuvier and Valenciennes, 1840. Type by original designation. Gender: feminine. Subsequent designation by Eigenmann & Allen (1942: 183) of *Rhinelepis agassizii* Steindachner as type is invalid.

Monistancistrus Fowler, 1940a: 236. Type species: *Monistancistrus carachama* Fowler, 1940. Type by original designation. Gender: masculine. Synonymized by Armbruster & Page (1997: 228).

Redescription in Armbruster (1998b: 631)

***Pseudorinelepis genibarbis* (Valenciennes, 1840)**

Rinelepis genibarbis Valenciennes, in Cuvier & Valenciennes, 1840: 484 [357 in Strasbourg deluxe ed.], pl. 453. Type locality: probablement du Brésil. Holotype: MNHN (not found).

Rhinelepis Agassizii Steindachner, 1877b: 228. Type locality: am See Manacapouru [Brazil]. Syntypes: MCZ 8007 (1); NMW 44559-61 (3, 1, 1). Synonymized by Armbruster & Hardman (1999: 57).

Plecostomus pellegrini Regan, 1904: 218. Type locality: from Upper Amazon. Holotype: MNHN A.3956. Synonymized by Armbruster & Hardman (1999: 57).

Monistancistrus carachama Fowler, 1940a: 236, fig. 26. Type

locality: Contamana, Río Ucayali basin, Ucayali, Peru. Holotype: ANSP 68654. Synonymized by Armbruster & Hardman (1999: 57).

Maximum length: 35.6 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Brazil, Peru

Remarks and references: Redescription in Armbruster & Hardman (1999); lives in large rivers, backwaters and floodplain lakes.

Common names: Carachama negro, carachama sin costilla (Peru).

PTERYGOPLICHTHYS

Pterygoplichthys Gill, 1858: 408. Type species: *Hypostomus duodecimalis* Valenciennes, 1840. Type by subsequent designation by Bleeker (1862: 2). Gender: masculine. Type designation with genus spelled *Pterygoplichtys*. Redescription in Weber (1992: 8).

***Pterygoplichthys etentaculatus* (Spix & Agassiz, 1829)**

Hypostoma etentaculatum Spix & Agassiz, 1829: 7, pl. 4 (fig. 1). Type locality: in Brasiliae septentrionalis fluviis [restricted to São Francisco River at Januaria, Minas Gerais State, Brazil, by designation of the neotype]. Neotype: MZUSP 35821, designated by Weber (1992: 25).

Hypostomus duodecimalis Valenciennes in Cuvier & Valenciennes, 1840: 498 [367 in Strasbourg deluxe ed.], pl. 454. Type locality: dans la rivière Saint-François au Brésil. Holotype: MNHN A.9446. Synonymized by Weber (1992: 25).

Hypostomus brevitentaculatus Ranzani, 1841: 63. Type locality: nelle aqua dolci della Provincia di S. Paulo nel Brasile [restricted by Weber (1992: 25) to São Francisco River]. Holotype: MZUB, without cat. number. Synonymized by Weber (1992: 25).

Ancistrus longimanus Kner, 1854: 283, pl. 5 (fig. 1). Type locality: Not explicitly stated. Syntypes (2): not found in NMW. Originally proposed as *Anc. longimanus*. Synonymized by Weber (1992: 25).

Maximum length: 30 cm SL

Distribution: South America: São Francisco River basin.

Countries: Brazil

Remarks and references: New combination in Eigenmann and Eigenmann (1889: 44).

***Pterygoplichthys undecimalis* (Steindachner, 1878)**

Chaetostomus undecimalis Steindachner, 1878b: 90. Type locality: Cienaga Grande de Santa Marta, Magdalena basin, 40 km east of Barranquilla, Colombia. Lectotype: NMW 47224. Illustrated in Steindachner (1879: pl. 8).

Maximum length: 50 cm SL

Distribution: South America: Magdalena River basin.

Countries: Colombia

Remarks and references: New combination in Eigenmann and Eigenmann (1889: 44). Complementary description and lectotype designated in Weber (1992: 26).

Common names: Cacucho, choque, coroncoro negro, rascón (Colombia).

***Pterygoplichthys zuliaensis* Weber, 1991**

Pterygoplichthys zuliaensis Weber, 1991: 638. Type locality: Río Santa Ana, bassin du Maracaibo, Hacienda Río Grande, 9°36'20"N, 72°07'00"W, état de Zulia, Venezuela. Holotype: MBUCV-V 14653. Illustrated in Weber (1992: pl. 4b).

Distribution: South America: Lake Maracaibo basin.

Countries: Venezuela

Remarks and references: Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig. 2; EMBL/GenBank AJ318360).

RHINELEPIS

Rhinelepis Spix & Agassiz, 1829: 2. Type species: *Rhinelepis aspera* Spix & Agassiz, 1829. Type by monotypy. Gender: feminine. Redescription in Armbruster (1998b: 632).

***Rhinelepis aspera* Spix & Agassiz, 1829**

Rhinelepis aspera Spix & Agassiz, 1829: 4, pl. 2 (figs. 1-2). Type locality: in flumine S. Francisci [Brazil].

Holotype: destroyed.

Maximum length: 33 cm TL

Distribution: South America: São Francisco and upper paran River basins.

Countries: Brazil

Common names: Acari roncador (Brazil).

***Rhinelepis strigosa* Valenciennes, 1840**

Rhinelepis strigosa Valenciennes, in Cuvier and Valenciennes, 1840: 480 [354 in Strasbourg deluxe ed.]. Type locality: dans le Parana et d'autres rivires de la province de Corrientes [Argentina]. Holotype: MNHN A.9571.

Maximum length: 40 cm SL

Distribution: South America: Paran and Uruguay River basins.

Countries: Argentina, Brazil, Paraguay and Uruguay.

Common names: Cascudo-preto, mulita-tatu (Brazil); vieja (Argentina); tandey (Uruguay)

SQUALIFORMA

Squaliforma Isbrcker & Michels, in Isbrcker et al., 2001: 22. Type species: *Hypostomus horridus* Heckel, 1854. Type by original designation. Gender: feminine. This genus fits in with *Hypostomus emarginatus* group in phylogeny of Montoya-Burgos et al. (2002, fig. 2).

***Squaliforma annae* (Steindachner, 1881)**

Plecostomus annae Steindachner, 1881a: 112, pl. 3 (figs. 2-2a). Type locality: Par [= Belem, Brazil]. Holotype: NMW 44073. Listed as *Chaetostomus annae* in figure caption (p. 146).

Maximum length: 9.8 cm SL

Distribution: South America: Guam River basin.

Countries: Brazil

Remarks and references: New combination by Isbrcker & Michels, in Isbrcker et al. (2001: 22).

***Squaliforma biseriata* (Cope, 1872)**

Plecostomus biseriatus Cope, 1872: 285. Type locality: the Amazon [Peru or Brazil]. Holotype: ANSP 8279.

Maximum length: 11.3 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Brazil

Remarks and references: New combination by Isbrcker & Michels, in Isbrcker et al. (2001: 22).

***Squaliforma emarginata* (Valenciennes, 1840)**

Hypostomus emarginatus Valenciennes in Cuvier & Valenciennes, 1840: 500 [369 in Strasbourg deluxe ed.]. Type locality: Probablement originaire du Brsil. Holotype: MNHN A.9447 (dry).

Maximum length: 15 cm TL

Distribution: South America: Lower, middle and upper Amazon River basin.

Countries: Bolivia, Brazil, Peru

Remarks and references: Lives in banks without vegetation, beaches or slopes of the rivers. New combination by Isbrcker & Michels, in Isbrcker et al. (2001: 22). Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig 2; EMBL/GenBank AJ318364).

Common names: Acari-de-praia, chicote (Brazil, Tocantins basin); Delta-cat (English); L011 (Aqualog).

***Squaliforma gomesi* (Fowler, 1941)**

Plecostomus iheringi Fowler, 1941: 150, fig. 51. Type locality: Cear [Brazil]. Holotype: ANSP 69409. Preoccupied by *Plecostomus iheringii* Regan, 1908.

Plecostomus gomesi Fowler, 1942: [1, unpaginated]. Replacement name for *Plecostomus iheringi* Fowler, 1941.

Maximum length: 14.3 cm SL

Distribution: South America: Jaguaribe River basin.

Countries: Brazil

Remarks and references: New combination based on morphological characters. Holotype examined by S. Fisch-Muller.

***Squaliforma horrida* (Kner, 1854)**

Hypostomus horridus Kner, 1854: 259, pl. 1 (fig. 1). Type locality: Forte do Principe am Rio Guapor, Brazil. Syntypes: two of three found: NMW 16325 (1, dry), 86604 (1, dry). Originally proposed as *Hyp. horridus*.

Maximum length: 35.5 cm SL

Distribution: South America: Madeira River basin.

Countries: Brazil

Remarks and references: New combination by Isbrcker & Michels, in Isbrcker et al. (2001: 22).

***Squaliforma phrixosoma* (Fowler, 1940)**

Plecostomus phrixosoma Fowler, 1940a: 233, figs. 21-23. Type locality: Ucayali River basin, Contamana, Peru. Holotype: ANSP 68650.

Maximum length: 10.1 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

Remarks and references: New combination by Isbrcker & Michels, in Isbrcker et al. (2001: 22).

Common names: Carocha de brada (Peru).

***Squaliforma scopularia* (Cope, 1871)**

Plecostomus scopularius Cope, 1871: 55. Holotype illustrated in Cope (1872: pl. 16, no. 1). Type locality: the Amazon above the mouth of the Rio Negro. Lectotype: ANSP 8081, designated by Fowler (1915a: 233).

Maximum length: 49.5 cm SL

Distribution: South America: Middle Amazon River basin.

Countries: Brazil

Remarks and references: New combination by Isbrcker & Michels, in Isbrcker et al. (2001: 22).

***Squaliforma squalina* (Jardine, 1841)**

Hypostoma squalinum Jardine in Schomburgk, 1841: 142, pl. 2. Type locality: Rios Branco, Negro, and Essequibo. Holotype: unknown.

Maximum length: 33.6 cm TL

Distribution: South America: Negro and Branco River basins; Essequibo River basin.

Countries: Brazil, Guyana

Remarks and references: New combination by Isbrcker & Michels, in Isbrcker et al. (2001: 22). Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002, fig 2; EMBL/GenBank AJ318363). Biology: lives under the roots of trees and among rocks, and they issue from their hiding places to the sand-banks to feed at night.

***Squaliforma tenuis* (Boeseman, 1968)**

Hypostomus tenuis Boeseman, 1968: 64, pl. 14 (fig. 3). Type locality: Near Paramaribo, Surinam. Holotype: RMNH 16198.

Maximum length: 19.5 cm SL

Distribution: South America: Suriname River basin (?).

Countries: Suriname (?)

Remarks and references: Only known from holotype. Type locality doubtful: labeled "Paramaribo" (Boeseman, 1968:65). New com-

ination by Isbrücker & Michels, in Isbrücker et al. (2001: 22).

***Squaliforma tenuicauda* (Steindachner, 1878).**

Plecostomus tenuicauda Steindachner, 1878b: 90. A type specimen illustrated in Steindachner (1879: pl. 6). Type locality: Río Magdalena, Colombia. Syntypes: MSNG 8856 (1); NMW 42596 (1), 44263 (1), 44264 (1), 44265 (1), 44266 (3), 44268 (1), 44294 (1); ZMUC 85 (1).

Maximum length: 33.8 cm SL

Distribution: South America: Magdalena River basin.

Countries: Colombia

Remarks and references: New combination based on morphological characters of syntypes.

Common names: Bebechicha, cacucho, choque, coroncoro perro, coroto, ramirez, rascón, raspacanoa (Colombia).

***Squaliforma villarsi* (Lütken, 1874)**

Plecostomus villarsi Lütken, 1874a: 211. Type locality: Venezuela. Syntypes: ZMUC 64, 65.

Maximum length: 32 cm SL

Distribution: South America: Venezuela (?).

Countries: Venezuela

Remarks and references: New combination by Isbrücker & Michels, in Isbrücker et al. (2001: 22).

***Squaliforma virescens* (Cope, 1874)**

Plecostomus virescens Cope, 1874: 137. Type locality: not explicitly given [Upper Amazon]. Syntypes: ANSP 21280-83 (4, 1, part.).

Maximum length: 7.3 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Peru (?)

Remarks and references: Type series includes only juvenile specimens. New combination by Isbrücker & Michels, in Isbrücker et al. (2001: 22).

References

Agostinho, A.A. and L.C. Gomes (eds.). 1997. Reservatorio de Segredo. Bases ecológicas para o manejo. EDUEM, Maringá.

Armbruster, J.W. 1998a. Review of the loricariid catfish genus *Aphanotorulus* and redescription of *A. unicolor* (Teleostei: Siluriformes). *Ichthyol. Explor. Freshwaters*, 8 (3): 253-262.

Armbruster, J.W. 1998b. Phylogenetic relationships of the suckermouth armored catfishes of the *Rhinelepis* group (Loricariidae: Hypostominae). *Copeia* 1998(3):620-636.

Armbruster, J.W. and M. Hardman. 1999. Redescription of *Pseudorhinelepis genibarbis* (Loricariidae: Hypostominae) with comments on behavior as it relates to air-holding. *Ichthyol. Explor. Freshwaters*, 10 (1): 53-61.

Armbruster, J.W. and L.M. Page. 1996. Redescription of *Aphanotorulus* (Teleostei: Loricariidae) with description of one new species, *A. ammophilus*, from the Río Orinoco basin. *Copeia*, 1996 (2): 379-389.

Armbruster, J.W. and L.M. Page. 1997. Generic reassignment of the loricariid species *Monistiancistrus carachama* Fowler 1940, *Plecostomus lacerta* Nichols 1919, and *Rhinelepis levis* Pearson 1924 (Teleostei: Siluriformes). *Copeia*, 1997 (1): 227-232.

Armbruster, J.W., M.H. Sabaj, M. Hardman, L.M. Page and J.H. Knouft. 2000. Catfish Genus *Corymbophanes* (Loricariidae: Hypostominae) with description of one new species: *Corymbophanes kaiei*. *Copeia* 2000 (4) 997-1006.

Bertin, L. and R. Estève. 1950. Catalogue des types de poissons du muséum National d'Histoire Naturelle. 5e partie. Ostariophyaires (Siluriformes). Imp. Nationale, Paris. 85 p.

Bizerril, C.R.S.F. 1995. Description of new species of *Hemipsilichthys* (Loricariidae, Hypostominae) from the State of Santa Catarina, Brazil. *Acta Biologica Leopoldensia*, 17 (1): 115-122

Bleeker, P. 1862-63. Atlas ichthyologique des Indes Orientales

Néerlandaises, publié sous les auspices du Gouvernement colonial néerlandais. Tome II. Siluroïdes, Chacoïdes et Hétérobranchéoïdes. Amsterdam. 1-112, Pls. 49-101.

Bleeker, P. 1864. Description des espèces de Silures de Suriname, conservées aux Musées de Leide et d'Amsterdam. *Natuurk. Verh. Holland. Maatsch. Wet. Haarlem* (Ser. 2), 20: 1-104, pls. 1-16.

Boeseman, M. 1968. The genus *Hypostomus* La Cepède, 1803, and its Surinam representatives (Siluriformes, Loricariidae). *Zool. Verh. (Leiden)*, No. 99: 1-89, pls. 1-18.

Boeseman, M. 1969. Additional new species of *Hypostomus* La Cepède, 1803, from Surinam; with remarks on the apparent "gymnorhynchus-complex" (Siluriformes, Loricariidae). *Beaufortia*, 16 (215): 119-136.

Boulenger, G.A. 1895. [Abstract of a report on a large collection of fishes formed by Dr. C. Ternetz in Matto Grosso and Paraguay, with descriptions of new species.]. *Proc. Zool. Soc. London*, 1895 (3): 523-529.

Boulenger, G.A. 1896. III. On a collection of fishes from the Rio Paraguay. *Trans. Zool. Soc., London*, 24 (2): 25-39, pls. 1-6.

Boulenger, G.A. 1897. Viaggio del Dott. Alfredo Borelli nel Chaco boliviano e nella Republica Argentina. III. Poissons. *Boll. Mus. Zool. Anat. Comp. Torino*, 12 (no. 279): 1-4.

Boulenger, G.A. 1898. Viaggio del Dr. Enrico Festa nell' Ecuador e regioni vicine. Poissons de l'Équateur. [Part I]. *Boll. Mus. Zool. Anat. Comp. Torino*, 13 (no. 329): 1-13.

Boulenger, G.A. 1900. Descriptions of three new species of silurid fishes from southern Brazil. *Ann. Mag. Nat. Hist. (Ser. 7)*, 5 (no. 26): 165-166.

Britski, H.A. 1969. Lista dos tipos de peixes das coleções do Departamento de Zoologia da Secretaria da Agricultura de São Paulo. *Pap. Avulsos Dep. Zool. (São Paulo)*, 22: 197-215.

Casatti, L. and R.M.C. Castro 1998. A fish community from the headwaters of the São Francisco River, southeastern Brazil. *Ichthyol. Expl. Freshwaters*, 9(3), 229-242.

Casatti, L., F. Langeani and R.M.C. Castro. 2001. Peixes de riacho do parque Estadual Morro do Diabo, bacia do Alto Rio Paraná, SP. *Biota Neotropica*, Campinas, 1(1/2): 1-15.

Castelnau, F.L. 1855. Poissons. In: Animaux nouveaux or rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847, xii + 112 p., pls. 1-50.

Castro, R.M.C. and L.Casatti 1997. The fish fauna from a small forest stream of the upper Paraná River basin, southeastern Brazil. *Ichthyol. Explor. Freshwaters*, 7(4): 337-352.

Cope, E.D. 1871. [Fishes from the Amazon above the mouth of the Rio Negro.]. *Proc. Acad. Nat. Sci. Philadelphia*, 23: 55.

Cope, E.D. 1872. On the fishes of the Ambyiacu River. *Proc. Acad. Nat. Sci. Philadelphia*, 23: 250-294, pls.

Cope, E.D. 1874. On some Batrachia and Nematognathi brought from the upper Amazon by Prof. Orton. *Proc. Acad. Nat. Sci. Philadelphia*, 26: 120-137.

Cope, E.D. 1894. On the fishes obtained by the Naturalist Expedition in Rio Grande do Sul. *Proc. Am. Philos. Soc.*, 33: 84-108, pls. 4-9.

Cuvier, G. and A. Valenciennes. 1840. Histoire naturelle des poissons. Tome quinzisième. Suite du livre dix-septième. Siluroïdes. Ch. Pitois & V. Levraut, Paris & Strasbourg. xxxi + 540 p., pls. 421-455.

Dahl, G. 1971. Los peces del norte de Colombia. Inderena, Bogata. xvii + 317 p.

Derijst, E. 1996. Note on the type species of the mailed catfish genus *Pareiorhaphis* Miranda Ribeiro, 1918 *Pisces: Siluriformes: Loricariidae*, with the introduction of *Isbrueckerichthys* nom. nov. *Aquarium Wereld*, 49 (3): 62-64.

Devincenzi, G.J. and G.W. Teague. 1942. Ictiofauna del Rio Uruguay medio. *An. Mus. Nac. Hist. Nat. Montevideo* (Ser. 2), 5 (4): 1-100 + index + i-viii, pls. 1-6.

Check List of the Freshwater Fishes of South and Central America

- Eigenmann, C.H. 1907. On a collection of fishes from Buenos Aires. Proc. Washington Acad. Sci., 8: 449-458, pls. 21-23.
- Eigenmann, C.H. 1909. Reports on the expedition to British Guiana of the Indiana University and the Carnegie Museum, 1908. Report no. 1. Some new genera and species of fishes from British Guiana. Ann. Carnegie Mus., 6 (1): 4-54.
- Eigenmann, C.H. 1910. Catalogue of the fresh-water fishes of tropical and south temperate America. In: Reports of the Princeton University expeditions to Patagonia 1896-1899. Zoology: 375-511.
- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. 1922. The fishes of western South America, Part I. The fresh-water fishes of northwestern South America, including Colombia, Panama, and the Pacific slopes of Ecuador and Peru, together with an appendix upon the fishes of the Rio Meta in Colombia. Mem. Carnegie Mus., 9 (1): 1-346, pls. 1-38.
- Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II.- The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. Univ. Kentucky. Fishes West. S. America: i-xv + 1-494, Pls. 1-22.
- Eigenmann, C.H. and R.S. Eigenmann. 1888. Preliminary notes on South American Nematognathi. I. Proc. California Acad. Sci. (Ser. 2), 1 (2): 119-172.
- Eigenmann, C.H. and R.S. Eigenmann. 1889. Preliminary notes on South American Nematognathi. II. Proc. California Acad. Sci. (Ser. 2), 2: 28-56.
- Eigenmann, C.H. and R.S. Eigenmann. 1890. A revision of the South American Nematognathi or cat-fishes. Occas. Pap. California Acad. Sci., No. 1: 1-508 + errata and map.
- Eigenmann, C.H. and C.H. Kennedy. 1903. On a collection of fishes from Paraguay, with a synopsis of the American genera of cichlids. Proc. Acad. Nat. Sci. Philadelphia, 55: 497-537.
- Eschmeyer, W.N. (ed.). 1998. Catalog of fishes. California Academy of Sciences, San Francisco. 3 volumes: 2905 pp.
- Fowler, H.W. 1913. Fishes from the Madeira River, Brazil. Proc. Acad. Nat. Sci. Philadelphia, 65: 517-579.
- Fowler, H.W. 1915a. Notes on nematognathous fishes. Proc. Acad. Nat. Sci. Philadelphia, 67: 203-243.
- Fowler, H.W. 1915b. Cold-blooded vertebrates from Florida, the West Indies, Costa Rica, and eastern Brazil. Proc. Acad. Nat. Sci. Philadelphia, 67: 244-269.
- Fowler, H.W. 1940a. A collection of fishes obtained by Mr. William C. Morrow in the Ucayali River basin, Peru. Proc. Acad. Nat. Sci. Philadelphia, 91 (for 1939): 219-289.
- Fowler, H.W. 1940b. Zoological results of the second Bolivian expedition for the Academy of Natural Sciences of Philadelphia, 1936-1937. Part I.--The fishes. Proc. Acad. Nat. Sci. Philadelphia, 92: 43-103.
- Fowler, H.W. 1941. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. Proc. Acad. Nat. Sci. Philadelphia, 93: 123-199.
- Fowler, H.W. 1942. A new cat-fish from Brazil (*Plecostomus gomesi*, new species). Fish Culturist, 21 (10): unpaginated.
- Fowler, H.W. 1943. A collection of fresh-water fishes from Colombia, obtained chiefly by Brother Nicéforo Maria. Proc. Acad. Nat. Sci. Philadelphia, 95: 223-266.
- Fowler, H.W. 1945a. Colombian zoological survey. Pt. I.--The freshwater fishes obtained in 1945. Proc. Acad. Nat. Sci. Philadelphia, 97: 93-135.
- Fowler, H.W. 1945b. Descriptions of two new fresh-water fishes from Colombia. Not. Nat. (Philadelphia), No.158: 1-11.
- Fowler, H.W. 1954. Os peixes de água doce do Brasil. Vol. 2. Arq. Zool. (Sao Paulo), 9: i-ix + 1-400.
- Gill, T. 1858. Synopsis of the fresh water fishes of the western portion of the Island of Trinidad, W. I. Ann.Lyc. Nat. Hist., New York, 6 (38):363-429.
- Giltay, L. 1936. Notes Ichthyologiques. XI.--Revision du genre *Hemipsilichthys* (Loricariidae). Bull. Mus. R. Hist. Nat. Belg., 12 (no. 14): 1-7.
- Godoy, M.P. 1969. Nova espécie de "Plecostomus" Gronovius, 1763 (Pisces, Loricariidae, Nematognathi). Rev. Bras. Biol., 29 (2): 175-180.
- Godoy, M.P. 1980. Poluição -- peixes e pesca. Reconhecimento preliminar com descrição de duas espécie novas de peixes. Relatório Técnico Eletrosul. 45 p.
- Gomez, S.E., H.L. Lopez and N.I. Toresani. 1990. *Hypostomus derbyi* (Haseman) e *Hypostomus myersi* (Gosline), descripción complementaria y primeros registros para Argentina (Pisces, Loricariidae). Studies on Neotropical Fauna and Environment, 25 (3):139-152.
- Gosline, W.A. 1947. Contributions to the classification of the loricariid catfishes. Arq. Mus. Nac. Rio de Janeiro, 41: 79-134, pls. 1-9.
- Gray, J.E. 1854. Catalogue of fish collected and described by Laurence Theodore Gronow, now in the British Museum. London. vii + 196 p.
- Günther, A. 1864. Catalogue of the fishes in the British Museum. Vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiatidae in the collection of the British Museum. London, Trustees. xxii + 455 p.
- Günther, A. 1880. A contribution to the knowledge of the fish fauna of the Rio de la Plata. Ann. Mag. Nat. Hist. (Ser. 5), 6 (no. 31): 7-13, pl. 2.
- Hancock, J. 1828. Notes on some species of fishes and reptiles, from Demerara, presented to the Zoological Society by John Hancock, Esq., corr. memb. Zool. Soc. In a letter addressed to the secretary of the Society. Zool. J., 4: 240-247.
- Haseman, J.D. 1911. Some new species of fishes from the Rio Iguassú. Ann. Carnegie Mus., 7 (3-4): 374-387, pls. 50, 58, 73-83.
- Hensel, R.F. 1870. Beiträge zur Kenntniss der Wirbelthiere Südbrasilens. (Fortsetzung). Arch. Naturgeschichte, 36 (1): 50-91.
- Holly, M. 1929. Einige neue Fischformen aus Brasilien. Anz. Akad. Wiss. Wien, 66: 117-120.
- Holmberg, E.L. 1893. Nombres vulgares de peces Argentinos con sus equivalencias científicas. Rev. Jardin Zool., Buenos Aires, 1 (3): 85-96.
- Holmberg, E.L. 1893. Dos peces argentinos. Rev. Jardin Zool., Buenos Aires, 1 (12): 353-354.
- Ihering, R. von. 1905. Descriptions of four new loricariid fishes of the genus *Plecostomus* from Brazil. Ann. Mag. Nat. Hist. (Ser. 7), 15 (90): 558-561.
- Ihering, R. von. 1907. Diversas especies novas de peixes nematognathas do Brazil. Notas preliminares. Rev. Mus. Paulista (N. S.), 1 (1): 13-39.
- Ihering, R. von. 1911. Algumas especies novas de peixes d'água doce (Nematognatha) (*Corydoras*, *Plecostomus*, *Hemipsilichthys*). Rev. Mus. São Paulo, 8 (for 1910): 380-404.
- Isbrücker, I.J.H. 1973. Status of the primary homonymous South American catfish *Loricaria cirrhosa* Perugia, 1897, with remarks on some other loricariids (Pisces, Siluriformes, Loricariidae). Ann. Mus. Civ. Stor. Nat. Genova, 79: 172-191.
- Isbrücker, I.J.H. 1980. Classification and catalogue of the mailed Loricariidae (Pisces, Siluriformes). Versl. Tech. Gegevens, No. 22: 1-181.
- Isbrücker, I.J.H. 2001. Nomenklator der Gattungen und Arten der Harnischwelse. Familie Loricariidae Rafinesque, 1815 (Teleostei, Ostariophysi). Datz Sonderheft Harnischwelse, 2: 25-32.
- Isbrücker, I.J.H. and H. Nijssen. 1983. *Aphanotorulus frankei*, une espèce et un genre nouveaux de poissons-chats cuirassés du

Check List of the Freshwater Fishes of South and Central America

- Bassin du Rio Ucayali au Pérou (Pisces, Siluriformes, Loricariidae). Rev. Fr. Aquariol., 9 (4, for 1982): 105-110.
- Isbrücker, I.J.H. and H. Nijssen. 1984. *Hypostomus nematopterus*, a new species of mailed catfish from the Oyapock River system, French Guiana (Pisces, Siluriformes, Loricariidae). Bull. Zool. Mus. Univ. Amst., 10 (2): 9-13.
- Isbrücker, I.J.H., I. Seidel, J.P. Michels, E. Schraml and A. Werner. 2001. Diagnose vierzehn neuer Gattungen der Familie Loricariidae Rafinesque, 1815 (Teleostei, Ostariophysi). Datz Sonderheft Harnischwelse, 2:17-24.
- Jordan, D.S. 1919. The genera of fishes, part II, from Agassiz to Bleeker, 1833-1858, twenty-six years, with the accepted type of each. A contribution to the stability of scientific nomenclature. Leland Stanford Jr Univ. Publ., Univ. Ser., 39: 285-410, i-xv.
- Knaack, J. 1999. A New Species of Suckermouth catfish (*Hypostomus* La Cèpède, 1803) from the Mato Grosso, Brazil (Pisces, Siluriformes, Loricariidae). Tropical Fish Hobbyist, 45 (11):102-108.
- Kner, R. 1854. Die Hypostomiden. Zweite Hauptgruppe der Familie der Panzerfische. (Loricata vel Goniodontes). Denkschr. Akad. Wiss. Wien, 7: 251-286, pls. 1-5.
- La Monte, F. 1933. A new subgenus of *Plecostomus* from Brazil. Am. Mus. Novit., No. 591: 1-2.
- La Monte, F. 1935. Fishes from Rio Jurua and Rio Purus, Brazilian Amazonas. Am. Mus. Novit., No. 784.
- La Cèpède, B.G.E. 1803. Histoire naturelle des poissons. Vol. 5. Plassan, Paris. Ixviii + 803 p. + index, pls. 1-21.
- Le Bail, P.-Y., P. Keith and P. Planquette. 2000. Atlas des poissons d'eau douce de Guyana. Tome 2. Fascicule II: Siluriformes. Patrimoines naturels (M.N.H.N./S.P.N.), 43(2), 307pp.
- Leege, C.O. 1922. Der Rumpfpfanz der Panzerwelse und seine Skelettbeziehungen (*Plecostomus angipinnatus* n. sp., *Callichthys callichthys* L. und *Corydoras paleatus* Jen.). Jena Zeitschr. Naturw., 58: 145-270, pls. 9-10.
- Lilyestrom, C.G. 1984. Consideraciones sobre la taxonomia de las especies del genero *Cochliodon* Heckel en Venezuela (Pisces, Loricariidae). Revista UNELLEZ de Ciencia y Tecnologia, Serie Produccion agricola, Venezuela, 2(2): 41-53.
- Linnaeus, C. 1758. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Tomus I. Editio decima, reformata. Holmiae. ii + 824 p.
- López, H.L. and A.M. Miquelarena. 1991a. Peces loricaridos de la Cuenca de Plata, Argentina. Parte I. El genero *Cochliodon* Heckel, 1854 (Pisces: Siluriformes). Gayana Zoologica. 55(1):3-11.
- López, H.L. and A.M. Miquelarena. 1991b. Los Hypostominae (Pisces: Loricariidae) de Argentina. Fauna de agua dulce de la República Argentina., 40 Pisces (2): 1-64.
- Lucena, Z.M.S. and C.A.S. Lucena. 1990. Sobre a localidade-tipo das espécies de peixes descritas por Steindachner (1907). Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre, 3 (3): 99-101.
- Lütken, C.F. 1874a. Ichthyographiske bidrag. I. Nogle nye eller mindre fuldstaendigt kjendte Pandsermaller, isaer fra det nordlige Sydamerika. Vidensk. Medd. Dansk Naturh. Foren. Kjob. (for 1873), No. 13-14: 202-220, pl. 4.
- Lütken, C.F. 1874b. Siluridae novae Brasiliae centralis a clarissimo J. Reinhardt in provincia Minas-geraês circa oppidulum Lagoa Santa, praecipue in flumine Rio das Velhas et affluentibus collectae, secundum caracteres essentialia, breviter descriptae. Overs. Danske Vidensk. Selsk. Forhandl Kjobenhavn, 1873 (3): 29-36.
- Lütken, C.F. 1875. Velhas-Flodens Fiske. Et Bidrag til Brasiliens Ichthyologi; efter Professor J. Reinhardts Indsamlinger og Optegnelser. K. Danske Vidensk. Selsk. Skr., Raekke 5, 12 (2): 121-253, + 2 unnum., + I-XXI, pls. 1-5.
- Malabarba, L.R. 1989. Histórico sistemático e lista comentada das espécies de peixes de água doce do sistema da Laguna dos Patos, Rio Grande do Sul, Brasil. Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre, 2 (8): 107-179.
- Marini, T.L., J.T. Nichols and F.R. La Monte. 1933. Six new eastern South American fishes examined in the American Museum of Natural History. Am. Mus. Novit., No. 618: 1-7.
- Mazzoni, R., U. Caramaschi and C. Weber. 1994. Taxonomical revision of the species of *Hypostomus* Lacédède, 1803 (Siluriformes, Loricariidae) from the Lower rio Parafba do Sul, State of Rio de Janeiro, Brazil. Rev. Suisse Zool., 101 (1): 3-18.
- Miranda Ribeiro, A. 1907. Peixes do Iporanga - S. Paulo. Resultados de excursões do Sr. Ricardo Krone, membro correspondente do Museu Nacional do Rio de Janeiro. Bol. Soc. Nac. Agric., Rio de Janeiro [Lavoura], 11 (5): 185-190.
- Miranda Ribeiro, A. 1908. Peixes da Ribeira. Resultados de excursão do Sr. Ricardo Krone, membro correspondente do Museu Nacional do Rio de Janeiro. Kosmos, Rio de Janeiro [Rev. Art. Sci. Litt.], 5 (2): 5 unnum. pp.
- Miranda Ribeiro, A. 1911. Fauna brasiliense. Peixes. Tomo IV (A) [Eleutherobranchios Aspirophoros]. Arq. Mus. Nac. Rio de Janeiro, 16: 1-504, pls. 22-54.
- Miranda Ribeiro, A. 1912. Loricariidae, Callichthyidae, Doradidae e Trichomycteridae. In: Comissão de Linhas Telegraphicas Estrategicas de Matto-Grosso ao Amazonas. 31 p., 1 pl.
- Miranda Ribeiro, A. 1918a. *Hemipsilichthys*, Eignm. & Eignm., e generos aliados. Rev. Soc. Sci. Rio de Janeiro, 2: 101-107, pls. 1-7.
- Miranda Ribeiro, A. 1918b. Lista dos peixes Brasileiros do Museu Paulista. Primeira parte and Terceira parte. Rev. Mus. Paulista, 10: 705-736, 759-783.
- Miranda Ribeiro, A. 1918c. Tres generos e dezeseite especies novas de peixes Brasileiros. Rev. Mus. Paulista, 10: 631-646, 1 pl.
- Miranda Ribeiro, A. 1920. Peixes (excl. Characinidae). In: Comissão de Linhas Telegraphicas Estrategicas de Matto-Grosso ao Amazonas. Historia Natural. Zoologia. 15 p., 17 unnum, pls.
- Miranda Ribeiro, A. 1924. Ainda "*Hemipsilichthys*" e generos aliados. Bol. Mus. Nac. Rio de Janeiro, 1 (5): 365-366.
- Miranda Ribeiro, A. 1937. Sobre uma collecção de vertebrados do nordeste brasileiro. Primeira parte: Peixes e batrachios. O Campo, Rio de Janeiro, No. 1: 54-56.
- Miranda Ribeiro, P. 1951. Reedição de algumas publicações de Alipio de Miranda Ribeiro. Arq. Mus. Nac. Rio de Janeiro, 42 (1): xxxvii-lxxx.
- Miranda Ribeiro, P. 1953. Tipos das espécies e subespécies do Prof. Alipio de Miranda Ribeiro depositados no Museu Nacional. Arq. Mus. Nac. Rio de Janeiro, 42: 389-417.
- Montoya-Burgos, J.-I., S. Muller, C. Weber and J. Pawlowski. 1997. Phylogenetic relationships between Hypostominae and Ancistrinae (Siluroidei: Loricariidae): first results from mitochondrial 12S and 16S rRNA gene sequences. Rev. Suisse Zool., 104 (1): 185-198.
- Montoya-Burgos, J.-I., C. Weber and P.-Y. Le Bail. 2002. Phylogenetic relationships within *Hypostomus* (Siluriformes: Loricariidae) and related genera based on mitochondrial D-loop sequences. Rev. Suisse Zool., 109 (2): 369-382.
- Muller, S. and C. Weber. 1992. Les dents des sous-familles Hypostominae et Ancistrinae (Pisces, Siluriformes, Loricariidae) et leur valeur taxonomique. Revue suisse de Zoologie, Annales de la Société zoologique suisse et du Muséum d'Histoire naturelle de Genève, 99 (4): 747-754.
- Nichols, J.T. 1919. "Casquados" brasileiros do genero *Plecostomus* do Museu Paulista. [Brazilian catfishes of the genus *Plecostomus* from the Museu Paulista.]. Rev. Mus. Paulista, 11: 409-426.
- Norman, J.R. 1926. Descriptions of nine new freshwater fishes from French Guiana and Brazil. Ann. Mag. Nat. Hist. (Ser. 9), 18 (no. 103): 91-97.
- Oliveira, J.C. 1997. Redescrição de *Hemipsilichthys garbei* Ihering, 1911, com designação do lectótipo e comentários sobre a

- sua distribuição e da de *Hemipsilichthys gobio* (Lütken, 1874) (Teleostei: Siluriformes: Loricariidae) Pap. Avulsos Zool., 40: 113-126.
- Oliveira, J.C. and O.T. Oyakawa. 1999. Two new species of *Hemipsilichthys* (Teleostei: Loricariidae) from Serra do Espinhaço, Minas Gerais, Brazil. Ichthyol. Explor. Freshwaters, 10 (1): 73-80.
- Page, L.M., J.W. Armbruster and M.H. Sabaj. 1996. Redescription of *Glyptoperichthys scrophus*, a loricariid catfish from Peru. Ichthyol. Explor. Freshwaters, 7 (2): 185-191.
- Pearson, N.E. 1924. The fishes of the eastern slope of the Andes. I. The fishes of the Rio Beni basin, Bolivia, collected by the Mulford expedition. Indiana Univ. Studies, 11 (64): 1-83, pls. 1-12.
- Pereira, E.H.L., J.C. Oliveira and O.T. Oyakawa. 2000. *Hemipsilichthys papillatus*, a new species of loricariid catfish (Teleostei: Siluriformes) from Minas Gerais, Brazil. Ichthyol. Explor. Freshwaters, 11 (4): 377-383.
- Pereira, E.H.L. and R.E. Reis. 1992. *Hemipsilichthys vestigipinnis* sp. n. (Teleostei, Siluriformes) a new loricariid catfish from the rio Uruguay basin, southern Brazil. Rev. Fr. Aquariol., 18 (4, for 1991): 111-116.
- Pereira, E.H.L. and R.E. Reis. 2002. Revision of the loricariid genera *Hemipsilichthys* and *Isbrueckerichthys* (Teleostei: Siluriformes) with descriptions of five new species of *Hemipsilichthys*. Ichthyol. Explor. Freshwaters, 13 (2): 97-146.
- Quevedo, R. and R.E. Reis. 2002. *Pogonopoma obsurum*: A New Species of Loricariid Catfish (Siluriformes: Loricariidae) from Southern Brazil, with Comments on the Genus *Pogonopoma*. Copeia, 2002 (2): 402-420, figs 1-3, tabs. 1-2.
- Ranzani, C. 1841. Monsignore Camillo Ranzani Prof di Zoologia e Mineralogia, ed Accademico pensionato legge una sua Memoria che intitulo = De nonnullis novis speciebus Piscium. Opusculum tertium in Rendiconto delle sessioni dell'Accademia delle Scienze dell'Instituto di Bologna.- 22.Sessione, 30. Aprile 1840.- Nuovi Annali delle Scienze naturali. Bologna. 3 (5): 60-66.
- Rapp Py-Daniel, L.H. 1988. *Hypostomus hoplonites* sp. n. da bacia amazônica, Brasil (Pisces, Siluroidea, Loricariidae). Iheringia, Ser. Zool., Porto Alegre, No. 68: 13-23.
- Regan, C.T. 1904. A monograph of the fishes of the family Loricariidae. Trans. Zool. Soc. London, 17 (pt 3, no. 1): 191-350, pls. 9-21.
- Regan, C.T. 1908a. Description of a new loricariid fish of the genus *Plecostomus* from Argentina. Ann. Mag. Nat. Hist. (Ser. 8), 2 (10): 358.
- Regan, C.T. 1908b. Descriptions of new loricariid fishes from South America. Proc. Zool. Soc. London, 1907 (4): 795-800, pls. 47-49.
- Regan, C.T. 1912. Descriptions of new fishes of the family Loricariidae in the British Museum Collection. Proc. Zool. Soc. Lond., 1912 (3): 666-670, pls. 75-77.
- Regan, C.T. 1913. Description of a new loricariid fish of the genus *Plecostomus* from Rio Janeiro. Ann. Mag. Nat. Hist. (Ser. 8), 12 (72): 555.
- Regan, C.T. 1920. XV. Pisces in The Zoological Record Volume the Fifty-fifth being Records of Zoological literature relating chiefly to the year 1918. pp.1-19
- Reis, R.E. and E.H.L. Pereira. 1999. *Hemipsilichthys nudulus*, a new, uniquely-plated species of loricariid catfish from the rio Araranguá basin, Brazil (Teleostei: Siluriformes). Ichthyol. Explor. Freshwaters, 10 (1): 45-51.
- Reis, R.E., C. Weber and L.R. Malabarba. 1990. Review of the genus *Hypostomus* Lacepède, 1803 from southern Brazil, with descriptions of three new species (Pisces: Siluriformes: Loricariidae). Rev. Suisse Zool., 97 (3): 729-766.
- Schomburgk, R.H. 1841. The Natural history of fishes of Guiana.-- Part I. In: Jardine, W. (ed.), The Naturalists' Library. Vol. 3. W. H. Lizars, Edinburgh. 263 p., pls. 1-30.
- Schubart, O. 1964. Sobre algumas *Loricariidae* da bacia do Rio Mogi Guaçu. Bol. Mus. Nac. Rio de Janeiro, Zool. (N. S.), No. 251: 1-19.
- Schultz, L.P. 1944. The catfishes of Venezuela, with descriptions of thirty-eight new forms. Proc. U. S. Natl. Mus., 94 (no. 3172): 173-338, pls. 1-14.
- Shaw, G. 1804. General zoology or systematic natural history. v. 5 (pt 1): v + 25 p., pls. 93-132, 43+, 65+, 6+, 74+ and (pt 2): vi +463 p., pls. 132-182, 158+.
- Serpa, A.T. 1967. Pesces del Oriente Peruano. Algunas especies de Loricariidae, con referencia especial de la "Caramacha" *Pterygoplichthys multiradiatus* (Hancock). Ecologia y Utilidade. Biota, Lima, No 50 (6): 201-259.
- Sneathlge, E. 1908. Sobre uma coleção de Aves do Rio Purús. Boletim do Museu Goeldi (Museu Paraense) de Historia Natural e Ethnographia, 1907, 5 (1): 43-77, 1 map.
- Sneathlge, E. 1909. Novas especies de Peixes amazonicos das collções do Museu Goeldi (Segundo os trabalhos do conselheiro Dr. Steindachner. Boletim do Museu Goeldi (Museu Paraense) de Historia Natural e Ethnographia 1908, 5 (2): 449-455.
- Spix, J.B. von and L. Agassiz. 1829. Selecta genera et species piscium quos in itinere per Brasiliam annis MDCCCXXVII-MDCCCXX jussu et auspiciis Maximiliani Josephi I [...] peracto collegit et pingendos curavit Dr J. B. de Spix [...] digessit, descripsit et observationibus anatomicis illustravit Dr L. Agassiz [...]. Monachii. Part 1: xvi + ii + 82 p., Pls. 1-48.
- Starks, E.C. 1913. The fishes of the Stanford expedition to Brazil. Stanford Univ. Publ., Univ. Ser.: 77 p., pls. 1-15.
- Steindachner, F. 1867a. Ichthyologische Notizen (5. Folge). Anz. Akad. Wiss. Wien, 4 (14): 119-120.
- Steindachner, F. 1867b. Ichthyologische Notizen (V). Sitzungsber. Akad. Wiss. Wien, 55: 701-717, pls. 1-3.
- Steindachner, F. 1877a. Die Süswasserfische des südöstlichen Brasilien (III). Sitzungsber. Akad. Wiss. Wien, 74: 559-694, pls. 1-13.
- Steindachner, F. 1877b. Die Süswasserfische des südöstlichen Brasilien. (IV). Sitzungsber. Akad. Wiss. Wien, 76: 217-230, pls. 1-2.
- Steindachner, F. 1878a. Ichthyologische Beiträge. VI. Sitzungsber. Akad. Wiss. Wien, 77: 379-392, pls. 1-3.
- Steindachner, F. 1878b. Zur Fischfauna des Magdalenen-Stromes. Anz. Akad. Wiss. Wien, 15 (no. 12): 88-91.
- Steindachner, F. 1879. Zur Fisch-fauna des Magdalenen-Stromes. Denkschr. Akad. Wiss. Wien, 39: 19-78, pls. 1-15.
- Steindachner, F. 1880. Zur Fisch-Fauna des Cauca und der Flüsse bei Guayaquil. Denkschr. Akad. Wiss. Wien, 42: 55-104, pls. 1-9.
- Steindachner, F. 1881a. Beiträge zur Kenntniss der Flussfische Südamerika's. II. Denkschr. Akad. Wiss. Wien, 43: 103-146, pls. 1-7.
- Steindachner, F. 1881b. Beiträge zur Kenntniss der Flussfische Südamerika's. III. Denkschr. Akad. Wiss. Wien, 44 (for 1882): 1-18, Pls. 1-5.
- Steindachner, F. 1907a. Über eine neue *Psilichthys*-Art, *Ps. cameroni* aus dem Flusse Cubatao im Staate S. Catharina, Brasilien. Anz. Akad. Wiss. Wien, 44 (6): 82-85.
- Steindachner, F. 1907b. Ueber einige Fischarten aus dem Flusse Cubatao im Staate Santa Catharina bei Theresopolis (Brasilien). Sitzungsber. Akad. Wiss. Wien, 116: 475-492, 2 pls.
- Steindachner, F. 1908a. Über eine im Rio Juraguá bei Joinville im Staate S. Catharina (Brasilien) vorkommende noch unbeschriebene *Pseudochalceus*-Art, *Ch. affinis*, sowie über eine neue Characinengattung und -art, *Joinvillea rosae*, von gleichem Fundorte. Anz. Akad. Wiss. Wien, 45 (5): 28-31.
- Steindachner, F. 1908b. Über zwei neue Siluroiden und zwei *Curimatus*-Arten, sowie über eine Varietät von *Ancistrus vittatus* aus dem Amazonasgebiete innerhalb Brasiliens. Anz. Akad. Wiss. Wien, 45 (11): 163-168.
- Valenciennes, A. 1836. Poissons [pl. 7]. In: A. d'Orbigny. Voyage

Check List of the Freshwater Fishes of South and Central America

- dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Paris, Bertrand et Levrault.
- Valenciennes, A. 1847. Poissons. Catalogue des principales espèces de poissons, rapportées de l'Amérique méridionale, 1-11. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Vol. 5 (pt. 2). Paris, Bertrand et Levrault.
- Walbaum, J.J. 1792. Petri Artedi Sueci Genera piscium. In quibus systema totum ichthyologiae proponitur cum classibus, ordinibus, generum characteribus, specierum differentiis, observationibus plurimis. Redactis speciebus 242 ad genera 52. Ichthyologiae, pars iii. Artedi Piscium Pt. 3: 1-723, Pls. 1-3.
- Weber, C. 1985. *Hypostomus dlouhyi* nouvelle espèce de poisson-chat cuirassé du Paraguay (Pisces, Siluriformes, Loricariidae). Rev. Suisse Zool., 92 (4): 955-968.
- Weber, C. 1986. Revision de *Hypostomus boulengeri* (Eigenmann & Kennedy), et deux espèces nouvelles de poissons-chats du Paraguay (Pisces, Siluriformes, Loricariidae). Rev. Suisse Zool., 93 (4): 979-1007.
- Weber, C. 1987. *Hypostomus microstomus* sp. nov. et autres poissons-chats cuirassés du Rio Parana (Pisces, Siluriformes, Loricariidae). Arch. Sci. (Geneva), 40 (3): 273-284.
- Weber, C. 1991. Nouveaux taxa dans *Pterygoplichthys* sensu lato (Pisces, Siluriformes, Loricariidae). Rev. Suisse Zool., 98 (3): 637-643.
- Weber, C. 1992. Révision du genre *Pterygoplichthys* sensu lato (Pisces, Siluriformes, Loricariidae). Rev. Fr. Aquariol., 19 (1-2): 1-36.
- Weber, C. and J.-I. Montoya-Burgos. 2002. *Hypostomus fonchii* n. sp. (Siluriformes: Loricariidae) from Peru, a key species suggesting the synonymy of *Cochliodon* with *Hypostomus*. Rev. Suisse Zool., 109 (2): 355-368.
- Weber, C., S. Muller and V. Mahnert. 1992. Harnischwelse Paraguays. Datz Sonderheft. Harnischwelse. Verlag Eugen Ulmer, Stuttgart, Sept. 1992: 10-13.
- Weyenbergh, H. 1877. Algunos nuevos pescados del Museo Nacional, y algunas noticias ictiológicas. Actas Acad. Nacional Cien. Exactas, 3 (1): 1-21, pls. 1-4.

Subfamily Ancistrinae (Armored catfishes)

Sonia Fisch-Muller

The members of the Ancistrinae share cheek odontodes that can be everted, conferring them a defensive as well as an offensive advantage. Despite the existence of this complex mechanism, this subfamily which was recognized by Isbrücker (1980) does not form a natural group according to molecular data. The present work is based on the classification established at that time. It integrates the numerous new names and nomenclatural changes that occurred during these last twenty years. Based on personal observations, we also propose novel genera combinations and species synonymies.

The subfamily is particularly diversified, including more than 200 known species grouped in 27 genera but most of them need prompt revision. The Ancistrinae are distributed through all main Neotropical basins from Panama to Chile on the Western side of the Andes and to Argentina on the Eastern side. Typically, Andean species are represented by *Chaetostoma* although numerous other Ancistrinae are found on rocky substrata of fast flowing rivers and falls. Highest species diversity is found in the Amazon basin. To date, only three cave-living loricariid species have been discovered. They belong to the type genus *Ancistrus* and present classical morphological adaptation to life in caves such as blindness and loss of pigmentation.

Apart from *Megalancistrus* and *Pseudacanthicus*, which can grow up to close to one meter size, most Ancistrinae are small to medium sized, the latter being particularly suited for aquarium life. As some species were successfully reproduced in captivity, it was possible to obtain the first descriptions of breeding and parental care.

Secondary dimorphism includes often more developed odontodes on pectoral fins or on body scutes of males, as it is the case for many other Loricariidae. The genus *Neblinichthys* developed them on the snout front, and *Pseudancistrus barbatus*, although not unique in that, shows them magnificently developed along its snout border. *Ancistrus* males show also a large development of their characteristic fleshy tentacles on snout. Differences in the ventral fin, anal fin and genital papilla occur in *Chaetostoma jegui*

It seems that most Ancistrinae are active during the night while staying in their woody or rocky refuges during the day. Various species are gregarious, and it is not rare to observe several Ancistrinae species sharing the same habitats.

ACANTHICUS

Acanthicus Spix & Agassiz, 1829: 2. Type species: *Acanthicus hystrix* Spix & Agassiz, 1829. Type by monotypy. Gender: masculine. See Isbrücker & Nijssen (1988) for a taxonomic account.

***Acanthicus adonis* Isbrücker & Nijssen, 1988**

Acanthicus adonis Isbrücker & Nijssen, 1988: 166, fig. 5. Type locality: Brasilien, Est. Pará, Rio Tocantins bei Cametá (0°14'S, 49°30.5'W). Holotype: MZUSP 38580.

Maximum length: 20.6 cm SL

Distribution: South America: Lower Tocantins River basin.

Countries: Brazil

Common names: Acary avion

***Acanthicus hystrix* Spix & Agassiz, 1829**

Acanthicus hystrix Spix & Agassiz, 1829: 3, pl. 1 (fig. 1). Type locality: flumine Amazonum [Amazon River]. Holotype: destroyed in 1944 (Terofal, 1983).

Rinelepis acanthicus Valenciennes in Cuvier & Valenciennes, 1840: 487 [360 in Strasbourg deluxe ed.]. Replacement name for, and objective synonym of, *Acanthicus hystrix* Spix & Agassiz, 1829.

Maximum length: 53 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil and/or Peru

Remarks and references: See Isbrücker and Nijssen (1988) for a discussion based on specimens identified as *Acanthicus hystrix* in

Museum collections; 12S and 16S mitochondrial rRNA gene sequences used in a molecular phylogeny of Loricariidae by Montoya-Burgos et al. (1998: figs. 3,4,6; EMBL/GenBank Y08277, Y08325).

Common names: Carachama (Peru)

ANCISTRUS

Ancistrus Kner, 1854: 272. Type species: *Hypostomus cirrhosus* Valenciennes, 1836. Type by subsequent designation by Bleeker (1862: 2). Gender: masculine. Diagnosis based on osteological characters by Schaefer (1986: 100); revision by Fisch-Muller (1999), with redescription of species and a phylogenetic analysis based on allozymes.

Xenocara Regan, 1904: 251. Type species: *Chaetostomus latifrons* Günther, 1869. Type by subsequent designation by Eigenmann (1910: 405, 410). Gender: neuter.

Thysanocara Regan, 1906: 96. Type species: *Hypostomus cirrhosus* Valenciennes, 1836. Type by monotypy. Gender: neuter. Proposed as a subgenus of *Xenocara*.

Pristiancistrus Fowler, 1945a: 121. Type species: *Pristiancistrus eustictus* Fowler, 1945. Type by original designation. Gender: masculine.

***Ancistrus aguaboensis* Fisch-Muller, Mazzoni & Weber, 2001**

Ancistrus aguaboensis Fisch-Muller, Mazzoni & Weber, 2001:

293, fig. 4 (middle). Type locality: Brazil: Goiás: Minaçu: córrego Água Boa: small tributary of rio Bonito, a left bank tributary of the upper rio Tocantins, 10 km from Minaçu on road Minaçu-Campinaçu (13°35'S 48°14'W). Holotype: MNRJ 20850.

Maximum length: 6.7 cm SL

Distribution: South America: Upper Tocantins River basin.

Countries: Brazil

***Ancistrus bodenhameri* Schultz, 1944**

Ancistrus brevifilis bodenhameri Schultz, 1944a: 305, pl. 10 (fig. A). Type locality: Río San Pedro at the bridge south of Mene Grande, Motatán system; Venezuela. Holotype: USNM 121066.

Maximum length: 11.4 cm SL

Distribution: South America: Eastern and western Maracaibo lake tributaries.

Countries: Venezuela

Remarks and references: Raised to species level by Isbrücker (1980: 66).

Common names: Barbón (Venezuela)

***Ancistrus bolivianus* (Steindachner, 1915)**

Xenocara boliviana Steindachner, 1915b: 95, pl. 9 (figs. 5-6). Type locality: Rio Songo [= Zongo], Nord Yungas, Bolivia. Syntypes: NMW 43475 (2), 43476 (27). Species described conditionally "*Xenocara bufonia* (C.V.) Regan, juv.? (an *Xenocara boliviana* n. sp.)".

Maximum length: 8.8 cm SL

Distribution: South America: Beni, Mamoré and Madre de Dios River basins.

Countries: Bolivia, Peru

Remarks and references: New combination by Gosline (1945: 96), no other record and description of species, mensurations of teeth in Muller and Weber (1992: tab. 4, as *Ancistrus* cf. *bufonius*).

***Ancistrus brevifilis* Eigenmann, 1920**

Ancistrus brevifilis Eigenmann, 1920a: 7, pl. 1. Type locality: El Concejo, Rio Tiquirito, Venezuela. Holotype: CAS 64609 [ex IU 15080].

Maximum length: 11.8 cm SL

Distribution: South America: Tuy River basin.

Countries: Venezuela

Common names: Barbón (Venezuela)

***Ancistrus brevipinnis* (Regan, 1904)**

Xenocara brevipinnis Regan, 1904: 257. Type locality: Rio Grande do Sul [Sistema da Laguna dos Patos, Brazil]. Holotype: BMNH 1891.3.16.76. Type locality restricted by Malabarba (1989: 148).

Maximum length: 8 cm SL

Distribution: South America: Laguna dos Patos basin.

Countries: Brazil

Remarks and references: New combination by Eigenmann (1910: 411); see Muller (1989: 894, fig. 3, tab. 3) for morphological data and illustration of the holotype.

***Ancistrus bufonius* (Valenciennes, 1840)**

Hypostomus bufonius Valenciennes in Cuvier & Valenciennes, 1840: 511 [377 in Strasbourg deluxe ed.]. Type locality: Rio Apurimac, qui descend des montagnes du haut Pérou, à environ 2000 mètres de hauteur. Syntypes: MNHN 2228 (2).

Hypostomus calamita Valenciennes in Cuvier & Valenciennes, 1840: 515 [380 in Strasbourg deluxe ed.]. Type locality: dans les montagnes du haut Pérou, dans le rio Apurimac. Syntypes: MNHN 2227 (2).

Maximum length: 11.5 cm SL

Distribution: South America: Apurimac River basin.

Countries: Peru

Remarks and references: New combination by Eigenmann (1910: 411); synonymy based on personal observation and examination of type specimens, but already proposed by Regan (1904: 258)

with a redescription of species; see also Muller and Weber (1992: 750, fig. 2i) for description of teeth.

Common names: Carachama (Peru)

***Ancistrus caucanus* Fowler, 1943**

Ancistrus caucanus Fowler, 1943: 253, fig. 43. Type locality: Sonsón, Cauca River basin, Colombia. Holotype: ANSP 70516.

Maximum length: 5.2 cm SL

Distribution: South America: Cauca River basin.

Countries: Colombia

Remarks and references: Known only from the holotype; see Muller and Weber (1992) for a descriptive note of teeth.

Common names: Corroncho (Colombia)

***Ancistrus centrolepis* Regan, 1913**

Ancistrus centrolepis Regan, 1913: 470. Type locality: Choco, R. San Juan, Colombia. Syntypes: BMNH 1910.7.11.122 (1), 1913.10.1.58 (1).

Ancistrus melas Eigenmann, 1916: 83. Type locality: Condoto [San Juan basin, Colombia]. Holotype: FMNH 58339 [ex CM 7335].

Ancistrus baudensis Fowler, 1945a: 122, fig. 34. Type locality: Alto Rio Baudó, Pacific slope at 3000 feet elevation, Colombia. Holotype: ANSP 71709.

Maximum length: 18.4 cm SL

Distribution: South America: Coastal drainages of Northern Andes, rivers of Northern Colombia, Atrato, Baudó and San Juan basins.

Countries: Colombia

Remarks and references: Synonymies listed above are based on personal observations and examination of type specimens, but Eigenmann in a later publication (1922: 87, pl. 12 fig. 2, fig. 20) redescribed and figured the holotype of *Ancistrus melas* already in synonymy of *A. centrolepis*.

***Ancistrus chagresi* Eigenmann & Eigenmann, 1889**

Ancistrus chagresi Eigenmann & Eigenmann, 1889: 47. Type locality: Rio Chagres [Panama Canal Zone, Panama]. Syntypes: MCZ 8026 (2).

Maximum length: 19.5 cm SL

Distribution: Central America: Panama Canal Zone, Chagres, Gatun and Chorrera River basins.

Countries: Panama

Remarks and references: See for complementary descriptions of species Regan (1904: 256, pl. 14 fig. 7) (redescription of the two syntypes) and Meek and Hildebrand (1916: 250); see Kramer and Graham (1976), Graham (1997) and Power (1984a-c, as *Ancistrus spinosus*) for physiological, ethological and ecological observations.

***Ancistrus cirrhosus* (Valenciennes, 1836)**

Hypostomus cirrhosus Valenciennes, 1836, pl. 7 (fig. 3). Type locality: Not stated [Missions (but actually Corrientes), and Buénos-Ayres, in Cuvier & Valenciennes, 1840: 511]. Holotype: not found and apparently not preserved. Name available from plate. Species subsequently described in Cuvier & Valenciennes (1840: 511 [378 in Strasbourg deluxe ed.]), with the indication that the species was found in two localities. One of them was given as Misiones. However, according to the description of d'Orbigny's travels (Papavero, 1971) the collector visited Corrientes and not Misiones during his travels. Isbrücker's designation (1980: 68) of MNHN B.603 as lectotype is invalid.

Maximum length: 8.9 cm SL

Distribution: South America: Paraná River basin.

Countries: Argentina

Remarks and references: The numerous references to *Ancistrus cirrhosus* must be taken with care until a revision of the species with designation of a neotype.

***Ancistrus claro* Knaack, 1999**

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- Ancistrus claro* Knaack, 1999a: 71, fig. 1. Type locality: Brazil, Mato Grosso, Rio Claro, above the bridge, in the direction of Chappada dos Guimarães. Holotype: MCP 28667 (ex ZMB 32918).
Maximum length: 6.6 cm SL
Distribution: South America: Cuiabá River basin in upper Paraguay River drainage.
Countries: Brazil
- Ancistrus clementinae* Rendahl, 1937**
Ancistrus clementinae Rendahl, 1937: 4, fig. 2 (upper). Type locality: Ecuador, Syst. Rio de Clementina [=Rio Pozuelos], nw. von Babahoyo. Holotype: NRM 10369.
Maximum length: 10.2 cm SL
Distribution: South America: Pozuelos River basin in the Guayas River drainage.
Countries: Ecuador
Common names: Raspabalsa
- Ancistrus cryptophthalmus* Reis, 1987**
Ancistrus cryptophthalmus Reis, 1987: 82, fig. 1b. Type locality: Caverna Passa Três (about 300 m into the cave), Rio Sao Vicente system, Sao Domingos, Goias, Brazil. Holotype: MZUSP 28809.
Maximum length: 6 cm SL
Distribution: South America: São Vicente and Angélica-Bezerra Cave system in upper Paranã River, Tocantins River drainage.
Countries: Brazil
Remarks and references: Ecological observations in Reis (1992); ethological study by Trajano and de Souza (1994).
- Ancistrus cuiabae* Knaack, 1999**
Ancistrus cuiabae Knaack, 1999b: 151, fig. on p. 150. Type locality: Brazil, Mato Grosso, Pantanal, 36 km SE Pocone, in a permanent remnant water of Rio Bento Gome [=Gomes]. Holotype: MCP 28671 (ex ZMB 32920).
Maximum length: 11.5 cm SL
Distribution: South America: Cuiabá River basin in upper Paraguay River drainage.
Countries: Brazil
- Ancistrus damasceni* (Steindachner, 1907)**
Xenocara damasceni Steindachner, 1907: 292. Type locality: dem Parnaíba [=Parnaíba River] bei Victoria [=Vitoria do alto Parnaíba] und Sa. Filomena [Brazil]. Syntypes: NMW 43489 (4), 43490 (7), ZSM 7579, and additional specimens.
Maximum length: 6.5 cm SL
Distribution: South America: Upper Parnaíba River basin.
Countries: Brazil
Remarks and references: New combination and Portuguese translation of the original description by Miranda Ribeiro (1911: 30).
- Ancistrus dolichopterus* Kner, 1854**
Hypostoma punctatum Jardine in Schomburgk, 1841: 145, fig. on p. 145 (Schomb. Drawings, No 68). Type locality: Rio Branco [Rio Negro tributary, Brazil]. Holotype: not preserved (Isbrücker 1980: 72). Name preoccupied by *Hypostomus punctatus* Valenciennes, 1840. Rejected and replaced here by an available synonym following ICZN art. 60.1.
Ancistrus dolichopterus Kner, 1854: 274, pl. 3 (fig. 1). Type locality: Barra do Rio negro [Manaus, Brazil]. Syntypes: NMW 46276: 1-2 (2), 47164: 1-2 (2). Originally as *Anc. dolichopterus*.
Maximum length: 11.8 cm SL
Distribution: South America: Upper and middle Brazilian Amazon River basin; Negro, lower Trombetas, Tefé, Madeira and Tapajós River basins.
Countries: Brazil, Guyana
Remarks and references: Synonymy based on examination of numerous specimens including syntypes of *Ancistrus dolichopterus*; no recent redescription, but see Eigenmann and Eigenmann (1890: 448, as *Ancistrus temminckii*) for a complementary description, and Römer (1990) and Holota (1990) (both references as *Ancistrus cf. hoplogenyus*) for figures of living specimens and reproduction observations in aquarium; 12S and 16S mitochondrial rRNA gene sequences used in molecular phylogenies by Montoya-Burgos et al. (1997: fig. 4; 1998: figs. 3 & 6; EMBL/GenBank Y08276; Y08324).
Common names: Cascudo negro aba branca (Brazil), Bodó seda (Brazil).
- Ancistrus dubius* Eigenmann & Eigenmann, 1889**
Ancistrus cirrhosus dubius Eigenmann & Eigenmann, 1889: 48. Type locality: Gurupa, Tabatinga [Brazil]. Syntypes: MCZ 7983 (5), 7984 (6), 7993 (1).
Maximum length: 12.6 cm SL
Distribution: South America: Amazon River basin; middle Paraná and Paraguay River basins.
Countries: Brazil, Paraguay, Peru
Remarks and references: Raised to species level by Isbrücker (1980: 68); generally referred to as *Ancistrus cirrhosus*.
Common names: Vieja (Brazil), Pirambocaya (Paraguay)
- Ancistrus erinaceus* (Valenciennes, 1840)**
Hypostomus erinaceus Valenciennes in Cuvier & Valenciennes, 1840: 510 [376 in Strasbourg deluxe ed.]. Type locality: Chili. Holotype: MNHN A.9568.
Maximum length: 7.5 cm SL
Distribution: South America: Chile (?).
Countries: Chile (?)
Remarks and references: New combination by Isbrücker (1980: 68); only the holotype known, in very bad state of conservation; no other report of *Ancistrus* from Chile, type locality doubtful.
- Ancistrus eustictus* (Fowler, 1945)**
PristiAncistrus eustictus Fowler, 1945a: 121, fig. 32. Type locality: Alto Rio Baudó, Pacific slope at 3000 feet elevation, Colombia. Holotype: ANSP 71710.
Maximum length: 18 cm SL
Distribution: South America: Upper Baudó River basin.
Countries: Colombia
Remarks and references: Known only from the holotype.
- Ancistrus formoso* Sabino & Trajano, 1997**
Ancistrus formoso Sabino & Trajano, 1997: 74, fig. 4. Type locality: Buraco do Ducho cave, Serra da Bodoquena, Município de Bonito (21°08'S, 56°28'W), State of Mato Grosso do Sul, Brazil. Holotype: MZUSP 51386.
Maximum length: 7.9 cm SL
Distribution: South America: Buraco do Ducho Cave in Formoso phreatic system.
Countries: Brazil
Remarks and references: Ethological study and ecological observations in Trajano and Gerhard (1997).
- Ancistrus fulvus* (Holly, 1929)**
Xenocara fulva Holly, 1929: 119. Type locality: Alto Rio Acara (Brasilien). Holotype: NMW 57203.
Maximum length: 8.8 cm SL
Distribution: South America: Acará River basin in lower Amazon drainage.
Countries: Brazil
Remarks and references: Known only from the holotype.
- Ancistrus galani* Perez & Vilorio, 1994**
Ancistrus galani Perez & Vilorio, 1994: 105, fig. 3. Type locality: Cueva de Los Laureles (Zu. 31), Río Socuy, Sierra de Perijá, Zulia State; Venezuela, 72°27'42"W, 10°45'04"N; elevation 650 m. Holotype: MBLUZ 04351.
Maximum length: 5.6 cm SL
Distribution: South America: Los Laureles Cave in Socuy River basin, Lake Maracaibo drainage.

phreatic system, Los Laureles Cave.

Countries: Venezuela

Remarks and references: Known from only two specimens.

***Ancistrus gymnorhynchus* Kner, 1854**

Ancistrus gymnorhynchus Kner, 1854: 275. Type locality: Puerto Cabello [Venezuela]. Holotype: NMW 43495. Originally as *Anc. gymnorhynchus*.

Hypostomus karstenii Lütken (ex Kröyer), 1874: 204. Not available, name published in the synonymy of *Chaetostomus gymnorhynchus* (Kner, 1854).

Xenocara rothschildi Regan, 1905: 242. Type locality: San Esteban, near Porto Cabello, Venezuela. Syntypes: BMNH 1904.11.9.27-31 (5).

Maximum length: 13.5 cm SL

Distribution: South America: Coastal rivers of Carabobo and Yaracuy States; upper Pao River basin in Orinoco River drainage.

Countries: Venezuela

Remarks and references: Redescription of the holotype of *Ancistrus gymnorhynchus* by Steindachner (1917: 93, pl. 9, figs. 7-8); synonymy with *Xenocara rothschildi* by Schultz (1944a: 305), confirmed here based on personal observation and examination of types.

***Ancistrus heterorhynchus* (Regan, 1912)**

Xenocara heterorhynchus Regan, 1912: 668, pl. 76 (fig. 2). Type locality: Uruhuasi [=Urohuasi, Inambari basin] Peru (4000 ft). Syntypes: BMNH 1911.12.20.35-36 (2).

Maximum length: 6.3 cm SL

Distribution: South America: Inambari River basin in Madre de Dios River drainage.

Countries: Peru

Remarks and references: New combination by Gosline (1945: 96); only the two syntypes known.

Common names: Carachama

***Ancistrus hoplogeny* (Günther, 1864)**

Chaetostomus hoplogeny Günther, 1864: 247. Type locality: River Capin [=Capim, tributary of Guamá River, Pará State, Brazil]. Syntypes: BMNH 1849.11.8.89-91 (3).

Chaetostomus alga Cope, 1872: 287, pl. 15 (fig. 3). Type locality: The Ambyiacu river [=Ampiyacu River], which empties into the Amazon near to Pebas, in Eastern Ecuador, some distance east of the Napo [Peru]. Syntypes: ANSP 16461 (1), 16462 (1).

Chaetostomus tectirostris Cope, 1872: 288, pl. 15 (fig. 2). Type locality: The Ambyiacu river [=Ampiyacu River], which empties into the Amazon near to Pebas, in Eastern Ecuador, some distance east of the Napo [Peru]. Syntypes: ANSP 8298 (1), 8300 (1).

Chaetostomus (Ancistrus) cirrhosus punctata Steindachner, 1881: 123. Type locality: Rio Branco und Rio Guapore in Mato Grosso, Coary und Tabatinga [Amazonas, Brazil]. Syntypes: NMW 47163 (3), 47279: 1-3 (3), 47280: 1-2 (2), 47281: 1-2 (2), 47288 (1). Originally as *Chaetostomus (Ancistrus) cirrhosus* var. *punctata*.

Maximum length: 15.8 cm SL

Distribution: South America: Amazon, Essequibo, and Paraguay River basins.

Countries: Brazil, Guyana, Paraguay, Peru

Remarks and references: Synonymies listed above based on personal observations and examination of type specimens, including new synonymization of *Chaetostomus (Ancistrus) cirrhosus punctata*; see Regan (1904: 255) for a redescription including types, Eigenmann (1912b: 239) for description based on Guyanese specimens, Saul (1975: 118) for ecological observations, and Muller and Weber (1992) for description and illustration of teeth.

Common names: Bodozinho (Brazil), Carachama (Peru)

***Ancistrus jelskii* (Steindachner, 1876)**

Chaetostomus Jelskii Steindachner, 1876: 603. Type locality: Amable Maria, Monterico, den Gebirgsbächen der hohen Anden in Peru [Tulumayo River basin, tributary of Péréné River]. Syntypes: NMW (not found).

Maximum length: 8 cm TL

Distribution: South America: Tulumayo River basin in upper Ucayali River drainage.

Countries: Peru

Remarks and references: New combination by Isbrücker (1980: 69); validity of species, often considered as a synonym of *Ancistrus bufonius*, needs confirmation.

Common names: Carachama

***Ancistrus latifrons* (Günther, 1869)**

Chaetostomus latifrons Günther, 1869: 426. Type locality: Upper Amazons, Peruvian Amazons [Marañón]. Holotype: BMNH 1869.5.21.9. Type locality restricted to Marañón by Eigenmann & Eigenmann (1891: 43; see also Eigenmann & Allen 1942: 18).

Maximum length: 15.4 cm SL

Distribution: South America: Upper Amazon and Solimões River basins.

Countries: Brazil, Peru

Remarks and references: New combination by Isbrücker (1980: 69); see Regan (1904: 253, pl. 15 fig. 1) for a redescription and illustration of the holotype.

Common names: Carachama

***Ancistrus leucostictus* (Günther, 1864)**

Chaetostomus leucostictus Günther, 1864: 248. Type locality: Essequibo [Guyana]. Holotype: BMNH 1864.1.21.85. Type status of specimen registered as holotype is doubtful (Muller 1989: 886).

Maximum length: 10 cm SL (?)

Distribution: South America: Essequibo River basin, possibly all main Guianan rivers to Oyapock River in the East.

Countries: French Guiana (?), Guyana, Suriname (?)

Remarks and references: New combination by Isbrücker (1980: 69); see Le Bail et al. (2000: 228) for description, illustration and distribution of the form found in French Guiana tentatively reported to the species.

Common names: Goré-so (Creole), Militemala (Wayana Amerindian), Silure à antennes (French), Suceur (French), Wawa (Boni Amerindian)

***Ancistrus lineolatus* Fowler, 1943**

Ancistrus lineolatus Fowler, 1943: 255, fig. 47. Type locality: Florencia, Rio Orteguausa [=Orteguaza], Colombia. Holotype: ANSP 70517.

Maximum length: 9 cm SL

Distribution: South America: Orteguaza River basin in upper Japurá River drainage.

Countries: Colombia

Remarks and references: Known only from holotype.

***Ancistrus lithurgicus* Eigenmann, 1912**

Ancistrus lithurgicus Eigenmann, 1912b: 241, pl. 25 (fig. 3). Type locality: Crab Falls; Lower Essequibo, British Guiana. Holotype: FMNH 53091 [ex CM 1524]. Details of type locality found in introduction.

Maximum length: 13.2 cm SL

Distribution: South America: Essequibo River basin.

Countries: Guyana

Remarks and references: See Muller and Weber (1992: 752, fig. 2k) for a description of teeth shape.

***Ancistrus macrophthalmus* (Pellegrin, 1912)**

Xenocara macrophthalma Pellegrin, 1912: 271, fig. 1. Type locality: Orénoque [Orinoco River, Venezuela]. Holotype: MNHN

1887-650.
 Maximum length: 7.9 cm SL
 Distribution: South America: Orinoco River and lower parts of some of its tributaries.
 Countries: Venezuela
 Remarks and references: New combination by Gosline (1945: 95); note on teeth shape in Muller and Weber (1992: 752).
 Common names: Corroncho (Venezuela)

***Ancistrus maculatus* (Steindachner, 1881)**

Chaetostomus (Ancistrus) cirrhosus maculatus Steindachner, 1881: 123. Type locality: Cudajas [=Codajas], Obidos, dem Rio Tajapouru [=Tajapuru] [Brazil], und dem Rio Chagres [Panama]. Syntypes: NMW 47282 (1), 47289: 1-2 (2), 47290 (1), 55035 (1). Originally as *Chaetostomus (Ancistrus) cirrhosus* var. *maculatus*.
 Maximum length: 11.8 cm SL
 Distribution: South America: Amazon River basin.
 Countries: Brazil
 Remarks and references: Raised to species level by Isbrücker (1980: 70); as syntypes belong to more than one species, a lectotype should be designated; specimens from Chagres River belong to *Ancistrus chagresi*.

***Ancistrus malacops* (Cope, 1872)**

Chaetostomus malacops Cope, 1872: 287, pl. 5 (figs. 2a-b). Type locality: The Ambyiacu river [=Ampiyacu River], which empties into the Amazon near to Pebas, in Eastern Ecuador, some distance east of the Napo [Peru]. Syntypes: ANSP 8299 (2).
 Maximum length: 7.7 cm SL
 Distribution: South America: Ampiyacu River basin.
 Countries: Peru
 Remarks and references: New combination by Isbrücker (1980: 70); validity of species, based on specimens actually in very bad conditions, needs confirmation.
 Common names: Carachama (Peru)

***Ancistrus maracasae* Fowler, 1946**

Ancistrus maracasae Fowler, 1946: 2, fig. 3. Type locality: Maracas River, Trinidad. Holotype: ANSP 71723.
 Maximum length: 8.3 cm SL
 Distribution: South America: Maracas River basin.
 Countries: Trinidad and Tobago
 Remarks and references: Only the holotype known.

***Ancistrus martini* Schultz, 1944**

Ancistrus triradiatus martini Schultz, 1944a: 302, pl. 9 (fig. C). Type locality: Río Táchira, 7 km. north of San Antonio, Catatumbo system; Venezuela. Holotype: USNM 121064.
 Maximum length: 8.9 cm SL
 Distribution: South America: Zulia River basin in the Catatumbo River drainage, Lake maracaibo drainage.
 Countries: Venezuela
 Remarks and references: Raised to species level by Isbrücker (1980: 70).
 Common names: Corroncho (Venezuela)

***Ancistrus mattogrossensis* Miranda Ribeiro, 1912**

Ancistrus mattogrossensis Miranda Ribeiro, 1912: 5. Type locality: Not stated [Mato Grosso?, Brazil]. Syntypes: 2 specimens, not found at MNRJ or MZUSP. Spelling of name corrected by Miranda Ribeiro (1918a: 114).
 Maximum length: Not known
 Distribution: South America: Not known. Mato Grosso?
 Countries: Brazil
 Remarks and references: No report of other specimen than the probably lost paratypes; validity of species not confirmed here.

***Ancistrus megalostomus* Pearson, 1924**

Ancistrus megalostomus Pearson, 1924: 23, pl. 7 (fig. 1). Type locality: Huachi; at the junction of the Bopi and Cochabamba

ivers, altitude 2,235 feet, Bolivia. Syntypes: CAS 64614 (2).
 Maximum length: 8.3 cm SL
 Distribution: South America: Beni River basin in Madeira River drainage.
 Countries: Bolivia
 Remarks and references: No later record of species known from the syntypes only; description of teeth in Muller and Weber (1992: 113, 115, pl. 1c).

***Ancistrus minutus* Fisch-Muller, Mazzoni & Weber, 2001**

Ancistrus minutus Fisch-Muller, Mazzoni & Weber, 2001: 298, fig. 5 (middle). Type locality: Brazil: Goiás: Minaçu: córrego Batéias, a left bank tributary of the upper rio Tocantins (13°49'S 48°20'W). Holotype: MNRJ 20851.
 Maximum length: 5.7 cm SL
 Distribution: South America: Upper Tocantins tributaries in Goiás State upstream of the dam of Serra da Mesa.
 Countries: Brazil

***Ancistrus montanus* (Regan, 1904)**

Xenocara montana Regan, 1904: 258, pl. 14 (fig. 6). Type locality: Tumupara [=Tumupasa], Andes of Bolivia, 1500 ft. Holotype: BMNH 1902.12.18.4.
 Maximum length: 9.2 cm SL
 Distribution: South America: Beni River basin in upper Madeira River drainage.
 Countries: Bolivia
 Remarks and references: New combination by Eigenmann (1910: 411); cited from several localities of Beni River basin by Pearson (1924: 24).

***Ancistrus multispinis* (Regan, 1912)**

Xenocara multispinis Regan, 1912: 668, pl. 76 (fig. 1). Type locality: Humboldt and Novo Rivers, Sta. Catherina, S. E. Brazil [restricted to Humboldt, Rio Itapocú basin]. Lectotype: BMNH 1910.7.26.32, designated by Muller (1989: 894).

Hemiancistrus albocinctus Ahl, 1936: 111. Type locality: Umbebung von Rio de Janeiro [Brazil]. Holotype: ZMB 20955. New synonymy based on examination of extensive material including type specimens of both species.

Maximum length: 14.2 cm SL
 Distribution: South America: Atlantic coastal drainages of eastern Brazil, from Macacú River in the north to Maquiné River in the south.
 Countries: Brazil

Remarks and references: See Steindachner (1911c: 432, as *Ancistrus stigmaticus*) for a description of species, Muller (1989: 894, fig. 4, tab. 3) for morphological data and illustration of the lectotype, Buck and Sazima (1995, as *Ancistrus* sp.) for ecological observations and illustration of living specimen, and Montoya-Burgos et al. (1997: fig. 4; 1998: figs. 3, 5, 6) for phylogenetic relationships based on 12S and 16S mitochondrial rRNA gene sequences (EMBL/GenBank Y08279, Y08327).
 Common names: Barbadinho (Brazil)

***Ancistrus nudiceps* (Müller & Troschel, 1848)**

Hypostomus nudiceps Müller & Troschel, 1848: 631. Type locality: dem Takutu, British Guiana [Guyana]. Holotype: ZMB 3180.
 Maximum length: 7.9 cm SL
 Distribution: South America: Takutu River basin in upper Branco River drainage.
 Countries: Guyana
 Remarks and references: New combination by Isbrücker (1980: 71); only the holotype known, see Eigenmann (1912b: 236, footnote 24) for its redescription.

***Ancistrus occidentalis* (Regan, 1904)**

Xenocara occidentalis Regan, 1904: 257, pl. 14 (fig. 5). Type

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locality: Canelos [=Chambria], E. Ecuador. Syntypes: BMNH 1880.12.8.69-74 (6).

Maximum length: 8.6 cm SL

Distribution: South America: Bobonaza River basin.

Countries: Ecuador

Remarks and references: New combination by Eigenmann (1910: 411); no later work.

Common names: Carachama (Peru)

***Ancistrus occlloi* Eigenmann, 1928**

Ancistrus occlloi Eigenmann in Myers, 1928: 86. Type locality: Ollantaytambo [=Ollantaitambo], Rio Urubamba, Peru, 9000 feet. Holotype: CAS 66847.

Maximum length: 11.6 cm SL

Distribution: South America: Upper Urubamba River basin.

Countries: Peru

Remarks and references: See Eigenmann and Allen (1942: 197, pl. 10 figs. 1-2) for a complementary description.

Common names: Carachama (Peru)

***Ancistrus pirareta* Muller, 1989**

Ancistrus pirareta Muller, 1989: 891, fig. 2 (middle). Type locality: Salto Pirareta, sud de Piribebuy, affluent du Rio Tebicuary-mi (Cordillera, Paraguay), 25°30'S/56°55'W. Holotype: MHNG 2450.10.

Maximum length: 15.6 cm SL

Distribution: South America: Upper Tebicuary-mi River basin in lower Paraguay River drainage.

Countries: Paraguay

Remarks and references: See Muller (1990) for a complementary description and discussion of morphological characters.

Common names: Pirambocaya (Paraguay)

***Ancistrus piriformis* Muller, 1989**

Ancistrus piriformis Muller, 1989: 887, fig. 1 (middle). Type locality: Rio Acaray, en dessous du lac de barrage (Alto Paraná, Paraguay), 25°23'S/54°42'W. Holotype: MHNG 2450.11.

Maximum length: 8.3 cm SL

Distribution: South America: Acaray River basin in middle Paraná River drainage.

Countries: Paraguay

Remarks and references: See Muller (1990) for a complementary description and discussion of morphological characters.

Common names: Pirambocaya (Paraguay)

***Ancistrus ranunculus* Muller, Rapp Py-Daniel & Zuanon, 1994**

Ancistrus ranunculus Muller, Rapp Py-Daniel & Zuanon, 1994: 290, fig. 1 (middle). Type locality: Brazil, Pará, Rio Xingú, furo do Tucum Seco, near Arroz Cru. Holotype: INPA 9509.

Maximum length: 12.9 cm SL

Distribution: South America: Xingu and Tocantins River basins.

Countries: Brazil

Remarks and references: 12S and 16S mitochondrial rRNA gene sequences used in molecular phylogenies by Montoya-Burgos et al. (1997: fig. 4; 1998: figs. 3 & 6; EMBL/GenBank Y08280; Y08328).

Common names: Cascudo preto velho (Brazil), Bristle-bushmouth or frog-cat (English)

***Ancistrus spinosus* Meek & Hildebrand, 1916**

Ancistrus spinosus Meek & Hildebrand, 1916: 252. Type locality: Rio Calobre, tributary of the Rio Bayano, Panama. Holotype: FMNH 8942.

Maximum length: 17.6 cm SL

Distribution: Central America: Pacific and Caribbean river drainages of eastern Panama.

Countries: Panama

Remarks and references: Based on personal observation, the iden-

tity of the specimen registered as holotype is doubtful; see Breder (1927: 109) for a complementary description of species.

***Ancistrus stigmaticus* Eigenmann & Eigenmann, 1889**

Ancistrus stigmaticus Eigenmann & Eigenmann, 1889: 48. Type locality: Sao Matheos [= Sao Mateus]; Goyaz [restricted to Goyaz, =Goiás, Rio Araguaia drainage, upper course of Rio Vermelho at Goiás, 15°47'S, 50°07'W]. Lectotype: MCZ 77659, designated by Muller (1989: 895). Description appears in key on p. 47.

Maximum length: 15.2 cm SL

Distribution: South America: Upper Araguaia River basin.

Countries: Brazil

Remarks and references: See Muller (1989: 895, fig. 5, tab. 3) for morphological data and illustration of the lectotype, and conspecificity of the unique paralectotype from Sao Mateus Eastern coastal drainage not established.

***Ancistrus tamboensis* Fowler, 1945**

Ancistrus tamboensis Fowler, 1945b: 9, fig. 13. Type locality: Satipo, at 600 meters elevation in upper Tambo basin, Rio Ucayali drainage, Peru. Holotype: ANSP 71643.

Maximum length: 8.2 cm SL

Distribution: South America: Tambo River basin in upper Ucayali drainage.

Countries: Peru

Remarks and references: Known only from holotype.

Common names: Carachama (Peru)

***Ancistrus taunayi* Miranda Ribeiro, 1918**

Ancistrus taunayi Miranda Ribeiro, 1918b: 631. Type locality: Itaqui -Rio Lageado. Rio Grande do Sul; Brasil. Lectotype: MZUSP 975, designated by Britski (1969: 208).

Maximum length: 11.9 cm SL

Distribution: South America: Middle Uruguay River basin.

Countries: Argentina, Brazil

Remarks and references: See Muller (1989: 896, fig. 6, tab. 3) for morphological data and illustration of the lectotype.

Common names: Cascudo de espinhos (Brazil)

***Ancistrus temminckii* (Valenciennes, 1840)**

Hypostomus Temminckii Valenciennes in Cuvier & Valenciennes, 1840: 514 [380 in Strasbourg deluxe ed.]. Type locality: Cayenne [corrected to: Suriname, region near Paramaribo by Boeseman, 1972: 305]. Holotype: RMNH 3123.

Plecostomus aculeatus Gronow in Gray, 1854: 158. Type locality: America Meridionali. No types known (Eschmeyer 1998: 35).

Maximum length: 9.8 cm SL

Distribution: South America: Saramacca, Suriname, and Maroni River basins.

Countries: Suriname

Remarks and references: New genus combination, synonymization, description and illustration of a specimen (not type) with a short note on the holotype in Bleeker (1864: 11, pl. 1 fig. 3, pl. 3 fig. 2); van der Stigchel (1946: 164) also gives a redescription of species based on same two specimens; see Boeseman (1972: 305) for identification of the holotype and discussion on type locality.

***Ancistrus triradiatus* Eigenmann, 1918**

Ancistrus triradiatus Eigenmann, 1918: 680. Type locality: Quebrada Cramalote, Villavicencio; Andes east of Bogotá [upper Meta basin, Colombia]. Holotype: CAS 60164 [ex IU 13935a].

Maximum length: 9.2 cm SL

Distribution: South America: Middle and lower Orinoco River tributaries; Valencia Lake and Los Guayos River basin; southern tributaries of Lake Maracaibo basin.

Countries: Colombia, Venezuela

Remarks and references: Holotype later figured by Eigenmann (1922: pl. 12, fig. 8; pl. 13, figs. 3-4).

***Ancistrus variolus* (Cope, 1872)**

Chaetostomus variolus Cope, 1872: 288. Type locality: The Ambyiacu river [=Ampiyacu River], which empties into the Amazon near to Pebas, in Eastern Ecuador, some distance east of the Napo [now Peru]. Syntypes: ANSP 21284 (1), 21285 (1).

Maximum length: 4.8 cm SL

Distribution: South America: Ampiyacu River basin.

Countries: Peru

Remarks and references: New combination by Isbrücker (1980: 74); validity of species, based on juvenile specimens actually in bad condition, needs confirmation.

Common names: Carachama (Peru)

BARYANCISTRUS

Baryancistrus Rapp Py-Daniel, 1989: 245. Type species: *Hypostomus niveatus* Castelnau, 1855. Type by original designation. Gender: masculine.

***Baryancistrus niveatus* (Castelnau, 1855)**

Hypostomus niveatus Castelnau, 1855: 43, pl. 21 (fig. 3). Type locality: du Rio Araguay, de la province de Goyaz [Brazil]. Possible syntypes: MNHN A.9453 and A.9454 (dry specimens). Literature mentions 2 syntypes (e.g., Regan 1904, Bertin & Estève 1950), but the description appears to be based on a single specimen, which was preserved in alcohol. No alcohol preserved specimen was found at MNHN.

Maximum length: 23.5 cm SL

Distribution: South America: Tocantins, Xingu, Tapajós, and Trombetas River basins.

Countries: Brazil

Remarks and references: New combination with genus description by Rapp Py-Daniel (1989: 245); redescription based on possible syntypes by Regan (1904: 235); see Santos et al. (1984: 56, as *Hemiancistrus niveatus*) and Stawikowski (1991: 261) for coloration of living specimens and ecological notes.

Common names: Acari (Brazil), Maníta peixe (Amerindian, Trombetas River)

***Baryancistrus longipinnis* (Kindle, 1895)**

Hemiancistrus longipinnis Kindle, 1895: 255. Type locality: Trocera on Tocantins, Brazil. Holotype: MCZ 29051.

Maximum length: 20 cm TL

Distribution: South America: Tocantins River basin.

Countries: Brazil

Remarks and references: New combination by Isbrücker (2001: 26).

CHAETOSTOMA

Chaetostoma Tschudi, 1846: 25. Type species: *Chaetostoma loborhynchos* Tschudi, 1846. Type by monotypy. Gender: neuter. Key to Venezuelan species by Schultz (1944a: 287) and in Fernández-Yépez (1945: 29; translated in Spanish from Schultz, loc. cit., with a new species added). Diagnosis based on osteological characters by Schaefer (1986: 101). Comparison of species from Venezuela with diagnostic characters by Ceas & Page (1996: 674). Biogeographical distribution discussed by Lasso and Provenzano (1997: 62).

Hypocolpaterus Fowler, 1943: 259. Type species: *Hypocolpaterus analis* Fowler, 1943. Type by original designation. Gender: masculine.

***Chaetostoma aburrensis* (Posada, 1909)**

Hypostomus aburrensis Posada, 1909: 297. Type locality: Medellín? Holotype: not known.

Maximum length: not known

Distribution: South America: Cauca River basin (?).

Countries: Colombia

Remarks and references: New combination based here on the brief

original description.

Common names: Corroncho de Medellín (Colombia)

***Chaetostoma aequinoctiale* Pellegrin, 1909**

Chaetostomus aequinoctialis Pellegrin, 1909: 518. Type locality: Rio Pove, Santo Domingo de los Colorados (560 mètres), Équateur [Ecuador, 0°13'S, 79°09'W]. Holotype: MNHN 1904-17. Description also published in Pellegrin (1911: B₁.2, pl. 1 fig. 3), with an illustration.

Maximum length: 7 cm SL

Distribution: South America: Guayas River basin.

Countries: Ecuador

Remarks and references: See observations on recent capture by Barriga (1989: 25).

Common names: Guaña (Ecuador)

***Chaetostoma alternifasciatum* Fowler, 1945**

Chaetostoma alternifasciatum Fowler, 1945a: 116, fig. 23. Type locality: Morelia, Rio Caquetá basin, Colombia. Holotype: ANSP 71711.

Maximum length: 15.3 cm SL

Distribution: South America: Caqueta River basin in upper Japurá River drainage.

Countries: Colombia

***Chaetostoma anale* (Fowler, 1943)**

Hypocolpaterus analis Fowler, 1943: 261, fig. 58. Type locality: Florencia, Rio Ortegusa, Colombia. Holotype: ANSP 70525.

Maximum length: 16 cm SL

Distribution: South America: Ortegusa River basin in upper Japurá River drainage.

Countries: Colombia

Remarks and references: New combination by Rapp Py-Daniel (1991: 245); no redescription; holotype [total] length is 320 mm in original description, but the specimen registered measures only 210 mm in total length (160 mm SL; pers. obs.).

***Chaetostoma anomalum* Regan, 1903**

Chaetostomus anomalus Regan, 1903: 599. Type locality: Merida, Venezuela, altitude 1500 meters and from the Albireggas and Milla rivers, above Merida, altitude 3500 meters. Syntypes: BMNH 1903.6.30.91-101, USNM 133135 (Eschmeyer 1998: 110).

Maximum length: 16 cm TL

Distribution: South America: Lake Maracaibo basin, upper Chama, Capazon and Escalante River basins.

Countries: Venezuela

Remarks and references: Morphometric data in Schultz (1944a: 295), diagnostic characters in Ceas & Page (1996: 674).

Common names: Corroncho (Venezuela), Charoca (Venezuela)

***Chaetostoma branickii* Steindachner, 1881**

Chaetostomus branickii Steindachner, 1881: 118, pl. 6 (fig. 1). Type locality: Callacate [= Peru: Cajamarca: Rio Chota (= rio Chotano), alt. ca. 1465-1585 m., ca. 12 km from Cutervo N of Chota; 06°25'S / 78°56'W]. Syntypes: NMW 47270 (2), 47271 (3) (Eschmeyer, 1998: 267).

Maximum length: 13.5 cm TL

Distribution: South America: Upper Chamaya River basin in upper Marañón River drainage.

Countries: Peru

Remarks and references: Localization of the type locality in Stephens and Traylor (1983: 28, reference to Sztolcman, collector of the syntypes).

Common names: Carachama

***Chaetostoma breve* Regan, 1904**

Chaetostomus brevis Regan, 1904: 247, pl. 13 (fig. 3). Type locality: Bomboiza and Zamora Rivers [Santiago basin], Eastern Ecuador. Syntypes originally 6; BMNH 1898.11.4.33-36 (4).

Maximum length: 30 cm TL
 Distribution: South America: Zamora River basin in upper Ma-
 rañón River drainage.
 Countries: Ecuador
 Common names: Carachama (Ecuador)

***Chaetostoma brevilabiatum* Dahl, 1942**

Chaetostomus brevilabiatum Dahl, 1942: 80, fig. 1. Type locality:
 Rio Volcán near its junction to Rio San Bartolomé (tributary to
 Rio Magdalena on the left side, between Rios Nare and Ité) mu-
 nicipio of Remedios, department of Antioquia, Republic of Co-
 lombia. Altitude approximately 600 m. Magdalena system. Holo-
 type: ZMUL.
 Maximum length: 11.9 cm SL
 Distribution: South America: Magdalena and Cimitarra River
 basins.
 Countries: Colombia
 Remarks and references: Known only from the holotype.

***Chaetostoma dermorhynchum* Boulenger, 1887**

Chaetostomus dermorhynchus Boulenger, 1887a: 277, pl. 22 (up-
 per fig.). Type locality: Canelos [Bobonaza River]; eastern Ecu-
 ador. Syntypes: BMNH 1880.12.8.64-66 (3).
 Maximum length: 25 cm TL
 Distribution: South America: Pastaza, upper Bobonaza, Napo, and
 upper Curaray River basins.
 Countries: Ecuador
 Remarks and references: See Regan (1904: 248) for a redescription
 including syntypes.
 Common names: Carachama (Ecuador)

***Chaetostoma dorsale* Eigenmann, 1922**

Chaetostomus dorsalis Eigenmann, 1922: 226. Type locality:
 Quebrada Cramalote, Villavicencio [Meta River basin of Eastern
 Colombia]. Holotype: CAS 77093 [ex IU 13940]. New name and
 species described in a footnote referring to *Chaetostomus anoma-
 lus* Regan, 1903.
 Maximum length: 8.8 cm SL
 Distribution: South America: Upper Meta and upper Apuré River
 basins.
 Countries: Colombia, Venezuela
 Remarks and references: Diagnostic characters based on the ex-
 amination of type material in Ceas & Page (1996: 674).

***Chaetostoma dupouii* Fernández-Yépez, 1945**

Chaetostoma dupouii Fernández-Yépez, 1945: 27. Type locality:
 el rio Encantado, en el sitio indicado en los planos adjuntos y
 más o menos a un kilómetro más arriba de la confluencia do los
 ríos Encantado y Río Grande, tributario éste del Tuy; Venezuela.
 Holotype: AFY.
 Maximum length: 7.9 cm SL
 Distribution: South America: Tuy River basin.
 Countries: Venezuela
 Common names: Corroncho (Venezuela)

***Chaetostoma fischeri* Steindachner, 1879**

Chaetostomus Fischeri Steindachner, 1879c: 150. Type locality:
 Mamoni-Fluss; bei Chepo im Isthmus von Panama. Syntypes:
 NMW 47170 (1), 47171 (1), 47172 (2), 47173 (1), 54991 (2)
 (Eschmeyer 1998: 584). Species illustrated and described in more
 detail in Steindachner (1879d: 162, pl. 4).
 Maximum length: about 30 cm TL
 Distribution: Central and South America: Bayano, Tuira, San Juan
 and Guyas River basins in the Pacific versant; Chagres, Atrato,
 Sinú, and Magdalena River basins in the Caribbean versant.
 Countries: Colombia, Ecuador, Panama
 Remarks and references: See Meek and Hildebrand (1916: 249) for
 a complementary description of Panamanian material, and Ei-
 genmann (1922: 82) for comparison of specimens from diverse
 countries.

Common names: Boca de manteca (Colombia), Cucho (Colombia,
 Panama), Trompilisa (Colombia)

***Chaetostoma greeni* Isbrücker, 2001**

Chaetostomus maculatus Regan, 1904: 246, pl. 14 (fig. 4). Type
 locality: Rozmaiu, Upper Peru. Syntypes: BMNH 1903.10.12.3-4
 (2).
Chaetostoma greeni Isbrücker in Isbrücker et al., 2001: 24. Type
 locality: Rozmaiu, Upper Peru. Syntypes: BMNH 1903.10.12.3-4
 (2). Replacement name for *Chaetostomus maculatus* Regan,
 1904, preoccupied by *Chaetostomus cirrhosus* var. *maculata*
 Steindachner, 1881.
 Maximum length: 6.5 cm TL
 Distribution: South America: Roz River basin (?).
 Countries: Peru
 Remarks and references: Type locality, "Rozmaiu", means Roz
 River in Quechua idiom, not localized.
 Common names: Carachama (Peru)

***Chaetostoma guairense* Steindachner, 1881**

Chaetostomus guairensis Steindachner, 1881: 121, pl. 3 (fig. 1).
 Type locality: dem Guaire bei Carácas [Venezuela]. Syntypes:
 NMW 47183 (2), 47184 (2), 47185 (3) (Eschmeyer, 1988: 684).
 Maximum length: 8.1 cm SL
 Distribution: South America: Tuy and Guaire River and Lake
 Valencia basins.
 Countries: Venezuela
 Remarks and references: See diagnostic characters in Ceas & Page
 (1996: 674); 12S and 16S mitochondrial rRNA gene sequences
 used in a molecular phylogeny of Loricariidae by Montoya-
 Burgos et al. (1998: figs. 3,5,6; EMBL/GenBank Y08281,
 Y08329).
 Common names: Corroncho (Venezuela)

***Chaetostoma jegui* Rapp Py-Daniel, 1991**

Chaetostoma jegui Rapp Py-Daniel, 1991: 240, fig. 2 (middle).
 Type locality: Brazil: Federal Territory of Roraima: Rio Urari-
 coera, Maracá Island, rocks above Furo Maracá, 3°21'N
 61°26'W. Holotype: INPA 2822.
 Maximum length: 16.8 cm SL
 Distribution: South America: Uraricoera and Tacutu River basins
 in the Branco River drainage.
 Countries: Brazil
 Remarks and references: Geographical distribution discussed by
 Lasso and Provenzano (1998: 62).

***Chaetostoma lepturum* Regan, 1912**

Chaetostomus lepturus Regan, 1912: 667, pl. 75 (fig. 1). Type
 locality: Rio Tamana, Rio San Juan, Choco, S. W. Colombia.
 Syntypes: BMNH 1910.7.11.116-118 (3).
 Maximum length: 21.5 cm SL
 Distribution: South America: Upper San Juan River basin.
 Countries: Colombia
 Remarks and references: See Eigenmann (1922: 86, pl. 12 fig. 7)
 for a complementary description of species.

***Chaetostoma leucomelas* Eigenmann, 1918**

Chaetostomus leucomelas Eigenmann, 1918: 681. Type locality:
 Rio Patia, halfway between the Rios Magui and Telembi [Co-
 lombia]. Holotype: CAS 60167 [ex IU 13652, largest specimen].
 Maximum length: 14.3 cm TL
 Distribution: South America: Patia and upper Cauca River basins.
 Countries: Colombia
 Remarks and references: See redescription of types and illustra-
 tions by Eigenmann (1922: 84, pl. 12, figs. 5-6); Note on buccal
 papillae of type material by Rapp Py-Daniel (1991: 244).
 Common names: Corroncho (Colombia)

***Chaetostoma lineopunctatum* Eigenmann & Allen,**

1942

Chaetostoma lineopunctata Eigenmann & Allen, 1942: 192, pl. 6 (fig. 1). Type locality: Río Azupizú [Río Pachitea drainage, Upper Amazon system, Peru]. Holotype: CAS 64650 [ex IU 15373]. Maximum length: 14.3 cm SL
Distribution: South America: Aguaytia, Pachitea and Pisqui River basins in the Ucayali River drainage.
Countries: Peru
Remarks and references: Note on buccal papillae of the holotype by Rapp Py-Daniel (1991: 244).
Common names: Carachama (Peru)

***Chaetostoma lobarhynchos* Tschudi, 1846**

Chaetostoma lobarhynchos Tschudi, 1846: 26, pl. 4. Type locality: dem Río Tullumayo in der Montaña de Vitoc, am Ostabhang der Anden; Peru. Holotype: NMW 47190.
Maximum length: 13.7 cm TL
Distribution: South America: Tambo River basin in the Ucayali River drainage.
Countries: Peru

***Chaetostoma machiquense* Fernández-Yépez & Martín S., 1953**

Chaetostoma machiquense Fernández-Yépez & Martín S., 1953: 238, fig. on p. 239. Type locality: Río Negro, a 16 kms. Oeste de Machiques; Perijá; Hoya del Lago de Maracaibo, Edo. Zulia, Venezuela. Holotype: MHNLS 1558 [not MHNLS 46, ex AFY 50145].
Maximum length: 6.6 cm SL
Distribution: South America: Negro River basin in the Lake Maracaibo drainage.
Countries: Venezuela
Remarks and references: Diagnostic characters in Ceas & Page (1996: 674).
Common names: Corroncho (Venezuela)

***Chaetostoma marcapatae* Regan, 1904**

Chaetostomus marcapatae Regan, 1904: 246, pl. 14 (fig. 1). Type locality: Marcapata Valley, E. Peru. Holotype: BMNH 1902.5.29.211.
Maximum length: 10 cm TL
Distribution: South America: Inambari River basin in the Madeira River drainage.
Countries: Peru
Remarks and references: Known only from the holotype.
Common names: Carachama (Peru)

***Chaetostoma marginatum* Regan, 1904**

Chaetostomus marginatus Regan, 1904: 249, pl. 13 (fig. 1). Type locality: Salidero, N.W. Ecuador [= Ecuador: Esmeraldas: río Bogota, near Bulún (= Pulún), alt. 50-110m alt., ca. 01°05'N 78°40'W]. Syntypes: (3); BMNH 1902.5.27.44 (1) (Eschmeyer 1998: 1019).
Maximum length: 19 cm TL
Distribution: South America: Bogota, Chimbo and San Juan River basins.
Countries: Colombia, Ecuador
Remarks and references: Localization of the type locality in Paynter (1993: 177); see complementary description by Eigenmann (1922: 84) and by Barriga (1989: 25).
Common names: Guanã (Ecuador), Raspabalsa (Ecuador)

***Chaetostoma marmorescens* Eigenmann & Allen, 1942**

Chaetostoma marmorescens Eigenmann & Allen, 1942: 193. Type locality: Huanacachupa Creek, near Huánuco, elevation 6000 feet. [in ichthyological gazetteer part, p.73] A small tumultuous stream from the eastern slope of the Central Cordillera to the Huallaga, a league above Huánuco [Peru]. Holotype: IU 15403

(largest specimen) not found at CAS (Eschmeyer 1998: 1029).
Maximum length: 13.5 cm SL
Distribution: South America: Upper Huallaga River basin in Marañón River drainage.
Countries: Peru

***Chaetostoma microps* Günther, 1864**

Chaetostomus microps Günther, 1864: 250. Type locality: Andes of Western Ecuador. Syntypes: BMNH 1860.6.16.137-143 (7).
Maximum length: 8.9 cm TL
Distribution: South America: Andes of western Ecuador.
Countries: Ecuador, Peru (?)
Remarks and references: See Regan (1904: 251, pl. 14 fig. 3) for a redescription of syntypes with illustration.
Common names: Raspabalsa (Ecuador)

***Chaetostoma milesi* Fowler, 1941**

Chaetostomus milesi Fowler, 1941b: 2, fig. 3. Type locality: Honda, Colombia. Holotype: ANSP 69330.
Maximum length: 13 cm SL
Distribution: South America: Magdalena and Apuré River basins.
Countries: Colombia, Venezuela
Remarks and references: Diagnostic characters based on the examination of several specimens including the holotype in Ceas & Page (1996: 674).
Common names: Corroncho (Colombia, Venezuela)

***Chaetostoma mollinasum* Pearson, 1937**

Chaetostomus mollinasus Pearson, 1937: 96, pl. 13 (fig. 1). Type locality: Balsas, 3500 feet, and Cajamarca, 9843 feet, Peru. Syntypes: CAS 64653 (8) [ex IU 17654], 64654 (5) [ex IU 17655].
Maximum length: 6.8 cm SL
Distribution: South America: Marañón and Cajamarca River basins.
Countries: Peru
Remarks and references: Note on buccal papillae of type material by Rapp Py-Daniel (1991: 244).
Common names: Carachama (Peru)

***Chaetostoma niveum* Fowler, 1944**

Chaetostoma niveum Fowler, 1944: 238, fig. 15. Type locality: clear waters of Río Jurubidá, Nuquí; northwestern Colombia. Holotype: ANSP 71432.
Maximum length: 9.1 cm SL
Distribution: South America: Jurubida River basin.
Countries: Colombia

***Chaetostoma nudirostre* Lütken, 1874**

Chaetostomus nudirostris Lütken, 1874: 207. Type locality: Valencia (Venezuela). Holotype: ZMUC 71.
Maximum length: 12.6 cm TL
Distribution: South America: Lake Valencia basin.
Countries: Venezuela
Remarks and references: Redescription and illustrations of the holotype by Steindachner (1881: 120, pl. 5 figs. 2, 2a); diagnostic characters in Ceas & Page (1996: 674).
Common names: Corroncho (Venezuela)

***Chaetostoma palmeri* Regan, 1912**

Chaetostomus palmeri Regan, 1912: 667, pl. 75 (fig. 3). Type locality: Río Tamana, Río San Juan, Choco, S. W. Colombia. Syntypes: BMNH 1910.7.11.120-121 (2).
Maximum length: 9.5 cm TL
Distribution: South America: Tamana River basin in the San Juan River drainage.
Countries: Colombia
Remarks and references: Considered as a synonym of *Chaetostomus fischeri* Steindachner, 1879, by Eigenmann (1922: 82).

***Chaetostoma patiae* Fowler, 1945**

- Chaetostoma patiae* Fowler, 1945a: 118, fig. 28. Type locality: Rio Patia, at 3000 feet elevation, Pacific slope of southwestern Colombia. Holotype: ANSP 71716.
Maximum length: 15.8 cm SL
Distribution: South America: Patia River basin.
Countries: Colombia
- Chaetostoma paucispinis* Regan, 1912**
Chaetostomus paucispinis Regan, 1912: 667, pl. 75 (fig. 2). Type locality: Tado, Rio San Juan, Choco, Colombia. Holotype: BMNH 1910.7.11.119.
Maximum length: 9 cm TL
Distribution: South America: San Juan River basin.
Countries: Colombia
Remarks and references: Possible synonym of *Chaetostomus fischeri* Steindachner, 1879 (see Eigenmann 1922: 82).
- Chaetostoma pearsei* Eigenmann, 1920**
Chaetostomus pearsei Eigenmann, 1920a: 8, pl. 2. Type locality: Rio Castaño [Lago de Valencia basin] at Maracay, under rocks, Venezuela. Holotype: CAS 64655 [ex IU 15077].
Maximum length: 15 cm TL
Distribution: South America: Lake Valencia and Tuy River basins.
Countries: Venezuela
Remarks and references: Note on buccal papillae of the holotype by Rapp Py-Daniel (1991: 244); diagnostic characters based on the examination of several specimens including the holotype by Ceas & Page (1996: 674).
Common names: Corroncho (Venezuela)
- Chaetostoma sericeum* Cope, 1872**
Chaetostomus sericeus Cope, 1872: 288. Type locality: The Ambiacu river [=Ampiyacu River], which empties into the Amazon near to Pebas, in Eastern Ecuador, some distance east of the Napo [Peru]. Lectotype: ANSP 22005, designated by Fowler (1915: 234).
Maximum length: 5 cm SL
Distribution: South America: Ampiyacu River basin.
Countries: Peru
Common names: Carachama (Peru)
- Chaetostoma sovichthys* Schultz, 1944**
Chaetostoma anomala sovichthys Schultz, 1944a: 292, pl. 8 (fig. B). Type locality: near the bridge over the Río San Pedro, a tributary of the Río Motatán, southeast of Mene Grande, in the Maracaibo basin; Venezuela. Holotype: USNM 121053.
Maximum length: 7.2 cm SL
Distribution: South America: Lake Maracaibo, Motatán River and tributaries.
Countries: Venezuela
Remarks and references: Raised to species level by Isbrücker (1980: 1963); diagnostic characters based on the examination of type material in Ceas & Page (1996: 674, as a subspecies of *Chaetostoma anomalum*).
Common names: Corroncho (Venezuela)
- Chaetostoma stannii* Lütken, 1874**
Chaetostomus Stannii Lütken, 1874: 206. Type locality: Puerto Cabello [Venezuela]. Holotype: ZMUC 72.
Maximum length: 20.5 cm TL
Distribution: South America: Caribbean coastal drainages of Venezuela: Aroa, Tocuyo, Urama and Yaracuy River basins.
Countries: Venezuela
Remarks and references: Redescription and illustrations of the holotype by Steindachner (1881: 120, pl. 5 fig. 4, 4a); diagnostic characters, with illustration and remarks on habitat in Ceas & Page (1996: 673, 674, fig. 2, bottom); see Page et al. (1993) for biological observations and description of larvae.
Common names: Corroncho (Venezuela)
- Chaetostoma tachiraense* Schultz, 1944**
Chaetostoma tachiraensis Schultz, 1944a: 288, pl. 7 (fig. C). Type locality: Río Táchira, 7 km. north of San Antonio, Estado de Táchira, Venezuela; the Río Táchira is a tributary of the Río Zulia, Catatumbo system, Maracaibo basin. Holotype: USNM 121052.
Maximum length: 8.7 cm SL
Distribution: South America: Catatumbo River basin in the Lake Maracaibo drainage (up to altitudes between 1,000 and 2,000 m above sea level).
Countries: Colombia, Venezuela
Remarks and references: See diagnostic characters based on the examination of type material in Ceas & Page (1996: 674).
Common names: Chorrosco (Venezuela); Corroncho (Colombia and Venezuela); Panche (Venezuela)
- Chaetostoma taczanowskii* Steindachner, 1882**
Chaetostomus Taczanowskii Steindachner, 1882a: 177. Type locality: Rio de Tortora [Peru: Amazon: Upper rio Huambo basin, Río de la Tortora, 06°26' S 77°18' W]. Species illustrated and described in more detail in Steindachner (1882b: 23, pl.5, figs. 2-2a). Syntypes: (several) NMW 47219(2) (Eschmeyer, 1998: 1640). Number of specimens not indicated in the original description. Subsequent description based on two specimens from Rio Huambo (not types) and one from Rio de Tortora, which was considered to be the holotype by Isbrücker (1980: 64).
Maximum length: 17 cm TL
Distribution: South America: Huallaga and Urubamba River basins.
Countries: Peru
Remarks and references: See redescription with geographical distribution by Eigenmann & Allen (1942: 192); localization of the type locality in Stephens and Traylor (1983: 221).
Common names: Carachama (Peru)
- Chaetostoma thomsoni* Regan, 1904**
Chaetostomus thomsoni Regan, 1904: 250, pl. 14 (fig. 2). Type locality: Villeta [Rio Negro basin, Magdalena basin], Colombia. Syntypes: BMNH 1902.5.15.28-30 (3).
Maximum length: 10.1 cm TL
Distribution: South America: Magdalena River basin.
Countries: Colombia
Remarks and references: See Eigenmann (1922: 85, pl. 12 fig. 4) for a complementary description.
- Chaetostoma vagum* Fowler, 1943**
Chaetostomus vagus Fowler, 1943: 258, figs. 52-55. Type locality: Florencia, Rio Orteguala [=Orteguala], Colombia. Holotype: ANSP 70521.
Maximum length: 9.9 cm SL
Distribution: South America: Orteguala River basin in the upper Japurá River drainage.
Countries: Colombia
- Chaetostoma vasquezzi* Lasso & Provenzano, 1998**
Chaetostoma vasquezzi Lasso & Provenzano, 1998: 55, fig. 1B. Type locality: Raudales del Caño El Cambur, afluyente del Río Caura, 20 km al suroeste del puente del mismo río, Estado Bolívar, Venezuela. Holotype: MHNLS 8791.
Maximum length: 18.7 cm SL
Distribution: South America: Orinoco, Caura and Caroni River basins.
Countries: Venezuela
- Chaetostoma venezuelae* (Schultz, 1944)**
Corymbophanes venezuelae Schultz, 1944b: 41, pl. 1 (fig. 1). Type locality: Río Caripe, Caripito, Venezuela. Holotype: USNM 120752.
Maximum length: 7.3 cm SL

Distribution: South America: San Juan River basin.

Countries: Venezuela

Remarks and references: New combination by Isbrücker (1980: 65); diagnostic characters based on the examination of type material in Ceas & Page (1996: 674).

***Chaetostoma yurubiense* Ceas & Page, 1996**

Chaetostoma yurubiense Ceas & Page, 1996: 672, fig. 2 (top).

Type locality: Río Mayorica (Río Yaracuy system) at Hwy 3, 9 km N Albarico near the town of Mayorica, State of Lara, Venezuela (10°25'43"N, 68°40'47"W). Holotype: INHS 34942.

Maximum length: 5.1 cm SL

Distribution: South America: Yaracuy, Urama, and Aroa River basins.

Countries: Venezuela

CORDYLANCISTRUS

Cordylancistrus Isbrücker, 1980: 48. Type species: *Pseudancistrus torbesensis* Schultz, 1944. Type by original designation. Gender: masculine. See diagnosis based on osteological characters in Schaefer (1986: 103).

***Cordylancistrus daguae* (Eigenmann, 1912)**

Hemiancistrus daguae Eigenmann, 1912a: 11. Type locality: Caldas, Colombia. Holotype: FMNH 56052 [ex CM 4842].

Maximum length: 9.5 cm TL

Distribution: South America: Dagua River basin.

Countries: Colombia

Remarks and references: See complementary description with illustrations of the holotype by Eigenmann (1922: 78, pl. 12 figs. 1-2); new combination by Isbrücker (2001: 26).

Common names: Corroncho (Colombia)

***Cordylancistrus perijae* Perez & Provenzano, 1996**

Cordylancistrus perijae Perez & Provenzano, 1996: 29, fig. 2 (top). Type locality: Venezuela, Zulia State, Maracaibo basin, Sierra de Perijá, Caño Colorado, tributary to the Palmar River, 100 meters from dam site (under construction), approx. 10°37'12"N 72°25'34"W; elevation 150 m. Holotype: MBLUZ 4413.

Maximum length: 12 cm SL

Distribution: South America: Palmar and Socuy River basins in the Lake Maracaibo drainage.

Countries: Venezuela

***Cordylancistrus platycephalus* (Boulenger, 1898)**

Chaetostomus platycephalus Boulenger, 1898b: 12. Type locality: Río Bomboiza [Zamora basin, Santiago tributary], Equateur oriental. Syntypes: BMNH 1898.11.4.42 (1); MZUT 1551 (1) (Eschmeyer 1998: 1349).

Maximum length: 14.5 cm TL

Distribution: South America: Zamora River basin in upper Marañón River drainage.

Countries: Ecuador

Remarks and references: New combination proposed here based on the original description of species; see Regan (1904: 235, pl. 12 fig. 4) for a complementary description.

Common names: Carachama (Ecuador)

***Cordylancistrus platyrhynchus* (Fowler, 1943)**

Hemiancistrus platyrhynchus Fowler, 1943: 252, fig. 37. Type locality: Florencia; Río Orteguala [=Orteguaza] basin in the district of Caquetá, Colombia. Holotype: ANSP 70512.

Maximum length: 9.5 cm TL

Distribution: South America: Upper Caquetá River basin in upper Japurá River drainage.

Countries: Colombia

Remarks and references: New combination by Isbrücker (2001: 26).

***Cordylancistrus torbesensis* (Schultz, 1944)**

Pseudancistrus torbesensis Schultz, 1944a: 296, pl. 8 (fig. C).

Type locality: 1 km. above Táriba in the Río Torbes [Uribante tributary, Apuré basin], Orinoco system, Venezuela. Holotype: USNM 121001.

Maximum length: 6.5 cm SL

Distribution: South America: Torbes River basin in Apuré River drainage.

Countries: Venezuela

Remarks and references: New combination with genus description by Isbrücker (1980: 48); compared to *Cordylancistrus perijae* in Pérez and Provenzano (1996) with a discussion on geographic distribution.

Common names: Corroncho, Panche (Venezuela)

DEKEYSERIA

Dekeyseria Rapp Py-Daniel, 1985: 178. Type species: *Dekeyseria amazonica* Rapp Py-Daniel, 1985. Type by original designation.

Gender: feminine.

Zonancistrus Isbrücker in Isbrücker et al., 2001: 23. Type species: *Ancistrus brachyurus* Kner, 1854. Type by original designation.

Gender: masculine. Based on the examination of a large material, characters indicated as diagnostic are estimated insufficient to define a genus, which is here synonymized.

***Dekeyseria amazonica* Rapp Py-Daniel, 1985**

Dekeyseria amazonica Rapp Py-Daniel, 1985: 180, fig. 2. Type locality: Complexo do Janaucá, Rio Solimões, Amazonas, Brasil. Holotype: INPA 104.4.

Maximum length: 17.8 cm SL

Distribution: South America: Mainly Solimões River basin, also middle and lower Amazon River basin.

Countries: Brazil

***Dekeyseria brachyura* (Kner, 1854)**

Ancistrus brachyurus Kner, 1854: 279, pl. 4 (fig. 1). Type locality: Barra do Rio negro [=Manaus, Brazil]. Holotype: NMW 47268. Originally as *Anc. brachyurus*.

Maximum length: 16 cm TL

Distribution: South America: Lower Negro River basin.

Countries: Brazil

Remarks and references: New combination by Rapp Py-Daniel (1985: 180); see van der Stigchel (1946: 150) for a redescription.

***Dekeyseria niveata* (La Monte, 1929)**

Plecostomus niveatus La Monte, 1929: 3, fig. 2. Type locality: Caño Pescado; about five miles north of Esmeralda, at an elevation of 325 feet, Upper Orinoco drainage, Venezuela. Holotype: AMNH 9601 [not 9061 (Eschmeyer 1998: 1191)].

Maximum length: 13 cm SL

Distribution: South America: Upper Orinoco River basin.

Countries: Venezuela

Remarks and references: New combination by Isbrücker (2001: 26).

***Dekeyseria picta* (Kner, 1854)**

Ancistrus pictus Kner, 1854: 277, pl. 4 (fig. 2). Type locality: Barra do Rio negro [=Manaus, Brazil]. Syntypes: NMW 47200 (2), 47201 (1), 47202 (1) (Eschmeyer 1998: 1336). Originally as *Anc. pictus*.

Maximum length: 14 cm TL

Distribution: South America: Lower Negro River basin.

Countries: Brazil

Remarks and references: New combination by Rapp Py-Daniel (1985: 180); possible synonym of *Dekeyseria brachyura*.

***Dekeyseria pulcher* (Steindachner, 1915)**

Aneistrus (Hemiancistrus) pulcher Steindachner, 1915a: 219. Type locality: Rio Negro bei Moura [Brazil, 1°32'S, 61°38'W in

Isbrücker (1980: 56)]. Holotype: NMW.
 Maximum length: 10 cm SL
 Distribution: South America: Upper Negro and Orinoco rivers and Canal Casiquiare basin.
 Countries: Brazil, Colombia, Venezuela
 Remarks and references: New combination by Rapp Py-Daniel (1985: 180); see Steindachner (1917: 89, pl. 11, figs. 1-2) for a detailed description.
 Common names: Brazil-butterfly (English), Corroncho (Venezuela)

***Dekeyseria scaphirhyncha* (Kner, 1854)**

Ancistrus scaphirhynchus Kner, 1854: 280, pl. 3 (fig. 2). Type locality: Barra do Rio negro [Manaus, Brazil]. Syntypes: NMW 47207-10 (Eschmeyer 1998: 1513). Originally as *Anc. scaphirhynchus*.

Maximum length: 21 cm SL
 Distribution: South America: Negro River basin.
 Countries: Brazil
 Remarks and references: New combination and redescription by Rapp Py-Daniel (1985: 181, figs.), with comparison to *Dekeyseria amazonica* and geographic distribution.

DOLICHANCISTRUS

Dolichancistrus Isbrücker, 1980: 47. Type species: *Pseudancistrus pediculatus* Eigenmann, 1918. Type by original designation. Gender: masculine. See diagnosis based on osteological characters in Schaefer (1986: 103).

***Dolichancistrus atratoensis* (Dahl, 1960)**

Pseudancistrus atratoensis Dahl, 1960: 455, fig. on p. 456. Type locality: Quebrada La Noche, tributary to the upper Atrato, approximate height above sea level 550 m; western Colombia. Holotype: ICNMHN 51.

Maximum length: 8.2 cm SL
 Distribution: South America: Upper Atrato River basin.
 Countries: Colombia
 Remarks and references: New combination by Isbrücker (1980: 47).
 Common names: Cacucho (local)

***Dolichancistrus carnegiei* (Eigenmann, 1916)**

Pseudancistrus carnegiei Eigenmann, 1916: 85. Type locality: Río San Gil, Santander, Colombia. Holotype: FMNH 58350 [ex CM 7346].

Maximum length: 17 cm TL
 Distribution: South America: Magdalena River basin.
 Countries: Colombia
 Remarks and references: See complementary description with illustration of the holotype by Eigenmann (1922: 79, pl. 10 fig. 3); new combination by Isbrücker (2001: 26).
 Common names: Barbón (Colombia), Roncho (Colombia)

***Dolichancistrus cobrensis* (Schultz, 1944)**

Pseudancistrus pediculatus cobrensis Schultz, 1944a: 299, pl. 9 (fig. B). Type locality: Río Cobre, tributary to Río Quinta, latter tributary to Río La Grita, below La Grita, Catatumbo system, Maracaibo basin, Venezuela. Holotype: USNM 121036.

Maximum length: 7.9 cm SL
 Distribution: South America: Catatumbo River basin in Lake Maracaibo drainage.
 Countries: Venezuela
 Remarks and references: New combination by Isbrücker (1980: 48).
 Common names: Corroncho, Panche (Venezuela)

***Dolichancistrus fuesslii* (Steindachner, 1911)**

Ancistrus fuesslii Steindachner, 1911a: 373. Type locality: Sosomoco, Ostkolumbien, in 800 m Höhe. Holotype: NMW 48026.

Maximum length: 13.1 cm TL
 Distribution: South America: Western Colombia (?).
 Countries: Colombia
 Remarks and references: New combination by Isbrücker (2001: 27); known only from the holotype.

***Dolichancistrus pediculatus* (Eigenmann, 1918)**

Pseudancistrus pediculatus Eigenmann, 1918: 679. Type locality: Río Negro at Villavicencio, Colombia. Holotype: FMNH 58352 [ex CM 7348].

Maximum length: 12 cm TL
 Distribution: South America: Upper Meta River basin.
 Countries: Colombia
 Remarks and references: Complementary description by Eigenmann (1922: 78, 224, fig. 17, pl. 10 fig. 4, pl. 12 fig. 3); new combination with genus description by Isbrücker (1980: 47).

***Dolichancistrus setosus* (Boulenger, 1887)**

Chaetostomus setosus Boulenger, 1887b: 349. Type locality: Andes of Columbia [Colombia]. Syntypes: BMNH 1880.2.26.9-10 (2).

Maximum length: 12 cm TL
 Distribution: South America: Andes of Colombia, river basin unknown.
 Countries: Colombia
 Remarks and references: New combination by Isbrücker (2001: 27); see Regan (1904: 239, pl. 12 fig. 2) for a complementary description based on syntypes.

EXASTILITHOXUS

Exastilithoxus Isbrücker & Nijssen in Isbrücker, 1979: 91. Type species: *Pseudacanthicus fimbriatus* Steindachner, 1915. Type by original designation. Gender: masculine. See diagnosis based on osteological characters in Schaefer (1986: 103).

***Exastilithoxus fimbriatus* (Steindachner, 1915)**

Pseudacanthicus (Lithoxus) fimbriatus Steindachner, 1915c: 201. Type locality: Coquenanfluss [=Kukenan River, also Coquenan, Caroni basin, Venezuela]. Holotype: NMW 44418. Species illustrated and described in more detail in Steindachner (1917: 92, pl. 10, figs. 1-3).

Maximum length: 6 cm SL
 Distribution: South America: Caroni and Matacuni River basins in the Orinoco drainage.
 Countries: Venezuela
 Remarks and references: For complementary descriptions see Isbrücker & Nijssen (1985), with illustrations of the holotype and comparison to *Exastilithoxus hoedemani*, and Lasso (1990: 242, fig. 33); additional collection localities in Provenzano et al. (1995).

***Exastilithoxus hoedemani* Isbrücker & Nijssen, 1985**

Exastilithoxus hoedemani Isbrücker & Nijssen, 1985: 227, fig. 3 (middle). Type locality: Brazil, Est. Amazonas, Rio Marauíá, foot of the Sierra Neblina, Cachoeira "Pora Comeschie", Rio Negro basin. Holotype: INPA 506.

Maximum length: 5.1 cm SL
 Distribution: South America: Maurauíá River in the upper Negro River drainage.
 Countries: Brazil

GUYANANCISTRUS

Guyanancistrus Isbrücker in Isbrücker et al., 2001: 19. Type species: *Lasiancistrus brevispinis* Heitmans, Nijssen & Isbrücker, 1983. Type by original description. Gender: masculine. No unique character indicated in original description, but a comparative diagnosis to *Lasiancistrus* (see text under that genus); monophyly of the genus not shown.

***Guyanancistrus brevispinis* (Heitmans, Nijssen & Isbrücker, 1983)**

Lasiancistrus brevispinis Heitmans, Nijssen & Isbrücker, 1983: 38, fig. 4 (middle). Type locality: Surinam, Nickerie River system, district Nickerie, Fallawatra River, rapid 5 km S. W. of Stondansie Fall. Holotype: ZMA 107.740.

Maximum length: 14.2 cm SL

Distribution: South America: Atlantic coastal drainages of the Guianas, from Nickerie to Oyapock River basins.

Countries: French Guiana, Suriname

Remarks and references: New combination by Isbrücker in Isbrücker et al. (2001: 19); see Le Bail et al. (2000: 236, fig.) for complementary description with biological observations and geographical distribution; 12S and 16S mitochondrial rRNA gene sequences used in a molecular phylogeny of Loricariidae by Montoya-Burgos et al. (1998: figs. 3,4,6 as *Lasiancistrus niger*).

Common names: Aoutombo (Galibi Amerindian), Djaka (Boni Amerindian), Gangou (Boni Amerindian)

***Guyanancistrus longispinis* (Heitmans, Nijssen & Isbrücker, 1983)**

Lasiancistrus longispinis Heitmans, Nijssen & Isbrücker, 1983: 45, fig. 8 (middle). Type locality: French Guiana, Oyapock River system: Camopi River at Pauwé Jean-Jean, upstream of Saut Mauvais (03°11'N 52°22'W). Holotype: IRSNB 612.

Maximum length: 10.4 cm SL

Distribution: South America: Oyapock River basin.

Countries: French Guiana

Remarks and references: New combination by Isbrücker in Isbrücker et al. (2001: 19); see Le Bail et al. (2000: 238, fig.) for complementary description with biological observations and geographical distribution.

***Guyanancistrus niger* (Norman, 1926)**

Hemiancistrus niger Norman, 1926: 96. Type locality: Oyapock River at "Sant" Cafesoca [=Saut Cafesoca], French Guiana. Lectotype: BMNH 1926: 3.2.756, designated by Heitmans et al. (1983: 35).

Maximum length: 15.9 cm SL

Distribution: South America: Oyapock River basin.

Countries: French Guiana

Remarks and references: New combination by Isbrücker in Isbrücker et al. (2001: 19); see complementary descriptions by Heitmans et al. (1983: 35, figs. 2-3), including type specimens, and by Le Bail et al. (2000: 240, fig.), with biological observations and geographical distribution.

***Guyanancistrus schomburgkii* (Günther, 1864)**

Chaetostomus schomburgkii Günther, 1864: 245. Type locality: British Guiana [Essequibo River?]. Syntypes: BMNH 1845.3.5.26-27 (2).

Maximum length: 7.5 cm TL

Distribution: South America: Atlantic coastal drainage, unknown locality in Guyana.

Countries: Guyana

Remarks and references: New combination by Isbrücker in Isbrücker et al. (2001: 19); see complementary description by Regan (1904: 233) which is based on syntypes (apparently the only specimens known).

***Guyanancistrus trinitatis* (Günther, 1864)**

Chaetostomus trinitatis Günther, 1864: 246. Type locality: Trinidad. Syntypes: lost.

Maximum length: 127 cm TL

Distribution: South America: Trinidad Island.

Countries: Trinidad and Tobago

Remarks and references: New combination by Isbrücker in Isbrücker et al. (2001: 19); description of future type material by Gill (1858: 409) as *Ancistrus guacharote*, but no other redescription;

information on type material and questions about validity of species in Regan (1904: footnote on p. 238; 1906: 95).

Common names: Tata (Trinidad)

HEMIANCISTRUS

Hemiancistrus Bleeker, 1862: 2. Type species: *Ancistrus medians* Kner, 1854. Type by original designation. Gender: masculine. Genus in need of a revision; no skeletal autapomorphies found by Schaefer (1986: 105); polyphyletic on the base of mitochondrial D-loop sequences (Montoya-Burgos et al., 2002: 379, fig. 2).

***Hemiancistrus annectens* (Regan, 1904)**

Ancistrus annectens Regan, 1904: 225, pl. 11 (fig. 2). Type locality: St. Javier [San Javier de Cachavi] and the Rio Durango [tributary of Rio Bogotá], N. W. Ecuador. Syntypes: (2) BMNH 1902.5.27.49 (Eschmeyer 1998: 107).

Maximum length: 28 cm TL

Distribution: South America: Pacific coastal rivers of NW Ecuador (Cayapas basin) and of SW Colombia (Patia basin).

Countries: Colombia, Ecuador

Remarks and references: New combination by Eigenmann (1910: 408); complementary description based on Colombian material in Eigenmann (1922: 73, pl. 9 figs 1-2).

Common names: Raspabalsa (Ecuador)

***Hemiancistrus aspidolepis* (Günther, 1867)**

Chaetostomus aspidolepis Günther, 1867: 603. Type locality: Veragua [probably Veraguas province]; Panama. Holotype: BMNH 1866.11.5.1 (skin).

Plecostomus plecostomus panamensis Eigenmann, 1922: 69. Type locality: the Rio Gatun [...] at Monte Liria and at Gatun, Panama. Syntypes: probably in FMNH, collected by Meek & Hildebrand at type localities. *Chaetostomus aspidolepis* first considered synonymous with *Plecostomus plecostomus panamensis* by Hildebrand (1938: 238); priority of *Hemiancistrus aspidolepis* emphasized by Isbrücker (2001: 31).

Maximum length: 40 cm SL

Distribution: Central America: Gatun River basin in Caribbean coastal drainage.

Countries: Panama

Remarks and references: New combination by Eigenmann (1910: 408); complementary description of the holotype in Günther (1968c: 477) and in Regan (1904: 230); known only from holotype.

Common names: Arrisuaca (Panama)

***Hemiancistrus chlorostictus* Cardoso & Malabarba, 1999**

Hemiancistrus chlorostictus Cardoso & Malabarba, 1999: 144, fig. 3. Type locality: Passo Fundo dam, Gerasul UHPF, Ronda Alta, Rio Grande do Sul, Brazil (approximately 27°40'09"S, 52°45'25"W). Holotype: MCP 21153.

Maximum length: 14.7 cm SL

Distribution: South America: Upper Uruguay River basin, Passo Fundo dam.

Countries: Brazil

Remarks and references: Known only from the type locality; mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002: 379, fig. 2; EMBL/GenBank AJ318350).

Common names: Cascudo (Brazil)

***Hemiancistrus fugleri* Ovchynnyk, 1971**

Hemiancistrus fugleri Ovchynnyk, 1971: 108, fig. 13. Type locality: Ecuador. Province Esmeraldas, Rio Bogota, Parroquia Candondelet [=Carondelet] (78°45' west longitude. 1°6' north latitude). Holotype: MSUM 5133.

Maximum length: 9.1 cm SL

Distribution: South America: Cayapas River basin.

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Countries: Ecuador

Remarks and references: Known only from holotype.

Common names: Raspabalsa (Ecuador)

***Hemiancistrus fuliginosus* Cardoso & Malabarba, 1999**

Hemiancistrus fuliginosus Cardoso & Malabarba, 1999: 148, fig. 6. Type locality: rio Jacutinga, road Seara-Concórdia (BR283), Concórdia, Santa Catarina, Brazil (approx. 27°10'S, 52°09'W). Holotype: MCP 21155.

Maximum length: 16.2 cm SL

Distribution: South America: Upper and middle Uruguay River basin.

Countries: Brazil

Remarks and references: Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002: 379, fig. 2; EMBL/GenBank AJ318359).

Common names: Cascudo (Brazil)

***Hemiancistrus hammarlundi* Rendahl, 1937**

Hemiancistrus hammarlundi Rendahl, 1937: 2, fig. 1 (up). Type locality: Ecuador, Syst. Rio de Clementina [= Rio Pozuelos] nw. von Babahoyo. Holotype: NRM 10370.

Maximum length: 7.4 cm SL

Distribution: South America: Guayas River basin.

Countries: Ecuador

Remarks and references: 12S and 16S mitochondrial rRNA gene sequences used in a molecular phylogeny of Loricariidae by Montoya-Burgos et al. (1998: figs. 3, 4, 6; EMBL/GenBank Y08284, Y08332).

Common names: Raspabalsa (Ecuador)

***Hemiancistrus holostictus* Regan, 1913**

Hemiancistrus holostictus Regan, 1913: 469. Type locality: the Condoto, a tributary of the San Juan, a river of the Pacific slope in S. W. Colombia. Holotype: BMNH 1913.10.1.57.

Maximum length: 18 cm TL

Distribution: South America: San Juan River basin.

Countries: Colombia

Remarks and references: Redescribed by Eigenmann (1922: 73, pl. 9 fig. 4).

***Hemiancistrus landoni* Eigenmann, 1916**

Hemiancistrus landoni Eigenmann, 1916: 84. Type locality: Naranjito [Chimbo tributary, Babahoyo basin], Ecuador. Holotype: CAS 59939 [ex IU 13654].

Maximum length: 25 cm TL

Distribution: South America: Guayas River basin.

Countries: Ecuador

Remarks and references: Complementary description of the holotype by Eigenmann (1922: 72, pl. 9 fig. 3, pl. 10 fig. 2).

Common names: Raspabalsa (Ecuador)

***Hemiancistrus macrops* (Lütken, 1874)**

Chaetostomus macrops Lütken, 1874: 209. Type locality: Surinam. Holotype: ZMUC 74.

Maximum length: 9.4 cm SL

Distribution: South America: Suriname (?).

Countries: Suriname

Remarks and references: Complementary description of the holotype in Steindachner (1881: 124, pl. 5 figs. 3-3a); revalidation of species long considered synonym of *Hemiancistrus megacephalus* by Isbrücker (1980: 50).

***Hemiancistrus maracaiboensis* Schultz, 1944**

Hemiancistrus maracaiboensis Schultz, 1944a: 317, pl. 10 (fig. C). Type locality: near the mouth of the Río Concha in Lago Maracaibo; Venezuela. Holotype: USNM 121012.

Maximum length: 28.5 cm SL

Distribution: South America: Lake Maracaibo basin.

Countries: Venezuela

***Hemiancistrus medians* (Kner, 1854)**

Ancistrus medians Kner, 1854: 256. Type locality: No locality [restricted to Rivière Marouini, Maroni system, French Guiana by Isbrücker 1992]. Holotype: lost. Originally as *Anc. medians*.

Maximum length: 39 cm TL

Distribution: South America: Maroni River basin.

Countries: French Guiana, Suriname

Remarks and references: New combination with type species designation by Bleeker (1862: 2); information on the holotype and type locality in Isbrücker (1992); complementary descriptions in Günther (1864: 242) and in Regan (1904: 229); recent material redescribed with ecological observations in Le Bail et al. (2000: 234, fig.). Mitochondrial D-loop sequences used in a molecular phylogeny of *Hypostomus* and related genera by Montoya-Burgos et al. (2002: 379 fig. 2; EMBL/GenBank AJ318368).

Common names: Gangou (Boni Amerindian), Goré-djab (Creole), Mili (Wayana Amerindian), Yani an (Oyampi Amerindian)

***Hemiancistrus megacephalus* (Günther, 1868)**

Chaetostomus megacephalus Günther, 1868a: 476. Type locality: Surinam [probably from Surinam in Günther, 1868b: 232]. Holotype: BMNH 1978.9.12.3.

Maximum length: 12.3 cm SL

Distribution: South America: Atlantic coastal drainage of Suriname, precise locality unknown, and of Guyana, Essequibo basin.

Countries: Guyana, Suriname

Remarks and references: New combination by Eigenmann and Eigenmann (1889: 408); see Regan (1904: 234) and Eigenmann (1912b: 231) for complementary descriptions.

***Hemiancistrus punctulatus* Cardoso & Malabarba, 1999**

Hemiancistrus punctulatus Cardoso & Malabarba, 1999: 152, fig. 8. Type locality: rio dos Sinos, João Fernandes beach, Caraá, Rio Grande do Sul, Brazil (approx. 29°45'87"S, 50°25'68"W). Holotype: MCP 21154.

Maximum length: 19 cm SL

Distribution: South America: Laguna dos Patos basin.

Countries: Brazil

Common names: Cascudo (Brazil)

***Hemiancistrus wilsoni* Eigenmann, 1918**

Hemiancistrus wilsoni Eigenmann, 1918: 678. Type locality: Truando [tributary of Río Atrato, Colombia]. Holotype: FMNH 58550 [ex CM 7570 (largest specimen)].

Maximum length: 32.5 cm TL

Distribution: South America: Truando River basin in Atrato River drainage.

Countries: Colombia

Remarks and references: See Eigenmann (1922: 74, pl. 9 fig. 5, pl. 10 fig. 1) for a complementary description of type specimens.

HOPLIANCISTRUS

Hopliancistrus Isbrücker & Nijssen, 1989: 543. Type species: *Hopliancistrus tricornis* Isbrücker & Nijssen, 1989. Type by original designation. Gender: masculine.

***Hopliancistrus tricornis* Isbrücker & Nijssen, 1989**

Hopliancistrus tricornis Isbrücker & Nijssen, 1989: 543, fig. 6. Type locality: Brasilien, Est. Pará, Poça de Pedra no Rio Tapajós, São Luis. Holotype: MZUSP 22007.

Maximum length: 10.4 cm SL

Distribution: South America: Tapajós and Xingu River basins.

Countries: Brazil

Remarks and references: Analysed in molecular phylogenies based on 12S and 16S mitochondrial rRNA gene sequences by Montoya-Burgos et al. (1998: figs. 3, 4, 6) and on mitochondrial D-loop sequence by Montoya-Burgos et al. (2002: fig. 2; EMBL/GenBank AJ318367).

HYPANCISTRUS

Hypancistrus Isbrücker & Nijssen, 1991: 347. Type species: *Hypancistrus zebra* Isbrücker & Nijssen, 1991. Type by original designation. Gender: masculine. See Armbruster (2002) for a phylogenetic diagnosis of the genus based on osteological characters.

***Hypancistrus inspector* Armbruster, 2002**

Hypancistrus inspector Armbruster, 2002: 87, fig. 2 (middle). Type locality: Venezuela, Amazonas, Dpto. Casiquiare, río Casiquiare, río Negro-río Amazonas drainage, approximately 10 river km above the río Negro (below Solano), 1°58'N, 67°05'W. Holotype: MCNG 12133.

Maximum length: 12.6 cm SL

Distribution: South America: Upper Negro, Casiquiare, and upper Orinoco River basin.

Countries: Venezuela

***Hypancistrus zebra* Isbrücker & Nijssen, 1991**

Hypancistrus zebra Isbrücker & Nijssen, 1991: 348, fig. 1 (middle). Type locality: Brazil, Est. Pará, anastomoses of Rio Xingú, about one hour upstream of Altamira by speedboat (Altamira: 03°13'S 53°15'W). Holotype: MZUSP 41668.

Maximum length: 6.4 cm SL

Distribution: South America: Xingu River basin.

Countries: Brazil

Remarks and references: 12S and 16S mitochondrial rRNA gene sequences used in a molecular phylogeny of Loricariidae by Montoya-Burgos et al. (1998: figs. 3 & 6).

Common names: Zebra pleco (English)

LASIANCISTRUS

Lasiancistrus Regan, 1904: 224. Type species: *Chaetostomus heteracanthus* Günther, 1869. Type by subsequent designation by Eigenmann (1910: 409). Gender: masculine. Proposed in a key of species as a subgenus of *Ancistrus* Kner; raised to genus level by Eigenmann (1910: 409). See Armbruster & Provenzano (2000) for discussion on phylogenetic relationships. *Lasiancistrus* sensu Isbrücker (1980) was found polyphyletic (Armbruster & Provenzano, 2000: 242); subsequent assignments of numerous species formerly included in *Lasiancistrus* to several other Ancistrinae genera by Isbrücker (2001: 29) restrict the genus to species with slender hair-like odontodes on cheek, in addition to the spinous odontodes of Ancistrinae. This character was originally proposed by Regan (1904: 224) for diagnosing *Lasiancistrus*. The genus as actually redefined may prove to be monophyletic (see Schaefer, 1986: 107, and Armbruster & Provenzano, 2000: 242).

***Lasiancistrus caquetae* (Fowler, 1945)**

Hemiancistrus caquetae Fowler, 1945a: 115, fig. 19. Type locality: Morelia, Río Caquetá drainage, Colombia. Holotype: ANSP 71708.

Maximum length: 4.2 cm SL

Distribution: South America: Caquetá River basin in upper Japurá River drainage.

Countries: Colombia

Remarks and references: New combination based here tentatively on examination of the holotype, which is a juvenile specimen.

***Lasiancistrus castelnaui* (Miranda Ribeiro, 1911)**

Hypostomus pictus Castelnau, 1855: 44, pl. 22 (fig. 2). Type locality: l'Ucayale [=Ucayali River, Peru]. Holotype: MNHN A.9573. Secondarily preoccupied in *Hemiancistrus* by *Ancistrus pictus* Kner, 1854. Replaced by *Hemiancistrus castelnaui* Miranda Ribeiro, 1911.

Hemiancistrus castelnaui Miranda Ribeiro, 1911: 58. Replacement name for *Hypostomus pictus* Castelnau, 1855, secondarily preoccupied in *Hemiancistrus* by *Ancistrus pictus* Kner, 1854. Valid name according to ICZN (1999, art. 59.3).

Maximum length: 10.6 cm SL

Distribution: South America: Ucayali River basin.

Countries: Peru

Remarks and references: New combination by Eigenmann (1910: 409); redescription by Regan (1904: 237) based on the holotype.

Common names: Carachama (Peru)

***Lasiancistrus caucanus* Eigenmann, 1912**

Lasiancistrus caucanus Eigenmann, 1912a: 11. Type locality: Cartago; the Cauca, Colombia. Holotype: FMNH 56034 [ex CM 4824].

Maximum length: 17.5 cm TL

Distribution: South America: Cauca River basin.

Countries: Colombia

Remarks and references: See complementary description with illustrations of the holotype and a paratype by Eigenmann (1922: 76, pl. 11 figs. 4-5).

Common names: Corronchito (Colombia), Corroncho (Colombia)

***Lasiancistrus guacharote* (Valenciennes, 1840)**

Hypostomus guacharote Valenciennes in Cuvier & Valenciennes, 1840: 508 [375 in Strasbourg deluxe ed.]. Type locality: les eaux douces de Porto-Ricco [=Puerto Rico]. Syntypes: MNHN A.9567 (1 of several).

Maximum length: 135 cm TL

Distribution: Caribbean Islands: Puerto Rico (?).

Countries: Puerto Rico

Remarks and references: New combination by Eigenmann (1910: 409); see description of one syntype by Regan (1904: 238), with question on geographic distribution; species placed in *Guyanancistrus* by Isbrücker in Isbrücker et al. (2001:19), but reassigned here to *Lasiancistrus* for presence of two types of odontodes on cheek (see Regan 1904: 238; also personal observation on the uniquely preserved syntype).

***Lasiancistrus guapore* Knaack, 2000**

Lasiancistrus guapore Knaack, 2000: 57, unnumbered fig. on p. 58. Type locality: Brasilien, Mato Grosso, im Hauptstrom des Rio Guaporé im Stadtgebiet von Pontes E Lacerda; S 15°07.627', W 58°57.786'. Holotype: MCP 28678 (ex ZMB 33137).

Maximum length: 12.9 cm SL

Distribution: South America: Upper Guaporé River basin.

Countries: Brazil

***Lasiancistrus heteracanthus* (Günther, 1869)**

Chaetostomus heteracanthus Günther, 1869: 425, fig. 3. Type locality: Upper Amazons, Peruvian Amazons [Marañón]. Holotype: BMNH 1869.5.21.3. Type locality restricted by Eigenmann & Eigenmann 1891: 41 (see also Eigenmann & Allen 1942: 18).

Maximum length: 15.3 cm SL

Distribution: South America: Marañón River basin.

Countries: Peru

Remarks and references: New combination with designation as type species of the genus by Eigenmann (1910: 409); see complementary descriptions based on the holotype by Regan (1904: 237), and by Nijssen & Isbrücker (1985: 246) with comparison to *Lasiancistrus scolymus*.

Common names: Carachama (Peru)

***Lasiancistrus maracaiboensis* Schultz, 1944**

Lasiancistrus maracaiboensis Schultz, 1944a: 314, pl. 11 (fig. A).
Type locality: Río Socuy, 3 km. above its mouth. Venezuela.
Holotype: USNM 121038.
Maximum length: 11.9 cm SL
Distribution: South America: Lake Maracaibo basin.
Countries: Venezuela

***Lasiancistrus mayoloi* (Eigenmann, 1912)**

Hemiancistrus mayoloi Eigenmann, 1912a: 10. Type locality: Istmina [5°11'N, 76°39'W]. San Juan River, Colombia. Holotype: FMNH 56036 [ex CM 4826].
Maximum length: 12.5 cm TL
Distribution: South America: San Juan River basin.
Countries: Colombia
Remarks and references: New combination and complementary description with illustrations of a paratype by Eigenmann (1922: 76, pl. 11 figs. 6-7).

***Lasiancistrus multispinis* (Holly, 1929)**

Ancistrus multispinis Holly, 1929: 119. Type locality: Mercado Blèin [=market of Belem?] (Brasilien). Holotype: NMW (?).
Maximum length: 14.8 cm TL
Distribution: South America: Probably lower Amazon River basin.
Countries: Brazil
Remarks and references: New combination by Isbrücker (1980: 45).

***Lasiancistrus mystacinus* (Kner, 1854)**

Ancistrus mystacinus Kner, 1854: 276. Type locality: Carracas [=Caracas, Venezuela]. Holotype: NMW 44200. Originally as *Anc. mystacinus*.
Maximum length: 11.4 cm TL
Distribution: South America: Vicinity of Caracas.
Countries: Venezuela
Remarks and references: New combination by Eigenmann (1910: 409); holotype compared to *Lasiancistrus guacharote* by Steindachner (1881: 125).

***Lasiancistrus nationi* Fernández-Yépez, 1972**

Lasiancistrus nationi Fernández-Yépez, 1972: 23, pl. 23. Type locality: Venezuela, la estación No 140 del Complejo Hidrográfico (4), Río Yaracuy. Holotype: AFY.
Maximum length: 14.2 cm SL
Distribution: South America: Yaracuy River basin.
Countries: Venezuela

***Lasiancistrus planiceps* (Meek & Hildebrand, 1913)**

Ancistrus planiceps Meek & Hildebrand, 1913: 79. Type locality: Río Tuyra, Boca de Cupe, Panama. Holotype: FMNH 7580.
Maximum length: 23.5 cm SL
Distribution: Central America: Tuira and Sambu River basins.
Countries: Panama
Remarks and references: New combination by Eigenmann (1920b: 14); see complementary description by Meek & Hildebrand (1916: 253, pl. 10) based on more numerous specimens, with comparison to *Lasiancistrus caucanus*, including types of both species.

***Lasiancistrus scolymus* Nijssen & Isbrücker, 1985**

Lasiancistrus scolymus Nijssen & Isbrücker, 1985: 242, fig. 1. Type locality: Brazil, Est. Mato Grosso do Sul, Rio Aripuanã, Humboldt (10°10'S 59°27'W), Rio Madeira system. Holotype: MZUSP 26809.
Maximum length: 14.4 cm SL
Distribution: South America: Madeira River basin.
Countries: Brazil

***Lasiancistrus volcanensis* Dahl, 1942**

Lasiancistrus volcanensis Dahl, 1942: 83, fig. 3. Type locality: Rio Volcán near its junction to Rio San Bartolomé [(tributary to Rio

Magdalena, on the left side, between Rios Narés and Ité, municipio of Remedios, department of Antioquia, Republic of Colombia). Altitude approx. 600 m (p. 81)]. Holotype: ZMUL (Eschmeyer 1998: 1774).
Maximum length: 7.9 cm SL
Distribution: South America: Volcán River basin in Magdalena Rive drainage.
Countries: Colombia
Remarks and references: Apparently known from only holotype.

LEPORACANTHICUS

Leporacanthicus Isbrücker & Nijssen, 1989: 544. Type species: *Leporacanthicus galaxias* Isbrücker & Nijssen, 1989. Type by original designation. Gender: masculine. See Isbrücker et al. (1992) for complementary description of genus and key to species, and Stawikowski (1992b) for an account of species distribution, and for figures and notes on aquarium specimens.

***Leporacanthicus galaxias* Isbrücker & Nijssen, 1989**

Leporacanthicus galaxias Isbrücker & Nijssen, 1989: 546, fig. 10. Type locality: Brasilien, Est. Pará, Rio Tocantins, Lagoa em frente a Jacobal. Holotype: MZUSP 24136.
Maximum length: 21.1 cm SL
Distribution: South America: Southern tributaries of the middle and lower Amazon, Madeira, Tocantins and Guamá rivers; Ventuari River basin in upper Orinoco drainage.
Countries: Brazil, Venezuela
Remarks and references: Reference to Venezuelan material with figure in Provenzano (1995); 12S and 16S mitochondrial rRNA gene sequences used in a molecular phylogeny of Loricariidae by Montoya-Burgos et al. (1998: figs. 3, 4, 6).

***Leporacanthicus heterodon* Isbrücker & Nijssen, 1989**

Leporacanthicus heterodon Isbrücker & Nijssen, 1989: 547, fig. 12. Type locality: Brasilien, Est. Mato Grosso, Rio Xingú, Cachoeira von Martius, oberer Xingú. Holotype: IRSNB 693.
Maximum length: 10.3 cm SL
Distribution: South America: Xingu River basin.
Countries: Brazil

***Leporacanthicus joselimai* Isbrücker & Nijssen, 1989**

Leporacanthicus joselimai Isbrücker & Nijssen, 1989: 546, fig. 11. Type locality: Brasilien, Est. Pará, Maloquinha, perto de Itaituba, Rio Tapajós. Holotype: MZUSP 21921.
Maximum length: 9.8 cm SL
Distribution: South America: Tapajós River basin.
Countries: Brazil

***Leporacanthicus triactis* Isbrücker, Nijssen & Nico, 1992**

Leporacanthicus triactis Isbrücker, Nijssen & Nico, 1992: 3, fig. 3. Type locality: Venezuela, Territorio Federal Amazonas, oberer Orinoco, Caño Mavaquita etwa einen Kilometer flussaufwärts von der Mündung in den Río Mavaca, ungefähr 2°12'30"N, 65°05'30"W. Holotype: MCNG 25357.
Maximum length: 24.7 cm SL
Distribution: South America: Upper Orinoco River basin.
Countries: Colombia, Venezuela

LEPTOANCISTRUS

Leptoancistrus Meek & Hildebrand, 1916: 254. Type species: *Acanthicus canensis* Meek & Hildebrand, 1913. Type by original designation. Gender: masculine. See diagnosis based on osteological characters in Schaefer (1986: 108).

***Leptoancistrus canensis* (Meek & Hildebrand, 1913)**

Acanthicus canensis Meek & Hildebrand, 1913: 80. Type locality:

Rio Cana, Cana, Darien, Panama. Holotype: FMNH 7581.
 Maximum length: 7.6 cm SL
 Distribution: Central America: Pacific drainages of Eastern Panama and Armila River basin on Atlantic slope.
 Countries: Panama
 Remarks and references: Species described more in detail and figured by Meek & Hildebrand (1916: 254, pl. 11).

***Leptoancistrus cordobensis* Dahl, 1964**

Leptoancistrus cordobensis Dahl, in Dahl et al., 1964: 32, unnum. plate. Type locality: río Batatal, Alro río Uré [upper San Jorge tributary, Magdalena basin, Colombia]. Holotype: whereabouts unknown.
 Maximum length: 3.7 cm SL
 Distribution: South America: Upper Sinú River basin, and upper San Jorge River basin in Magdalena River drainage.
 Countries: Colombia
 Remarks and references: Species also figured and discussed in Dahl (1971: 90).

LIPOPTERICHTHYS

Lipoptericthys Norman, 1935: 627. Type species: *Lipoptericthys carrioni* Norman, 1935. Type by original designation. Gender: masculine. See diagnosis based on osteological characters in Schaefer (1986: 109).

***Lipoptericthys carrioni* Norman, 1935**

Lipoptericthys carrioni Norman, 1935: 628, fig. on p. 628 (up). Type locality: the Zamora River, near Loja, Ecuador. Holotype: BMNH 1933.5.29.1-5 (1 of 5) (Eschmeyer 1998: 335).
 Maximum length: 7.8 cm SL
 Distribution: South America: Marañón River basin.
 Countries: Ecuador

LITHOXANCISTRUS

Lithoxancistrus Isbrücker, Nijssen & Cala, 1988: 14. Type species: *Lithoxancistrus orinoco* Isbrücker, Nijssen & Cala, 1988. Type by original designation. Gender: masculine.

***Lithoxancistrus genisetiger* (Fowler, 1941)**

Pseudancistrus genisetiger Fowler, 1941a: 155, fig. 60. Type locality: Rio Jaguaribe, Orós, Ceará; eastern Brazil. Holotype: ANSP 69441.
 Maximum length: 10.3 cm SL
 Distribution: South America: Jaguaribe River basin.
 Countries: Brazil
 Remarks and references: New combination by Isbrücker (2001: 29).

***Lithoxancistrus orinoco* Isbrücker, Nijssen & Cala, 1988**

Lithoxancistrus orinoco Isbrücker, Nijssen & Cala, 1988: 14, fig. 1 (up). Type locality: Colombie, Province de Vichada, Rio Orinoco, à la cascade (=raudal) près de l'embouchure du Rio Tuparro. Holotype: ICNMHN 1200.
 Maximum length: 7.6 cm SL
 Distribution: South America: Orinoco River basin.
 Countries: Colombia, Venezuela

***Lithoxancistrus papariae* (Fowler, 1941)**

Pseudancistrus papariae Fowler, 1941a: 157, fig. 64. Type locality: Lago Papary [=Papari Lake], Rio Grande do Norte; eastern Brazil. Holotype: ANSP 69442.
 Maximum length: 15.3 cm SL
 Distribution: South America: Lake Papari and Jaguaribe River basin.
 Countries: Brazil
 Remarks and references: New combination by Isbrücker (2001:

29).

LITHOXUS

Lithoxus Eigenmann, 1910: 405. Type species: *Lithoxus lithoides* Eigenmann, 1910. Type by original designation (p. 412). Gender: masculine. Diagnostic characters given in key in footnote. Revised by Boeseman (1982), later by Nijssen & Isbrücker (1990) with synonymisation of *Paralithoxus*; see diagnosis based on osteological characters in Schaefer (1986: 110).

Paralithoxus Boeseman, 1982: 46. Type species: *Ancistrus bovallii* Regan, 1906. Type by original designation. Gender: masculine. Proposed as a subgenus of *Lithoxus*. Spelled *Paralithoides* in author's abstract (p. 41).

***Lithoxus boujardi* Muller & Isbrücker, 1993**

Lithoxus boujardi Muller & Isbrücker, 1993: 72, fig. 1 (middle). Type locality: Guyane française, bassin de l'Approuague, Arataye, entre le Saut Japigny et le Saut Pararé. Holotype: MNHN 1992-1321.

Maximum length: 6.5 cm SL
 Distribution: South America: Approuague and Oyapock River basins.

Countries: French Guiana
 Remarks and references: See Le Bail et al. (2000: 242, fig.) for a complementary description with biological observations and geographical distribution.
 Common names: Yanian wili (Amerindian)

***Lithoxus bovallii* (Regan, 1906)**

Ancistrus Bovallii Regan, 1906: 96. Type locality: the Kaat River, tributary to the Treng River [= probably Ireng River, tributary of Takutu River, Amazonas basin; see Boeseman (1982: 49), and Schindler (1996)], Upper Potaro, British Guiana. Lectotype: BMNH 1905.11.1.43, designated by Nijssen & Isbrücker (1990: 332).

Maximum length: 5.9 cm SL
 Distribution: South America: Ireng River basin in upper Negro River drainage.

Countries: Guyana
 Remarks and references: New combination by Isbrücker (1979: 88), see Nijssen & Isbrücker (1990) and Muller & Isbrücker (1993: 75) for morphological data of type specimens, and Schindler (1996) for a redescription of material from the Ireng River.

***Lithoxus lithoides* Eigenmann, 1910**

Lithoxus lithoides Eigenmann, 1910: 412. Type locality: Cataracts of British Guiana [=Amatuk, Guyana]. Holotype: FMNH 53557 [ex CM 1527]. Original description identical to genus description (p. 405). Species illustrated and more fully described in Eigenmann (1912b: 242, pl. 29, figs. 1-4).

Maximum length: 8.6 cm SL
 Distribution: South America: Essequibo and upper Correntyne River basin.

Countries: Guyana, Suriname
 Remarks and references: See Boeseman (1982: 46, fig. 1, tab. 2) for a complementary description, Nijssen & Isbrücker (1990: tab. 1) for morphological data of the holotype, and Lowe McConnell (1964: 117, 132) for ecological information.

***Lithoxus pallidimaculatus* Boeseman, 1982**

Lithoxus (Paralithoxus) pallidimaculatus Boeseman, 1982: 50, pl. 3 (top). Type locality: Kwambaolo Creek, right tributary of Sara Creek above Dam, Suriname River system, Surinam. Holotype: RMNH 28368.

Maximum length: 4.7 cm SL
 Distribution: South America: Suriname River basin.
 Countries: Suriname
 Remarks and references: See Nijssen & Isbrücker (1990: tab. 1)

for morphological data of the holotype.

***Lithoxus planquettei* Boeseman, 1982**

Lithoxus (Paralithoxus) planquettei Boeseman, 1982: 53, pl. 4 (top). Type locality: Crique Boulenger, Comté system, French Guiana. Holotype: RMNH 28304 (1 of 3).

Maximum length: 7 cm SL

Distribution: South America: Atlantic coastal drainages from Maroni to Kaw River basins.

Countries: French Guiana

Remarks and references: See Le Bail et al. (2000: 244, fig.) for a complementary description with biological observations and geographical distribution, also Nijssen & Isbrücker (1990: tab. 1) and Muller & Isbrücker (1993: 75) for morphological data of types.

Common names: Yanian wili (Amerindian)

***Lithoxus stocki* Nijssen & Isbrücker, 1990**

Lithoxus stocki Nijssen & Isbrücker, 1990: 329, fig. 2. Type locality: Marouini River, downstream of village Epoia, French Guiana. Holotype: IRSNB 639.

Maximum length: 6.6 cm SL

Distribution: South America: Maroni and Mana River basins.

Countries: French Guiana

Remarks and references: See Le Bail et al. (2000: 246, fig.) for a complementary description with biological observations and geographical distribution, and Muller & Isbrücker (1993: 75) for morphological data of types.

Common names: Yanian wili (Amerindian)

***Lithoxus surinamensis* Boeseman, 1982**

Lithoxus (Paralithoxus) surinamensis Boeseman, 1982: 54, pl. 5 (top). Type locality: near Awaradam, Gran Rio, upper Suriname River system, Surinam. Holotype: RMNH 28361 (largest specimen).

Maximum length: 4.1 cm SL

Distribution: South America: Gran Rio River basin in upper Suriname River drainage.

Countries: Suriname

Remarks and references: See Nijssen & Isbrücker (1990: tab. 1) for morphological data of the holotype.

MEGALANCISTRUS

Megalancistrus Isbrücker, 1980: 52. Type species: *Chaetostomus gigas* Boulenger, 1895. Type by original designation. Gender: masculine.

***Megalancistrus barrae* (Steindachner, 1910)**

Ancistrus barrae Steindachner, 1910: 58. Type locality: Rio San Francisco bei Barra [Brazil]. Syntypes: NMW 48019 (1), 48020 (1).

Maximum length: 38.5 cm SL

Distribution: South America: São Francisco River basin.

Countries: Brazil

***Megalancistrus parananus* (Peters, 1881)**

Pterygoplichthys (Ancistrus) parananus Peters, 1881: 637. Type locality: Parana fluss bei La Paz in Entre-Rios [Argentina]. Holotype: ZMB 11328.

Chaetostomus aculeatus Perugia, 1891: 637. Type locality: Asuncion (Rio Paraguay) [Paraguay]. Holotype: MSNG 8937.

Chaetostomus gigas Boulenger, 1895: 526. Type locality: Paraguay. Holotype: BMNH 1895.5.17.72.

Maximum length: 60 cm TL

Distribution: South America: Paraguay, Paraná, and Uruguay River basins.

Countries: Argentina, Brazil, Paraguay, Uruguay

Remarks and references: New combination by Isbrücker (2001: 30); see redescription in Pignatelli et al. (1970: 379).

Common names: Cascudo-abacaxi (Brazil), Vieja espinosa (Uruguay)

NEBLINICHTHYS

Neblichthys Ferraris, Isbrücker & Nijssen, 1986: 70. Type species: *Neblichthys pilosus* Ferraris, Isbrücker & Nijssen, 1986.

Type by original designation. Gender: masculine. See Provenzano et al. (1995) for a discussion on geographical distribution.

***Neblichthys pilosus* Ferraris, Isbrücker & Nijssen, 1986**

Neblichthys pilosus Ferraris, Isbrücker & Nijssen, 1986: 70, fig. 1 (top). Type locality: Venezuela, Territorio Federal Amazonas; Dept. Rio Negro, Rio Baria basin. Rio Mawarinuma tributary at Neblina base camp, on right bank in riffle, 0°55'N, 66°10'W, elevation 120 m. Holotype: AMNH 56137.

Maximum length: 8.9 cm SL

Distribution: South America: Upper Negro, Casiquiare, and Baria River basins.

Countries: Venezuela

***Neblichthys roraima* Provenzano, Lasso & Ponte, 1995**

Neblichthys roraima Provenzano, Lasso & Ponte, 1995: 245, fig. 1. Type locality: Venezuela: Estado Bolivar: río Caroni system, first creek (quebrada) NW of base camp Roraima tepui, tributary of río Kukenan (5°15'N, 60°40'W), at an elevation of 1200-1400 m. Holotype: MHNLS 8753.

Maximum length: 5.1 cm SL

Distribution: South America: Kukenan River basin in upper Caroni drainage.

Countries: Venezuela

OLIGANCISTRUS

Oligancistrus Rapp Py-Daniel, 1989: 246. Type species: *Chaetostomus punctatissimus* Steindachner, 1881. Type by original designation. Gender: masculine.

***Oligancistrus punctatissimus* (Steindachner, 1881)**

Chaetostomus punctatissimus Steindachner, 1881: 119, pl. 3 (fig. 3). Type locality: aus dem Amazonen-Strome ohne nähere Angabe des Fundortes [Brazil, Est. Pará, Pôrto do Mós, on the eastern shore of Rio Xingú, 1°45'S, 52°10'W]. Holotype: NMW 47206. Restriction of type locality with identification of holotype by Isbrücker & Nijssen (1991: 349).

Maximum length: 10.6 cm SL

Distribution: South America: Xingu River basin.

Countries: Brazil

Remarks and references: New combination with genus description by Rapp Py-Daniel (1989: 246); illustration and description of mouth characters by Stawikowski (1991: 262).

PANAQUE

Panaque Eigenmann & Eigenmann, 1889: 44. Type species: *Chaetostomus nigrolineatus* Peters, 1877. Type by original designation. Gender: masculine. See Schaefer & Stewart (1993) for diagnosis and relationships of the genus, distribution and ecology, and for description of the *Panaque dentex* species group, with a key, species descriptions, geographical distributions and phylogenetic analysis. Study of wood digestion by Nelson et al. (1999). Revised key to *Panaque dentex* species group and description of an additional synapomorphy for the group in Chockley & Armbruster (2002).

Panaqolus Isbrücker & Schraml in Isbrücker et al. (2001: 20). Type species: *Panaque gnomus* Schaefer & Stewart, 1993. Type by original designation. Gender: masculine. Synonymised by Chockley & Armbruster (2002: 88).

***Panaque albomaculatus* Kanazawa, 1958**

Panaque albomaculatus Kanazawa, 1958: 327, fig. 1 (top). Type locality: Ecuador, tributary of the Río Suno, upper Napo River, 0°47' south latitude, 77°16' west longitude, Río Pucuno. Holotype: USNM 167909.

Maximum length: 12.4 cm SL

Distribution: South America: Headwaters of Napo, Marañón and Ucayali rivers.

Countries: Ecuador, Peru

Remarks and references: See redescription by Schaefer & Stewart (1993: 327, fig. 13), with geographical distribution, and phylogenetic relationships.

Common names: Carachama (Ecuador)

***Panaque cochliodon* (Steindachner, 1879)**

Chaetostomus cochliodon Steindachner, 1879a: 194. Type locality: Aus dem Cauca, dem grössten Nebenflusse des Magdalena-Stromes [Colombia]. Syntypes: NMW 47297 (1), 47298 (1). Species described in few more details in Steindachner (1879b: 187).

Chaetostomus cochliodon (sive *gibbosus*) Steindachner, 1880: 63, pl. 4. Type locality: Replacement name proposed conditionally for *Chaetostomus cochliodon*. Objective synonym.

Maximum length: 30 cm TL

Distribution: South America: Cauca and Magdalena River basins.

Countries: Colombia

Remarks and references: See the most complete description by Steindachner as *Chaetostomus cochliodon* (sive *gibbosus*).

Common names: Casasola, Corroncho, Corroncorro, Guacarote (local names)

***Panaque changae* Chockley & Armbruster, 2002**

Panaque changae Chockley & Armbruster, 2002: 83, fig. 1 (middle). Type locality: Peru: Loreto: río Itaya, río Amazonas drainage, 11 km SSW center of Iquitos at bearing 39°, 3°49'47.6"S 73°18'2.9"W. Holotype: MUSM 17107.

Maximum length: 8.4 cm SL

Distribution: South America: Itaya and Momon River basins.

Countries: Peru

***Panaque dentex* (Günther, 1868)**

Chaetostomus dentex Günther, 1868a: 477. Type locality: Xeberos [Peru, Departamento Loreto, Xeberos (or Jeberos), upper Río Aipena system, tributary to Río Huallaga near its confluence with Río Marañón, approx. 5°18'S 76°17'W]. Holotype: BMNH 1867.6.13.37. Details of type locality in Schaefer & Stewart (1993: 321).

Maximum length: 8 cm SL

Distribution: South America: Napo, Pastaza and Marañón River basins.

Countries: Ecuador, Peru

Remarks and references: New combination by Eigenmann & Eigenmann (1889: 44); see redescription by Schaefer & Stewart (1993: 321, fig. 9), with geographical distribution, and phylogenetic relationships.

Common names: Carachama (Peru)

***Panaque gnomus* Schaefer & Stewart, 1993**

Panaque gnomus Schaefer & Stewart, 1993: 333, fig. 17 (top). Type locality: Ecuador, Morona-Santiago Province, Río Cushuimi at Cushuimi, approx. 2°39'S 77°43'W, just over 300 m alt., upper Río Morona/ Marañón basin. Holotype: FMNH 70860.

Maximum length: 7.1 cm SL

Distribution: South America: Pastaza and upper Marañón basins.

Countries: Ecuador, Peru

Remarks and references: Comparison to *Panaque changae* in Chockley & Armbruster (2002: 83).

***Panaque maccus* Schaefer & Stewart, 1993**

Panaque maccus Schaefer & Stewart, 1993: 335, fig. 18 (top). Type locality: Venezuela, Estado Portuguesa, Río Las Marinas, upstream from bridge on Route 5 east of Guanare, tributary of Río Portuguesa, Río Orinoco basin, approx. 9°05'N 69°40'W. Holotype: MBUCV V-24010.

Maximum length: 8.8 cm SL

Distribution: South America: Apuré and Caroni River basins.

Countries: Venezuela

Remarks and references: Updated geographic distribution and comparison to *Panaque changae* in Chockley & Armbruster (2002).

***Panaque nigrolineatus* (Peters, 1877)**

Chaetostomus nigrolineatus Peters, 1877: 471, fig. on an unnumb. pl. ff. p. 556. Type locality: Calabozo [Guaricó River, tributary of Apuré River, Orinoco basin], Venezuela. Syntypes: ZMB 10046 (1), 10047 (1).

Maximum length: 43 cm SL

Distribution: South America: Orinoco and southern middle and lower Amazon River tributaries.

Countries: Brazil, Colombia, Venezuela

Remarks and references: New combination by Eigenmann & Eigenmann (1889: 44); 12S and 16S mitochondrial rRNA gene sequences used in a molecular phylogeny of Loricariidae by Montoya-Burgos et al. (1998: figs. 3,4,6).

Common names: Acari-da-pedra (Venezuela), Panaque (Brazil, Venezuela), Royal panaque (English)

***Panaque nocturnus* Schaefer & Stewart, 1993**

Panaque nocturnus Schaefer & Stewart, 1993: 330, fig. 15. Type locality: Peru, Departamento Amazonas, Río Santiago, near la Poza, Río Marañón basin, 4°01'24"S 77°45'06"W. Holotype: LACM 41729-51.

Maximum length: 13.9 cm SL

Distribution: South America: Santiago and Pastaza River basins in upper Napo drainage.

Countries: Ecuador, Peru

***Panaque purusiensis* La Monte, 1935**

Panaque purusiensis La Monte, 1935: 4, fig. 3. Type locality: Rio Purus, Brazil; in the vicinity of the mouth of Rio Macauhan [=Macauá], a tributary of Rio Yaco [=Iaco], which, in turn, is a tributary of Rio Purus (69°W, 9°20'S) [9°11'S, 68°44'W; about 20 km S. W. of Sena Madureira, 135 m alt]. Holotype: AMNH 12600. Details of type locality are given in introduction and in Schaefer & Stewart (1993: 325).

Maximum length: 11 cm SL

Distribution: South America: Macauá River basin in upper Purus drainage.

Countries: Brazil

Remarks and references: See redescription by Schaefer & Stewart (1993: 325, fig. 12), with geographical distribution, and phylogenetic relationships.

***Panaque suttonorum* Schultz, 1944**

Panaque suttoni Schultz, 1944a: 308, pl. 10 (fig. B). Type locality: Río Negro [tributary of Santa Ana River] below the mouth of the Río Yasa, Maracaibo basin, Venezuela. Holotype: USNM 121033.

Maximum length: 28 cm SL

Distribution: South America: Western and eastern tributaries of Maracaibo Lake.

Countries: Venezuela

Common names: Blue-eyed pleco (English), Panaque (Venezuela)

PARANCISTRUS

Parancistrus Bleeker, 1862: 2. Type species: *Hypostomus aurantiacus* Castelnau, 1855. Type by original designation. Gender: masculine. See Rapp Py-Daniel (1989) for redefinition of the

genus and redescription of the type species.

Acanthodemus Marschall, 1873: 63. Type species: *Hypostomus aurantiacus* Castelnau, 1855. Type by subsequent designation by Jordan (1919: 264). Gender: masculine.

***Parancistrus aurantiacus* (Castelnau, 1855)**

Hypostomus aurantiacus Castelnau, 1855: 43, pl. 21 (fig. 2). Type locality: l'Ucayale [Ucayali River, Peru]. Holotype: MNHN A.9452 (dry). Name spelled *aurentiacus* on figure caption.

Hypostomus nigricans Castelnau, 1855: 44, pl. 22 (fig. 1). Type locality: l'Amazone [Amazon River, Brazil]. Holotype: MNHN A.9576.

Hypostomus vicinus Castelnau, 1855: 45, pl. 23 (fig. 1). Type locality: l'Ucayale [Ucayali River, Peru]. Holotype: MNHN A.9572.

Maximum length: 19.3 cm SL

Distribution: South America: Ucayali, Tocantins and Xingu Rivers.

Countries: Brazil, Peru

Remarks and references: Redescription and synonymies based on examination of types by Regan (1904: 236) and by Rapp Py-Daniel (1989: 239), including also material from Tocantins; illustrations and color description of living specimens by Stawikowski (1991), with ecological notes; analysed in molecular phylogenies based on 12S and 16S mitochondrial rRNA gene sequences by Montoya-Burgos et al. (1998: figs. 3,4,6; EMBL/GenBank Y08282, Y08330), and on mitochondrial D-loop sequences by Montoya-Burgos, et al. (2002: fig 2; EMBL/GenBank AJ318366).

Common names: Acari (Brazil), Carachama (Peru)

PECKOLTIA

Peckoltia Miranda Ribeiro, 1912: 7. Type species: *Chaetostomus vittatus* Steindachner, 1882. Type by monotypy. Gender: feminine. No skeletal autapomorphies found by Schaefer (1986: 113).

Peckoltichthys Miranda Ribeiro, 1917: 49. Type species: *Peckoltichthys filicaudatus* Miranda Ribeiro, 1917. Type by monotypy. Gender: masculine. Miranda Ribeiro (1920) stated that this name was intended as a replacement for *Peckoltia*, but that publication was delayed and preceded by Miranda Ribeiro (1917), in which *Peckoltichthys* was published with only one included species, *P. filicaudatus*.

Ancistomus Isbrücker & Seidel in Isbrücker et al., 2001: 17. Type species: *Ancistrus snethlageae* Steindachner, 1911. Type by original designation. Gender: masculine. Awaiting a revision and a redefinition of *Peckoltia*; based on the examination of a large material, its diagnostic characters are found insufficient to define this genus which is therefore here synonymized.

Sophiancistrus Isbrücker & Seidel in Isbrücker et al., 2001: 21. Type species: *Hemiancistrus ucayalensis* Fowler, 1940. Type by original designation. Gender: masculine. Synonymized here for the same reasons as indicated for *Ancistomus*.

***Peckoltia arenaria* (Eigenmann & Allen, 1942)**

Hemiancistrus arenarius Eigenmann & Allen, 1942: 185, pl. 6 (fig. 2). Type locality: Yurimaguas [head of navigation on Rio Huallaga; town, provinci capital, cotton port; elevation 570 feet; eastern terminus of trails from Pacasmayo and Cajamarca over the mountains; between the mouths of Rios Shanusi and Parapura (p. 81)], Peru. Holotype: CAS 77323 [ex IU 15356].

Maximum length: 12.9 cm TL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

Remarks and references: New combination by Isbrücker (1980: 55); possible synonym of *Peckoltia ucayalensis*.

Common names: Carachama (Peru)

***Peckoltia bachi* (Boulenger, 1898)**

Chaetostomus bachi Boulenger, 1898a: 425, pl. 41 (fig. 1). Type

locality: Rio Jurua, Brazil. Holotype: BMNH 1897.12.1.61.

Maximum length: 11.2 cm TL

Distribution: South America: Juruá River basin.

Countries: Brazil

Remarks and references: New combination by Isbrücker (1980: 55); complementary description of the holotype in Regan (1904: 233).

***Peckoltia braueri* (Eigenmann, 1912)**

Hemiancistrus braueri Eigenmann, 1912b: 232, pl. 28 (fig. 1).

Type locality: British Guiana [Takutu River?]. Holotype: ZMB 3174 (larger specimen).

Maximum length: 88.6 cm SL

Distribution: South America: Negro and Branco River basins.

Countries: Guyana

Remarks and references: New combination by Isbrücker (2001: 31); short description of the future type specimens by Kner (1854: footnote on p. 254, 281; ZMB specimens registered as *Hypostomus itacua*).

***Peckoltia brevis* (La Monte, 1935)**

Hemiancistrus brevis La Monte, 1935: 3, fig. 2. Type locality: Rio Purus, Brazil; in the vicinity of the mouth of Rio Macauhan [=Macauá], a tributary of Rio Yaco [=Iaco], which, in turn, is a tributary of Rio Purus (69°W., 9°20'S.) [9°11'S, 68°44'W; about 20 km S. W. of Sena Madureira, 135 m alt.]. Holotype: AMNH 12602. Details of type locality from introduction and Schaefer & Stewart (1993: 325).

Maximum length: 9.1 cm SL

Distribution: South America: Purus River basin.

Countries: Brazil

Remarks and references: New combination by Isbrücker (1980: 55).

***Peckoltia filicaudata* (Miranda Ribeiro, 1917)**

Peckoltichthys filicaudatus Miranda Ribeiro, 1917: 49. Type locality: Fluvio "Solimões" [Brazil]. Holotype: MNRJ 969.

Maximum length: 14 cm TL

Distribution: South America: Solimões River basin.

Countries: Brazil

Remarks and references: New combination by Isbrücker (1980: 55); only the holotype known.

***Peckoltia furcata* (Fowler, 1940)**

Chaetostomus furcatus Fowler, 1940: 238, fig. 29. Type locality: Ucayali River basin, Contamana, Peru. Holotype: ANSP 68655.

Maximum length: 9.2 cm SL

Distribution: South America: Ucayali River basin.

Countries: Peru

Remarks and references: New combination based on examination of the holotype (only specimen known).

Common names: Carachama (Peru)

***Peckoltia kuhlmanni* (Miranda Ribeiro, 1920)**

Peckoltichthys kuhlmanni Miranda Ribeiro, 1920: 10, unnum. pl. 5th (middle). Type locality: Tapajóz [Brazil]. Lectotype: MNRJ 2044A, designated by Miranda Ribeiro (1953: 401), but specimens not isolated.

Maximum length: 12 cm TL

Distribution: South America: Tapajós River basin.

Countries: Brazil

Remarks and references: New combination by Isbrücker (1980: 56).

***Peckoltia oligospila* (Günther, 1864)**

Chaetostomus oligospilus Günther, 1864: 244. Type locality: River Capin [=Capim, Para State, Brazil]. Holotype: BMNH 1849.11.8 (Eschmeyer 1998: 1237).

Maximum length: 10.5 cm SL

Distribution: South America: Lower Amazon River basin.

Countries: Brazil

Remarks and references: New combination by Isbrücker (1980: 56); complementary description of the holotype in Regan (1904: 232, pl. 12 fig. 1).

***Peckoltia snethlageae* (Steindachner, 1911)**

Ancistrus snethlageae Steindachner, 1911b: 328. Type locality: Rio Tapajoz [=Tapajós] bei Villa Braga [=Vila Braga] und Goyana [=Ilha da Goiânia ?] [Brazil]. Syntypes: NMW 48049 (1), 48050 (1).

Maximum length: 22 cm TL

Distribution: South America: Tapajós River basin.

Countries: Brazil

Remarks and references: New combination based here on original description and examination of specimens from Tapajós River; see figures of living specimens in Isbrücker et al. (2001: 17-18, 2 unnumb. figs, as *Ancistomus snethlegeae*).

***Peckoltia ucayalensis* (Fowler, 1940)**

Hemiancistrus ucayalensis Fowler, 1940: 235, fig. 24. Type locality: Ucayali River, Contamana, Peru [7°19'S, 75°04'W]. Holotype: ANSP 68651.

Maximum length: 13 cm SL

Distribution: South America: Ucayali River basin.

Countries: Peru

Remarks and references: New combination by Isbrücker (1980: 57); see figures in Isbrücker et al. (1991: 22, 2 unnumb. figs, as *Sophiancistrus cf. ucayalensis*).

Common names: Carachama (Peru)

***Peckoltia vermiculata* (Steindachner, 1908)**

Ancistrus vittatus vermiculata Steindachner, 1908: 166. Type locality: dem mittleren Laufe des Amazonestrommes, den Gewässern um Pará, Brasiliens. Syntypes: NMW 48056 (1), 48059 (1), 48064 (1) (Eschmeyer, 1998: 1753). Originally as *Ancistrus vittatus* var. *vermiculata*.

Maximum length: 13 cm SL

Distribution: South America: Middle and lower Amazon River basin.

Countries: Brazil

Remarks and references: Raised to species level by Isbrücker (1980: 57).

***Peckoltia vittata* (Steindachner, 1881)**

Chaetostomus vittatus Steindachner, 1881: 115, pl. 2 (fig. 5). Type locality: Amazonen-Strom, Tajapouru [Furo Tajapuru at Tajapuru, Marajó Island], Xingu bei Porto de Moz, Rio Madeira [Brazil]. Syntypes: MCZ 7999 (1), 8017 (1); NMW 47225 (1), 47226 (1), 47227 (1), 47228 (2) (Eschmeyer 1998: 1753).

Maximum length: 14 cm TL

Distribution: South America: Middle and lower Amazon River basin.

Countries: Brazil

Remarks and references: New combination with genus description by Miranda Ribeiro (1912: 7); cited by several authors but no recent redescription; 12S and 16S mitochondrial rRNA gene sequences used in a molecular phylogeny of Loricariidae by Montoya-Burgos et al. (1998: figs. 3,4,6; EMBL/GenBank Y08285, Y08333).

***Peckoltia yaravi* (Steindachner, 1915)**

Ancistrus (Hemiancistrus) yaravi Steindachner, 1915b: 73. Type locality: Rio Coquenán [=Kukenan, also Cuquenán, Caroni basin], Venezuela. Holotype: NMW.

Maximum length: 4.7 cm SL

Distribution: South America: Kukenan River basin in upper Caroni River drainage.

Countries: Venezuela

Remarks and references: Description also in Steindachner (1917: 87); new combination by Isbrücker (1980: 57); known only from

the holotype.

Common names: Yaravi (in Steindachner 1915b: 88)

PSEUDACANTHICUS

Pseudacanthicus Bleeker, 1862: 2. Type species: *Hypostomus serratus* Valenciennes, 1840. Type by original designation. Gender: masculine. Last revision by Regan (1904); diagnosis based on osteological characters by Schaefer (1986: 113); see also Stawikowski (1992a) for an account on described species and figures of living specimens.

Stoneiella Fowler, 1914: 271. Type species: *Stoneiella leopardus* Fowler, 1914. Type by original designation. Gender: feminine.

***Pseudacanthicus fordii* (Günther, 1868)**

Chaetostomus Fordii Günther, 1868a: 476. Type locality: Surinam [Probably Suriname (Günther, 1868b)]. Syntypes: (4), BMNH 1848.8.14.148 (1), 1848.8.14.152 (1) (in Eschmeyer 1998: 599).

Maximum length: 23 cm TL

Distribution: South America: Coastal drainages of Suriname.

Countries: Suriname

Remarks and references: Species illustrated and described in more detail, with additional comments on type locality, in Günther (1868b: 231, pl. 21); new combination and redescription of type specimens by Regan (1904: 261).

***Pseudacanthicus histrix* (Valenciennes, 1840)**

Rinelepis histrix Valenciennes in Cuvier & Valenciennes, 1840: 486 [359 in Strasbourg deluxe ed.]. Type locality: No locality [Negro River]. Holotype: lost, but photographs still preserved in MB (historical archives).

Loricaria spinosae Ferreira in França, 1922: 84, fig. 9. Type locality: in Fluminis Amazonici [Negro River]. Holotype: see indications under holotype of *Rinelepis histrix* Valenciennes in Cuvier & Valenciennes, 1840, same specimen. Objective synonym.

Maximum length: 90 cm TL

Distribution: South America: Negro and lower Amazon River basins.

Countries: Brazil

Remarks and references: Original description based on drawings included in an unpublished manuscript by D. Vandelli (preserved in MNHN, central library, Ms 510); Capello (1870: 64, pl. 7) redescribed and figured the holotype (specimen collected by A. Ferreira, sent in 1786 from Barcelos to Lisbon along with his description of species and a drawing from Freire, and later studied by Vandelli) and traced its historic and geographic origin; Ferreira's description was published later on by França (1922: 84, Freire's drawing on fig. 9), who also discussed history of the species; new combination by Regan (1904: 261).

Common names: Uacari-guassú (Brazil)

***Pseudacanthicus leopardus* (Fowler, 1914)**

Stoneiella leopardus Fowler, 1914: 271, fig. 17. Type locality: Rupununi River, British Guiana [in the highlands of British Guiana, approximately secured in North Latitude 2° to 3°, and West Longitude 50°20' (p. 229)]. Holotype: ANSP 39345.

Maximum length: 15 cm TL

Distribution: South America: Rupununi River basin.

Countries: Guyana

Remarks and references: New combination by Isbrücker (1980: 77).

***Pseudacanthicus serratus* (Valenciennes, 1840)**

Hypostomus serratus Valenciennes in Cuvier & Valenciennes, 1840: 503 [372 in Strasbourg deluxe ed.]. Type locality: Surinam [Region around Paramaribo]. Holotype: RMNH 3125.

Maximum length: 32 cm SL

Distribution: South America: Coastal drainages of the Guianas.

Countries: French Guiana, Suriname

Remarks and references: New combination with type species

designation by Bleeker (1862: 2); information on type and locality by Boeseman (1972: 304); see Le Bail et al. (2000: 250, fig.) for a complementary description with biological observations.

Common names: Baaka wawa (Boni Amerindian), Mekolo (Wayana Amerindian), Tyobo wawa (Boni Amerindian)

***Pseudacanthicus spinosus* (Castelnau, 1855)**

Hypostomus spinosus Castelnau, 1855: 45, pl. 22 (fig. 3). Type locality: la rivière des Amazones. Holotype: MNHN A.9577.

Maximum length: 26 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil

Remarks and references: New combination and redescription of species including the holotype by Regan (1904: 260); 12S and 16S mitochondrial rRNA gene sequences used in a molecular phylogeny of Loricariidae by Montoya-Burgos et al. (1998: figs. 3, 4, 6; EMBL/GenBank Y08283, Y08331).

Common names: Acari

PSEUDANCISTRUS

Pseudancistrus Bleeker, 1862: 2. Type species: *Hypostomus barbatus* Valenciennes, 1840. Type by original designation. Gender: masculine. See diagnosis based on osteological characters in Schaefer (1986: 114), with transfer from Hypostominae to Ancistrinae; no recent revision.

***Pseudancistrus barbatus* (Valenciennes, 1840)**

Hypostomus barbatus Valenciennes in Cuvier & Valenciennes, 1840: 506 [374 in Strasbourg deluxe ed.]. Type locality: La Mana [Mana River, French Guiana]. Holotype: MNHN A.9564.

Hypostomus guttatus Valenciennes in Cuvier & Valenciennes, 1840: 508 [375 in Strasbourg deluxe ed.]. Type locality: Surinam [Region near Paramaribo]. Holotype: RMNH 3126. Information on type and locality in Boeseman (1972: 305).

Pterygoplichthys barbatus (Steindachner, 1911): name proposed inadvertently by Isbrücker (1980: 40) (Nijssen & Isbrücker, 1987: 94).

Maximum length: 20 cm SL

Distribution: South America: Oyapock, Mana, Maroni, Suriname, Corantijn, and Essequibo River basins.

Countries: French Guiana, Guyana, Suriname

Remarks and references: Redescription of the holotype of *Hypostomus guttatus* by Bleeker (1864: 10, pl. 2 fig. 2, pl. 3 fig. 3); synonymy by Regan (1904: 240); see Le Bail et al. (2000: 252, fig.) for a complementary description of species, with biological observations and geographical distribution.

Common names: Goré-so (Creole), Pataede wawa (Boni Amerindian), Peulé (Wayana Amerindian), Yani anape (Oyampi Amerindian)

***Pseudancistrus coquenani* (Steindachner, 1915)**

Ancistrus (Pseudancistrus) coquenani Steindachner, 1915b: 76, pl. 11 (fig. 3). Type locality: dem Coquenanus, einem Nebenflusse des Caroni in Venezuela [=Kukenan River, also Cuquenán, Caroni basin]. Syntypes (3): NMW 48023 (2) (Eschmeyer 1998: 441). Name proposed conditionally as “*coquenani* n. sp.? an *A. güntneri* Regan female”.

Maximum length: 8.1 cm SL

Distribution: South America: Kukenan River basin in upper Caroni River drainage.

Countries: Venezuela

Common names: Corroncho (Venezuela)

***Pseudancistrus depressus* (Günther, 1868)**

Chaetostomus depressus Günther, 1868a: 476. Type locality: Surinam [Probably from Suriname]. Holotype: BMNH 1866.8.14.139.

Maximum length: 13 cm TL

Distribution: South America: Unknown locality in Suriname (?).

Countries: Suriname

Remarks and references: Discussion on type locality and information on holotype in Günther (1868b: 232); new combination by Eigenmann & Eigenmann (1889: 45); see Regan (1904: 240) for a complementary description.

***Pseudancistrus guentheri* (Regan, 1904)**

Ancistrus guentheri Regan, 1904: 241, pl. 12 (fig. 3). Type locality: British Guiana. Holotype: BMNH uncat. (Eschmeyer 1998: 685).

Maximum length: 12 cm TL

Distribution: South America: Unknown locality in Guyana.

Countries: Guyana

Remarks and references: New combination by Eigenmann (1910: 409).

***Pseudancistrus nigrescens* Eigenmann, 1912**

Pseudancistrus nigrescens Eigenmann, 1912b: 234, pl. 25 (fig. 2).

Type locality: British Guiana, Amatuk. Holotype: FMNH 53105 [ex CM 1539].

Maximum length: 18.2 cm TL

Distribution: South America: Upper Potaro River basin.

Countries: Guyana

PSEUDOLITHOXUS

Pseudolithoxus Isbrücker & Werner in Isbrücker et al., 2001: 21.

Type species: *Lasiancistrus tigris* Armbruster & Provenzano, 2000. Type by original designation. Gender: masculine. Genus description proposed for the *Lasiancistrus anthrax* species group as defined by Armbruster & Provenzano (2000: 242). See also this work for descriptions of all four species, key to species, and for discussions on biogeography and phylogenetic relationships.

***Pseudolithoxus anthrax* (Armbruster & Provenzano, 2000)**

Lasiancistrus anthrax Armbruster & Provenzano, 2000: 243, fig. 1B. Type locality: Venezuela, Estado Amazonas, Río Orinoco backwater behind sand beach ca. 0.5 hr. upstream from Isla Temblador, 03°04'N 66°28'W.

Holotype: MBUCV V-18384.

Maximum length: 12.4 cm SL

Distribution: South America: Upper and lower Orinoco tributaries, Caura and Aro rivers.

Countries: Venezuela

Remarks and references: New combination by Isbrücker & Werner in Isbrücker et al. (2001: 21).

***Pseudolithoxus dumus* (Armbruster & Provenzano, 2000)**

Lasiancistrus dumus Armbruster & Provenzano, 2000: 246, fig. 3B. Type locality: Venezuela, Estado Amazonas, Río Orinoco, backwater behind sand playa circa 0.5 hr. upstream from Isla Temblador, 03°04'N 66°28'W. Holotype: MBUCV V-17544.

Maximum length: 10.1 cm SL

Distribution: South America: Upper Orinoco, upper Negro and Casiquiare River basins.

Countries: Venezuela

Remarks and references: New combination by Isbrücker & Werner in Isbrücker et al. (2001: 21).

***Pseudolithoxus nicoi* (Armbruster & Provenzano, 2000)**

Lasiancistrus nicoi Armbruster & Provenzano, 2000: 249, fig. 4B.

Type locality: Venezuela, Estado Amazonas, Departamento Río Negro, Río Manipitare (Río Siapa drainage), from about 5 to 8 km upstream from confluence with Río Siapa. Holotype: MCNG 37033.

Maximum length: 11.4 cm SL

Distribution: South America: Upper Negro River basin, including Canal Casiquiare basin.
 Countries: Venezuela
 Remarks and references: New combination by Isbrücker & Werner in Isbrücker et al. (2001: 21).

***Pseudolithoxus tigris* (Armbruster & Provenzano, 2000)**

Lasiancistrus tigris Armbruster & Provenzano, 2000: 251, fig. 5B.
 Type locality: Venezuela, Estado Amazonas, backwater of Río Orinoco behind sand playa circa 0.5 hr. upstream from Isla Temblador, 03°04'N 66°28'W. Holotype: MBUCV-V 17546.

Maximum length: 9.4 cm SL
 Distribution: South America: Upper Orinoco and Ventuari River basins.
 Countries: Venezuela
 Remarks and references: New combination by Isbrücker & Werner in Isbrücker et al. (2001: 21).

SCOBINANCISTRUS

Scobinancistrus Isbrücker & Nijssen, 1989: 542. Type species: *Scobinancistrus pariolispos* Isbrücker & Nijssen, 1989. Type by original designation. Gender: masculine.

***Scobinancistrus aureatus* Burgess, 1994**

Scobinancistrus aureatus Burgess, 1994: 237, unnumbered fig. on p. 236. Type locality: Ilha da Fazenda, Rio Xingu, Estado Para, Brazil. Holotype: MZUSP 47690.

Maximum length: 25 cm SL
 Distribution: South America: Xingu River basin.
 Countries: Brazil
 Common names: Acari-da-pedra (Brazil)

***Scobinancistrus pariolispos* Isbrücker & Nijssen, 1989**

Scobinancistrus pariolispos Isbrücker & Nijssen, 1989: 542, fig. 1. Type locality: Brasilien, Est. Pará, Rio Tocantins, Jatobal. Holotype: INPA 1076.

Maximum length: 24.1 cm SL
 Distribution: South America: Tocantins and Tapajós River basins.
 Countries: Brazil
 Remarks and references: See Santos et al. (1984: 55, as *Panaque* sp.) for coloration of living specimens and ecological note; 12S and 16S mitochondrial rRNA gene sequences used in a molecular phylogeny of Loricariidae by Montoya-Burgos et al. (1998: figs. 3 & 6).
 Common names: Acari-da-pedra (Brazil)

SPECTRACANTHICUS

Spectracanthicus Nijssen & Isbrücker, 1987: 93. Type species: *Spectracanthicus murinus* Nijssen & Isbrücker, 1987. Type by original designation. Gender: masculine.

***Spectracanthicus murinus* Nijssen & Isbrücker, 1987**

Spectracanthicus murinus Nijssen & Isbrücker, 1987: 94, fig. 1 (middle). Type locality: Brésil, Est. Pará, système du Rio Tapajós: Poça de Pedra no Rio Tapajós, São Luis. Holotype: MZUSP 22011.

Maximum length: 6.4 cm SL
 Distribution: South America: Tapajós River basin.
 Countries: Brazil

References

Ahl, E. 1936. Beschreibung dreier neuer Welse aus Brasilien. Zool. Anz., 116 (3/4): 109-111.
 Armbruster, J.W. 2002. *Hypancistrus inspector*: a new species of suckermouth armored catfish (Loricariidae: Ancistrinae). Cope-

ia, 2002(1): 86-92.
 Armbruster, J.W. and F. Provenzano. 2000. Four new species of the suckermouth armored catfish genus *Lasiancistrus* (Loricariidae: Ancistrinae). Ichthyol. Explor. Freshwaters, 11: 241-254.
 Barriga, R. 1989. Peces de la reserva etnica y forestal Awa, Ecuador Noroccidental. Politecnica, Revista de Información técnico-científica, Quito, 14: 7-55.
 Bertin, L. and R. Estève. 1950. Catalogue des types de poissons du muséum National d'Histoire Naturelle. 5e partie. Ostariophy-saires (Siluriformes). Imp. Nationale, Paris. 85 p.
 Bleeker, P. 1862-63. Atlas ichthyologique des Indes Orientales Néerlandaises, publié sous les auspices du Gouvernement colonial néerlandais. Tome II. Siluroïdes, Chacoïdes et Hétéro-branchoïdes. Amsterdam. 112 p., pls. 49-101.
 Bleeker, P. 1864. Description des espèces de Silures du Suriname conservées aux Musées de Leide et Amsterdam. Natuurk. Verh. Holland. Maatsch. Wetensch (2): 1-104 p., 16 pls.
 Boeseman, M. 1972. Notes on South American catfishes, including remarks on Valenciennes and Bleeker types in the Leiden Museum. Zool. Meded. (Leiden), 47 (23): 293-320, pls. 1-2.
 Boeseman, M. 1982. The South American mailed catfish genus *Lithoxus* Eigenmann, 1910, with the description of three new species from Surinam and French Guyana and records of related species (Siluriformes, Loricariidae). Proc. K. Ned. Akad. Wet. (Ser. C, Biol. Med. Sci.), 85 (1): 41-58, pls. 1-5.
 Boulenger, G.A. 1887a. An account of the fishes collected by Mr. C. Buckley in eastern Ecuador. Proc. Zool. Soc. London, 1887 (pt 2): 274-283, pls. 20-24.
 Boulenger, G.A. 1887b. On new siluroid fishes from the Andes of Columbia. Ann. Mag. Nat. Hist. (Ser. 5), 19 (113): 348-350.
 Boulenger, G.A. 1895. [Abstract of a report on a large collection of fishes formed by Dr. C. Ternetz in Matto Grosso and Paraguay, with descriptions of new species.]. Proc. Zool. Soc. London, 1895 (pt 3): 523-529.
 Boulenger, G.A. 1898a. On a collection of fishes from the Rio Jurua, Brazil. Trans. Zool. Soc. London, 14 (7, no. 2): 421-428, pls. 39-42.
 Boulenger, G.A. 1898b. Viaggio del Dr. Enrico Festa nell' Ecuador e regioni vicine. Poissons de l'Équateur. [Part I]. Boll. Mus. Zool. Anat. Comp. Torino, 13 (329): 1-13.
 Breder, C.M. 1927. The fishes of the Rio Chucunaque drainage, Eastern Panama. Bull. Am. Mus. Nat. Hist., 57: 91-176, 6 pls.
 Britski, H.A. 1969. Lista dos tipos de peixes das coleções do Departamento de Zoologia da Secretaria da Agricultura de São Paulo. Pap. Avulsos Dep. Zool. (São Paulo), 22 (19): 197-215.
 Buck, S. and I. Sazima. 1995. An assemblage of mailed catfishes (Loricariidae) in Southeastern Brazil: distribution, activity, and feeding. Ichthyol. Explor. Freshwaters, 6: 325-332.
 Burgess, W.E. 1994. *Scobinancistrus aureatus*, a new species of loricariid catfish from the Rio Xingu (Loricariidae: Ancistrinae). Trop. Fish Hobbyist, 43 (1): 236-242.
 Capello, F.B. 1870. Noticia acerca de um peixe pouco conhecido proveniente do Brasil. J.Sci. Math. Phys. Nat. Lisboa, 2 (3): 64-69, pl. 7.
 Cardoso, A.R. and L.R. Malabarba. 1999. Description of three new species of *Hemiancistrus* Bleeker, 1862 from southern Brazil (Teleostei: Siluriformes: Loricariidae). Comun. Mus. Ciênc. PUCRS, Sér. Zool., Porto Alegre, 12: 141-161.
 Castelnau, F.L. 1855. Poissons. In: Animaux nouveaux ou rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847 xii + 112 p., pls. 1-50.
 Ceas, P.A. and L.M. Page. 1996. *Chaetostoma yurubiense* (Teleostei: Siluriformes), a new species of Loricariid catfish from the Aroa, Urama, and Yaracuy River systems in Venezuela. Copeia, 1996 (3): 671-677.
 Chockley, B.R. and J.W. Armbruster. 2002. *Panaque changae*, a

Check List of the Freshwater Fishes of South and Central America

- new species of catfish (Siluriformes: Loricariidae) from eastern Peru. *Ichthyol. Explor. Freshwaters*, 13: 81-90.
- Cope, E.D. 1872. On the fishes of the Ambyacu River. *Proc. Acad. Nat. Sci. Philadelphia*, 23: 250-294, 14 pls.
- Cuvier, G. 1829. *Le Règne Animal, distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée*. Edition 2. Paris. xviii + 532 p.
- Cuvier, G. and A. Valenciennes. 1840. *Histoire naturelle des poissons*. Tome quinzième. Suite du livre dix-septième. Siluroïdes. Ch. Pitois & V.^c Levrault, Paris & Strasbourg. xxxi + 540 p., pls. 421-455.
- Dahl, G. 1942. Three new fishes of the family Loricariidae from the Magdalena system. *K. Fysiogr. Sällsk. Lund Förh.*, 11 (8): 80-86.
- Dahl, G. 1960. New fresh-water fishes from western Colombia. *Caldasia*, 8 (39): 451-484.
- Dahl, G. 1971. Los Peces del norte de Colombia. *INDERENA, Bogota*: i-xvii, 1-391.
- Dahl, G., F. Medem and A. Ramos Henao. 1964. El "Bocachico" contribución al estudio de su biología y de su ambiente. Departamento de Pesca de la Corporación Autónoma Regional de los Valles del Magdalena y del Sinú, 144 p.
- Eigenmann, C.H. 1910. Catalogue of the fresh-water fishes of tropical and south temperate America. In: *Reports of the Princeton University expeditions to Patagonia 1896-1899*. *Zoology*, 3: 375-511.
- Eigenmann, C.H. 1912a. Some results from an ichthyological reconnaissance of Colombia, South America. Part I. *Indiana Univ. Studies*, No. 16 [sic No. 8]: 1-27.
- Eigenmann, C.H. 1912b. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. *Mem. Carnegie Mus.*, 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. 1916. New and rare fishes from South American rivers. *Ann. Carnegie Mus.*, 10 (1-2): 77-86, pls. 13-16.
- Eigenmann, C.H. 1918. Eighteen new species of fishes from northwestern South America. *Proc. Am. Philos. Soc.*, 56 (7): 673-689.
- Eigenmann, C.H. 1920a. The fishes of Lake Valencia, Caracas, and of the Rio Tuy at El Concejo, Venezuela. *Indiana Univ. Studies*, 7 (44): 1-13.
- Eigenmann, C.H. 1920b. South America West of the Maracaibo, Orinoco, Amazon, and Titicaca basins, and the horizontal distribution of its fresh-water fishes. *Indiana Univ. Studies*, 7 (45): 1-24.
- Eigenmann, C.H. 1922. The fishes of western South America, Part I. The fresh-water fishes of northwestern South America, including Colombia, Panama, and the Pacific slopes of Ecuador and Peru, together with an appendix upon the fishes of the Rio Meta in Colombia. *Mem. Carnegie Mus.*, 9 (1): 1-346, pls. 1-38.
- Eigenmann, C.H. and W.R. Allen. 1942. *Fishes of western South America*. I. The intercordilleran and Amazonian lowlands of Peru. II. -- The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. Univ. Kentucky. xv + 494 p., pls. 1-22.
- Eigenmann, C.H. and R.S. Eigenmann. 1889. Preliminary notes on South American Nematognathi. II. *Proc. California Acad. Sci. (Ser. 2)*, 2: 28-56.
- Eigenmann, C.H. and R.S. Eigenmann. 1890. A revision of the South American Nematognathi, or cat-fishes. *Occas. Pap. California Acad. Sci.*, No 1: 1-508 + errata and map.
- Eigenmann, C.H. and R.S. Eigenmann. 1891. A catalogue of the fresh-water fishes of South America. *Proc. U. S. natl. Mus.*, 14: 1-81.
- Eschmeyer, W.N. (ed.). 1998. *Catalog of Fishes*. California Academy of Sciences. San Francisco.
- Fernández-Yépez, A. 1945. Un nuevo loricarido para Venezuela. Descripción de un ejemplar de Loricariidae, colectado en el Río Encantado, afluente del Río Tuy por medio del Río Grande. *Mem. Soc. Cienc. Nat. La Salle*, 5 (14): 27-34.
- Fernández-Yépez, A. 1972. Análisis ictiológico del complejo hidrográfico (04) "Río Yaracuy". Dirección de Obras Hidráulicas, Ministerio de Obras Públicas, República de Venezuela. 25 p., pls. 1-41.
- Fernández-Yépez, A. and F. Martín-S. 1953. Apuntes sobre la ictiología de Perija. *Mem. Soc. Cienc. Nat. La Salle*, 13 (35): 227-243.
- Ferraris, C.J., Jr., I.J.H. Isbrücker and H. Nijssen. 1986. *Neblinichthys pilosus*, a new genus and species of mailed catfish from the Rio Baria system, southern Venezuela (Pisces, Siluriformes, Loricariidae). *Rev. Fr. Aquariol.*, 13 (3): 69-72.
- Fisch-Muller, S. 1999. *Systématique du genre Ancistrus Kner (Teleostei, Loricariidae): approches morphologique et génétique*. Thèse de doctorat, Université de Genève: 300 p., 26 pls.
- Fisch-Muller, S., R. Mazzoni and C. Weber. 2001. Genetic and morphological evidences for two new sibling species of *Ancistrus* (Siluriformes: Loricariidae) in upper rio Tocantins drainage, Brazil. *Ichthyol. Explor. Freshwaters*, 12 (4): 289-304.
- Fowler, H.W. 1914. Fishes from the Rupununi River, British Guiana. *Proc. Acad. Nat. Sci. Philadelphia*, 66: 229-284.
- Fowler, H.W. 1915. Notes on nematognathous fishes. *Proc. Acad. Nat. Sci. Philadelphia*, 67: 203-243.
- Fowler, H.W. 1940. A collection of fishes obtained by Mr. William C. Morrow in the Ucayali River basin, Peru. *Proc. Acad. Nat. Sci. Philadelphia*, 91 (for 1939): 219-289.
- Fowler, H.W. 1941a. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. *Proc. Acad. Nat. Sci. Philadelphia*, 93: 123-199.
- Fowler, H.W. 1941b. Notes on Colombian fresh-water fishes with descriptions of four new species. *Not. Nat. (Philadelphia)*, No. 73: 1-10.
- Fowler, H.W. 1943. A collection of fresh-water fishes from Colombia, obtained chiefly by Brother Nicéforo Maria. *Proc. Acad. Nat. Sci. Philadelphia*, 95: 223-266.
- Fowler, H.W. 1944. Fresh-water fishes from northwestern Colombia. *Proc. Acad. Nat. Sci. Philadelphia*, 96: 227-248.
- Fowler, H.W. 1945a. Colombian zoological survey. Pt. I.--The freshwater fishes obtained in 1945. *Proc. Acad. Nat. Sci. Philadelphia*, 97: 93-135.
- Fowler, H.W. 1945b. Descriptions of seven new fresh-water fishes from Peru. *Not. Nat. (Philadelphia)*, No. 159: 1-11.
- Fowler, H.W. 1946. Notes on a collection of fishes from Trinidad. *Not. Nat. (Philadelphia)*, No. 165: 1-11.
- França, C. 1922. Doutor Alexandre Rodrigues Ferreira. História de uma missão científica ao Brasil no século XVIII. *Boletim da Sociedade Broteriana*, 1: 65-123, figs.
- Gill, T.N. 1858. Synopsis of the fresh water fishes of the western portion of the island of Trinidad, W. I. *Ann. Lyc. Nat. Hist. N. Y.*, 6 (10-13): 363-430.
- Gosline, W.A. 1945. Catálogo dos nematognatos de água-doce da América do sul e Central. *Bol. Mus. Nac. Rio de Janeiro, Zool.* No. 33: 1-138.
- Graham, J.B. (ed.). 1997. *Air-breathing fishes - Evolution, diversity, and adaptation*. Academic Press, San Diego, xi + 299 p.
- Gray, J.E. 1854. *Catalogue of fish collected and described by Laurence Theodore Gronow, now in the British Museum*. London. vii + 196 p.
- Günther, A. 1864. *Catalogue of the fishes in the British Museum. Catalogue of the Physostomi, containing the families Siluridae, Characinae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiidae in the collection of the British Museum*. Trustees, London. xxii + 455 p.
- Günther, A. 1867. On the fishes of the states of Central America, founded upon specimens collected in fresh and marine waters of various parts of that country by Messrs. Salvin and Godman and Capt. J. M. Dow. *Proc. Zool. Soc. London*, 1866 (3): 600-

- 604.
- Günther, A. 1868a. Diagnoses of some new freshwater fishes from Surinam and Brazil, in the collection of the British Museum. *Ann. Mag. Nat. Hist. (Ser. 4)*, 1 (6): 475-481.
- Günther, A. 1868b. Descriptions of freshwater fishes from Surinam and Brazil. *Proc. Zool. Soc. London*, 1868 (2): 229-247, pls. 20-22.
- Günther, A. 1868c. An account of the fishes of the states of Central America, based on collections made by Capt. J. M. Dow, F. Godman, Esq. and O. Salvin, Esq. *Trans. Zool. Soc. London*, 6: 377-494, pls. 63-67.
- Günther, A. 1869. Descriptions of some species of fishes from the Peruvian Amazons. *Proc. Zool. Soc. London*, 1869 (2): 423-429.
- Heitmans, W.R.B., H. Nijssen and I.J.H. Isbrücker. 1983. The mailed catfish genus *Lasiancistrus* Regan, 1904, from French Guiana and Surinam, with descriptions of two new species (Pisces, Siluriformes, Loricariidae). *Bijdr. Dierkd.*, 53 (1): 33-48.
- Hildebrand, S.F. 1938. A new catalogue of the fresh-water fishes of Panama. *Zoological Series, Field Museum of Natural History*, 22: 217-259.
- Holly, M. 1929. Einige neue Fischformen aus Brasilien. *Anz. Akad. Wiss. Wien*, 66: 117-120.
- Holota, K. 1990. Pflege und Zucht von *Ancistrus cf. hoplogenyis*. *Aquar. Terrar. Z.*, 43: 147-148.
- ICZN [International Commission on Zoological Nomenclature]. 1999. International Code of Zoological Nomenclature. Fourth edition. International Trust for Zoological Nomenclature, London.
- Isbrücker, I.J.H. 1979. Description préliminaire de nouveaux taxa de la famille des Loricariidae, poissons-chats cuirassés néotropicaux, avec un catalogue critique de la sous-famille nominale (Pisces, Siluriformes). *Revue fr. Aquariol.*, 5 (4, for 1978): 86-116.
- Isbrücker, I.J.H. 1980. Classification and catalogue of the mailed Loricariidae (Pisces, Siluriformes). *Versl. Tech. Gegevens*, No. 22: 1-181.
- Isbrücker, I.J.H. 1992. Ein fish findet nach 138 Jahren sein Zuhause. Der verborgene Fundort von *Hemiancistrus medians* (Kner, 1854), pp. 56-57. In: R. Stawikowski (ed.), *Harnischwelse. Die Aquarien- und Terrarienzeitschrift, Sonderheft*, Eugen Ulmer, Stuttgart.
- Isbrücker, I.J.H. 2001. Nomenklator der Gattungen und Arten der Harnischwelse, Familie Loricariidae Rafinesque, 1815 (Teleostei, Ostariophysi). Pp. 25-32. In: R. Stawikowski (ed.), *Harnischwelse. Die Aquarien- und Terrarienzeitschrift, Sonderheft*, Eugen Ulmer, Stuttgart.
- Isbrücker, I.J.H. and H. Nijssen. 1985. *Exastilithoxus hoedemani*, a new species of mailed catfish from Rio Marauíá, Est. Amazonas, Brazil (Pisces, Siluriformes, Loricariidae). *Spixiana*, 8 (3): 221-229.
- Isbrücker, I.J.H. and H. Nijssen. 1988. *Acanthicus adonis*, ein neuer Harnischwels aus dem Rio Tocantins, Brasilien (Pisces, Siluriformes, Loricariidae). *Aquar. Terrar. Z.*, 41 (6): 164-167.
- Isbrücker, I.J.H. and H. Nijssen. 1989. Diagnose dreier neuer HarnischwelsGattungen mit fünf neuen Arten aus Brasilien (Pisces, Siluriformes, Loricariidae). *Aquar. Terrar. Z.*, 42 (9): 541-547.
- Isbrücker, I.J.H. and H. Nijssen. 1991. *Hypancistrus zebra*, a new genus and species of uniquely pigmented ancistrine loricariid fish from the Rio Xingu, Brazil (Pisces: Siluriformes: Loricariidae). *Ichthyol. Explor. Freshwaters*, 1 (4): 345-350.
- Isbrücker, I.J.H., H. Nijssen and P. Cala. 1988. *Lithoxancistrus orinoco*, nouveau genre et espèce de poisson-chat cuirassé du Rio Orinoco en Colombie (Pisces, Siluriformes, Loricariidae). *Rev. Fr. Aquariol.*, 15 (1): 13-16.
- Isbrücker, I.J.H., H. Nijssen and L.G. Nico. 1992. Ein neuer Rüsselzahnwels aus oberen Orinoco-Zuflüssen in Venezuela und Kolumbien: *Leporacanthicus triactis* n. sp. (Pisces, Siluriformes, Loricariidae). *Aquar. Terrar. Z.*, 46 (1): 1-5.
- Isbrücker, I.J.H., I. Seidel, J.P. Michels, E. Schraml and A. Werner. 2001. Diagnose vierzehn neuer Gattungen der Familie Loricariidae Rafinesque, 1815 (Teleostei, Ostariophysi). pp. 17-24 In: Harnischwelse 2, R. Stawikowski, ed., *Die Aquarien- und Terrarienzeitschrift, Sonderheft*, Eugen Ulmer, Stuttgart.
- Jordan, D.S. 1919. The genera of fishes, part II, from Agassiz to Bleeker, 1833-1858, twenty-six years, with the accepted type of each. A contribution to the stability of scientific nomenclature. Leland Stanford Jr. Univ. Publ., Univ. Ser., No. 36: i-ix + 163-284 + i-xiii.
- Kanazawa, R.H. 1958. A new species of catfish, family Loricariidae, from Ecuador. *Copeia*, 1958 (4): 327-328.
- Kindle, E.M. 1895. The South American cat-fishes belonging to Cornell University. *Ann. N. Y. Acad. Sci.*, 7 (for 1894): 249-256.
- Knaack, J. 1999a. A new species of bristlemouth catfish of the genus *Ancistrus* Kner 1854 from the Mato Grosso, Brazil (Pisces, Siluriformes, Loricariidae). *Trop. Fish Hobbyist*, 47 (10): 70-76.
- Knaack, J. 1999b. New *Ancistrus* species from the Rio Cuiba System, Brazil (Pisces, Siluriformes, Loricariidae). *Trop. Fish Hobbyist*, 47 (12): 150-155.
- Knaack, J. 2000. Ein weiterer neuer Harnischwels aus dem Rio Guaporé: *Lasiancistrus guapore* n. sp. *Aquaristik Aktuell*, 9-10: 56-61.
- Kner, R. 1854. Die Hypostomiden. Zweite Hauptgruppe der Familie der Panzerfische. (Loricata vel Goniodontes). *Denkschr. Akad. Wiss. Wien*, 7: 251-286, pls. 1-5.
- Kramer, D.L. and J.B. Graham. 1976. Synchronous air breathing, a social component of respiration in fishes. *Copeia*, 1976: 689-697.
- La Monte, F. 1929. Two new fishes from Mt. Duida, Venezuela. *Am. Mus. Novit.*, No. 373: 1-4.
- La Monte, F. 1935. Fishes from Rio Jurua and Rio Purus, Brazilian Amazonas. *Am. Mus. Novit.*, No. 784: 1-8.
- Lasso, C.A. 1990. Los peces de la Gran Sabana, Alto Caroni, Venezuela. *Memoria, Sociedad de Ciencias naturales La Salle*, 49-50(131-134): 209-285.
- Lasso, C.A. and F. Provenzano. 1998. *Chaetostoma vasquezii*, nueva especie de corroncho del Escudo de Guayana, Estado Bolívar, Venezuela (Siluroidei: Loricariidae): descripción y consideraciones biogeográficas. *Memoria, Sociedad de Ciencias Naturales La Salle*, 57: (147, for 1997): 53-65.
- Le Bail, P.-Y., P. Keith and P. Planquette. 2000. Atlas des poissons d'eau douce de Guyane. Tome 2, fascicule 2: Siluriformes. M.N.H.N./S.P.N. Paris. 307 p.
- Lowe-McConnell, R.H. 1964. The fishes of the Rupununi savanna district of British Guiana, South America. Part I. Ecological groupings of fish species and effects of the seasonal cycle on the fish. *J. Linn. Soc. (Zool.)*, 45 (304): 103-144.
- Lütken, C.F. 1874. Ichthyographische bidrag. I. Nogle nye eller mindre fuldstaendigt kjendte Pandsermaller, isaer fra det nordlige Sydamerika. *Vidensk. Medd. Dansk Naturh. Foren. Kjob.*, No. 13-14 (for 1873): 202-220, pl. 4.
- Malabarba, L.R. 1989. Histórico sistemático e lista comentada das espécies de peixes de água doce do sistema da Laguna dos Patos, Rio Grande do Sul, Brasil. *Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre*, 2 (8): 107-179.
- Marschall, A. 1873. Nomenclator Zoologicus. Continens nomina systematica generum animalium tam viventium quam fossilium, secundum ordinem alphabeticum disposita. *Vindobonae*. iv + 482 p.
- Meek, S.E. and S.F. Hildebrand. 1913. New species of fishes from Panama. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 10 (8): 77-91.
- Meek, S.E. and S.F. Hildebrand. 1916. The fishes of the fresh waters of Panama. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 10 (15): 1-374, pls. 6-32.

Check List of the Freshwater Fishes of South and Central America

- Miranda Ribeiro, A. 1911. Fauna brasiliense. Peixes. Tomo IV (A) [Eleutherobranchios Aspirophoros]. Arq. Mus. Nac. Rio de Janeiro, 16: 1-504, pls. 22-54.
- Miranda Ribeiro, A. 1912. Loricariidae, Callichthyidae, Doradidae e Trichomycteridae. In: Comissão de Linhas Telegraficas Estrategicas de Matto-Grosso ao Amazonas. 1-31, 1 pl.
- Miranda Ribeiro, A. 1917. De scleracanthis. Fluvio "Solimões" anno MCMVIII a cl. F. Machado da Silva duce brasiliense inventis et in Museu Urbis "Rio de Janeiro" servatis. Rev. Soc. Sci. Rio de Janeiro, 1: 49-52.
- Miranda Ribeiro, A. 1918a. *Ancistrus*. Rev. Soc. Sci. Rio de Janeiro, 2: 112-114.
- Miranda Ribeiro, A. 1918b. Tres generos e dezeseite especies novas de peixes Brasileiros. Rev. Mus. Paulista, 10: 631-646, 1 pl.
- Miranda Ribeiro, A. 1920. Peixes (excl. Characinidae). In: Comissão de Linhas Telegraficas Estrategicas de Matto-Grosso ao Amazonas. Historia Natural. Zoologia. 1-15, 17 unnum, pls.
- Miranda Ribeiro, P. 1953. Tipos das espécies e subespécies do Prof. Alipio de Miranda Ribeiro depositados no Museu Nacional. Arq. Mus. Nac. Rio de Janeiro, 42: 389-417.
- Montoya-Burgos, J.-I., S. Muller, C. Weber and J. Pawlowski. 1997. Phylogenetic relationships between Hypostominae and Ancistrinae (Siluroidei: Loricariidae): first results from mitochondrial 12S and 16S rRNA gene sequences. Rev. Suisse Zool., 104 (1): 185-198.
- Montoya-Burgos, J.-I., S. Muller, C. Weber and J. Pawlowski. 1998. Phylogenetic relationships of the Loricariidae (Siluriformes) based on mitochondrial rRNA gene sequences. Pp. 363-374 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). Phylogeny and Classification of Neotropical Fishes. Edipucrs, Porto Alegre.
- Montoya-Burgos, J.-I., C. Weber and P.-Y. Le Bail. 2002. Phylogenetic relationships within *Hypostomus* (Siluriformes: Loricariidae) and related genera based on mitochondrial D-loop sequences. Rev. Suisse Zool., 109 (2): 369-382.
- Müller, J. and F.H. Troschel. 1848. Fische (pp. 618-644). In: Reisen in Britisch-Guiana in den Jahren 1840-44. Im Auftrag Sr. Majestat des Königs von Preussen ausgeführt von Richard Schomburgk. [Versuch einer Fauna und Flora von Britisch-Guiana.] vol. 3. Berlin.
- Muller, S. 1989. Description de deux nouvelles espèces paraguayennes du genre *Ancistrus* Kner, 1854 (Pisces, Siluriformes, Loricariidae). Rev. Suisse Zool., 96 (4): 885-904.
- Muller, S. 1990. Etude méristique et morphométrique d'*Ancistrus piriformis* Muller et *Ancistrus pirareta* Muller. Rev. Suisse Zool., 97 (1): 153-168.
- Muller, S. and I.J.H. Isbrücker. 1993. *Lithoxus boujardi* (Siluriformes, Loricariidae), une espèce nouvelle du bassin de l'Approuague, Guyane Française. Cybium, 17 (1): 71-76.
- Muller, S., L.H. Rapp Py-Daniel and J. Zuanon. 1994. *Ancistrus ranunculus*, a new species of loricariid fish (Siluriformes: Loricariidae) from the Xingú and Tocantins rivers, Brazil. Ichthyol. Explor. Freshwaters, 5 (4): 289-296.
- Muller, S. and C. Weber. 1992. Les dents des sous-familles Hypostominae et Ancistrinae (Pisces, Siluriformes, Loricariidae) et leur valeur taxonomique. Revue Suisse Zool., 99: 747-754.
- Myers, G.S. 1928. New fresh-water fishes from Peru, Venezuela, and Brazil. Ann. Mag. Nat. Hist. (Ser. 10), 2 (7): 83-90.
- Nelson, J.A., M.E. Whitmer, E.A. Johnson, D. Wubah and D.J. Stewart. 1999. Wood-eating catfishes of the genus *Panaque* (Eigenmann & Eigenmann): gut microflora and enzyme activities. J. Fish Biol., 54: 1069-1082.
- Nijssen, H. and I.J.H. Isbrücker. 1985. *Lasiancistrus scolymus*, a new species of mailed catfish from Rio Aripuanã, Est. Mato Grosso do Sul, Brazil (Pisces, Siluriformes, Loricariidae). Bijdr. Dierkd., 55 (2): 242-248.
- Nijssen, H. and I.J.H. Isbrücker. 1987. *Spectracanthicus murinus*, nouveaux genre et espèce de poisson-chat cuirassé du Rio Tapajós, Est. Pará, Brésil, avec des remarques sur d'autres genres de Loricariidés (Pisces, Siluriformes, Loricariidae). Rev. Fr. Aquariol., 13 (4, for 1986): 93-98.
- Nijssen, H. and I.J.H. Isbrücker. 1990. *Lithoxus stocki*, a species new to science of ancistrin loricariid catfish from the Maroni River drainage, with a comparison of the primary type specimens of the six species of *Lithoxus* (syn. *Paralithoxus*) (Pisces, Siluriformes, Loricariidae). Bijdr. Dierkd., 60 (3/4): 327-333.
- Norman, J.R. 1926. Descriptions of nine new freshwater fishes from French Guiana and Brazil. Ann. Mag. Nat. Hist. (Ser. 9), 18 (no. 103): 91-97.
- Norman, J.R. 1935. Description of a new loricariid catfish from Ecuador. Ann. Mag. Nat. Hist. (Ser. 10), 15 (90): 627-629.
- Ovchynnyk, M.M. 1971. Unrecorded and new species of fishes from fresh waters of Ecuador. Zool. Anz., 187: 82-122.
- Page, L.M., G.B. Mottesi, M.E. Retzer, P.A. Ceas and D.C. Taphorn. 1993. Spawning habitat and larval development of *Chaetostoma stannii* (Loricariidae) from Rio Crucito, Venezuela. Ichthyol. Explor. Freshwaters, 4 (1): 93-95.
- Papavero, N. 1971. Essays on the history of Neotropical dipterology, with special reference to collectors (1750-1905). Volume I. Museu de Zoologia, Universidade de São Paulo, 216 p.
- Paynter, R.A. (1993). Ornithological gazetteer of Ecuador. Museum of Comparative Zoology. Cambridge. i-xi, 247 p., 1 map.
- Pearson, N.E. 1924. The fishes of the eastern slope of the Andes. I. The fishes of the Rio Beni basin, Bolivia, collected by the Mulford expedition. Indiana Univ. Studies, 11 (64): 1-83, pls. 1-12.
- Pearson, N.E. 1937. The fishes of the Atlantic and Pacific slopes near Cajamarca, Peru. Proc. California Acad. Sci. (Ser. 4), 23 (7): 87-98, pls. 12-13.
- Pellegrin, J. 1909. Mission géodésique de l'Équateur. Collections recueillies par M. le Dr. Rivet. Description de deux poissons nouveaux de la famille des Loricariidae. Bull. Mus. Natl. Hist. Nat., 15 (8): 517-519.
- Pellegrin, J. 1911. Poissons de l'Equateur recueillis par M. le Dr. Rivet. Pp. B₁.1-15, pl. 1. In: Mission du Service géographique de l'Armée pour la mesure d'un Arc de Méridien équatorial en Amérique du Sud sous le contrôle scientifique de l'Académie des Sciences, 1899-1906. Tome 9 (Zoologie), Fasc. 2 (Reptiles, Poissons, Batraciens). Ministère de l'Instruction Publique. Paris.
- Pellegrin, J. 1912. Description d'un poisson nouveau de l'Orénoque appartenant au genre *Xenocara*. Bull. Soc. Zool. Fr., 37: 271-272.
- Perez, A. and A. Vilorio. 1994. *Ancistrus galani* n. sp. (Siluriformes: Loricariidae), with comments on biospeleological explorations in western Venezuela. Méms. Biospéol., 21: 103-107.
- Pérez, A. and F. Provenzano. 1996. *Cordylancistrus perijae*, a new species of armored catfish (Siluroidei: Loricariidae) from the Maracaibo basin, Venezuela. Stud. Neotrop. Fauna Environ., 31 (1): 27-34.
- Perugia, A. 1891. Appunti sopra alcuni pesci sud-americani conservati nel Museo Civico di Storia Naturale di Genova. Ann. Mus. Civ. Stor. Nat. Genova (Ser. 2a), 10: 605-657.
- Peters, W. 1877. Über die von Dr. C. Sachs in Venezuela gesammelten Fische. Monatsb. Akad. Wiss. Berlin, 1877: 469-473.
- Peters, W. 1881. Über vier neue Fische. Sitzungsber. Ges. Naturf. Freunde Berlin, 1881: 17-19.
- Pignatelli, C.H., E. Cordiviola de Yuan and O. Oliveros. 1970. Sobre la presencia de *Pterygoplichthys aculeatus* (Perugia) en el Paraná medio (Pisces, Loricariidae). Physis, 29: 379-384.
- Posada, A. 1909. Los peces. Pp. 285-322. In: Estudios científicos del doctor Andres Posada con algunos otros escritos suyos sobre diversos temas. Medellin, Colombia.
- Power, M.E. 1984a. Depth distributions of armored catfish: Predator-induced resource avoidance? Ecology, 65: 523-528.
- Power, M.E. 1984b. Habitat quality and the distribution of algae-grazing catfish in a Panamanian stream. Journal of Animal

- Ecology, 53: 357-374.
- Power, M.E. 1984c. The importance of sediment in the grazing ecology and size class interactions of an armored catfish, *Ancistrus spinosus*. Environmental Biology of Fishes, 10: 173-181.
- Provenzano, F. 1995. *Leporacanthicus galaxias* Isbrüker y Nijssen (1989) (Pisces: Siluriformes: Loricariidae), nueva cita de un bagre loricarido para Venezuela. Acta biologica venezuelica, 15(3-4): 97-98.
- Provenzano, F., C. Lasso and V. Ponte. 1995. *Neblinichthys roaima*, a new species of armored catfish (Siluroidei: Loricariidae) from río Kukenan, Venezuela, with considerations about the biogeography of the Guyana Shield. Ichthyol. Explor. Freshwaters, 6 (3): 243-254.
- Rapp Py-Daniel, L.H. 1985. *Dekeyseria amazonica*, novo gênero e nova espécie na região amazônica, Brasil, e *Dekeyseria scaphirhyncha* (Kner, 1854) nova combinação (Loricariidae: Siluriformes). Amazoniana, 9 (2): 177-191.
- Rapp Py-Daniel, L.H. 1989. Redescription of *Parancistrus aurantiacus* (Castelnau, 1855) and preliminary establishment of two new genera: *Baryancistrus* and *Oligancistrus* (Siluriformes, Loricariidae). Cybium, 13 (3): 235-246.
- Rapp Py-Daniel, L.H. 1991. *Chaetostoma jegui*, a new mailed catfish from Rio Uraricoera, Brazil (Osteichthyes: Loricariidae). Ichthyol. Explor. Freshwaters, 2 (3): 239-246.
- Regan, C.T. 1903. Description of a new fish of the genus *Chaetostomus* from Venezuela. Ann. Mag. Nat. Hist. (Ser. 7), 11 (66): 599.
- Regan, C.T. 1904. A monograph of the fishes of the family Loricariidae. Trans. Zool. Soc. Lond., 17 (3, no. 1): 191-350, pls. 9-21.
- Regan, C.T. 1905. Description of a new loricariid fish of the genus *Xenocara* from Venezuela. Novit. Zool., 12: 242.
- Regan, C.T. 1906. Notes on some loricariid fishes, with descriptions of two new species. Ann. Mag. Nat. Hist. (Ser. 7), 17 (97): 94-98.
- Regan, C.T. 1912. Descriptions of new fishes of the family Loricariidae in the British Museum Collection. Proc. Zool. Soc. Lond., 1912 (3): 666-670, pls. 75-77.
- Regan, C.T. 1913. The fishes of the San Juan River, Colombia. Ann. Mag. Nat. Hist. (Ser. 8), 12 (71): 462-473.
- Reis, R.E. 1987. *Ancistrus cryptophthalmus* sp. n., a blind mailed catfish from the Tocantins River basin, Brazil (Pisces, Siluriformes, Loricariidae). Rev. Fr. Aquariol., 14 (3): 81-84.
- Reis, R.E. 1992. Wir finden den blinden Antennenwels *Ancistrus cryptophthalmus*. pp. 54-56. In: Harnischwelse, R. Stawikowski, ed., Die Aquarien- und Terrarienzeitschrift, Sonderheft, Eugen Ulmer, Stuttgart.
- Rendahl, H. 1937. Einige Fische aus Ecuador und Bolivia. Ark. Zool., 29 A (11): 1-11.
- Römer, W. 1990. *Ancistrus*, deine Kinder! Nach Beobachtungen von Ewald Kuß. Aquar. Terrar. Z., 43: 146-147.
- Sabino, J. and E. Trajano. 1997. A new species of blind armoured catfish, genus *Ancistrus*, from caves of Bodoquena region, Mato Grosso do Sul, southwestern Brazil (Siluriformes, Loricariidae, Ancistrinae). Rev. Fr. Aquariol., 24 (3-4): 73-78.
- Santos, G.M., M. Jégu and B. Merona. 1984. Catálogo de peixes comerciais do baixo rio Tocantins; projeto Tukuruf. Manaus, electronorte/CNPq/INPA. 79 p.
- Saul, W.G. 1975. An ecological study of fishes at a site in Upper Amazonian Ecuador. Proc. Acad. Nat. Sci. Philadelphia, 127: 93-134.
- Schaefer, S.A. 1986. Historical biology of the loricariid catfishes: Phylogenetics and functional morphology. Unpublished Ph.D. Thesis, University of Chicago, 198 p., 46 figs.
- Schaefer, S.A. and D.J. Stewart. 1993. Systematics of the *Panaque dentex* species group (Siluriformes: Loricariidae), wood-eating armored catfishes from tropical South America. Ichthyol. Explor. Freshwaters, 4 (4): 309-342.
- Schindler, I. 1996. Ergänzende Beschreibung von *Lithoxus bovallii* (Regan, 1906) aus Guyana (Siluriformes, Loricariidae). Z. Fischk., 3: 223-233.
- Schomburgk, R.H. 1841. The Natural history of fishes of Guiana.-- Part I. In: Jardine, W. (ed.), The Naturalists' Library. Vol. 39. W. H. Lizars, Edinburgh. 263 p., pls. 1-30.
- Schultz, L.P. 1944a. The catfishes of Venezuela, with descriptions of thirty-eight new forms. Proc. U. S. Natl. Mus., 94 (no. 3172): 173-338, pls. 1-14.
- Schultz, L.P. 1944b. Two new species of fishes (Gymnotidae, Loricariidae) from Caripito, Venezuela. Zoologica (N. Y.), 29 (1, no. 5): 39-44, pl. 1.
- Spix, J.B. von and L. Agassiz. 1829-31. Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXVII-MDCCCXX jussu et auspiciis Maximiliani Josephi I... colleget et pingendo curavit Dr J. B. de Spix.... Monachii. part 1: xvi + ii + 82, pls. 1-48; part 2: 83-138, pls. 49-101.
- Stawikowski, R. 1991. *Parancistrus*, *Baryancistrus* und *Oligancistrus*: drei bemerkenswerte Loricariidengattungen aus Amazonien. Die Aquarien- und Terrarien-Zeitschrift, 44(4): 258-262.
- Stawikowski, R. 1992a. Die Gattung *Pseudacanthicus* Bleeker, 1862. Pp. 58-61 in R. Stawikowski, ed.: Harnischwelse. Die Aquarien- und Terrarien-Zeitschrift, Sonderheft. Eugen Ulmer, Stuttgart.
- Stawikowski, R. 1992b. Die Gattung *Leporacanthicus*. Pp. 62-64 in R. Stawikowski, ed.: Harnischwelse. Aquarien- und Terrarien-Zeitschrift, Sonderheft. Eugen Ulmer, Stuttgart.
- Steindachner, F. 1876. Ichthyologische Beiträge (IV). Sitzungsber. Akad. Wiss. Wien, 72: 551-616, pls. 1-13.
- Steindachner, F. 1879a. Ichthyologische Beiträge (VIII). Anz. Akad. Wiss. Wien, 16 (18): 194-195.
- Steindachner, F. 1879b. Ichthyologische Beiträge (VIII). Sitzungsber. Akad. Wiss. Wien, 80: 119-191, pls. 1-3.
- Steindachner, F. 1879c. Beiträge zur Kenntniss der Flussfische Südamerikas. Anz. Akad. Wiss. Wien, 16 (5): 149-152.
- Steindachner, F. 1879d. Beiträge zur Kenntniss der Flussfische Südamerika's. Denkschr. Akad. Wiss. Wien, 41: 151-172, pls. 1-4.
- Steindachner, F. 1880. Zur Fish-fauna des Cauca und der Flüsse bei Guayaquil. Denkschr. Akad. Wiss. Wien, 42: 55-104, pls. 1-9.
- Steindachner, F. 1881. Beiträge zur Kenntniss der Flussfische Südamerika's. II. Denkschr. Akad. Wiss. Wien, 43: 103-146, pls. 1-7.
- Steindachner, F. 1882a. Beiträge zur Kenntniss der Flussfische Südamerika's (IV). Anz. Akad. Wiss. Wien, 19 (19): 175-180.
- Steindachner, F. 1882b. Beiträge zur Kenntniss der Flussfische Südamerikas. IV. Denkschr. Akad. Wiss. Wien, 46 (for 1883): 1-44, pls. 1-7.
- Steindachner, F. 1907. Über eine neue *Coridoras* -Art aus dem Rio Preto, einem sekundären Nebenflusse des Rio San Francisco, und eine *Xenocara* -Art aus dem Parnahyba bei Victoria und Sa. Filomena. Anz. Akad. Wiss. Wien, 44 (17): 290-293.
- Steindachner, F. 1908. Über zwei neue Siluroiden und zwei *Curimatus* -Arten, sowie über eine Varietät von *Ancistrus vitalus* aus dem Amazonasgebiete innerhalb Brasiliens. Anz. Akad. Wiss. Wien, 45 (11): 163-168.
- Steindachner, F. 1910. Das w. M. Hofrat F. Steindachner berichtet über eine neue *Loricaria* -Art aus dem Flußgebiete des Jaraguá und der Ribeira im Staate S. Paulo und Sa. Catharina, über eine mit *Ancistrus aculeatus* (Perugia) = *Ancistrus gigas* (Blgr.) Reg. sehr nahe verwandte *Ancistrus* -Art aus dem Rio S. Francisco bei Barra, über eine neue *Corydoras* -Art aus dem Jaraguá und über die äußeren Geschlechtunterschiede von *Corydoras kronei*, Ribeira. Anz. Akad. Wiss. Wien, 47 (8): 57-62.
- Steindachner, F. 1911a. Über einige neue und seltene südamerikanische Süßwasserfische. Anz. Akad. Wiss. Wien, 48 (17): 369-376.
- Steindachner, F. 1911b. Über vier neue Siluroiden und Characinen aus dem Amazonasgebiete und von Ceará aus der Sammlung

Check List of the Freshwater Fishes of South and Central America

- des Museums Göldi in Pará. Anz. Akad. Wiss. Wien, 48 (15): 324-331.
- Steindachner, F. 1911c. Die Fische des Itapocu und seiner Zuflüsse im Staate S^a Catharina (Brasilien). Ann. naturh. Mus. Wien, 24: 419-433, 5 pls.
- Steindachner, F. 1915a. Beiträge zur Kenntnis der Flussfische Südamerikas V. Anz. Akad. Wiss. Wien, 52 (18): 217-219.
- Steindachner, F. 1915b. Beiträge zur Kenntniss der Flussfische Südamerikas. V. Denkschr. Akad. Wiss. Wien, 93: 15-106, pls. 1-13.
- Steindachner, F. 1915c. Vorläufigen Bericht über einige neue Süßwasserfische aus Südamerika. Anz. Akad. Wiss. Wien, 52 (17): 199-202.
- Steindachner, F. 1917. Beiträge zur Kenntnis der Flussfische Südamerikas. V. Denkschr. Akad. Wiss. Wien, 93: 15-106, pls. 1-13.
- Stephens, L. and M.A. Traylor. 1983. Ornithological gazetteer of Peru. Museum of Comparative Zoology, Cambridge. i-vi, 271 p., 1 map.
- Terofal, von F. 1983. Die Fischausbeute der Brasilien-Expedition 1817-1820 con J. B. Spix und C. F. Ph. V. Martius. Spixiana, 9: 313-317.
- Trajano, E. and P. Gerhard. 1997. Light reaction in Brazilian cave fishes (Siluriformes: Pimelodidae, Trichomycteridae, Loricariidae). Mém. Biospéol., 24: 127-138.
- Trajano, E. and A.M. Souza. 1994. Behaviour of *Ancistrus cryptophthalmus*, an armoured blind catfish from caves of Central Brazil, with notes on syntopic *Trichomycterus* sp. (Siluriformes, Loricariidae, Trichomycteridae). Mém. Biospéol., 21: 151-159.
- Tschudi, J.J. von. 1846. Ichthyologie. Pp. ii-xxx + 1-35, Pls. 1-6. In: Untersuchungen über die Fauna Peruana. Scheitlin & Zollikofer, St. Gallen. 1844-46, in 12 parts.
- Valenciennes, A. 1836. Poissons [pl. 7]. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivia, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Paris, Bertrand et Levrault.
- Van der Stigchel, J. W. R. 1946. The South American Nematognathi of the Museums at Leiden and Amsterdam. E.J. Brill, Leiden. 204 pp., 3 tabs. [Also published in 1947, Zool. Meded. (Leiden), 27:1-204].

Family Pseudopimelodidae (Bumblebee catfishes, dwarf marbled catfishes)

Oscar Akio Shibatta

Pseudopimelodidae can be considered the least known family among the naked Neotropical freshwater catfishes. By the monophyly of the group demonstrated by Lundberg et al. (1991) and its relationship with Loricarioidei suggested by de Pinna (1998), it is possible to sustain the family level. In relation to the species, in this checklist it is presented some new combinations based on the study of Shibatta (1998).

Members of the family can be distinguished from other fishes by their wide mouth, small eyes without free orbital margin and short barbels. Some genus has a beautiful pattern of coloration with wide dark brown blotches in the trunk. The size is variable, ranging from ca. 5 to 40 cm.

Although a relatively small family, with only 26 known species, the Pseudopimelodidae is widely distributed in South America. The distribution of the genus *Microglanis* is the widest, with 12 species ranging from the western slope of the Andes in Peru to the La Plata River basin in Argentina. New species of this genus have been recently discovered both in the Amazon region as in the eastern Brazil. The second genus of widest distribution is *Pseudopimelodus*, with five species presented since Atrato until La Plata, but it is not present in the Pacific slope of Andes. The genus *Cephalosilurus* comprises four species distributed in the Orinoco, Amazon and São Francisco River basins. The genus *Batrochoglanis* is represented in the Orinoco, Magdalena, and Amazon River basins and in Maracaibo basin. The monotypic genus *Lophiosilurus* is represented only in São Francisco River basin and certainly it is one of the most interesting species of catfish in South America.

The biology of the species of the family is poorly known. *Lophiosilurus alexandri* is being studied because its interest in the aquaculture (Bazzoli & Godinho, 1997) and because it is considered an animal threatened by extinction (Rosa & Menezes, 1996). This species is sedentary, living in calm waters, where it adopts an anglerfish like strategy of capture of preys. Its eggs are adhesive, with large diameter (1,51 mm) and the male takes care of its fry. The species of the genus *Batrochoglanis* and *Microglanis* are appreciated by aquarists because they are considered more sociable fishes than *Pseudopimelodus* and *Cephalosilurus* (Burgess, 1989). *Microglanis iheringi* was investigated by Winemiller (1989) and, like *L. alexandri*, its eggs have a large diameter (1.1 mm) and the parents take a brief period of care.

There are a lot of common names in Brazil, mainly to the species of the genera *Pseudopimelodus* and *Cephalosilurus*. In this Country these fishes are known as bagre-sapo, jaú-sapo (in Portuguese) or piracururu (in the native language Tupi-Guarani, pirá = fish and cururú = toad, Ihering, 1968; Bueno, 1998) because their gross morphology that resembles a toad. The species *Lophiosilurus alexandri* is known as pacamã or pacamão, a name derived from Tupi-guarani pacamõ (Bueno, op. cit.) that means the same. In English language the common names of the genus *Pseudopimelodus* and *Microglanis* are bumblebee catfishes or dwarf marble catfishes. In Brazil, the species of the genus *Microglanis* receive the name bagrinho, a general common name for small catfishes.

BATROCHOGLANIS

Batrochoglanis Gill, 1858: 389. Type species: *Pimelodus raninus* Valenciennes, 1840. Type by original designation. Gender: masculine. *Batrachoglanis*, first used in Gill (1861), is an emendation that was widely adopted. Genus revised by Shibatta (1998) within which the generic name was resurrected from synonymy.

***Batrochoglanis acanthochiroides* (Güntert, 1942)**

Pseudopimelodus acanthochiroides Güntert, 1942: 29. Type locality: Santander, Colombia. Syntypes: NMBA 5277-78.

Pseudopimelodus villosus butcheri Schultz, 1944: 199, pl. 1 (fig. b). Type locality: Río San Juan near bridge south of Mene Grande, tributary to Río Motatán, Maracaibo basin, Venezuela. Holotype: USNM 121270.

Maximum length: 80 cm TL

Distribution: South America: Catatumbo River basin in Lake Maracaibo drainage.

Countries: Colombia, Venezuela

Remarks and references: Common names according to Galvis et al. (1997) and Kenney (1985). Species revised by Shibatta (1998).

Common names: Bagre sapo (Colombia), Bumblebee catfish (used by aquarists)

***Batrochoglanis raninus* (Valenciennes, 1840)**

Pimelodus raninus Valenciennes in Cuvier & Valenciennes, 1840: 157 [117 in the Strasbourg deluxe ed.], pl. 434. Type locality: La Mana; near Rio de Janeiro, Brazil. Syntypes: MNHN A.9942 (3).

Pseudopimelodus acanthochirus Eigenmann & Eigenmann, 1888: 122. Type locality: Brazil. Syntypes: MCZ 8133 (Gurupa), MCZ 8157 (Tajapuru), MCZ 7732 (Teffé), MCZ 7332 (Jutahy).

Maximum length: 20 cm SL

Distribution: South America: Amazon River basin, Guyana and French Guiana.

Countries: Bolivia, Brazil, French Guiana, Guyana, Peru, Suriname

Remarks and references: Common names according to Valenciennes (1840) and Kenney (1985). The stated type locality of this species, Rio de Janeiro, is an error. Species revised by Shibatta (1998).

Common names: Bumblebee catfish (used by aquarists), Pimélode ranin (France)

***Batrochoglanis transmontanus* (Regan, 1913)**

Pseudopimelodus transmontanus Regan, 1913: 467. Type locality: Río San Juan, Colombia. Syntypes: (9) BMNH 1910.7.11.105, BMNH 1910.7.11.104, BMNH 1913.10.1.36, BMNH 1902.5.27.37-40.

Maximum length: 25 cm TL

Distribution: South America: Baudó, San Juan, Patia, and Durango River basins.

Countries: Colombia, Ecuador

Remarks and references: Common name according to Kenney (1985). In Axelrod et al. (1977: 494) there is a reference to the range of distribution of this species to the Peruvian Amazon, near Iquitos with the common name Peruvian mottled catfish. However, the photograph shown on the page resembles *B. raninus*, a species mentioned by Mees (1974) from the Peruvian Amazon.

Common names: Bumblebee catfish (used by aquarists)

***Batrochoglanis villosus* (Eigenmann, 1912)**

Pseudopimelodus villosus Eigenmann, 1912: 152, fig. 32, pl. 10 (fig. 1). Type locality: Potaro Landing, British Guiana. Holotype: FMNH 53219.

Maximum length: 14.8 cm TL

Distribution: South America: Demerara, Essequibo, Orinoco, and Amazon River basins.

Countries: Brazil, Guyana, Suriname, Venezuela

Remarks and references: Common name according to Kenney (1985).

Common names: Bumblebee catfish (used by aquarists)

CEPHALOSILURUS

Cephalosilurus Haseman, 1911: 317. Type species: *Cephalosilurus fowleri* Haseman, 1911. Type by monotypy. Gender: masculine. Genus revised by Shibatta (1998).

***Cephalosilurus albomarginatus* (Eigenmann, 1912)**

Pseudopimelodus albomarginatus Eigenmann, 1912: 153, pl. 11 (fig. 1). Type locality: Tukeit, British Guiana. Holotype: FMNH 53221.

Maximum length: 8.5 cm SL

Distribution: South America: Tukeit, Guyana.

Countries: Guyana

Remarks and references: Common name according to Kenney (1985).

Common names: Bumblebee catfish (used by aquarists)

***Cephalosilurus apurensis* (Mees, 1978)**

Pseudopimelodus apurensis Mees, 1978: 253, pl. 1. Type locality: Río Arichuna, near San Pedro, Rincón hondo, Apure, Venezuela. Holotype: RMNH 27644.

Maximum length: 29 cm SL

Distribution: South America: Arichuna River basin, Apure State.

Countries: Venezuela

Remarks and references: Species revised by Shibatta (1998).

***Cephalosilurus fowleri* Haseman, 1911**

Cephalosilurus fowleri Haseman, 1911: 317, pl. 46. Type locality: Río São Francisco, Cidade de Barra, Bahia, Brazil. Holotype: FMNH 54254.

Maximum length: 40.5 cm TL

Distribution: South America: São Francisco River basin.

Countries: Brazil

Remarks and references: Common names according to Britski et

al. (1986) and Kenney (1985).

Common names: Bumblebee catfish (used by aquarists), Peixe-sapo (Brazil)

***Cephalosilurus nigricaudus* (Mees, 1974)**

Pseudopimelodus nigricauda Mees, 1974: 218, figs. 37d, 38d; pls. 11-12. Type locality: Sipaliwini, Suriname. Holotype: RMNH 26739.

Maximum length: 35 cm TL

Distribution: South America: Sipaliwini River basin.

Countries: Suriname

LOPHIOSILURUS

Lophiosilurus Steindachner, 1877: 154. Type species: *Lophiosilurus alexandri* Steindachner, 1877. Type by monotypy. Gender: masculine.

***Lophiosilurus alexandri* Steindachner, 1877**

Lophiosilurus alexandri Steindachner, 1877: 154, pl. 15. Type locality: Probably Amazonas, Brazil. Holotype: NMW 46123.

Lophiosilurus agassizi Steindachner, 1880: 61. Type locality: Probably Amazonas, Brazil. Holotype: NMW 46123. Unneeded new name for *Lophiosilurus alexandri* Steindachner, 1877.

Maximum length: 72 cm TL

Distribution: South America: São Francisco River basin.

Countries: Brazil

Remarks and references: Common names according to Britski et al. (1986) and Ihering (1968). The name *L. agassizi* was mentioned by Steindachner to refer to *L. alexandri*. It is possible to conclude because he indicated the same reference of description of *L. alexandri* (Steindachner, Ichthyol. Beitr. V, p. 106, pl. XV). Species redescribed in Pinto & Marzulo (1975: 3).

Common names: Pacamã (Brazil), Pacamão (Brazil)

MICROGLANIS

Microglanis Eigenmann, 1912: 130, 155. Type species: *Microglanis poecilus* Eigenmann, 1912. Type by original designation. Gender: masculine.

***Microglanis ater* Ahl, 1936**

Microglanis ater Ahl, 1936: 109. Type locality: Brazil. Holotype: ZMB 20932.

Maximum length: 8.1 cm TL

Distribution: South America: Brazil (?).

Countries: Brazil

Remarks and references: Common name according to Kenney (1985).

Common names: Bumblebee catfish (used by aquarists)

***Microglanis cibela* Malabarba & Mahler, 1998**

Microglanis cibela Malabarba & Mahler, 1998: 249, figs. 1, 4-6. Type locality: arroio do Ouro, Rio Maquiné, between Maquiné and Barra do Ouro, Rio Grande do Sul, Brasil. Holotype: MZUSP 48653.

Maximum length: 7.1 cm SL

Distribution: South America: Coastal drainages in northern Rio Grande do Sul and Santa Catarina States.

Countries: Brazil

***Microglanis cottoides* (Boulenger, 1891)**

Pimelodus (Pseudopimelodus) cottoides Boulenger, 1891: 233, pl. 25 (fig. 2). Type locality: Rio Camaquã, Rio Grande do Sul, Brazil. Syntypes: BMNH 1891.3.16.36-45 and BMNH 1891.3.16.106.

Maximum length: 5.24 cm SL

Distribution: South America: Laguna dos Patos and Uruguay River basins.

Countries: Brazil

***Microglanis eurystoma* Malabarba & Mahler, 1998**

Microglanis eurystoma Malabarba & Mahler, 1998: 248, fig. 3.
Type locality: Rio Uruguay, Itá, Santa Catarina, Brazil. Holotype: MCP 13405.
Maximum length: 7.76 cm SL
Distribution: South America: Upper Uruguay River basin.
Countries: Brazil

***Microglanis iheringi* Gomes, 1946**

Microglanis iheringi Gomes, 1946: 9, pl. 1. Type locality: Río Turmero, Aragua, Venezuela. Holotype: FMNH 35350.
Maximum length: 6 cm TL
Distribution: South America: Turmero River basin.
Countries: Venezuela
Remarks and references: Common name according to Kenney (1985) and Barrow (1997). Biological observations in Winemiller (1989: 240).
Common names: Bumblebee catfish (used by aquarists)

***Microglanis nigripinnis* Bizerril & Perez-Neto, 1992**

Microglanis nigripinnis Bizerril & Perez-Neto, 1992: 97, figs. 1-2.
Type locality: Rio Macacu, Cidade de Papucaia, Município de Cachoeira do Macacu, Rio de Janeiro, Brazil. Holotype: MZUSP 42308.
Maximum length: 4 cm SL (holotype)
Distribution: South America: Macacu River basin in Rio de Janeiro State.
Countries: Brazil

***Microglanis parahybae* (Steindachner, 1880)**

Pseudopimelodus parahybae Steindachner, 1880: 60, pl. 1 (figs. 2-2b). Type locality: Rio Paraíba and Santa Cruz, Brazil. Syntypes: MCZ 8161 (25), MCZ 8162 (6); NMW 44433 (9), NMW44436 (1).
Maximum length: 8 cm TL
Distribution: South America: Paraíba do Sul River basin.
Countries: Brazil
Remarks and references: Common name according to Kenney (1985).
Common names: Bumblebee catfish (used by aquarists)

***Microglanis pellopterygius* Mees, 1978**

Microglanis pellopterygius Mees, 1978: 256, pl. 2. Type locality: Tributary stream of Río Aguarico at Santa Cecilia, 0°06'N, 76°51'W, Napo, Ecuador. Holotype: ANSP 130437.
Maximum length: 5.4 cm SL (holotype)
Distribution: South America: Aguarico River basin.
Countries: Ecuador

***Microglanis poecilus* Eigenmann, 1912**

Microglanis poecilus Eigenmann, 1912: 155, pl. 12 (fig. 2). Type locality: Below Packeo Falls, British Guiana. Holotype: FMNH 46365.
Maximum length: 6.9 cm SL
Distribution: South America: Essequibo River basin and French Guiana.
Countries: French Guiana, Guyana
Remarks and references: Common names according to Axelrod et al. (1977: 400) and Kenney (1985).
Common names: Bumblebee catfish (used by aquarists), Dwarf marbled catfish

***Microglanis secundus* Mees, 1974**

Microglanis secundus Mees, 1974: 235, fig. 40e; pl. 14. Type locality: Sipaliwini, Suriname. Holotype: RMNH 26525.
Maximum length: 4 cm SL
Distribution: South America: Catatumbo River basin; Guyana; Sipaliwini River basin.
Countries: Guyana, Suriname, Colombia.

Remarks and references: Common name according to Kenney (1985).
Common names: Bumblebee catfish (used by aquarists)

***Microglanis variegatus* Eigenmann & Henn, 1914**

Microglanis variegatus Eigenmann & Henn in Eigenmann, Henn & Wilson, 1914: 14. Type locality: Near Vinces, Ecuador. Holotype: CAS 17971.
Maximum length: 4.5 cm SL
Distribution: South America: Forest pool near Vinces, Ecuador.
Countries: Ecuador
Common names: Bumblebee catfish (used by aquarists)

***Microglanis zonatus* Eigenmann & Allen, 1942**

Microglanis zonatus Eigenmann & Allen, 1942: 89, pl. 3 (figs. 1-2). Type locality: Río Morona, Upper Amazon system. Holotype: CAS 17970.
Maximum length: 2 cm SL
Distribution: South America: Upper Amazon River basin.
Countries: Peru
Remarks and references: Common name according to Kenney (1985).
Common names: Bumblebee catfish (used by aquarists)

PSEUDOPIMELODUS

Pseudopimelodus Bleeker, 1858: 196, 204, 207. Type species: *Pimelodus bufonius* Valenciennes, 1840. Type by subsequent designation by Gill, 1861. Gender: masculine. Genus revised by Shibatta (1998).

***Pseudopimelodus bufonius* (Valenciennes, 1840)**

Pimelodus Bufonius Valenciennes in Cuvier & Valenciennes, 1840: 154 [115 in the Strasbourg deluxe ed.]. Type locality: Probably Cayenne, French Guiana. Holotype: RMNH (lost).
Maximum length: 24.5 cm SL
Distribution: South America: Rivers of northeastern South America from Lake Maracaibo basin to eastern Brazil.
Countries: Brazil, Colombia, French Guiana, Suriname, Venezuela and Guyana.
Remarks and references: Common names according to Valenciennes (1840), Galvis et al. (1997) and Kenney (1985). Maybe the species from the Maracaibo basin is a new species, not described yet. I have seen fishes from Northern Brazil, from the Amazon basin that are very close to the original description. Therefore, the distribution range of this species will change with clarification of the taxonomic situation.
Common names: Bagre sapo (Brazil), Bumblebee catfish (used by aquarists), Jaú sapo (Brazil), Pimélode crapaudin (France)

***Pseudopimelodus charus* (Valenciennes, 1840)**

Pimelodus charus Valenciennes in Cuvier & Valenciennes, 1840: 159 [118 in the Strasbourg deluxe ed.]. Type locality: Sabara River, Brazil. No types known, but Mees (1974, frontispiece) reproduced a figure used by Valenciennes to describe the species.
Maximum length: 20.2 cm SL
Distribution: South America: São Francisco River basin.
Countries: Brazil
Remarks and references: Common names according to Valenciennes (1840) and Britski et al. (1986). Species removed from synonymy of *Pseudopimelodus bufonius* by Shibatta (1998).
Common names: Peixe-sapo (Brazil), Pimélode charu (France)

***Pseudopimelodus mangurus* (Valenciennes, 1835)**

Pimelodus mangurus Valenciennes, 1835: pl. 1 (figs. 4-6). Type locality: Río de la Plata, Argentina. Syntypes: MNHN A.8401, MNHN A.9417.
Pseudopimelodus roosevelti Borodin, 1927: 1, fig. 1. Type locality: Parassununga, Estado São Paulo, Brazil. Holotype: AMNH 8638.

Maximum length: 34.5 cm SL

Distribution: South America: Uruguay, Paraná, Paraguay and La Plata River basins.

Countries: Argentina, Bolivia, Brazil, Paraguay, Uruguay

Remarks and references: Common names according to Valenciennes (1840), Galvis et al. (1997), Godoy (1986), MacDonagh (1937), Kenney (1985) and Ihering (1968).

Common names: Bagresapo (Colombia), Bumblebee catfish (used by aquarists), Jaú sapo (Brazil), Manguruyú amarillo (Argentina), Pimélode manguru (French), Piracururu (Brazil)

***Pseudopimelodus pulcher* (Boulenger, 1887)**

Pimelodus (Pseudopimelodus) pulcher Boulenger, 1887: 276, pl. 21 (fig. 1). Type locality: Canelos, e. Ecuador. Syntypes: BMNH 1880.12.8.105-107.

Pseudopimelodus variolosus Miranda Ribeiro, 1914: 4, pls. 1 (fig. 2), 2 (figs. 1-2). Type locality: Coxim, Rio Taquary, Mato Grosso, Brazil. Lectotype: MNRJ 818A, designated by Miranda Ribeiro (1953: 404).

Maximum length: 8.7 cm TL

Distribution: South America: Upper Amazon River basin.

Countries: Brazil, Ecuador

***Pseudopimelodus schultzi* (Dahl, 1955)**

Zungaro zungaro schultzi Dahl, 1955: 13. Type locality: Cereté, Colombia. Holotype: no repository stated.

Maximum length: 20.7 cm SL

Distribution: South America: Magdalena River basin.

Countries: Colombia

SPECIES INQUIRENDA

Zungaro mathisoni Fernández-Yépez, 1972: 22, pl. 41. Type locality: Río Yaracuy drainage, Venezuela. Holotype: no repository stated.

References

Ahl, E. 1936. Beschreibung dreier neuer Welse aus Brasilien. Zool. Anz., 116 (3/4): 109-111.

Axelrod H.R., C.W. Emmens, D. Sculthorpe, W. Vorderwinkler, N. Pronek and W.E. Burgess. 1977. Exotic tropical fishes. T.F.H. Publications, Neptune City, New Jersey, U.S.A. 608 p.

Barrow, P. 1997. Breeding bumblebee catfish, *Microglanis iheringi*. Trop. Fish Hobbyist, 46 (1): 82-91.

Bazzoli, N. and H.P. Godinho. 1997. Ovócitos vitelogênicos do surubim *Pseudoplatystoma coruscans* e do pacamã *Lophiosilurus alexandri*. Pp. 81-90. In: Miranda, M. O. T. (org.). Surubim. IBAMA, Belo Horizonte, Brazil.

Bizerril, C.R.S.F. and P.R. Perez-Neto. 1992. Description of a new species of *Microglanis* (Siluroidei, Pimelodidae) from eastern Brazil. Rev. Fr. Aquariol., 18 (4, for 1991): 97-100.

Bleeker, P. 1858. De visschen van den Indischen Archipel. Beschreven en toegelicht. Siluri. Acta Soc. Sci. Indo-Neerl. , 4: i-xii + 1-370.

Boeseman, M. 1972. Notes on South American catfishes, including remarks on Valenciennes and Bleeker types in the Leiden Museum. Zool. Meded. (Leiden), 47 (23): 293-320, pls. 1-2.

Borodin, N.A. 1927. Some new catfishes from Brazil. Am. Mus. Novit., (266): 1-7.

Boulenger, G.A. 1887. An account of the fishes collected by Mr. C. Buckley in eastern Ecuador. Proc. Zool. Soc. London, 1887 (2): 274-283, pls. 20-24.

Boulenger, G.A. 1891. An account of the siluroid fishes obtained by Dr. H. von Ihering and Herr Sebastian Wolff in the Province Rio Grande do Sul, Brazil. Proc. Zool. Soc. London, 1891 (2): 231-235, pls. 25-26.

Britski, H.A., Y. Sato and A.B.S. Rosa. 1986. Manual de identificação de peixes da região de Três Marias (com chaves de identificação para os peixes da bacia do São Francisco). CODEVASF, Brasília, Brazil. 115 p.

Burgess, W.E. 1989. An atlas of freshwater and marine catfishes. A preliminary survey of the Siluriformes. T.F.H. Publications, Neptune City, New Jersey, U.S.A. 784 p., 285 pls.

Cuvier, G. and A. Valenciennes. 1840. Histoire naturelle des poissons. Tome quinzisième. Suite du livre dix-septième. Siluroïdes. Ch. Pitois & V.° Levrault, Paris & Strasbourg. xxxi + 540 p., pls. 421-455.

Dahl, G. 1955. An ichthyological reconnaissance of the Sinu River. Revista Linneana, 1 (1):11-19.

Eigenmann, C.H. 1910. Catalogue of the fresh-water fishes of tropical and south temperate America. In: Reports of the Princeton University expeditions to Patagonia 1896-1899. Zoology. 375-511.

Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.

Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II.- The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. Univ. Kentucky. xv +494 p., 22 pl.

Eigenmann, C.H. and R.S. Eigenmann. 1888. Preliminary notes on South American Nematognathi. I. Proc. California Acad. Sci. (Ser. 2), 1 (2): 119-172.

Eigenmann, C.H., A.W. Henn and C. Wilson. 1914. New fishes from western Colombia, Ecuador, and Peru. Indiana Univ. Studies, (19): 1-15.

Fernández-Yépez, A. 1972. Análisis ictiológico del complejo hidrográfico (04) "Río Yaracuy". Direccion de Obras Hidraulicas, Ministerio de Obras Publicas, Republica de Venezuela. 25 p., 41 pl.

Galvis, G., J.I. Mojica and M. Camargo 1997. Peces del Catatumbo. Asociación Cravo Norte, Ecopetrol, DXY & Shell, Bogotá. 118 p.

Gill, T.N. 1858. Synopsis of the fresh water fishes of the western portion of the island of Trinidad, W. I. Ann. Lyc. Nat. Hist. New York, 6 (10-13): 363-430.

Gill, T.N. 1861. Synopsis of the genera of the sub-family of Pimelodinae. Proc. Boston Soc. Nat. Hist., 8: 46-55.

Godoy, M.P. 1986. Peixes e pesca do rio Paraná. Área do futuro reservatório da Usina Hidrelétrica Ilha Grande. Eletrosul, Florianópolis, Brazil. 146 p.

Gomes, A.L. 1946. A review of *Microglanis*, a genus of South American catfishes, with notes on related genera. Occas. Pap. Mus. Zool. Univ. Michigan (494): 1-19, pl. 1.

Güntert, H. 1942. Beschreibung einiger zum Teil noch unbekannter südamerikanischer Siluriden aus dem Naturhistorischen Museum in Basel. Zool. Anz., 138 (1/2): 27-40.

Haseman, J.D. 1911. Descriptions of some new species of fishes and miscellaneous notes on others obtained during the expedition of the Carnegie Museum to central South America. Ann. Carnegie Mus., 7 (3-4): 315-328, pls. 46-52.

Ihering, R. 1968. Dicionário dos animais do Brasil. Editora da Universidade de Brasília, São Paulo, Brazil. 790 p.

Kenney, W.R. 1985. Bumblebee catfishes. Freshwater mar. Aquar., 8 (8): 44-47.

Lundberg, J.G., F. Mago-Leccia and P. Nass. 1991. *Exallodontus aguanaei*, a new genus and species of Pimelodidae (Pisces: Siluriformes) from deep river channels of South America, and delimitation of the subfamily Pimelodinae. Proc. Biol. Soc. Washington, 104 (4): 840-869.

MacDonagh, E.J. 1937. Sobre el Manguruyú (gênero *Paulicea*, Silurideos). Rev. Mus. La Plata (Nueva serie), 1: 3-30.

Malabarba, L.R. and J.K.F. Mahler, Jr. 1998. Review of the genus *Microglanis* in the rio Uruguay and coastal drainages of southern Brazil (Ostariophysi: Pimelodidae). Ichthyol. Explor. Freshwaters, 9 (3): 243-254.

Mees, G.F. 1974. The Auchenipteridae and Pimelodidae of Suri-

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- name (Pisces, Nematognathi). Zool. Verh. (Leiden), (132): 1-256, pls. 1-15.
- Mees, G.F. 1978. Two new species of Pimelodidae from northwestern South America (Pisces, Nematognathi). Zool. Meded. (Leiden), 53 (23): 253-261, pls. 1-3.
- Miranda Ribeiro, A. 1914. Pimelodidae, Trachycorystidae, Cetopsidae, Bunocephalidae, Auchenipteridae, e Hypophthalmidae. In: Comissão de Linhas Telegraficas Estrategicas de Matto-Grosso ao Amazonas. 1-13, pls. 1-2.
- Miranda Ribeiro, P. 1953. Tipos das espécies e subespécies do Prof. Alipio de Miranda Ribeiro depositados no Museu Nacional. Arq. Mus. Nac. Rio de Janeiro, 42: 389-417.
- de Pinna, M.C.C. 1998. Phylogenetic relationships of Neotropical Siluriformes (Teleostei: Ostariophysi): historical overview and synthesis of hypotheses. Pp. 279-330 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). Phylogeny and Classification of Neotropical Fishes. Edipucrs. Porto Alegre.
- Pinto, S.Y. and D. Marzulo. 1975. Estudos morfológicos. VI - sobre *Lophiosilurus alexandri* Steindachner, 1876. (Actinopterygii, Cypriniformes, Pimelodidae). Bol. Mus. Hist. Nat. UFMG, Zool., 21: 1-9, 4 pl.
- Regan, C.T. 1913. The fishes of the San Juan River, Colombia. Ann. Mag. Nat. Hist. (Ser. 8), 12 (71): 462-473.
- Schultz, L.P. 1944. The catfishes of Venezuela, with descriptions of thirty-eight new forms. Proc. U. S. Natl. Mus., 94 (3172): 173-338, pls. 1-14.
- Shibatta, O.A. 1998. Sistemática e evolução da família Pseudopimelodidae (Ostariophysi, siluriformes), com a revisão taxonômica de gênero *Pseudopimelodus*. Unpublished theses. Univ. Fed. São Carlos, São Paulo, Brazil. 357 p.
- Steindachner, F. 1877. Ichthyologische Beiträge (V). Sitzungsber. Akad. Wiss. Wien, 74: 49-240, pls. 1-15.
- Steindachner, F. 1880. Zur Fisch-Fauna des Cauca und der Flüsse bei Guayaquil. Denkschr. Akad. Wiss. Wien, 42: 55-104, pls. 1-9.
- Winemiller, K.O. 1989. Patterns of variation in life history among South American fishes in seasonal environments. Oecologia, 81: 225-241.
- Valenciennes, A. 1835. Poissons [plate 1]. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Vol. 5 (pt. 2). Bertrand et Levrault, Paris.
- Valenciennes, A. 1847. Poissons. Catalogue des principales espèces de poissons, rapportées de l'Amérique Méridionale, 1-11. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Vol. 5 (pt. 2). Bertrand et Levrault, Paris.

Family Heptapteridae (Heptapterids)

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The family Heptapteridae, as here delimited, closely corresponds to the subfamily Rhamdiinae of Lundberg et al. (1991a), and Heptapterinae of de Pinna (1998). Thus, the Heptapteridae includes many catfishes long classified together in the Pimelodidae but now placed in a more restricted version of Pimelodidae (Lundberg & Littmann, this volume) and Pseudopimelodidae (Shibatta, this volume). Despite being a highly distinctive clade, the family Heptapteridae remained undiagnosed and even unknown as a monophyletic group until recently. Some of its genera have even been historically associated to members of families other than Pimelodidae, such as *Heptapterus*, *Nannoglanis*, and *Pariolius*, assigned to the family Trichomycteridae (e.g. Günther, 1864; Cope, 1872; Boulenger, 1887), and *Taunayia*, traditionally treated as a member of the Doradidae or Auchenipteridae (e.g. Jordan, 1923; Gosline, 1945). The genus *Phreatobius*, due its highly distinct morphology, ecology, and habitat (phreatic environments), is one of the greatest puzzles in catfish systematics (de Pinna, 1998), having been referred to the families Cetopsidae, Clariidae, Heptapteridae, Olyridae (a monogeneric family presently synonymized in Bagridae – Mo, 1991), old Pimelodidae, and Trichomycteridae (e.g. Goeldi, 1905; Fuhrmann, 1906; Eigenmann, 1910; Myers, 1944; de Pinna, 1993; Stewart, 1986a; Buckup, 1988).

The earliest version of the family Heptapteridae, as currently conceived, goes back to the beginning of the last century when Regan (1911), based on osteological characters, recognized within the family Pimelodidae (in its old conception) a group composed exclusively of *Heptapterus*, *Nannoglanis*, *Pimelodella*, and *Rhamdia*, genera currently included in the family Heptapteridae. One of the diagnostic features used by Regan (1911) - “anterior and posterior rami of parapophysis of fourth vertebra connected at the base only” - is an early definition of one of most conspicuous synapomorphies for this group (cf. Lundberg & McDade, 1986; Lundberg et al, 1991a). However, it was only 17 years ago that Heptapteridae was recognized as a monophyletic on basis of cladistic methodology by Lundberg & McDade (1986). This group, then treated only as an unnamed “pimelodid” clade, includes the following taxa: *Brachyglanis*, *Brachyrhamdia*, *Cetopsorhamdia*, *Goeldiella*, *Heptapterus*, *Imparfinis*, *Myoglanis*, *Nannorhamdia*, *Pariolius*, *Pimelodella*, *Pimelodus heteropleura*, *Rhamdella*, *Rhamdia*, and *Typhlobagrus*. This group was only formally named five years later, as the subfamily Rhamdiinae Bleeker (1862) of the ancient family Pimelodidae (Lundberg et al., 1991a). De Pinna (1993) raised Rhamdiinae to family category in his unpublished Ph.D. thesis. Silfvergrip (1996) rightly pointed out the priority of the name Heptapterinae Gill (1861) over Rhamdiinae Bleeker (1862). Indeed, the first published usage of familial rank for this group, as Rhamdiidae, was made by Swarça et al. (2000), based on de Pinna’s thesis (1993). This group is therefore dealt as the family Heptapteridae.

Due its morphological and habitats peculiarities, *Phreatobius* is one of the most intriguing heptapterid genus. Goeldi (1905), when described it, speculated on its affinities to Cetopsidae and Trichomycteridae, but concluded its characters should exclude it from those groups. Fuhrmann (1906) considered it closely related to marine catfishes currently dealt as Plotosidae. Norman (1926) assigned it to the family Trichomycteridae, and this purpose was followed by Myers (1944), Gosline (1945), and Thinès (1969). Eigenmann (1910) included *Phreatobius*, with doubts, in the old family Pimelodidae. This opinion was followed by Jordan (1923). Eigenmann (1918) cited *Phreatobius* in an addendum to its monograph on the family Pygidiidae [=Trichomycteridae], but not assigned it to this group in any moment. The first reference to the family Heptapteridae can be found in Eigenmann (1919a), who mentioned that *Phreatobius* was be remotely related to *Heptapterus*. Reichel (1927), in his classical monograph on anatomy of *Phreatobius cisternarum*, did not express his opinion on the systematic position of this fish, but compared it intensively with *Heptapterus*. Myers (1928) considered *Phreatobius* related to a “pimelodid” group including several heptapterids. This hypothesis was also supported by Stewart (1986a), Buckup (1988), Lundberg et al. (1991a), and Bockmann (1998). Buckup (1988) went further, synonymizing *Phreatobius* in *Heptapterus*. Bockmann (1998) corroborated it a member of Heptapteridae, as closely related to *Brachyglanis*, *Gladioglanis*, *Myoglanis*, and *Leptorhamdia*. However, this hypothesis might be questioned because several of the characters are reductive or missing and therefore impossible to code for phylogenetic analysis. De Pinna (1993) proposed a sister-group relationship between *Phreatobius* and the family Olyridae, currently included in Bagridae. Later de Pinna (1998) speculated on its putative alignment as the sister group to all Clariidae, or as a highly derived heptapterid, based on comparison of some anatomical specializations. This question remains unresolved and, as pointed out de Pinna (1998), to state accurately its phylogenetic position, a large cladistic analysis involving heptapterids, clariids, and many other catfishes, is need. Molecular data might be particularly useful in this task (de Pinna, 1998), since most of morphological complexes of *Phreatobius* are highly modified, making homologies difficult to identify.

Among those valid heptapterid genera, only *Gladioglanis* (Lundberg et al., 1991a) and *Mastiglanis* (Bockmann, 1994) were diagnosed under phylogenetic methodology. All remaining genera were stated through combination of characters, or by wrong or imprecise traits, rather than uniquely derived features. As consequence, several heptapterid species had an almost free transit through the permeable boundaries of the heptapterid genera. Most of taxonomic actions involving heptapterid genera has weak or no support. Eigenmann (1910) and Haseman (1911a) emphatically treated *Rhamdioglanis* as a junior synonym of *Imparfinis*, a procedure widely followed until our times, despite no critical analysis on these question has been carried to date (cf. Mees, 1974). The validity of *Brachyrhamdia* has been questioned on occasion, and this genus treated as a junior synonym of *Pimelodella* (cf. Schultz, 1944b, Innes & Myers, 1950). However, this decision is unfounded since no character analysis supported it, both genera have quite different type species, and the monophyly of *Pimelodella* was never demonstrated. Gosline (1940, 1941) considered *Pariolius* as a senior synonym of *Nannoglanis*, but no evidence to support this procedure was provided. This was also the case regarding the inclusion of *Leptorhamdia* in the synonymy of *Myoglanis* (Gosline, 1941). The most influential taxonomic acts concerning the family were made by Mees (1967, 1974), who synonymized the genera *Acentronichthys*, *Chasmocranus*, *Imparales*, *Medemichthys*, *Nannoglanis*, *Pariolius*, and *Phenacorhamdia* in *Heptapterus*, and treated *Nannorhamdia* as a junior synonym of *Imparfinis*. Even though Mees' proposals have been followed by several authors, his works failed because he used non-informative features or characters with uncertain polarities (Buckup, 1988). Buckup (1988) considered *Phreatobius* as a highly modified species of *Heptapterus*, based mainly on the common possession of a long adipose fin connected to the caudal fin, and high number of vertebrae and anal-fin rays, features occurring in several other heptapterid genera. On the other hand, five proposals on generic taxonomy of the family Heptapteridae appears to be correct, since they were based on careful comparisons: *Pimelenotus* as junior synonym of *Rhamdia* (cf. Gill, 1861; Silfvergrip, 1996), *Typhlobagrus* as junior synonym of *Pimelodella* (cf. Pavan, 1946), *Caecorhamdella* as junior synonym of *Pimelodella* (cf. Trajano & Britski, 1992), *Caecorhamdia* as junior synonym of *Rhamdia* (cf. Mees, 1974; Silfvergrip, 1996). Bockmann (1998), in a yet unpublished Doctoral thesis, performed a phylogenetic analysis of Heptapteridae as a whole, providing a new classification for the family, especially at generic level. In order to adjust the generic nomenclature of the family Heptapteridae to reflect the components produced in the cladistic analysis, heavy modifications were implemented: among its 31 nominal genera, eight genera were sunk, and 11 new genera were erected. However, a systematic revision is not the proposal of this catalog. Then, in order to avoid increasing of the confusion on heptapterid taxonomy, none of those nomenclatural conclusions will be employed.

The state of species level taxonomy is poorly developed, paralleling the situation presented by their genera. Among those genera, only *Gladioglanis* (Lundberg et al., 1991a), *Mastiglanis* (Bockmann, 1994), *Nemuroglanis* (Ferraris, 1988), *Rhamdia* (Silfvergrip, 1996), and *Taunayia* (Oliveira & Britski, 2000) had their taxonomies studied in some detail. *Mastiglanis* and *Taunayia* are monotypic, *Gladioglanis* and *Nemuroglanis* comprised only two described species each, and *Rhamdia* possess 11 valid species (Silfvergrip, 1996). Until seven years ago, the only revisionary study on a multispecific heptapterid genus was that of Eigenmann (1917) on *Pimelodella*. In that study, 12 new species were described and overall comments on the species known to date were made (Eigenmann, 1917). However, that contribution did not involve a detailed morphological comparison among species known, and many species were added to *Pimelodella* since that date. For this reason, most of nominal *Pimelodella* species are here maintained as valid by default, waiting for the complete revision of the genus (Guazzelli, in prep.). Silfvergrip (1996) reviewed the taxonomy of the doubtless paraphyletic genus *Rhamdia*, reducing the about 100 described species to only 11 valid species. In this study was made a detailed and almost complete revision of the literature about the nominal species historically assigned to *Rhamdia*. Most of the conclusions of that author are followed herein. Britski (1993), besides describing a new species for *Phenacorhamdia*, characterized morphologically this genus and distinguished it from *Heptapterus*, including four other species in its composition. Oliveira & Britski (2000) assigned the genus *Taunayia* to the family Heptapteridae, and redescribed *T. bifasciata* (Eigenmann & Norris, 1900), its unique valid species.

To calculate the diversity of the family Heptapteridae is a hard task, taking into account the poor state of knowledge of its taxonomy. It can be roughly estimated that the family is composed of around 150-200 valid species, plus about 40-50 species to be described.

The family Heptapteridae is diagnosed through the following five synapomorphies (Lundberg & McDade, 1986; Ferraris, 1988; Lundberg et al., 1991a):

- posterior limb of fourth transverse process laterally expanded above swimbladder and notched once to several times;
- neural spines of Weberian complex centrum joined by a straight-edged, horizontal or sometimes sloping bony lamina;
- process for insertion of levator operculi muscle on posterodorsal corner of hyomandibula is greatly expanded;
- quadrate with free dorsal margin and bifid shape, its posterior and anterior limbs articulate separately with hyomandibula and metapterygoid;
- presence of an anteriorly recurved process (“mesethmoid hook”) drawn out from ventrolateral corner of mesethmoid.

In spite of being easily diagnosed by means of anatomical features, heptapterids lack unique externally visible characteristics, making difficult its distinction from some members of the families Pimelodidae and Pseudopimelodidae. Most of its members can be identified among South American siluriforms, by a combination of features:

- skin naked (a few species have slightly enlarged lateral line ossicles);
- cutaneous laterosensory canals simple (few species have branched laterosensory canals on the head and anterior trunk);

- small sized, usually with 20 cm SL or less (species of *Goediella*, *Rhamdella*, *Pimelodella*, *Rhamdia*, *Rhamdioglanis*, can exceed);
- nares well separated and lacking barbels;
- 3 pairs of barbels: maxillary, inner and outer mentals;
- adipose fin well developed;
- caudal fin deeply forked, emarginate, rounded, or lanceolate;
- gill membranes free, branchial openings not restricted;
- orbital rim free or not;
- first dorsal- and pectoral-fin rays varying from having pungent spines to completely flexible or mostly segmented.

The phylogenetic relationships of Heptapteridae at suprageneric level are less known. Stewart (1986a) recognized a monophyletic group within that “pimelodid” group proposed by Lundberg & McDade (1986) which corresponds to Heptapteridae, on basis in the common possession of “flexible first pectoral fin-ray”. This clade, called *Heptapterus* group, was composed of genera *Acentronichthys*, *Cetopsorhamdia*, *Heptapterus*, *Imparfinis*, *Nannorhamdia*, *Pariolius*, and perhaps *Phreatobius*. Besides proposing the first phylogenetically recognized version of Heptapteridae, Lundberg & McDade (1986) speculated on the closely relationships among *Brachyrhamdia*, *Cetopsorhamdia*, *Goediella*, *Pimelodella*, *Pimelodus heteropleura*, *Rhamdella*, *Rhamdia*, *Typhlobagrus*, and an unidentified species of *Nannorhamdia*, on basis of the following synapomorphy: “...the fifth transverse process smaller than fourth, but similarly expanded and notched”. Stewart (1986b) treated in greater detail his *Heptapterus* group, adding the then described *Horiomyzon*, but not mentioning in its composition the genera *Acentronichthys* and *Phreatobius*. Stewart (1986b) also briefly discussed the incompatibilities of his *Heptapterus* group and that subgroup suggested by Lundberg & McDade (1986). Stewart (1986b) also mentioned another putative synapomorphy for the *Heptapterus* group: “the relatively low total number of vertebrae [39 or less]”. However, most of species of *Acentronichthys*, *Heptapterus*, and *Phreatobius*, genera included in his *Heptapterus* group, have much more vertebrae. Ferraris (1988) proposed a clade comprising the majority of the small-sized heptapterids, called *Nemuroglanis* sub-clade, based on the following derived characteristics: 1- “the laminar portion of complex centrum transverse process, posterior to branched segment, is triangular and extends nearly to the lateral tip of the fifth vertebral transverse process”; 2- “the first dorsal-fin basal pterygiophore is inserted behind Weberian complex, usually above vertebrae 7 and 10”; 3- “the “dorsal-fin spine” is thin and flexible and the dorsal-fin lock (=first dorsal spine) is absent”; e 4- “the pectoral-fin “spine” is thin and flexible for its distal half, rather than pungent”. This assemblage approximately corresponds to the *Heptapterus* group of Stewart (1986a, b). Based on the sharing of “...reduction and loss of the free orbital rim...”, Lundberg et al. (1991a) hypothesized a heptapterid subgroup more inclusive than the *Nemuroglanis* sub-clade, also including the genera *Brachyglanis*, *Gladioglanis*, *Leptorhamdia*, and *Myoglanis*, which is an equivalent of that called “Rhamdiinae I” by de Pinna (1993). Bockmann (1994) proposed eleven new synapomorphies to corroborate the monophyly of the *Nemuroglanis* sub-clade. At same time, this author also proposed a new genus, *Mastiglanis*, hypothesized as the sister group of the *Nemuroglanis* sub-clade, and *Nemuroglanis* as the next sister group to the rest of the clade. Bockmann (1998), in his Doctoral dissertation, made an encompassing phylogenetic analysis of the family Heptapteridae, producing major rearrangements in the generic and suprageneric classification. The monophyly of the family was corroborated, as well as of the *Nemuroglanis* subclade, and that group proposed by Lundberg et al. (1991a). As novelties, we can mention: the monophyly of that group composed of *Brachyglanis*, *Gladioglanis*, *Leptorhamdia*, *Myoglanis*, and *Phreatobius*, which is the sister group to the *Nemuroglanis* subclade; *Rhamdella* as the sister group this encompassing group mentioned; and *Goediella* as the most basal heptapterid genus.

The relationships of the family Heptapteridae among siluriforms are still less investigated, with only five proposed hypotheses, all supported by weak character evidence. Lundberg et al. (1988) suggested that two then unnamed clades of the old family Pimelodidae, equivalent to the families Heptapteridae and Pseudopimelodidae, should be closely related. This proposal is weakly supported, since that feature is present in several other catfish families (Lundberg et al., 1991a). Mo (1991) carried out a phylogenetic analysis of the order Siluriformes, including the family Heptapteridae. However, the unique heptapterid examined in this study was *Rhamdia*, which was considered forming a clade with Ariidae, Auchenipteridae, Doradidae, Mochokidae, and Pimelodidae, based on number of infraorbitals. Arratia (1992) produced a phylogenetic analysis of siluriforms considered as primitive by her, including the heptapterids *Heptapterus* and *Rhamdia*. These two genera were considered closely to the pimelodid *Parapimelodus* and ariids genera *Bagre* and *Galeichthys*. However, *Heptapterus* and *Rhamdia* did not form a clade, but successive sister groups of those other genera. This is probably due to fact that the synapomorphies proposed for the family by Lundberg et al. (1991a) were not taken into account. According to de Pinna (1993), the sister group of the family Heptapteridae should be an Asiatic section of the non-monophyletic family Bagridae. Bockmann (1998) suggested that Heptapteridae can be one of the most basal lineage, if not the most basal, of a large clade proposed by de Pinna (1993) which also includes Ariidae, Auchenipteridae, Austroglanididae, Bagridae, Chacidae, Clariidae, Cranoglanididae, Doradidae, Horabagridae, Ictaluridae, Malapteruridae, Mochokidae, Pangasiidae, Plotosidae, Pimelodidae, Schilbidae, and Siluridae.

Heptapterids are endemic to the Neotropics, being one of the most representative components of the order Siluriformes in small body waters from Central and South America. The members of this family occur in rivers draining into Atlantic Ocean from northern Mexico to southern Argentina, and from Pacific slopes, from northern Mexico to southern Peru. Some species have a wide distribution throughout this vast region. The family also has several locally exclusive representatives in

all areas of ichthyological endemism recognized in the Neotropics. However, no biogeographical study considering heptapterids has been carried out to this moment, due to the paucity of phylogenetic, taxonomic, and distributional information available for the group.

The adults of heptapterid species rarely surpasses a size of 20 cm SL (e.g. species of *Goeldiella*, *Heptapterus*, *Pimelodella*, *Rhamdia*, *Rhamdioglanis*), and more than 60% of the species herein considered have a maximum length of 10 cm SL. *Horiomyzon retropinnatus*, that is slightly longer than 2 cm SL, was included in the list of miniature fishes from South America (Weitzman & Vari, 1988). Species of *Gladioglanis*, *Imparales*, *Medemichthys*, *Nemuroglanis*, and *Pariolius* should be treated as miniatures also, despite sometimes exceed the size limit of 2.6 cm SL stated by Weitzman & Vari to characterize a miniature fish (1988). *Phreatobius cisternarum*, despite reaching 5.5 cm SL, fits into the definition of "elongated miniature" (Weitzman & Vari, 1988) since it has a great number of paedomorphic traits.

Due the small size of most of its species, the family Heptapteridae has little or no importance in commercial and recreational fisheries. Species of *Brachyrhamdia* and *Pimelodella* are appreciated as ornamental fishes.

Ecologically, heptapterids do not differ from most of other siluriforms, being usually adapted to benthic life. Generalizing, heptapterids live in small to medium size rivers (mainly in second to fifth order streams). They occur in clear or black, cold, and moderate to fast flowing waters, occupying low to medium depths. Some species live in crevices formed in rocky bottom (e.g. *Chasmocranus*, *Heptapterus*, *Phenacorhamdia*, *Rhamdioglanis*), others are found associated to the marginal vegetation (e.g. *Rhamdiopsis*), and other buried in sand (e.g. *Imparfinis pristus*, *Mastiglanis*). Most of heptapterids are active mainly at night (cf. Costa, 1987, Caramaschi, 1991; Casatti & Castro, 1998). Heptapterids tend to be solitary or to organize in small groups up to 10 individuals (e.g. species of *Acentronichthys*, *Brachyrhamdia*, *Heptapterus*, and *Pimelodella*; pers. obs.). One of most interesting habitat adaptations are those of *Phreatobius cisternarum*, which inhabits phreatic waters around mouth of the Amazon River, in Brazil (Trajano, 1996). However, Carvalho (1967) kept in aquarium one specimen for one year, observing that the fish did not display cryptic behavior, and swam in midwater, occasionally resting on top of aquatic plants. Some members of the family are not exclusive bottom dwelling, such as species of *Brachyrhamdia* (Innes & Myers, 1950) and *Pimelodella* (pers. obs.), which frequently swim to middle of water column. When occurring in large rivers, they are often associated to their margins. *Horiomyzon retropinnatus* is an exception, since it lives in deep-river channels, as those of the Amazon, Napo, and Solimões rivers, in which are found in places deeper than 20 m (Lundberg, pers. comm.). Heptapterids are rare or absent in stagnant swamps. The presence and greater abundance of heptapterids in streams with dense vegetal coverage and waters of good quality is remarkable, so that they can work as efficient indicators to the health of the environment.

The family Heptapteridae includes several genera with troglomorphic species (Proudlove, 1997; Trajano, 1997): *Pimelodella kronei*, from State of São Paulo, southeastern Brazil, *Phreatobius* spp., from Brazilian Amazon, *Rhamdia* spp. from Mexico and Belize, *Rhamdiopsis* sp., an undescribed species from upper course of São Francisco River basin (Bockmann & Castro, in prep.), *Taunayia* sp., from northern State of Bahia, northeastern Brazil, and a new genus from Chapada Diamantina, State of Bahia, northeastern Brazil (Castro et al., in prep.). Also, an undescribed blind heptapterid, likely assignable to *Rhamdia*, was recently found in northwestern Venezuela (Lundberg, pers. comm.). Trajano & Bockmann (1999) presented a study on the evolution of ecology and behavior of Brazilian heptapterid cave catfishes. Several behavioral features of the species known to date were interpreted as appearing homoplastically, including regression of photophobia, of cryptobiotic habits and of circadian locomotor rhythms. Solitary habit is probably an autapomorphy of *P. kronei*, but a plesiomorphy for *Taunayia* sp. and the new genus. Non-strictly benthic habit may be an autapomorphy for the two latter. Adaptations to phreatic life are apomorphic for *Phreatobius*, *Taunayia* and the new genus. An overview on population size and densities, use of space, feeding, and life history of subterranean heptapterids is presented by Trajano (2001).

Species of *Acentronichthys* (Sato, 1987), *Cetopsorhamdia* (Casatti & Castro, 1998), *Imparfinis* (Saul, 1975; Casatti & Castro, 1998), *Pariolius* (Saul, 1975), *Pimelodella* (Saul, 1975; Soares-Porto, 1994; Aranha et al., 1998), *Rhamdia* (Costa, 1987; Castro & Casatti, 1997), and *Rhamdiopsis* (Castro & Casatti, 1997) had their dietary habits studied. Most of those heptapterids are generalized carnivores or omnivores that consume chiefly arthropods in all stages, from autochthonous and allochthonous sources, as well as, fishes, nematods, algae, debris of vascular plants etc. Lepidophagy, but not exclusive, has been reported in species for *Pimelodella* (Costa, 1987; Saul, 1975; Soares-Porto, 1994). An exception to carnivory appears to be *Phreatobius cisternarum*. During one entire year, an aquarium specimen of *P. cisternarum* did not eat any of the live or dead food items offered (Carvalho, 1967), so that it likely fed on microorganisms since it stayed in good health for the entire period of captivity (de Pinna, 1998). Species of *Cetopsorhamdia*, *Imparfinis*, *Phenacorhamdia*, *Pimelodella* were found hunting their prey by excavating the substrate, using their mouths and barbels to turn over the sand-gravel substrate (Casatti & Castro, 1998; Casatti et al., 2001). Feeding of *Pimelodella pappenheimi* was described by Aranha et al. (1998), who considered it having an opportunistic behavior of picking up items in the substrate.

Sex dimorphism is not present or scarcely developed in heptapterids. Juveniles of most species are miniature replicas of adults. There are few data on reproductive cycle of heptapterids, probably due its reduced importance in commercial fisheries and aquarium hobbyist. These catfishes are externally fertilizing and are not known to practice parental care. Amaral et al. (1998) described reproductive females of *Pimelodella pappenheimi* burrowing in the clay palisades of the sediments of a small coastal stream in southern Brazil, a behavior adaptation to protect the offspring from being washed away by seasonal

floods. Apparently, these fishes have long reproductive periods along the year and do not make noteworthy migratory displacements during the reproductive and spawning epochs (cf. Caramaschi, 1991; São-Tiago, 1990), which are efficient strategies for fishes that inhabit small-sized rivers, known for their small physical stability due seasonal floods. However, *Pimelodella pappenheimi* has been mentioned to reproduce mainly seasonally (Amaral et al., 1998). There are reports of migration of *R. quelen* (see references in Lamas, 1993), but this can be the case of large specimens, which likely only realize moderate movements.

Fossils of Heptapteridae are apparently rare, being restrict to broken spiny portions of the dorsal and pectoral fins, found in the Cenozoic of Buenos Aires Province, in Argentina. These fragments were identified as pertaining to "*Pimelodella cf. P. laticeps*" and "*Rhamdia cf. R. sapo*" in the localities "Arroyo del Azul" and "Paso de Otero", Pleistocenian formation of Luján (Arratia & Cione, 1996; Cione, 1982; 1986). Arratia & Cione (1996) reported "*Rhamdia cf. R. sapo*" from "Paso de Otero". These materials, however, deserve further studies to verify those identifications.

SPECIES INCERTAE SEDIS IN HEPTAPTERIDAE

***Pimelodus parvus* Boulenger, 1898**

Pimelodus (Rhamdia) parvus Boulenger, 1898: 7. Type locality: du Rio Santiago, du Rio Zamora et du Rio Bomboiza. Syntypes: BMNH 1898.11.4.5-6, BMNH 1898.11.4.7.

Maximum length: 8 cm SL

Distribution: South America: Maraón River basin.

Countries: Ecuador

Remarks and references: Silfvergrip (1996: 29) assigned it to *Nannorhamdia* [= *Imparfinis*].

ACENTRONICHTHYS

Acentronichthys Eigenmann & Eigenmann, 1889: 28. Type species: *Acentronichthys leptos* Eigenmann & Eigenmann, 1889. Type by original designation. Gender: masculine.

***Acentronichthys leptos* Eigenmann & Eigenmann, 1889**

Acentronichthys leptos Eigenmann & Eigenmann, 1889: 29. Type locality: Sao Matheos [=São Mateus, State of Espírito Santo, Brazil]. Holotype: MCZ 7532.

Maximum length: 9.1 cm SL

Distribution: South America: Coastal streams from Rio de Janeiro to Santa Catarina State, and in São Mateus, in Espírito Santo State (in Espírito Santo it is known only from its type locality).

Countries: Brazil

Common names: bagre, bagrinho, mandizinho.

BRACHYGLANIS

Brachyglanis Eigenmann, 1912: 156. Type species: *Brachyglanis frenata* Eigenmann, 1912. Type by original designation. Gender: masculine. Written as *Breviglanis* in Eigenmann (1910: 384), but without available species.

***Brachyglanis frenata* Eigenmann, 1912**

Brachyglanis frenata Eigenmann, 1912: 156. Type locality: Amatak [in Essequibo River basin, Guyana]. Holotype: FMNH [ex CM 1670] (missing).

Maximum length: 9.9 cm SL

Distribution: South America: Essequibo, Negro, Orinoco, and Urubu River basins.

Countries: Brazil, Guyana, Venezuela

***Brachyglanis magoi* Fernández-Yépez, 1967**

Brachyglanis magoi Fernández-Yépez, 1967: 162, pl. 1. Type locality: río Uruyén medio. Holotype: AFY 56611.

Maximum length: 8.3 cm SL

Distribution: South America: Caroní River basin in Orinoco River drainage.

Countries: Venezuela.

Common names: valentón, laulao

***Brachyglanis melas* Eigenmann, 1912**

Brachyglanis melas Eigenmann, 1912: 157, pl. 11 (fig. 2). Type locality: Crab Falls. Holotype: FMNH 53217 [ex CM 1672].

Maximum length: 6 cm TL

Distribution: South America: Essequibo River basin.

Countries: Guyana

***Brachyglanis microphthalmus* Bizerril, 1991**

Brachyglanis microphthalmus Bizerril, 1991: 2, fig. 1. Type locality: Brasil, Pará, Município de Oriximiná, Bacia do rio Trombetas, drenagem do Lago Sapucaá, Igarapé Saracá. Holotype: MNRJ 11788.

Maximum length: 6.8 cm SL

Distribution: South America: Trombetas River basin.

Countries: Brazil

***Brachyglanis nocturnus* Myers, 1928**

Brachyglanis nocturnus Myers, 1928: 84. Type locality: Rock-pools at São Gabriel Rapids, Rio Negro, Brazil. Holotype: CAS 63393.

Maximum length: 8.1 cm SL

Distribution: South America: Negro River basin.

Countries: Brazil

***Brachyglanis phalacra* Eigenmann, 1912**

Brachyglanis phalacra Eigenmann, 1912: 157, pl. 12 (fig. 1), pl. 13 (fig. 1). Type locality: Amatak [in Essequibo River basin, Guyana]. Holotype: FMNH 53216 [ex CM 1671].

Maximum length: 8.1 cm TL

Distribution: South America: Essequibo River basin.

Countries: Guyana

BRACHYRHAMDIA

Brachyrhamdia Myers, 1927: 123. Type species: *Brachyrhamdia imitator* Myers, 1927. Type by original designation and monotypy. Gender: feminine.

***Brachyrhamdia heteropleura* (Eigenmann, 1912)**

Pimelodus heteropleurus Eigenmann, 1912: 176, pl. 16 (fig. 2). Type locality: Rupununi Pan [in Essequibo River basin, Guyana]. Holotype: FMNH 53336 [ex CM 1734].

Maximum length: 4.3 cm SL

Distribution: South America: Coratijn, Essequibo, and Negro River basins.

Countries: Brazil, Guyana, Suriname

Remarks and references: Suggested to be closely related to *Brachyrhamdia* and *Pimelodella* (Lundberg et al., 1991b: 860).

***Brachyrhamdia imitator* Myers, 1927**

Brachyrhamdia imitator Myers, 1927: 123. Type locality: Caño de Quiribana, near Caicara. Holotype: CAS 54359 [ex IU 17695].

Maximum length: 5.4 cm SL

Distribution: South America: Caura River basin in Orinoco River drainage.

Countries: Venezuela.

***Brachyrhamdia marthae* Sands & Black, 1985**

Brachyrhamdia marthae Sands & Black, 1985: 58 (4), photographs on p. 58 (7). Type locality: Peru, aquarium import. Holotype: RMNH 29424.

Maximum length: 7.6 cm SL

Distribution: South America: Juruá and Mamoré/Madeira River basins.

Countries: Bolivia, Brazil, Peru

***Brachyrhamdia meesi* Sands & Black, 1985**

Brachyrhamdia meesi Sands & Black, 1985: 58 (5), photographs on p. 58 (7). Type locality: Near Belem, Brazil. Holotype: RMNH 29425.

Maximum length: 6.1 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil

***Brachyrhamdia rambarrani* (Axelrod & Burgess, 1987)**

Pimelodella rambarrani Axelrod & Burgess in Axelrod, 1987: 24, figs. Type locality: Rio Unini, trib. of Rio Negro, Amazonas, Brazil. Holotype: MZUSP 37693.

Maximum length: 5.5 cm SL

Distribution: South America: Unini River basin in upper Negro River drainage.

Countries: Brazil

CETOPSORHAMDIA

Cetopsorhamdia Eigenmann & Fisher in Eigenmann, 1916: 83. Type species: *Cetopsorhamdia nasus* Eigenmann, 1916. Type by original designation and monotypy. Gender: feminine.

***Cetopsorhamdia boquillae* Eigenmann & Fisher in Eigenmann, 1922**

Cetopsorhamdia boquillae Eigenmann & Fisher in Eigenmann, 1922: 37, pl. 1 (fig. 3). Type locality: Boquilla. Holotype: FMNH 55212 [ex CM 3923].

Maximum length: 7.2 cm SL

Distribution: South America: Cauca River basin in Magdalena River drainage.

Countries: Colombia

***Cetopsorhamdia filamentosa* Fowler, 1945**

Cetopsorhamdia filamentosa Fowler, 1945: 4, fig. 5. Type locality: San Ramón, Vallé de Chanchamayo, at 800 meters elevation, Peru. Holotype: ANSP 71637.

Maximum length: 2.9 cm TL

Distribution: South America: Tulumayo River basin in upper Ucayali River drainage.

Countries: Peru

***Cetopsorhamdia iheringi* Schubart & Gomes, 1959**

Cetopsorhamdia iheringi Schubart & Gomes, 1959: 1, fig. 1. Type locality: Ribeirão Areia Branca, próximo à estrada carroçável para Piraçununga, bacia do Rio Mogi Guaçu, Município de Descalvado [Brazil]. Holotype: EEBP 368.

Maximum length: 10.6 cm SL

Distribution: South America: Upper reaches of the Paraná and São Francisco River basins.

Countries: Brazil

Common names: bagrinho, lobó

***Cetopsorhamdia insidiosa* (Steindachner, 1917)**

Imparfinis insidiosus Steindachner, 1917: 61, pl. 12 (fig. 7). Type locality: Rio branco bei Bem Querer und im Rio Surumú, einem Nebenflusse des Rio Miang. Syntypes: NMW 46095.

Maximum length: 7.7 cm SL

Distribution: South America: Branco River basin.

Countries: Brazil

Remarks and references: The article containing the original description of *I. insidiosus* was presented in a meeting two years earlier (Steindachner, 1917: 58), but this species was not included in the respective abstract (Steindachner, 1915).

***Cetopsorhamdia molinae* Miles, 1943**

Cetopsorhamdia molinae Miles, 1943: 26. Type locality: Bugalagrande. Holotype: ICNMHN probably lost (see Cala, 1981: 1).

Cetopsorhamdia shermani Schultz, 1944b: 220, pl. 2 (fig. c). Type locality: Río Guárico and tributaries between San Sebastián and San Casimiro (Orinoco system), Estado de Aragua, Venezuela. Holotype: USNM 121216.

Maximum length: 3.6 cm SL

Distribution: South America: Magdalena, Orinoco, and Tocantins River basins.

Countries: Brazil, Colombia, Venezuela

Common names: bagrecito (Venezuela)

***Cetopsorhamdia nasus* Eigenmann & Fisher, 1916**

Cetopsorhamdia nasus Eigenmann & Fisher in Eigenmann, 1916: 83. Type locality: Honda, Colombia. Holotype: FMNH 58126 [ex CM 7124].

Maximum length: 7.2 cm TL

Distribution: South America: Magdalena River basin.

Countries: Colombia

Common names: bobito, ciego

Remarks and references: Holotype illustrated in Eigenmann & Fisher in Eigenmann (1922: 36, fig. 10, 285, pl. 4, fig. 1).

***Cetopsorhamdia orinoco* Schultz, 1944**

Cetopsorhamdia orinoco Schultz, 1944b: 225, pl. 3 (fig. A). Type locality: Río Torbes, 1 km. above Tárriba, Orinoco system, Venezuela. Holotype: USNM 121214.

Maximum length: 5.4 cm SL

Distribution: South America: Napo and Orinoco River basins.

Countries: Ecuador, Venezuela

Common names: bagrecito

***Cetopsorhamdia phantasia* Stewart, 1985**

Cetopsorhamdia phantasia Stewart, 1985: 340, fig. 1. Type locality: Ecuador, Río Jivino, west of Limoncocha, approx. 0°24.6'S, 76°39.0'W. Holotype: FMNH 94601.

Maximum length: 4 cm SL

Distribution: South America: Napo River basin.

Countries: Ecuador

***Cetopsorhamdia picklei* Schultz, 1944**

Cetopsorhamdia picklei Schultz, 1944b: 222, pl. 2 (fig. D). Type locality: Río Motatán, 4 km. above Motatán, Maracaibo basin. Holotype: USNM 121217.

Maximum length: 12 cm SL

Distribution: South America: Maracaibo Lake basin.

Countries: Venezuela

Common names: bagrecito, bagresito

CHASMOCRANUS

Chasmocranus Eigenmann, 1912: 160. Type species: *Chasmocranus longior* Eigenmann, 1912. Type by original designation. Gender: masculine. Named *Chasmocephalus* in Eigenmann (1910: 384) but without available species.

***Chasmocranus brachynema* Gomes & Schubart, 1958**

Chasmocranus brachynema Gomes & Schubart, 1958: 413, fig. 1. Type locality: Rio Mogi Guaçu, Cachoeira de Emas, Município de Piraçununga, Estado de São Paulo. Holotype: EEBP 617.

Maximum length: 13.1 cm SL

Distribution: South America: Mogi Guaçu River basin in upper

Paraná River drainage.
Countries: Brazil

***Chasmocranus brevior* Eigenmann, 1912**

Chasmocranus brevior Eigenmann, 1912: 162, pl. 15 (fig. 1). Type locality: Waratuk. Holotype: FMNH 53213 [ex CM 1662].
Maximum length: 7.9 cm SL
Distribution: South America: Mana and Marowijne/Maroni River basins, and Potaro River.
Countries: French Guiana, Guyana, Suriname

***Chasmocranus chimantanus* Inger, 1956**

Chasmocranus chimantanus Inger, 1956: 425, fig. 92. Type locality: Rio Abácapa on west side of Chimantá-tepui. Holotype: FMNH 45704.
Maximum length: 8.9 cm SL
Distribution: South America: Caroní and Carapo River basins in Orinoco River drainage.
Countries: Venezuela

***Chasmocranus longior* Eigenmann, 1912**

Chasmocranus longior Eigenmann, 1912: 160, pl. 14 (fig. 2). Type locality: Amatuk. Holotype: FMNH 53208 [ex CM 1655].
Maximum length: 17 cm SL
Distribution: South America: Coastal drainages from Guyana to Surinam, Negro, Orinoco, and Xingu River basins.
Countries: Brazil, Guyana, Surinam, Venezuela
Remarks and references: Populations of *Chasmocranus* currently assigned to *C. longior* from the Maroni River, in French Guiana, to State of Amapá, in Brazil, pertain to an undescribed species.

***Chasmocranus lopezi* Miranda Ribeiro, 1968**

Chasmocranus Lopezi Miranda Ribeiro, 1968: 4, fig. 2. Type locality: Corrego Quente - Cubatão? - Estado de São Paulo - Brasil. Holotype: MNRJ 9705.
Maximum length: 5.4 cm TL
Distribution: South America: Undetermined stream in São Paulo State.
Countries: Brazil

***Chasmocranus peruanus* Eigenmann & Pearson, 1942**

Chasmocranus peruanus Eigenmann & Pearson in Eigenmann & Allen, 1942: 91, pl. 3 (fig. 4). Type locality: Puerto Melendez below Pongo de Manseriche, Rio Marañon. Holotype: CAS 63627 [ex IU 15869] smaller specimen.
Maximum length: 5.2 cm SL
Distribution: South America: Upper Amazon River basin.
Countries: Peru
Common names: bagre

***Chasmocranus quadrizonatus* Pearson, 1937**

Chasmocranus quadrizonatus Pearson, 1937: 93. Type locality: Tingo de Pauca, Rio Marañon, Peru. Holotype: CAS 63628 [ex IU 17659].
Maximum length: 4.9 cm SL
Distribution: South America: Marañon River basin.
Countries: Peru
Common names: bagre

***Chasmocranus rosae* Eigenmann, 1919**

Chasmocranus rosae Eigenmann, 1919b: 127. Type locality: Rio Negro, Villavicencio. Holotype: FMNH 55140 [ex CM 3841].
Maximum length: 5.5 cm SL
Distribution: South America: Meta River basin.
Countries: Colombia

***Chasmocranus surinamensis* (Bleeker, 1862)**

Heptapterus surinamensis Bleeker, 1862: 387. Type locality: Surinama. Holotype: RMNH 2984.

Maximum length: 12.3 cm SL
Distribution: South America: Suriname River basin.
Countries: Suriname.
Remarks and references: According to Mees (1967: 226), type locality of *H. surinamensis* in the Suriname River is presumably not far from Paramaribo.

***Chasmocranus truncatorostris* Borodin, 1927**

Chasmocranus truncatorostris Borodin, 1927b: 5, fig. 4. Type locality: Col. Hansa Joinville, Sta. Catharina Prov., Brazil. Holotype: AMNH 8640.
Maximum length: 11 cm SL
Distribution: South America: Known only from the type locality.
Countries: Brazil.

GLADIOGLANIS

Gladioglanis Ferraris & Mago-Leccia, 1989: 166. Type species: *Gladioglanis machadoi* Ferraris & Mago-Leccia, 1989. Type by original designation. Gender: masculine.

***Gladioglanis conquistador* Lundberg, Bornbusch & Mago-Leccia, 1991**

Gladioglanis conquistador Lundberg, Bornbusch & Mago-Leccia, 1991: 192, fig. 7A. Type locality: Ecuador, Napo Province, Río Napo basin, Río Aguarico sub-basin, north tributary of Río Cuyabeno, ca 3 km above Laguna Grande de Cuyabeno, 0°1.5'S, 76°13.2'W. Holotype: FMNH 99288.
Maximum length: 3.9 cm SL
Distribution: South America: Capim, Napo, Purus, and Solimões River basins.
Countries: Brazil, Ecuador

***Gladioglanis machadoi* Ferraris & Mago-Leccia, 1989**

Gladioglanis machadoi Ferraris & Mago-Leccia, 1989: 167, fig. 1. Type locality: Territorio Federal Amazonas, Venezuela, Departamento Río Negro, Caño Manu of Casiquiare canal, approx. 250 m upstream of Solano, 2°00'N, 66°57'W. Holotype: MBUCV V-16000.
Maximum length: 3.4 cm SL
Distribution: South America: Negro and Orinoco River basins.
Countries: Brazil, Venezuela
Common names: bagre (Venezuela)

GOELDIELLA

Goeldiella Eigenmann & Norris, 1900: 353. Type species: *Pimelodus eques* Müller & Troschel, 1848. Type by original designation. Gender: feminine.

***Goeldiella eques* (Müller & Troschel, 1848)**

Pimelodus eques Müller & Troschel in Schomburgk, 1848: 628. Type locality: in allen Flüssen Guiana's. Holotype: ZMB 3049.
Maximum length: 28.9 cm SL
Distribution: South America: Guyana and Amazon River basins.
Countries: Brazil, Guyana, Peru, Venezuela
Common names: bagre

HEPTAPTERUS

Heptapterus Bleeker, 1858: 197. Type species: *Pimelodus mustelinus* Valenciennes, 1835. Type by monotypy. Gender: masculine.

***Heptapterus bleekeri* Boeseman, 1953**

Heptapterus bleekeri Boeseman, 1953: 3, fig. 1a. Type locality: Marowijne basin [Type locality was corrected to creek on eastern side of the Nassau Mountains, belonging to the Marowijne/Maroni River basin, Suriname by Mees (1983: 55)]. Nassau Mountains in brooklet. Holotype: RMNH 19421 (largest of 2).

Maximum length: 14.4 cm SL
 Distribution: South America: Marowijne/Maroni River basin, and State of Amapá.
 Countries: Brazil, French Guiana, Suriname

Heptapterus collettii (Steindachner, 1881)

Heptapterus collettii Steindachner, 1881a: 98. Type locality: La Plata (?). Syntype: NMW 46191:1.
 Maximum length: 5.8 cm SL
 Distribution: South America: La Plata (?).
 Countries: Argentina (?)
 Remarks and references: Species first described in above abstract, later illustrated and described in more detail in Steindachner (1881b: 7, pl. 5, fig. 1) and Steindachner (1882: 7, pl. 5, fig. 1).

Heptapterus fissipinnis Miranda Ribeiro, 1911

Heptapterus fissipinnis Miranda Ribeiro, 1911: 240. Text says pl. 35 (fig. 5), but there is no illustration. Type locality: corrego afluyente do Rio Estrella [probably in the State of Rio de Janeiro, Brazil]. Holotype: MNRJ (probably lost). Misspelled *ñssipinnis* in heading for account.
 Maximum length: 6 cm TL
 Distribution: South America: Stream tributary to the Estrela River.
 Countries: Brazil

Heptapterus multiradiatus Ihering, 1907

Heptapterus multiradiatus Ihering, 1907: 20. Type locality: ribeirão do Alto da Serra, Estado de S. Paulo. Holotype: MZUSP 294.
 Maximum length: 9.6 cm SL
 Distribution: South America: Upper Tietê River basin.
 Countries: Brazil

Heptapterus mustelinus (Valenciennes, 1835)

Pimelodus mustelinus Valenciennes, 1835: pl. 2 (fig. 1). Type locality: Rio de la Plata. No types known.
Heptapterus eigenmanni Steindachner, 1907: 487. Type locality: Maldonado. Lectotype: MCZ 7597, designated by Buckup (1988: 650) but wrongly cited as MCZ 7579.
 Maximum length: 20.9 cm SL
 Distribution: South America: La Plata and Uruguay River basins, and coastal drainages of southern Brazil.
 Countries: Argentina, Brazil, Uruguay
 Common names: bagre, bagre-de-pedra (Brazil); bagre, bagre anguilla, refalosa, resbalisa, resbalosa, tusca, yusca (Argentina)
 Remarks and references: Name available from plate (cf. Sherborn & Griffin, 1934: 131); the correspondent text appeared only in Valenciennes (1847: 7) as *Pimelodus mustelinus*.

Heptapterus ornaticeps Ahl, 1936

Heptapterus ornaticeps Ahl, 1936: 110. Type locality: Rio de Janeiro [probably incorrect]. Holotype: ZMB 20933.
 Maximum length: 6.8 cm SL
 Distribution: South America: Rio de Janeiro, Brazil (?).
 Countries: Brazil (?)

Heptapterus stewarti Haseman, 1911

Heptapterus stewarti Haseman, 1911b: 376, pl. 74. Type locality: Serrinha Paraná, in a creek about one-half mile from the Rio Iguassú. Holotype: FMNH 54234 [ex CM 2850].
 Maximum length: 13.9 cm SL
 Distribution: South America: Iguaçú River basin.
 Countries: Brazil
 Common names: bagre da pedra, chicote, cobriッサ

Heptapterus sympterygium Buckup, 1988

Heptapterus sympterygium Buckup, 1988: 644, fig. 1. Type locality: Canal at east side of highway BR-471 near pumping house of the Departamento Nacional de Obras de Saneamento (DNOS), 52°31'W, 32°32'S, Ecological Station of Taim (EET), Rio

Grande, State of Rio Grande do Sul (RS), Brazil. Holotype: MZUSP 19179.
 Maximum length: 4.7 cm SL
 Distribution: South America: Coastal lowlands of eastern Rio Grande do Sul State.
 Countries: Brazil

Heptapterus tapanahoniensis Mees, 1967

Heptapterus tapanahoniensis Mees, 1967: 223, fig. 2. Type locality: Tapanahoni, about two kilometres [sic] downstream from its confluence with the Paloemeu. Holotype: RMNH 25546.
 Maximum length: 11.1 cm SL
 Distribution: South America: Maroni/Marowijne and Sinnamary River basins.
 Countries: French Guiana, Suriname

Heptapterus tenuis Mees, 1986

Heptapterus tenuis Mees, 1986: 322, fig. 3. Type locality: Crique Cascade Moyen, Maroni. Holotype: RMNH 29422.
 Maximum length: 7.3 cm SL
 Distribution: South America: Maroni/Marowijne River basin.
 Countries: French Guiana

HORIOMYZON

Horiomyzon Stewart, 1986b: 47. Type species: *Horiomyzon retropinnatus* Stewart, 1986. Type by original designation. Gender: masculine.

Horiomyzon retropinnatus Stewart, 1986

Horiomyzon retropinnatus Stewart, 1986b: 48, fig. 1. Type locality: Ecuador, Napo Province, Río Napo at Añangu, just downstream from confluence with Río Añangu Cocha, lat. 0°31.6'S, long. 76°22.9'W. Holotype: FMNH 96553.
 Maximum length: 2.4 cm SL
 Distribution: South America: Amazon and Napo River basins.
 Countries: Brazil, Ecuador

IMPARALES

Imparales Schultz, 1944a: 93. Type species: *Imparales mariaii* Schultz, 1944a. Type by original designation. Gender: masculine.

Imparales mariaii Schultz, 1944

Imparales mariaii Schultz, 1944a: 94, fig. 1. Type locality: Río Meta system at Villavicencio, Colombia (Orinoco drainage). Holotype: USNM 121251.
 Maximum length: 3.8 cm SL
 Distribution: South America: Meta River basin.
 Countries: Colombia

Imparales panamensis Bussing, 1970

Imparales panamensis Bussing, 1970: 7, fig. 2. Type locality: Panamá: Veraguas Prov., creek crossing road on s side of Santa Fe (elev. 305 m). Holotype: USNM 204692.
 Maximum length: 7.2 cm SL
 Distribution: Central America: River basin draining Veraguas Province, Tuirá River basin in the Darién Province, Frijoles River in the Panamá Province.
 Countries: Panama

IMPARFINIS

Imparfinis Eigenmann & Norris, 1900: 351. Type species: *Imparfinis piperatus* Eigenmann & Norris, 1900. Type by monotypy. Gender: masculine.

Nannorhamdia Regan, 1913b: 467. Type species: *Nannorhamdia spurrellii* Regan, 1913. Type by monotypy. Gender: feminine.

Imparfinis borodini Mees & Cala, 1989

Imparfinis longicauda Borodin, 1927b: 4, fig. 3. Type locality:

Franca, Rio Grande, Prov. of S. Paulo, Brazil. Holotype: AMNH 8639. Preoccupied in *Imparfinis* by *Pimelodus longicauda* Boulenger, 1887, replaced by *Imparfinis borodini* Mees & Cala (1989).

Imparfinis borodini Mees & Cala, 1989: 387. Type locality: Franca, Rio Grande, Prov. of S. Paulo, Brazil. Holotype: AMNH 8639. Replacement for *Imparfinis longicauda* Borodin, 1927.

Maximum length: 15.7 cm SL

Distribution: South America: Upper Paraná, São Francisco, and Tocantins River basins

Countries: Brazil

Common names: Bagre, mané-comprido

***Imparfinis cochabambae* (Fowler, 1940)**

Pimelodella cochabambae Fowler, 1940b: 80, fig. 36. Type locality: Boca Chapare, Cochabamba, Bolivia. Holotype: ANSP 69066.

Maximum length: 6 cm SL

Distribution: South America: Beni River basin.

Countries: Bolivia

***Imparfinis guttatus* (Pearson, 1924)**

Nannorhamdia guttatus Pearson, 1924: 11, pl. 2 (fig. 2). Type locality: Popoi River, Upper Beni. Holotype: CAS 63689 [ex IU 17268].

Maximum length: 12.7 cm SL

Distribution: South America: Mamoré and Pilcomayo River basins.

Countries: Bolivia, Peru

***Imparfinis hasemani* Steindachner, 1917**

Imparfinis hasemani Steindachner, 1917: 59, fig. 1. Type locality: Rio Surumú bei Serra do Mello, dem Rio branco bei Bem Querer und dem Rio Tapajos bei Santarem. Syntypes: NMW 46093: 1.

Maximum length: 8.1 cm SL

Distribution: South America: Branco and Tapajós River basins.

Countries: Brazil

Remarks and references: The article containing the original description of *I. hasemani* was presented in a meeting two years earlier (cf. Steindachner, 1917: 58), but this species was not included in the respective abstract (Steindachner, 1915).

***Imparfinis hollandi* Haseman, 1911**

Imparfinis hollandi Haseman, 1911b: 383, pl. 48 (fig. 2). Type locality: Porto União da Victoria, Rio Iguassú. Holotype: FMNH 54244 [ex CM 2864].

Maximum length: 23 cm SL

Distribution: South America: Iguazu River basin.

Countries: Argentina, Brazil

Common names: Guasco

***Imparfinis lineatus* (Bussing, 1970)**

Nannorhamdia lineata Bussing, 1970: 1, fig. 1. Type locality: Costa Rica: Puntarenas Prov., Quebrada 36 (elev. 80 m) 12 km W of Pueblo Río Claro at Interamerican Highway. Holotype: LACM 30688-1.

Maximum length: 7 cm SL

Distribution: Central America: Streams in Puntarenas Province.

Countries: Costa Rica

***Imparfinis longicaudus* (Boulenger, 1887)**

Pimelodus (Rhamdia) longicauda Boulenger, 1887: 275, pl. 20 (fig. 2). Type locality: Canelos [Ecuador]. Syntypes: BMNH 1880.12.8.100-104.

Maximum length: 11.7 cm.

Distribution: South America: Bobonaza River basin in upper Parata River drainage.

Countries: Ecuador

Common names: Bagre

***Imparfinis microps* Eigenmann & Fisher, 1916**

Imparfinis microps Eigenmann & Fisher in Eigenmann, 1916: 82.

Type locality: Rio Negro at Villavicencio, Colombia. Holotype: FMNH 57793 [ex CM 6776 (78 mm), not 8778].

Maximum length: 6.1 cm SL

Distribution: South America: Meta River basin.

Countries: Colombia

Remarks and references: Holotype illustrated in Eigenmann & Fisher in Eigenmann (1922: 285, pl. 4, fig. 2-3). Wrongly described as a new species in Eigenmann & Fisher in Eigenmann (1919b: 128).

***Imparfinis minutus* (Lütken, 1874)**

Rhamdia minuta Lütken, 1874: 35. Type locality: in provincia Minas-geraes circa oppidulum Lagoa Santa, praecipue in flumine Rio das Velhas et affluentibus. Syntypes: ZMUC 325x, 327x, 328.

Maximum length: 7.2 cm SL

Distribution: South America: Upper São Francisco River basin.

Countries: Brazil

Common names: bagre, bagrinho, mandizinho

Remarks and references: Detailed description and illustration of *R. minuta* appeared in Lütken (1875: 179-180, pl. 3, fig. 6).

***Imparfinis mirini* Haseman, 1911**

Imparfinis mirini Haseman, 1911a: 318, pl. 47. Type locality: Near Piracicaba above the falls of Rio Piracicaba-mirini. Holotype: FMNH 54335 [ex CM 2981].

Maximum length: 8.5 cm SL

Distribution: South America: Upper Araguaia and Paraná River basins.

Countries: Brazil

Common names: bagrinho, lobó, mandizinho

***Imparfinis nemacheir* (Eigenmann & Fischer, 1916)**

Nannorhamdia nemacheir Eigenmann & Fisher in Eigenmann, 1916: 83. Type locality: Girardot, Colombia. Holotype: FMNH 58127 [ex CM 7125].

Maximum length: 9.9 cm SL

Distribution: South America: Upper Amazon and Orinoco River basins, and Lake Maracaibo basin.

Countries: Colombia, Peru, Venezuela

Common names: bagrecito, bagresito (Venezuela)

Remarks and references: Holotype illustrated in Eigenmann & Fisher in Eigenmann (1922: 41, fig. 13, 285, pl. 4, fig. 4).

***Imparfinis pijpersi* (Hoedeman, 1961)**

Cetopsorhamdia pijpersi Hoedeman, 1961: 132, fig. 2. Type locality: Surinam: ... Sipaliwini river, sta. 43, 20 km from frontier with Brasil. Holotype: ZMA 102230.

Maximum length: 9.5 cm SL

Distribution: South America: Coratijn River basin.

Countries: Suriname

***Imparfinis piperatus* Eigenmann & Norris, 1900**

Imparfinis piperatus Eigenmann & Norris, 1900: 352. Type locality: S. Paulo, Brazil. Holotype: CAS 63636 [ex IU 9298].

Maximum length: 3.2 cm SL

Distribution: South America: State of São Paulo

Countries: Brazil

Remarks and references: The locality where the holotype of *Imparfinis piperatus* was collected, according the title of the article in which was described, is "S. Paulo, Brazil" [=State of São Paulo, Brazil], either in tributaries of upper Paraná River and coastal streams (Eigenmann & Norris, 1900: 349).

***Imparfinis pristos* Mees & Cala, 1989**

Imparfinis pristos Mees & Cala, 1989: 391, fig. 3. Type locality: Colombia: ... second tributary, left side, from the mouth of the

Rio Tomo, Vichada. Holotype: ICNMHN 1401.
Maximum length: 3.8 cm SL
Distribution: South America: Negro and Orinoco River basins.
Countries: Brazil, Venezuela

***Imparfinis pseudonemacheir* Mees & Cala, 1989**

Imparfinis pseudonemacheir Mees & Cala, 1989: 387, fig. 2. Type locality: Venezuela: ... Rio Tucuragua, near Caicara, Bolívar. Holotype: RMNH 30489 (1 of 3, 37.5 mm SL).

Maximum length: 4 cm SL
Distribution: South America: Orinoco and Ucayali River basins.
Countries: Colombia, Peru, Venezuela

***Imparfinis schubarti* (Gomes, 1956)**

Nannorhamdia schubarti Gomes, 1956: 404, fig. 1. Type locality: da Cachoeira de Emas, Rio Mogi Guaçu, e do Córrego do Tijuco Prêto, um seu afluente, Município de Pirassununga, São Paulo. Holotype: EEBP 379.

Maximum length: 9.3 cm SL
Distribution: South America: Upper Paraná River basin.
Countries: Brazil
Common names: bagrinho, lobó, mandizinho

***Imparfinis spurrellii* (Regan, 1913)**

Nannorhamdia spurrellii Regan, 1913b: 467. Type locality: R. Condoto. Holotype: BMNH 1913.10.1.41.

Maximum length: 6.2 cm SL
Distribution: South America: San Juan River basin.
Countries: Colombia

***Imparfinis stictionotus* (Fowler, 1940)**

Nannorhamdia stictionotus Fowler, 1940b: 66, fig. 22. Type locality: Todos Santos, Rio Chapare, Bolivia. Holotype: ANSP 68892.

Maximum length: 4.8 cm SL
Distribution: South America: Mamoré/Madeira, Paraguay, and Ucayali River basins.
Countries: Bolivia, Brazil, Ecuador
Common names: bagrinho, mandizinho (Brazil)

LEPTORHAMDIA

Leptoglanis Eigenmann, 1912: 158. Type species: *Leptoglanis essequibensis* Eigenmann, 1912. Type by original designation. Gender: masculine. Preoccupied by *Leptoglanis* Boulenger, 1902.

Leptorhamdia Eigenmann, 1918: 260. Type species: *Leptoglanis essequibensis* Eigenmann, 1912. Type by being a replacement name. Gender: feminine. Replacement for *Leptoglanis* Eigenmann, 1912.

***Leptorhamdia essequibensis* (Eigenmann, 1912)**

Leptoglanis essequibensis Eigenmann, 1912: 158, pl. 13 (fig. 2). Type locality: Crab Falls. Holotype: FMNH 53331 [ex CM 1652].

Maximum length: 16 cm SL
Distribution: South America: Essequibo and lower Tocantins River basins.
Countries: Brazil, Guyana

***Leptorhamdia marmorata* Myers, 1928**

Leptorhamdia marmorata Myers, 1928: 83. Type locality: Rockpools at São Gabriel Rapids, Rio Negro, Brazil. Holotype: CAS 63671.

Maximum length: 12.8 cm SL
Distribution: South America: Negro River basin.
Countries: Brazil, Venezuela

***Leptorhamdia schultzi* (Miranda Ribeiro, 1964)**

Rhamdella schultzi Miranda Ribeiro, 1964: 1, fig. 1. Type locality: Alto Rio Xingú. Holotype: MNRJ 9549.

Maximum length: 9.4 cm SL (Miranda Ribeiro, 1964: 1).
Distribution: South America: Upper Xingu River basin.
Countries: Brazil

MASTIGLANIS

Mastiglanis Bockmann, 1994: 762. Type species: *Mastiglanis asopos* Bockmann, 1994. Type by original designation. Gender: masculine.

***Mastiglanis asopos* Bockmann, 1994**

Mastiglanis asopos Bockmann, 1994: 762, fig. 1. Type locality: Brazil, Pará, Igarapé Saracazinho, tributary of rio Trombetas, near Porto Trombetas. Holotype: MNRJ 12227.

Maximum length: 6.6 cm SL
Distribution: South America: Amazon, Capim, and Orinoco River basins.
Countries: Brazil, Venezuela
Common names: bagrinho, mandizinho (Brazil)

MEDEMICHTHYS

Medemichthys Dahl, 1961: 490. Type species: *Medemichthys guayaberensis* Dahl, 1961. Type by original designation. Gender: masculine.

***Medemichthys guayaberensis* (Dahl, 1961)**

Medemichthys guayaberensis Dahl, 1961: 491, unnum. fig. [2] on p. 493. Type locality: small brook near the Expedition's camp I, on the left side of the Guayabero River. Holotype: probably lost (see Cala, 1981: 1).

Maximum length: 4.1 cm SL
Distribution: South America: Guaviare River basin.
Countries: Colombia

MYOGLANIS

Myoglanis Eigenmann, 1912: 159. Type species: *Myoglanis potaroensis* Eigenmann, 1912. Type by original designation. Gender: masculine.

***Myoglanis koepcke* Chang, 1999**

Myoglanis koepcke Chang, 1999: 434, fig. 1. Type locality: Peru, Departamento Loreto, Provincia Maynas, Quebrada of the Mishana camp, small tributary of the Río Nanay, 03°52'S, 73°29'W, 107 m elevation. Holotype: MUSM 10045.

Maximum length: 5.9 cm SL
Distribution: South America: Upper Amazon River basin.
Countries: Peru

***Myoglanis potaroensis* Eigenmann, 1912**

Myoglanis potaroensis Eigenmann, 1912: 159, pl. 14 (fig. 1). Type locality: Creek at Tukeit [Guyana]. Holotype: FMNH 53333 [ex CM 1664].

Maximum length: 11.3 cm TL
Distribution: South America: Essequibo River basin.
Countries: Guyana

NANNOGLANIS

Nannoglanis Boulenger, 1887: 278. Type species: *Nannoglanis fasciatus* Boulenger, 1887. Type by monotypy. Gender: masculine.

***Nannoglanis fasciatus* Boulenger, 1887**

Nannoglanis fasciatus Boulenger, 1887: 278, pl. 21 (fig. 3). Type locality: eastern Ecuador. Syntypes: BMNH 1880.12.5.149-150.

Maximum length: 4.5 cm SL
Distribution: South America: Napo River basin.
Countries: Ecuador

NEMUROGLANIS

Nemuroglanis Eigenmann & Eigenmann, 1889: 29. Type species: *Nemuroglanis lanceolatus* Eigenmann & Eigenmann, 1889. Type by original designation. Gender: masculine.

***Nemuroglanis lanceolatus* Eigenmann & Eigenmann, 1889**

Nemuroglanis lanceolatus Eigenmann & Eigenmann, 1889: 29. Type locality: Jutahy [= Jutaf River, tributary of the Solimões River, State of Amazonas, Brazil]. Holotype: MCZ 8169.

Maximum length: 3.8 cm SL

Distribution: South America: Napo and Solimões River basins.

Countries: Brazil, Ecuador

***Nemuroglanis pauciradiatus* Ferraris, 1988**

Nemuroglanis pauciradiatus Ferraris, 1988: 510, fig. 1. Type locality: Venezuela: Territorio Federal Amazonas; morichal 26.9 km from Puerto Ayacucho along Puerto Ayacucho to Caicara highway. Holotype: MBUCV V-16450.

Maximum length: 3.3 cm SL

Distribution: South America: Negro, Orinoco and Sanabani River basins.

Countries: Brazil, Venezuela

PARIOLIUS

Pariolius Cope, 1872: 289. Type species: *Pariolius armillatus* Cope, 1872. Type by monotypy. Gender: masculine.

***Pariolius armillatus* Cope, 1872**

Pariolius armillatus Cope, 1872: 289. Type locality: Ambyiacu [=Ambyiacu River, tributary of the Amazon River basin, Peru]. Holotype: ANSP 22004.

Maximum length: 3.2 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Brazil, Peru

Common names: bagre

PHENACORHAMDIA

Phenacorhamdia Dahl, 1961: 504. Type species: *Phenacorhamdia macarenensis* Dahl, 1961. Type by original designation. Gender: feminine.

***Phenacorhamdia anisura* (Mees, 1987)**

Heptapterus anisurus Mees, 1987: 451, fig. 1. Type locality: Río Guarapiche near Maturin, Monagas, Venezuela. Holotype: RMNH 30499.

Maximum length: 4 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

***Phenacorhamdia boliviana* (Pearson, 1924)**

Imparfinis bolivianus Pearson, 1924: 12, pl. 2 (fig. 3). Type locality: Huachi. Syntypes: CAS 63632 [IU 17269].

Maximum length: 5.8 cm SL

Distribution: South America: Upper Mamoré/Madeira River basin.

Countries: Bolivia

Common names: bagre

***Phenacorhamdia hoehnei* (Miranda Ribeiro, 1914)**

Nannoglanis hoehnei Miranda Ribeiro, 1914: 3, pl. 1 (fig. 1). Type locality: Rio Taquary, Matto Grosso. Lectotype: MNRJ 787A, designated by Miranda Ribeiro (1953: 403).

Maximum length: 3 cm SL

Distribution: South America: Taquari River basin in Paraguari River drainage.

Countries: Brazil

Common names: bagrinho, lobó, mandizinho

***Phenacorhamdia macarenensis* Dahl, 1961**

Phenacorhamdia macarenensis Dahl, 1961: 504, unnum. fig. [6] on p. 507. Type locality: Caño Lozada. Holotype: probably lost (see Cala, 1981: 1).

Maximum length: 4.3 cm SL

Distribution: South America: Guaviare River basin.

Countries: Colombia

***Phenacorhamdia nigrolineata* Zarske, 1998**

Phenacorhamdia nigrolineata Zarske, 1998: 27, fig. 1. Type locality: Tierra Roja na der Strabe Campoverde – Tournavista, nahe Pucallpa, Departamento Ucayali, Peru. Holotype: MTD F 20 728.

Maximum length: 3.8 cm SL

Distribution: South American: Ucayali River basin.

Countries: Peru

***Phenacorhamdia somnians* (Mees, 1974)**

Heptapterus somnians Mees, 1974: 184, fig. 36. Type locality: Sangadina, a tributary of the Rio das Mortes, 2 km from Xaventina, Mato Grosso, Brazil [Nova Xavantina, State of Mato Grosso]. Holotype: BMNH 1971.7.29.4.

Maximum length: 6.3 cm SL

Distribution: South America: Das Morte River basin.

Countries: Brazil

Common names: bagrinho, mandizinho

***Phenacorhamdia tenebrosa* (Schubart, 1964)**

Imparfinis tenebrosus Schubart, 1964: 9, fig. 3. Type locality: Rio Mogi Guaçu, entre o pesqueiro da EE [=Estação Experimental de Piscicultura de Pirassununga] e o pesqueiro do Sr. Firmino (Faz. Graciosa) ca. 1 km abaixo da Cachoeira [=cachoeira de Emas]. Syntypes: EEBP 109, 197, 197 (bis), 630.

Maximum length: 6.7 cm SL

Distribution: South America: Upper Paraná and São Francisco River basins.

Countries: Brazil

Common names: bagrinho, lobó, mandizinho

***Phenacorhamdia unifasciata* Britski, 1993**

Phenacorhamdia unifasciata Britski, 1993: 42, fig. 1. Type locality: Ribeirão Santana, afluente do Rio São Bartolomeu (15°50'N, 47°40'W), Distrito Federal. Holotype: MZUSP 36691.

Maximum length: 6.2 cm SL

Distribution: South America: Upper Paraná River basin.

Countries: Brazil

Common names: bagrinho, lobó, mandizinho

PHREATOBIUS

Phreatobius Goeldi, 1905: 549. Type species: *Phreatobius cisternarum* Goeldi, 1905. Type by monotypy. Gender: masculine.

***Phreatobius cisternarum* Goeldi, 1905**

Phreatobius cisternarum Goeldi, 1905: 549. Type locality: Wasser einer Binnenlandzisterne tief im Innern der Mündung des Amazonenstromes vorgelagertern Rieseninsel Marajó. Syntypes (2): MHNG 2623.30 (1) plus one of the following: FMNH 58580 [ex CM 7603] (1), MHNG 1213.97 (1), and MHNG 1505.91 (2 entire specimens plus one sectioned and mounted on microscopic preparations). According to Claude Weber (pers. comm.), only MHNG 2623.30 (1, in several microscopic preparations) can be surely considered as syntype (slide labeled as “type”); it is not possible anymore to distinguish the other one syntype studied by Goeldi (1905) from the four topotypes studied by Reichel (1927).

Maximum length: 5.5 cm SL

Distribution: South America: Phreatic environments in the Marajó island, mouth of the Amazon River.

Countries: Brazil

PIMELODELLA

Pimelodella Eigenmann & Eigenmann, 1888: 131. Type species: *Pimelodus cristatus* Müller & Troschel, 1848. Type by original designation. Gender: feminine.

Typhlobagrus Miranda Ribeiro, 1907a: 526. Type species: *Typhlobagrus kronei* Miranda Ribeiro, 1907. Type by monotypy. Gender: masculine.

Caecorhamdella Borodin, 1927a: 1. Type species: *Caecorhamdella brasiliensis* Borodin, 1927. Type by original designation. Gender: feminine.

***Pimelodella altipinnis* (Steindachner, 1864)**

Pimelodus altipinnis Steindachner, 1864: 213, pl. 2 (fig. 3). Type locality: Demerara in Guiana. Holotype: NMW 45601.

Maximum length: 6.4 cm SL

Distribution: South America: Essequibo River basin.

Countries: Guyana

Remarks and references: Eschmeyer (1998: 80) wrongly assigned its original description to Steindachner (1866). Specimens at Zoologisk Museum, Copenhagen, listed as syntypes (ZMUC 276a-b) in Nielsen (1974: 50), have no type status (Lundberg, pers. comm.). According to Mees (1974: 144, 148) is a junior synonym of *P. cristata* Müller & Troschel (1848).

***Pimelodella australis* Eigenmann, 1917**

Pimelodella laticeps australis Eigenmann, 1917: 243. Type locality: Uruguayana [State of Rio Grande do Sul, Brazil]. Holotype: FMNH 57962 [ex CM 6950].

Pimelodella garbei Miranda Ribeiro, 1918: 639. Type locality: Itaqui - Rio Grande do Sul. Lectotype: MNRJ 923A, designated by Miranda Ribeiro (1953: 403).

Maximum length: 10.6 cm SL

Distribution: South America: Uruguay River basin, and coastal river drainages from Tubarão River, in Santa Catarina State to coastal lagoons of Rio Grande do Sul State.

Countries: Brazil

Common names: mandi-chorão

***Pimelodella avanhandavae* Eigenmann, 1917**

Pimelodella avanhandavae Eigenmann, 1917: 240, pl. 29 (fig. 3). Type locality: Rio Tietê at Salto Avanhandava, above the fall [State of São Paulo, Brazil]. Holotype: FMNH 57981 [ex CM 6969a].

Maximum length: 9.6 cm TL

Distribution: South America: Tietê River basin.

Countries: Brazil

Common names: mandi, mandi-chorão, mandizinho

***Pimelodella boliviana* Eigenmann, 1917**

Pimelodella boliviana Eigenmann, 1917: 245, pl. 31 (fig. 2). Type locality: Santa Cruz de la Sierra, Bolivia. Holotype: FMNH 57976 [ex CM 6964a].

Maximum length: 9 cm SL

Distribution: South America: Mamoré River basin.

Countries: Bolivia

Common names: bagre, cunshi

***Pimelodella boschmai* Van der Stigchel, 1964**

Pimelodella boschmai Van der Stigchel, 1964: 327, fig. 1. Type locality: Rio Mogi-Guassu, below Emas falls, Pirassununga, Brazil. Holotype: RMNH 23248.

Pimelodella insignis Schubart, 1964: 6, fig. 1. Type locality: Rio Mogi Guaçu, abaixo do pesqueiro da EEBP; Cochoeira [sic] de Emas, na topava; Rio Mogi Guaçu, abaixo do pesqueiro; Rio Mogi Guaçu, abaixo da cachoeira; Rio Mogi Guaçu; Rio Mogi Guaçu, pesqueiro da EEBP. Syntypes: EEBP 497, 497 [bis], 498, 499, 620, 620a, 647.

Maximum length: 10 cm SL

Distribution: South America: Mogi Guaçu River basin.

Countries: Brazil

Common names: mandi, mandi-chorão, mandizinho

***Pimelodella brasiliensis* (Steindachner, 1877)**

Pimelodus (Pseudorhamdia) brasiliensis Steindachner, 1877: 608, pl. 7. Type locality: Rio Parahyba [Brazil]. Holotype: NMW 45612.

Maximum length: ± 18 cm TL

Distribution: South America: Paraíba do Sul River basin.

Countries: Brazil

Common names: mandi-chorão, mandizinho

***Pimelodella breviceps* (Kner, 1857)**

Pimelodus breviceps Kner, 1857: 418. Type locality: Marabitanos [Marabitanas, State of Amazonas, Brazil]. Holotype: NMW 45615.

Maximum length: 36 cm SL

Distribution: South America: Upper Negro River basin.

Countries: Brazil

Common names: mandi-chorão

Remarks and references: This species was tentatively transferred to *Pimelodella*, following suggestion of Silfvergrip (1996: 16).

***Pimelodella buckleyi* (Boulenger, 1887)**

Pimelodus buckleyi Boulenger, 1887: 275, pl. 20 (fig. 1). Type locality: Canelos [Ecuador]. Syntypes: BMNH 1880.12.8.98-99.

Pimelodella copei Fowler, 1915: 216, fig. 5. Type locality: Ambyiacu River, near Pebas, Ecuador [now Peru]. Holotype: ANSP 8362.

Maximum length: 16 cm TL

Distribution: South America: Ambyiacu and Bobonaza River basins.

Countries: Ecuador, Peru

***Pimelodella chagresi* (Steindachner, 1876)**

Pimelodus (Pseudorhamdia) Chagresi Steindachner, 1876: 584.

Type locality: Rio Chagres und dessen Nebenflüsse bei Obispo. Syntypes: apparently at NMW.

Maximum length: 15.4 cm TL

Distribution: Central America: Chagres River basin.

Countries: Panama

***Pimelodella chaparae* Fowler, 1940**

Pimelodella chaparae Fowler, 1940b: 75, fig. 30. Type locality: Boca Chapare, Cochabamba, Bolivia. Holotype: ANSP 69021.

Maximum length: 5.1 cm SL

Distribution: South America: Beni River basin.

Countries: Bolivia

Common names: bagre

***Pimelodella conquetaensis* Ahl, 1925**

Pimelodella conquetaensis Ahl, 1925: 106. Type locality Rio Coquetá [sic], S.O. Columbien [Caquetá River]. Holotype: ZMB 32030.

Maximum length: 9.4 cm SL

Distribution: South America: Caquetá River basin in upper Japurá River drainage.

Countries: Colombia

***Pimelodella cristata* (Müller & Troschel, 1848)**

Pimelodus cristatus Müller & Troschel in Schomburgk, 1848: 628.

Type locality: Takutu und Mahu [tributaries of the upper course of the Branco River, Guyana]. Syntypes: ZMB 3052, 3053.

Maximum length: 34 cm SL

Distribution: South America: Guyana and French Guiana.

Countries: French Guiana, Guyana.

Common names: komairu (Guyana)

***Pimelodella cruxenti* Fernández-Yépez, 1950**

Pimelodella cruxenti Fernández-Yépez, 1950: 5, pl. 1 (fig. 2).

Type locality: Río Autana, Venezuela. Holotype: AFY 48161.
Maximum length: 11.1 cm SL
Distribution: South America: Autana River basin in Orinoco River drainage.
Countries: Venezuela

***Pimelodella cyanostigma* (Cope, 1870)**

Rhamdia cyanostigma Cope, 1870: 569. Type locality: Pebas, Ecuador [Peru]. Syntypes: ANSP 8381-83.
Maximum length: not stated in the original description.
Distribution: South America: Ampyiacu River basin.
Countries: Peru
Common names: cunshi

***Pimelodella dorseyi* Fowler, 1941**

Pimelodella dorseyi Fowler, 1941: 127, fig. 5. Type locality: Rio Salgade, Icó, CE [Salgado River, State of Ceará, Brazil]. Holotype: ANSP 69375 (with paratype).
Maximum length: 12.4 cm TL
Distribution: South America: Jaguaribe River basin.
Countries: Brazil
Common names: mandi-chorão

***Pimelodella eigenmanni* (Boulenger, 1891)**

Pimelodus (Pimelodella) eigenmanni Boulenger, 1891: 232. Type locality: Macacos [Brazil]. Holotype: BMNH 1889.11.14.6.
Maximum length: 9.4 cm SL
Distribution: South America: Paraíba do Sul River basin.
Countries: Brazil
Common names: mandi-chorão
Remarks and references: Species described in footnote, based on the description of specimens of *Pimelodella buckleyi* from “Macacos” of Eigenmann & Eigenmann (1888: 233; 1890: 158). Notice that Miranda Ribeiro (1911: 273) described *Rhamdia eigenmanniorum* based on the description of specimens of *Pimelodella buckleyi* “from the Rio Parahyba and from Macacos” of Eigenmann & Eigenmann (1890: 158), a species herein tentatively placed in the genus *Pimelodella*.

***Pimelodella eigenmanniorum* (Miranda Ribeiro, 1911)**

Rhamdia eigenmanniorum Miranda Ribeiro, 1911: 273. Type locality: from the Rio Parahyba and from Macacos. Holotype: not designated.
Distribution: South America: Paraíba do Sul River basin and coastal rivers in Rio de Janeiro State.
Countries: Brazil
Common names: mandi-chorão

Remarks and references: Species based on the description of specimens of *Pimelodella buckleyi* “from the Rio Parahyba and from Macacos” of Eigenmann & Eigenmann (1890: 158), and herein tentatively placed in the genus *Pimelodella*. Notice that Boulenger (1891: 232, footnote) also described *Pimelodus (Pimelodella) eigenmanni*, based on a specimen of *Pimelodella buckleyi* from “Macacos” of Eigenmann & Eigenmann (1888: 233; 1890: 158).

***Pimelodella elongata* (Günther, 1860)**

Pimelodus elongatus Günther, 1860: 238, pl. 10 (fig. B). Type locality: Fresh waters of Esmeraldas.
Maximum length: 16.9 cm TL
Distribution: South America: Esmeraldas River basin.
Countries: Ecuador

***Pimelodella enochi* Fowler, 1941**

Pimelodella enochi Fowler, 1941: 130, fig. 13. Type locality: Açude Piloes, Parahyba [Açude Pilões, State of Paraíba, Brazil]. Holotype: ANSP 69378 (with paratype).
Maximum length: 5.9 cm TL
Distribution: South America: Paraíba River basin in Paraíba State.

Countries: Brazil
Common names: mandi-chorão

***Pimelodella eutaenia* Regan, 1913**

Pimelodella eutaenia Regan, 1913b: 466. Type locality: from the Rio Condoto and the Rio Sipi. Syntypes: BMNH 1913.10.1.37-40.
Maximum length: 14.5 cm TL
Distribution: South America: San Juan River basin.
Countries: Colombia

***Pimelodella figueroai* Dahl, 1961**

Pimelodella figueroai Dahl, 1961: 498, unnumbered figure on p. 500. Type locality: Caño Lozada, approx. 17 kilometers above its junction with Guayabero River. Holotype: probably lost (see Cala, 1981: 1).
Maximum length: 9.1 cm SL
Distribution: South America: Guaviare River basin.
Countries: Colombia
Common names: barbilla

***Pimelodella geryi* Hoedeman, 1961**

Pimelodella geryi Hoedeman, 1961: 134. Type locality: French Guiana: ... mainland, Litany River, village Aloiké, sta. 29S [Alowike, Surinam – Mees, 1974: 144]. Holotype: ZMA 100168 [ex ZMA 102235].
Maximum length: 5.8 cm SL
Distribution: South America: Maroni/Marowijne River basin.
Countries: Suriname
Remarks and references: According to Mees (1974: 144, 148) is a junior synonym of *P. cristata* Müller & Troschel (1848).

***Pimelodella gracilis* (Valenciennes, 1835)**

Pimelodus gracilis Valenciennes, 1835: pl. 2 (fig. 5). Type locality: Corrientes dans le Parana et les aues rivières au-dessus de 28° de latitud sud [Argentina]. Holotype: MNHN A.9284. Name available from plate, mentioned and briefly described in Valenciennes (1847: 7).
Maximum length: 17 cm SL
Distribution: South America: Orinoco, Amazon and La Plata River basins.
Countries: Brazil, Peru
Common names: mandi-chorão (Brazil), cunshi (Peru)
Remarks and references: Name available from plate (cf. Sherborn & Griffin, 1934: 131); the correspondent text appeared only in Valenciennes (1847: 7).

***Pimelodella griffini* Eigenmann, 1917**

Pimelodella griffini Eigenmann, 1917: 250, pl. 32 (fig. 3). Type locality: montain rills near Sapucay, Paraguay. Holotype: FMNH 57974 [ex CM 6962].
Maximum length: 8.8 cm TL
Distribution: South America: Lower Paraguay River basin.
Countries: Paraguay

***Pimelodella grisea* (Regan, 1903)**

Pimelodus (Pimelodella) griseus Regan, 1903: 625. Type locality: Durango, Sapayo and Vaqueria Rivers, NW Ecuador. Syntypes: BMNH 1902.5.27.36, 1902.7.29.47, 1902.7.29.58.
Maximum length: 14 cm TL
Distribution: South America: Durango, Sapayo and Vaqueria rivers in NW Ecuador.
Countries: Ecuador

***Pimelodella hartii* (Steindachner, 1877)**

Pimelodus (Pseudorhamdia) Hartii Steindachner, 1877: 611. Type locality: Rio Parahyba [Brazil]. Holotype: NMW 45784.
Maximum length: 15 cm SL
Distribution: South America: Paraíba do Sul River basin.
Countries: Brazil

***Pimelodella hartwelli* Fowler, 1940**

Pimelodella hartwelli Fowler, 1940a: 222, fig. 7. Type locality: Ucayali River basin, Contamana, Peru. Holotype: ANSP 68644. Maximum length: 12.5 cm TL
Distribution: South America: Ucayali River basin.
Countries: Peru
Common names: cunshi

***Pimelodella hasemani* Eigenmann, 1917**

Pimelodella hasemani Eigenmann, 1917: 241, pl. 30 (fig. 1 -- not 7 as published). Type locality: San Antonio de Rio Madeira. Holotype: FMNH 57980 [ex CM 6968a]. Maximum length: 8.1 cm TL
Distribution: South America: Madeira River basin.
Countries: Brazil, Peru
Common names: mandi-chorão (Brazil); cunshi (Peru)

***Pimelodella howesi* Fowler, 1940**

Pimelodella howesi Fowler, 1940b: 77, fig. 30. Type locality: Boca Chapare, Chimore River, Bolivia. Holotype: ANSP 69036. Maximum length: 7.9 cm SL
Distribution: South America: Beni River basin.
Countries: Bolivia
Common names: bagre

***Pimelodella itapicuruensis* Eigenmann, 1917**

Pimelodella itapicuruensis Eigenmann, 1917: 247, pl. 31 (fig. 3). Type locality: Queimadas, Rio Itapicuru [State of Bahia, Brazil]. Holotype: FMNH 57986 [ex CM 6974a]. Maximum length: 10.4 cm SL
Distribution: South America: Itapicuru River basin.
Countries: Brazil
Common names: mandi-chorão

***Pimelodella kronoi* (Miranda Ribeiro, 1907)**

Typhlobagrus kronoi Miranda Ribeiro, 1907a: [1], unnum. fig. [1] on unnum. p. [1]. Type locality: Iguape, em aguas das cavernas do Iporanga, também no estado de S. Paulo. Holotype: MNRJ 836.
Caecorhamdella brasiliensis Borodin, 1927a: 1, fig. 1C. Type locality: Estado de São Paulo, Brazil. Holotype: AMNH 8604. Maximum length: 20.2 cm SL
Distribution: South America: Caves in the Ribeira do Iguape River basin, in São Paulo State.
Countries: Brazil
Common names: ceguinho

***Pimelodella lateristriga* Lichtenstein, 1823**

Pimelodes lateristrigus Lichtenstein, 1823: 112. Type locality: Brasil [near Rio de Janeiro – Mees, 1983: 53]. Holotype: ZMB 3038.
Pimelodus lateristrigus Müller & Troschel, 1849: 3. Type locality: Brasilien. Holotype: Probably ZMB 3038. Maximum length: 15.1 cm SL
Distribution: South America: Paraíba do Sul River basin.
Countries: Brazil
Common names: mandi, mandi-chorão, mandizinho
Remarks and references: Probably Müller & Troschel (1849) based their description on the same exemplar of Lichtenstein, 1823 (Silfvergrip & Paepke, 1997: 170).

***Pimelodella laticeps* Eigenmann, 1917**

Pimelodella laticeps Eigenmann, 1917: 243, pl. 30 (fig. 2). Type locality: Sapucay, Paraguay. Holotype: FMNH 57969 [ex CM 6957a]. Maximum length: 9 cm TL
Distribution: South America: Lower Paraguay River basin.
Countries: Paraguay

***Pimelodella laurenti* Fowler, 1941**

Pimelodella laurenti Fowler, 1941: 132, fig. 17. Type locality: Jatobá, Rio São Francisco, Pernambuco. Holotype: ANSP 69380. Maximum length: 7.1 cm SL
Distribution: South America: Lower São Francisco River basin.
Countries: Brazil
Common names: mandi-chorão

***Pimelodella linami* Schultz, 1944**

Pimelodella linami Schultz, 1944b: 210, pl. 1 (fig. D). Type locality: Río Torbes, 1 km. above Táriba, Orinoco system. Holotype: USNM 121132. Maximum length: 7.5 cm SL
Distribution: South America: Orinoco River basin.
Countries: Venezuela

***Pimelodella macrocephala* (Miles, 1943)**

Nannorhamdia macrocephala Miles, 1943: 25. Type locality: Valle del Cauca [Colombia]. Holotype: ICNMHN probably lost (see Cala, 1981: 1). Maximum length: 2.6 cm SL
Distribution: South America: Cauca River basin.
Countries: Colombia
Common names: chiriri, chirirri, micudo

***Pimelodella macturki* Eigenmann, 1912**

Pimelodella macturki Eigenmann, 1912: 170, pl. 16 (fig. 1). Type locality: Creek in Mora Passage, coastal Guyana. Holotype: FMNH 53234 [ex CM 1695]. Maximum length: 11 cm SL
Distribution: South America: Approuague, Coratijn, and Nickerie River basins, and eastern coastal drainages of Suriname.
Countries: French Guiana, Guyana, Suriname

***Pimelodella martinezi* Fernández-Yépez, 1970**

Pimelodella martinezi Fernández-Yépez, 1970: pl. 35. Type locality: bajo Unare. Holotype: AFY ? [number for holotype not mentioned; all specimens examined for description catalogued under AFY 70-403]. Maximum length: 6.8 cm SL
Distribution: South America: Unare River basin.
Countries: Venezuela
Common names: puyapuya

***Pimelodella meeki* Eigenmann, 1910**

Pimelodella eigenmanni Meeke, 1905: 241. Type locality: Sao Paulo, Brazil. Holotype: FMNH 3400. Preoccupied in *Pimelodella* by *Pimelodus eigenmanni* Boulenger, 1891. Replaced by *Pimelodella meeki* Eigenmann, 1910.
Pimelodella meeki Eigenmann, 1910: 389. Type locality: São Paulo. Holotype: FMNH 3400. Replacement for *Pimelodella eigenmanni* Meeke, 1905. Maximum length: 10.2 cm TL
Distribution: South America: Tietê River basin.
Countries: Brazil
Common names: mandi, mandi-chorão, mandizinho

***Pimelodella megalops* Eigenmann, 1912**

Pimelodella megalops Eigenmann, 1912: 169, pl. 15 (fig. 2). Type locality: Tumatumari [Guyana]. Holotype: FMNH 53231 [ex CM 1692]. Maximum length: 7.9 cm SL
Distribution: South America: Approuague and Essequibo River basins.
Countries: French Guiana, Guyana

***Pimelodella megalura* Miranda Ribeiro, 1918**

Pimelodella megalura Miranda Ribeiro, 1918: 638. Type locality: S. Luiz de Cáceres: Matto-Grosso. Lectotype: MNRJ 865A, designated by Miranda Ribeiro (1953: 403). Maximum length: 22 cm TL

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Distribution: South America: Upper Paraguay River basin.
Countries: Brazil
Common names: mandi-chorão

***Pimelodella metae* Eigenmann, 1917**

Pimelodella metae Eigenmann, 1917: 244, pl. 31 (fig. 1). Type locality: Rio Negro, Villavicencio. Holotype: FMNH 58441 [ex CM 7441a].

Maximum length: 10 cm TL

Distribution: South America: Meta River basin.

Countries: Colombia

Common names: barbilla

***Pimelodella modestus* (Günther, 1860)**

Pimelodus modestus Günther, 1860: 239, pl. 10 (fig. C). Type locality: Fresh waters of Esmeraldas. Syntypes: BMNH 1860.6.16.190-191.

Maximum length: 12.1 cm TL

Distribution: South America: Esmeraldas River basin.

Countries: Ecuador

***Pimelodella montana* Allen, 1942**

Pimelodella montana Allen in Eigenmann & Allen, 1942: 100, pl. 13 (fig. 2). Type locality: Rio Huallaga, Huánuco. Syntypes: CAS 63719 [ex IU 17830]. Holotype perhaps established in plate 13, but length greater than listed on p. 100.

Maximum length: 9.3 cm SL

Distribution: South America: Upper Marañón River basin.

Countries: Peru

Common names: cunshi

***Pimelodella mucosa* Eigenmann & Ward, 1907**

Pimelodella mucosa Eigenmann & Ward in Eigenmann, McAtee & Ward, 1907: 114, pl. 32 (fig. 1). Type locality: Bahia Negra. Holotype: CAS 63720 [ex IU 10125].

Distribution: South America: Paraguay River basin.

Countries: Paraguay

***Pimelodella nigrofasciata* (Perugia, 1897)**

Pimelodus nigrofasciatus Perugia, 1897: 18. Type locality: Rio Beni. Misión Mosetenes. Holotype: MSNG 8039 (not found in 1995 (Eschmeyer, 1998)).

Distribution: South America: Beni River basin.

Countries: Bolivia

Common names: bagre

***Pimelodella notomelas* Eigenmann, 1917**

Pimelodella notomelas Eigenmann, 1917: 244, pl. 30 (fig. 3). Type locality: San Luiz de Caceres. Holotype: FMNH 57967 [ex CM 6955].

Maximum length: 6 cm TL

Distribution: South America: Upper Paraguay River basin.

Countries: Brazil

Common names: mandi-chorão

***Pimelodella odynea* Schultz, 1944**

Pimelodella chagresi odynea Schultz, 1944b: 213, pl. 2 (fig. A). Type locality: Río San Juan at the bridge south of Mene Grande, Motatán system, Maracaibo basin. Holotype: USNM 121133.

Maximum length: 10 cm SL

Distribution: South America: Maracaibo Lake basin.

Countries: Venezuela

***Pimelodella ophthalmica* (Cope, 1878)**

Pimelodus ophthalmicus Cope, 1878: 675. Type locality: Peruvian Amazon. Holotype: ANSP 21102.

Maximum length: 14.5 cm TL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

Remarks and references: Cope (1878: 673) mentioned that most of

collections of 1873, as it was the case of *P. ophthalmicus*, came from Nauta [a city located in the margin of the Marañón River, tributary of the Amazon River basin, Loreto Department, Peru].

***Pimelodella pallida* Dahl, 1961**

Pimelodella pallida Dahl, 1961: 501, unnum. fig. [5] on p. 503. Type locality: Caño Lozada, about 500 meters above its junction with Guayabero River. Holotype: probably lost (see Cala, 1981: 1).

Maximum length: 9.4 cm SL

Distribution: South America: Guaviare River basin.

Countries: Colombia

Common names: barbilla

***Pimelodella pappenheimi* Ahl, 1925**

Pimelodella pappenheimi Ahl, 1925: 107. Type locality: Rio Pedro bei Humboldt, Sta Catharina, Brasilien. Syntypes: ZMB 31951.

Maximum length: 12.1 cm SL

Distribution: South America: Itajaí-Açú, Itapocú and Cubatão River basins in Santa Catarina State, and Paranaguá River basin in Paraná State.

Countries: Brazil

Common names: mandi-chorão

***Pimelodella parnahybae* Fowler, 1941**

Pimelodella parnahybae Fowler, 1941: 129, fig. 9. Type locality: Rio Parnahyba, Therezina, Piauí. Holotype: ANSP 69377.

Maximum length: 9.5 cm TL

Distribution: South America: Parnaíba River basin.

Countries: Brazil

Common names: mandi-chorão

***Pimelodella parva* Güntert, 1942**

Pimelodella parva Güntert, 1942: 34, fig. 4. Type locality: Río Paraguay, Paraguay. Holotype: NMBA 5302.

Maximum length: 2.8 cm TL

Distribution: South America: Paraguay River basin.

Countries: Paraguay

***Pimelodella pectinifer* Eigenmann & Eigenmann, 1888**

Pimelodella pectinifer Eigenmann & Eigenmann, 1888: 132. Type locality: Campos. Holotype: MCZ 7508.

Maximum length: ± 15 cm SL

Distribution: South America: Muriaé River basin.

Countries: Brazil

Common names: mandi-chorão

***Pimelodella peruana* Eigenmann & Myers, 1942**

Pimelodella peruana Eigenmann & Myers in Eigenmann & Allen, 1942: 101, pl. 3 (fig. 5). Type locality: Inahuaya, Rio Ucayali. Holotype: CAS 63721.

Maximum length: 5.2 cm TL

Distribution: South America: Ucayali River basin.

Countries: Peru

***Pimelodella peruensis* Fowler, 1915**

Pimelodella peruense Fowler, 1915: 214, fig. 4. Type locality: Peruvian Amazon. Holotype: ANSP 21932.

Maximum length: 5.2 cm TL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

Common names: cunshi

***Pimelodella procera* Mees, 1983**

Pimelodella procera Mees, 1983: 49, fig. 3. Type locality: Crique Balaté. Holotype: RMNH 28588.

Maximum length: 10 cm SL

Distribution: South America: Maroni/Marowijne River basin.

Countries: French Guiana

***Pimelodella rendahli* Ahl, 1925**

Pimelodella rendahli Ahl, 1925: 106. Type locality: No locality stated. Holotype: ZMB 32031.
Maximum length: 8.7 cm SL
Distribution: South America: Locality unknown.
Countries: Country unknown

***Pimelodella reyesi* Dahl, 1964**

Pimelodella reyesi Dahl in Dahl & Medem, 1964: 37, unnum. Fig. on page 503. Type locality: Río Manso del Sinú, Colombia. Holotype: not located.
Maximum length: 9.9 cm SL
Distribution: South America: Sinú River basin.
Countries: Colombia
Common names: casimiro

***Pimelodella rocae* Eigenmann, 1917**

Pimelodella rocae Eigenmann, 1917: 240, pl. 35 (fig. 7). Type locality: Lower Urubamba Valley. Holotype: MCZ 30975.
Maximum length: 18.2 cm TL
Distribution: South America: Urubamba and Beni River basins.
Countries: Bolívia, Peru
Remarks and references: Eigenmann (1917: 240) mentioned the name *Pimelodella rocae*, without a description, as a reference to an unpublished manuscript, but presenting an illustration of the pectoral spine of its holotype (Pl. 35, fig. 7; legend at p. 257). This species was described in greater detail and illustrated in Eigenmann & Allen (1942: 98, pl. 10, fig. 4). Eigenmann & Allen (1942: 98) clarified that the holotype came from "Rio Comberciato, 1800 feet elevation".

***Pimelodella rudolphi* Miranda Ribeiro, 1918**

Pimelodella rudolphi Miranda Ribeiro, 1918: 637. Type locality: Mercado de São Paulo. Lectotype: MNRJ 857A, designated by Miranda Ribeiro (1953: 404).
Maximum length: 10.5 cm SL
Distribution: South America: São Paulo State.
Countries: Brazil
Common names: mandi, mandi-chorão, mandizinho

***Pimelodella serrata* Eigenmann, 1917**

Pimelodella serrata Eigenmann, 1917: 235, pl. 29 (fig. 1). Type locality: San Joaquin, Bolivia. Holotype: FMNH 57979 [ex CM 6967a].
Maximum length: 11 cm TL
Distribution: South America: ?Machupo River basin in upper Guaporé River drainage.
Countries: Bolivia
Common names: bagre

***Pimelodella steindachneri* Eigenmann, 1917**

Pimelodella steindachneri Eigenmann, 1917: 237. Type locality: Maués, Rio Madeira... Para... Cudajas... Santarem... Rio Puty... Manacapuru. Syntypes: MCZ 7542a, MCZ 7566a-b, MCZ 7567a, MCZ 7547a, MCZ 7587a, MCZ 7588a.
Maximum length: 21.2 cm SL
Distribution: South America: Amazon River basin.
Countries: Brazil
Common names: mandi-chorão
Remarks and references: Based on *Pimelodella wesselli* of Eigenmann & Eigenmann, 1888 (not Steindachner, 1877).

***Pimelodella taeniophora* (Regan, 1903)**

Pimelodus (Pimelodella) taeniophorus Regan, 1903: 625. Type locality: Descalvados, Matto Grosso [Descalvado, State of Mato Grosso, Brazil]. Syntypes: BMNH 1895.5.17.27-28.
Maximum length: 8.5 cm TL
Distribution: South America: Paraguay River basin.
Countries: Brazil

Common names: mandi-chorão

***Pimelodella taenioptera* Miranda Ribeiro, 1914**

Pimelodella taenioptera Miranda Ribeiro, 1914: 5, unnum.fig. [1] on p. 5. Type locality: Tapyrapoan, Rio Sepotuba [Tapirapuã, State of Mato Grosso]. Lectotype: MNRJ 691A, designated by Miranda Ribeiro (1953: 404).
Distribution: South America: Upper Paraguay River basin.
Countries: Brazil
Common names: mandi-chorão

***Pimelodella tapatapae* Eigenmann, 1920**

Pimelodella tapatapae Eigenmann, 1920: 5. Type locality: Mouth of Rio Tapa Tapa. Holotype: CAS 57469 [ex IU 15094].
Maximum length: 15.6 cm TL
Distribution: South America: Tapa Tapa River basin in Lake Valencia drainage.
Countries: Venezuela

***Pimelodella transitoria* Miranda Ribeiro, 1907**

Pimelodella transitoria Miranda Ribeiro, 1907b: 186. Type locality: Ribeirão do Alambary - Iporanga. Holotype: MNRJ.
Maximum length: 13 cm SL
Distribution: South America: Ribeira de Iguape River basin.
Countries: Brazil
Common names: mandi, mandi-tinga

***Pimelodella vittata* (Lütken, 1874)**

Pseudorhamdia vittatus Lütken, 1874: 34. Type locality: in flumine Rio das Velhas. Syntypes: ZMB 9175; ZMUC 271, 274, 275, 283-285.
Maximum length: 9.7 cm SL
Distribution: South America: Upper São Francisco River basin.
Countries: Brazil
Common names: choralambre, chué;, mandi-chorão
Remarks and references: Detailed description and illustration of *P. vittata* appeared in Lütken (1875: 173-174, unnum. fig. on p. 173).

***Pimelodella wessellii* (Steindachner, 1877)**

Pimelodus (Pseudorhamdia) Wessellii Steindachner, 1877: 614.
Type locality: Essequibo. Holotype: NMW 79188.
Maximum length: 19.8 cm TL
Distribution: South America: Essequibo River basin.
Countries: Guyana
Remarks and references: According to Mees (1974: 144) is a junior synonym of *P. cristata* Müller & Troschel (1848).

***Pimelodella witmeri* Fowler, 1941**

Pimelodella witmeri Fowler, 1941: 133, fig. 21. Type locality: Rio Jaguaribe, Orós, Ceará. Holotype: ANSP 69383 (together with paratypes).
Maximum length: 16.8 cm TL
Distribution: South America: Jaguaribe River basin.
Countries: Brazil
Common names: mandi-chorão

***Pimelodella yuncensis* Steindachner, 1902**

Pimelodella yuncensis Steindachner, 1902: 135. Type locality: Pacasmayo, Nord peru. Holotype: NMW.
Maximum length: 4.8 cm TL
Distribution: South America: Jequetepeque River basin.
Countries: Peru
Common names: bagre

RHAMDELLA

Rhamdella Eigenmann & Eigenmann, 1888: 129. Type species: *Rhamdia eriarcha* Eigenmann & Eigenmann, 1888. Type by original designation. Gender: feminine. Originally proposed as a

subgenus of *Rhamdia*.

***Rhamdella aymarae* Miquelarena & Menni, 1999**

Rhamdella aymarae Miquelarena & Menni, 1999: 203, fig. 1.

Type locality: Argentina, Salta Province, Río Itiyuro, 500 m below the Itiyuro Dam, route 34 between Estación Pocitos and Araguay, 22°07'S, 63°11'W.

Maximum length: 18.8 cm SL

Distribution: South America: Itiyuro River basin.

Countries: Argentina

Remarks and references: Though the Itiyuro River is endorheic during some periods, it probably connects with the Pilcomayo and/or Bermejo River basins during floods and has probably been connected in the past (Miquelarena & Menni, 1999: 206-207).

***Rhamdella eriarcha* (Eigenmann & Eigenmann, 1888)**

Rhamdia eriarcha Eigenmann & Eigenmann, 1888: 129. Type locality: Rio Grande do Sul. Holotype: MCZ 27272.

Rhamdella straminea Cope, 1894: 93, pl. 8 (fig. 10). Type locality: Rio Grande do Sul. Syntypes: ANSP 21604.

Rhamdella lemai Bertolotti, 1967: 78, fig. 2. Type locality: Pôrto Alegre, Guaíba River (Ponta Grossa). Holotype: MCN 1897.

Maximum length: 20.9 cm SL

Distribution: South America: Jacuí River basin.

Countries: Brazil

Common names: mandi

***Rhamdella exsudans* (Jenyns, 1842)**

Pimelodus exsudans Jenyns, 1842: 111. Type locality: ?Rio de Janeiro. Syntypes: Department of Zoology, University of Cambridge V.132.

Maximum length: 8.9 cm TL

Distribution: South America: Rio de Janeiro State.

Countries: Brazil

***Rhamdella gilli* (Starks, 1906)**

Rhamdia gilli Starks, 1906: 769, pl. 65 (fig. 1). Type locality: Eten, Peru, in the Rio Eten. Holotype: USNM 53472.

Maximum length: 12.5 cm SL

Distribution: South America: Eten River basin.

Countries: Peru

Remarks and references: This species is treated as *Rhamdella*, following suggestions of Eigenmann (1910: 387; Gosline, 1945: 35). Silfvergrip (1996: 31) also tentatively recognized it as *Rhamdella*, although cited in his synonymy of *Rhamdia quelen* (Silfvergrip, 1996: 96).

***Rhamdella ignobilis* Steindachner, 1907**

Rhamdella ignobilis Steindachner, 1907: 484. Type locality: Flusse Cubataõ um Staate Santa Catharina bei Theresopolis (Brazilien).

Maximum length: 10 cm SL

Distribution: South America: Cubatão River basin (southern) in Santa Catarina State.

Countries: Brazil

***Rhamdella jenynsii* (Günther, 1864)**

Pimelodus jenynsii Günther, 1864: 128. Type locality: Rio de Janeiro. Syntypes: ? Department of Zoology, University of Cambridge.

Maximum length: 8.9 cm TL

Distribution: South America: Rio de Janeiro State.

Countries: Brazil

Remarks and references: Based on *Pimelodus gracilis* of Jenyns, 1842 (not Valenciennes, 1835).

***Rhamdella leptosoma* Fowler, 1914**

Rhamdella leptosoma Fowler, 1914: 260, fig. 12. Type locality: Rupununi River, British Guiana. Holotype: ANSP 39340.

Maximum length: 8 cm TL

Distribution: South America: Rupununi River basin.

Countries: Guyana

***Rhamdella longipinnis* Borodin, 1927**

Rhamdella longipinnis Borodin, 1927b: 6. Type locality: Prov. St. Paulo, Brazil. Holotype: AMNH 8642.

Maximum length: 8.8 cm SL

Distribution: South America: River basins São Paulo State.

Countries: Brazil.

Common names: mandi, mandi-chorão, mandzinho

***Rhamdella longiuscula* Lucena & Silva, 1991**

Rhamdella longiuscula Lucena & Silva, 1991: 32, figs. 2A (male), 3 A (female). Type locality: Rio Grande do Sul: arroio Passo do Alto, próximo a localidade de Mineral, São Nicolau (aproximadamente 55°20'O – 28°08'S). Holotype: MCP 14441.

Maximum length: 14.2 cm SL

Distribution: South America: Middle Uruguay River basin.

Countries: Brazil

Common names: mandi

***Rhamdella montana* Eigenmann, 1913**

Rhamdella montana Eigenmann, 1913: 421, pl. 32 (fig. 1). Type locality: Queta. Small brook in highlands southeast of Tarma.

Holotype: FMNH 56067 [ex CM 4858].

Maximum length: 3.7 cm SL

Distribution: South America: Ucayali River basin.

Countries: Peru

Common names: bagre

***Rhamdella papariae* Fowler, 1941**

Rhamdella papariae Fowler, 1941: 135, fig. 28. Type locality: Lago Papary, Rio Grande do Norte, Brazil. Holotype: ANSP 69387.

Maximum length: 13.5 cm TL

Distribution: South America: Lake Parary basin (?).

Countries: Brazil

Common names: mandi

***Rhamdella robinsoni* Fowler, 1941**

Rhamdella robinsoni Fowler, 1941: 135, fig. 24. Type locality: São José do Egito, Pernambuco. Holotype: ANSP 69386.

Maximum length: 9.7 cm TL

Distribution: South America: Lower São Francisco River basin.

Countries: Brazil

Common names: mandi chorão

***Rhamdella rusbyi* Pearson, 1924**

Rhamdella rusbyi Pearson, 1924: 12, pl. 2 (fig. 4). Type locality: Rio Colorado, Lower Bopi, Bolivia. Holotype: CAS 63728 [ex IU 17275].

Maximum length: 18.4 cm.

Distribution: South America: Beni River basin.

Countries: Bolivia

***Rhamdella wolffi* Fowler, 1941**

Rhamdella wolffi Fowler, 1941: 136, fig. 32. Type locality: Rio Choró, Ceará. Holotype: ANSP 69388.

Maximum length: 11.6 cm TL

Distribution: South America: Choró River basin.

Countries: Brazil

Common names: mandi

RHAMDIA

Pteronotus Swainson, 1839: 190. Type species: *Heterobranchus sextentaculatus* Agassiz, 1829. Type by original designation. Gender: masculine. Preoccupied by *Pteronotus* Gray, 1838 in Mammalia (see Miller, 1905: 223), not replaced.

- Rhamdia* Bleeker, 1858: 197. Type species: *Pimelodus sebae* Cuvier, 1829. Type by subsequent designation by Gill (1861: 48). Gender: feminine.
- Pimelotus* Gill, 1858: 387. Type species: *Pimelotus vilsoni* Gill, 1858. Type by subsequent designation by Eigenmann & Eigenmann (1890: 116). Gender: masculine.
- Caecorhamdia* Norman, 1926: 325. Type species: *Caecorhamdia urichi* Norman, 1926. Type by monotypy. Gender: feminine.
- Rhamdia foina* (Müller & Troschel, 1848)**
Pimelodus foina Müller & Troschel in Schomburgk, 1848: 628. Type locality: an den felsreichen Stellen des Takutu [tributary of the upper course of the Branco River, Guyana]. Holotype: ZMB 3039.
- Rhamdia holomelas rupununi* Fowler, 1914: 258, fig. 11. Type locality: Rupununi River, British Guiana. Holotype: ANSP 39339.
- Maximum length: 16.5 cm SL
 Distribution: South America: Essequibo, Branco, Negro, Tocantins, and Trombetas River basins.
 Countries: Brazil, Guyana
- Rhamdia humilis* (Günther, 1864)**
Pimelodus humilis Günther, 1864: 129. Type locality: Venezuela. Lectotype: BMNH 1965.2.19.1 (140.4 mm SL, largest), designated by Silfvergrip (1996: 25).
- Rhamdia guairensis* Eigenmann, 1920: 6. Type locality: Rio Guaire near Caracas. Lectotype: CAS 76655 [ex IU 15091] (108.1 mm SL), designated by Silfvergrip (1996: 34).
- Nannorhamdia benedetti* Fernández-Yépez & Martin S., 1952: 35, unnum. fig. [1] on p. 37. Type locality: Quebrada Ojo de Agua, Baruta. Holotype: MHNLS 82.
- Maximum length: 18.1 cm SL
 Distribution: South America: Rivers around Caracas, along the Caribbean coast.
 Countries: Venezuela
 Common names: bagre
- Rhamdia itacaiunas* Silfvergrip, 1996**
Rhamdia itacaiunas Silfvergrip, 1996: 83, pl. 2 (fig. 1). Type locality: Brazil, Est. Amazonas, Rio Tocantins basin, 'Igarapé Repartimento'. Holotype: INPA 7985 (130.9 mm SL).
- Maximum length: 23.8 cm SL
 Distribution: South America: Middle Tocantins River basin.
 Countries: Brazil
- Rhamdia jequitinhonha* Silfvergrip, 1996**
Rhamdia jequitinhonha Silfvergrip, 1996: 84, pl. 3 (fig. 2). Type locality: Brazil, Est. Minas Gerais, Rio Araçuaí, Santa Rita. Holotype: MZUSP 38630.
- Maximum length: 16.1 cm SL
 Distribution: South America: Jequitinhonha River basin.
 Countries: Brazil
- Rhamdia laticauda* (Kner, 1857)**
Pimelodus laticaudus Kner, 1857: 420. Type locality: Mexico. Type series not found at NMW (Silfvergrip, 1996: 16).
- Pimelodus hypselurus* Günther, 1864: 126. Type locality: Mexico. Holotype: BMNH 1858.11.22.32.
- Pimelodus petenensis* Günther, 1864: 126. Type locality: Lake Peten. Holotype: BMNH 1864.1.26.371.
- Pimelodus motaguensis* Günther, 1864: 127. Type locality: Rio Motagua. Holotype: BMNH 1865.4.29.39.
- Pimelodus salvini* Günther, 1864: 130. Type locality: Guatemala...Rio de San Geronimo. Holotype: BMNH 1861.8.2.16.
- Pimelodus polycaulus* Günther, 1864: 131. Type locality: Guatemala...Rio San Geronimo. Holotype: BMNH 1864.1.26.93.
- Pimelodus (Rhamdia) brachypterus* Cope, 1867: 404. Type locality: Orizava, Mexico. Holotype: ANSP 16471.
- Rhamdia Parryi* Eigenmann & Eigenmann, 1888: 130. Type locality: Rio Zanaleneo, near Tonalá, Chiapas, Mexico. Lectotype: MCZ 27273 (82.5 mm SL), designated by Silfvergrip (1996: 29).
- Rhamdia sacrificii* Barbour & Cole, 1906: 156, pl. 2. Type locality: Sacrificial Cenote, near Chichen Itza, Yucatan. Lectotype: MCZ 29073 (230.0 mm SL), designated by Silfvergrip (1996: 30).
- Rhamdia cabreræ* Meek, 1906: 93. Type locality: Amatitlan, Guatemala. Holotype: FMNH 5501.
- Pimelodus brachycephalus* Regan, 1907a: 258. Type locality: Guatemala, Rio Nacasil. Lectotype: BMNH 1875.6.9.5 (166.4 mm SL), designated by Silfvergrip (1996: 31).
- Pimelodus Rogersi* Regan, 1907a: 259. Type locality: Costa Rica, Irazu. Lectotype: BMNH 1907.2.11.1 (117.1 mm SL, largest), designated by Silfvergrip (1996: 31).
- Rhamdia regani* Meek, 1907b: 144. Type locality: Turrialba, Costa Rica. Holotype: FMNH 6019.
- Rhamdia underwoodi* Regan, 1907b: 135, pl. 23 (fig. 4). Type locality: Costa Rica, Juan Viñas. Lectotype: BMNH 1907.6.28.33 (84.5 mm SL, largest of four), designated by Silfvergrip (1996: 32).
- Rhamdia amatitlanensis* Fowler, 1936: 518, fig. 10. Type locality: Stream issuing from Lake Amatitlan. Holotype: ANSP 64136.
- Rhamdia laticauda typhla* Greenfield, Greenfield & Woods, 1982: 564, fig. 1. Type locality: A cave in Belize, in an area known as Las Cuevas, near Millionario in the Mountain Pine Ridge (16.45°N 89.00°W). Holotype: FMNH 71605.
- Rhamdia reddelli* Miller, 1984: 136, fig. 1. Type locality: Cueva del Nacimiento del Río San Antonio, ca. 9 km SW of Acatlán, Oaxaca, on Atlantic slope of eastern Mexico. Holotype: UMMZ 211164.
- Rhamdia zongolicensis* Wilkens, 1993: 375, fig. 1. Type locality: Cueva del Ostoc, Sierra de Zongolica (Veracruz, Mexico), road from Comalapa to Tezonapa. Holotype: ZMH 9249.
- Maximum length: 23 cm SL
 Distribution: North and Central America: River basins from central Mexico to northern Panama, in both Pacific and Caribbean slopes.
 Countries: Belize, Costa Rica, Guatemala, Honduras, Mexico, Panama.
 Common names: barbudo (Costa Rica)
- Rhamdia laukidi* Bleeker, 1858**
Rhamdia laukidi Bleeker, 1858: 208. Type locality: Venezuela, Est. Amazonas, first Río Casiquirae caño, ca. 5 min. from confluence of Río Casiquiare and Río Orinoco left side, Caño Caripo, ca. 3 km from mouth; 03°06'N, 65°50'W. Neotype: ANSP 174652 (217.1 mm SL), designated by Silfvergrip (1996: 17).
- Pimelodus holomelas* Günther, 1863: 442. Type locality: Essequibo. Lectotype: BMNH 1864.1.21.8 (95.4 mm SL, smallest of four), designated by Silfvergrip (1996: 23).
- Rhamdia tenella* Eigenmann & Eigenmann, 1888: 127. Type locality: Cudajas. Holotype: MCZ 7547.
- Maximum length: 33 cm SL
 Distribution: South America: Amazon, Essequibo, and Orinoco River basins.
 Countries: Brazil, Colombia, Guyana
- Rhamdia muelleri* (Günther, 1864)**
Pimelodus mülleri Günther, 1864: 119. Type locality: Brazil, Surinam... River Capin, Para...Para...Surinam. Lectotype: BMNH 1849.11.8.? (133.6 mm SL), designated by Silfvergrip (1996: 23).
- Pimelodus (Rhamdia) Knerii* Steindachner, 1877: 631. Type locality: Marabitanos [Marabitanas, State of Amazonas, Brazil]. Lectotype: NMW 45790 (139.3 mm SL), designated by Silfvergrip (1996: 27).
- Rhamdia obesa* Eigenmann & Eigenmann, 1888: 124. Type locality: Teffé. Holotype: MCZ 7518.
- Maximum length: 20.8 cm SL

Distribution: South America: Amazon, Ambyiacu, Aripuanã, Capim, Essequibo, Madeira, Negro, Orinoco, Solimões, Tocantins, and Trombetas River basins.

Countries: Brazil, Guyana, Peru, Venezuela

***Rhamdia nicaraguensis* (Günther, 1864)**

Pimelodus nicaraguensis Günther, 1864: 125. Type locality: Lake of Nicaragua. Holotype: BMNH 1864.1.26.212.

Pimelodus managuensis Günther, 1867: 603. Type locality: Lake Managua. Holotype: BMNH 1865.7.20.37.

Rhamdia alfaroi Fowler, 1932: 382, unnumbered fig on p. 381. Type locality: Escobal, 400 meters elevation, Costa Rica. Holotype: ANSP 53934.

Rhamdia luigiana Villa, 1977: 133, fig. 1. Type locality: Nicaragua: Departamento de Granada; Lake Nicaragua, between Ometepe and Zapatera Islands. Holotype: USNM 217535.

Maximum length: 19.1 cm SL

Distribution: Central America: River basins in Costa Rica and Nicaragua.

Countries: Costa Rica, Nicaragua.

Common names: barbudo (Costa Rica); bagre, chuchin (Nicaragua)

***Rhamdia poeyi* Eigenmann & Eigenmann, 1888**

Rhamdia poeyi Eigenmann & Eigenmann, 1888: 127. Type locality: Goyaz. Holotype: MCZ 8196.

Maximum length: 19.7 cm SL

Distribution: South America: Mamoré, upper Napo, and Tocantins River basins.

Countries: Bolivia, Brazil, Ecuador

***Rhamdia quelen* (Quoy & Gaimard, 1824)**

?*Silurus quadrimaculatus* Bloch, 1794: 37, pl. 368 (fig. 2). Type locality: Amerika. Holotype: ZMB 2944. Probably lost (Silfvergrip, 1996: 9).

Pimelodus quelen Quoy & Gaimard in Freycinet, 1824: 228, pl. 49 (fig. 3). Type locality Peru, Depto Loreto, right bank quebradita tributary to R. Samiria between Caño Pastos and Hamburgo. Neotype: NRM 16091 (100.5 mm SL), designated by Silfvergrip (1996: 12, 97, 139).

Pimelodus sebae Cuvier, 1829: 294. Type locality: Peru, Depto Loreto, right bank quebradita tributary to R. Samiria between Caño Pastos and Hamburgo. Neotype: NRM 16091 (100.5 mm SL). Lectotype designated but subsequently lost; neotype selected by Silfvergrip (1996: 13).

Pimelodus namdia Cuvier, 1829: 294. Type locality: Peru, Depto Loreto, right bank quebradita tributary to R. Samiria between Caño Pastos and Hamburgo. Neotype: NRM 16091 (100.5 mm SL), designated by Silfvergrip (1996: 12).

?*Heterobranchus sextentaculatus* Spix & Agassiz, 1829: 28, pl. 11. Type locality: Peru, Depto Loreto, right bank quebradita tributary to Río Samiria between Caño Pastos and Hamburgo. Neotype: NRM 16091 (100.5 mm SL), designated by Silfvergrip (1996: 13).

Pimelodus sapo Valenciennes, 1835: pl. 2 (fig. 6). Type locality: not stated. Type locality "Buéno-Ayres" appeared in Valenciennes in Cuvier & Valenciennes (1840: 180). Holotype: MNHN 1576. Name available from plate (cf. Sherborn & Griffin, 1934: 131); the correspondent text appeared only in Valenciennes (1847: 7).

Pimelodus Hilarii Valenciennes in Cuvier & Valenciennes, 1840: 180 (134 in the Strasbourg deluxe ed.). Type locality: les rivières qui se jettent dans celle de Saint-François au Brésis...., ... Monté-Vidéo [São Francisco River, Brazil and Montevideo, Argentina]. Lectotype: MNHN A.9415 (190.4 mm SL; dry), designated by Silfvergrip (1996: 14, 147).

Pimelodus Pentlandii Valenciennes in Cuvier & Valenciennes, 1840: 183 (135 in the Strasbourg deluxe ed.), pl. 435. Type locality: de l'Apurimac [tributary of the Ucayali River, tributary of the

Amazon River, Peru]. Lectotype: BMNH 1862.11.15.11 (221.0 mm SL, smaller spec.), designated by Silfvergrip (1996: 14, 139).

Pimelodus stegelichii Müller & Troschel in Schomburgk, 1848: 628. Type locality: Britisch-Guiana. Types from Surinam (Müller & Troschel, 1849: 3). Lectotype: ZMB 3043 (182.2 mm SL), designated by Silfvergrip (1996: 15).

Pimelodus Sellonis Müller & Troschel, 1849: 2. Type locality: Brasilien. Holotype: ZMB 3041 (291.0 mm SL).

Pimelodus Deppei Müller & Troschel, 1849: 3. Type locality: Sandwich-Inseln [=Hawaii]. Probably southern Mexico (Silfvergrip, 1996: 15). Lectotype: ZMB 3046 (112.2 mm SL), designated by Silfvergrip (1996: 15, 133).

Pimelodus musculus Müller & Troschel, 1849: 4. Type locality: America. Holotype: ZMB 3048.

?*Silurus sapipoca* Natterer in Kner, 1857: 418. Type locality: Marabitanos [Marabitanas, State of Amazonas, Brazil]. Not available, described as a junior synonym of *Pimelodus Sebae* Valenciennes (see Silfvergrip, 1996: 16).

Pimelotus Vilsoni Gill, 1858: 391. Type locality: Trinidad. Holotype: probably lost (see Ferraris & Vari, 1992: 2). Possible holotype is USNM 5927 (111.5 mm SL) (Silfvergrip, 1996: 22). Genus as *Pimelotus* but corrected in errata at rear of volume to *Pimelotus*; *Pimelotus* used in separate.

Pimelodus cinerascens Günther, 1860: 237, pl. 10 (fig. A). Type locality: Fresh waters of Guayaquil and Esmeraldas [Ecuador]. Lectotype: BMNH 1860.6.16.193 (155.0 mm SL), designated by Silfvergrip (1996: 22, 134).

Pimelodus guatemalensis Günther, 1864: 122. Type locality: Guatemala ... Huamuchal. Lakes with brackish water. Lectotype: BMNH 1864.1.26.210, designated by Silfvergrip (1996: 24).

Pimelodus wuchereri Günther, 1864: 123. Type locality: Bahia [Brazil]. Lectotype: BMNH 1864.1.19.18 (147.5 mm, smallest of four), designated by Silfvergrip (1996: 24).

Pimelodus godmanni Günther, 1864: 124. Type locality: Guatemala, Mexico ... Lower Vera Paz ... Rio Motagua ... Mexico. Lectotype: BMNH 1864.1.26.94 (218.2 mm SL), designated by Silfvergrip (1996: 24, 133).

?*Pimelodus micropterus* Günther, 1864: 124. Type locality: Guatemala ... River of San Geronimo. Holotype: BMNH 1864.1.26.92.

Pimelodus (Rhamdia) Baronis Mülleri Troschel in Müller, 1865: 636. Type locality: Still. Oc. [apparently from Pacific side of Mexico - Silfvergrip, 1996: 25]. Type (s): Probably lost (Silfvergrip, 1996: 25).

Pimelodus wagneri Günther, 1868: 474. Type locality: Pacific and Atlantic rivers of Panama. Type(s): not stated. Type series may include NMW 45618, 45619 (Silfvergrip, 1996: 26). Species based on the description of specimens from "Rio Chagres, Guayaquil und Neu-Granada" identified as *Pimelodella cinerascens* by Kner & Steindachner (1865: 52).

Rhamdia dorsalis Gill, 1870: 94. Type locality: the Marañon, or Upper Amazon, and Napo Rivers. Holotype: USNM 35334.

Pimelodus (Rhamdia) Parahybae Steindachner, 1877: 615. Type locality: Rio Parahyba. Holotype: NMW 45852.

Pimelodus (Rhamdia) Queleni var. *cuprea* Steindachner, 1877: 623. Type locality: aus dem Parahyba bei Juiz de Fora (im mittleren lauf des Stromes). Lectotype: NMW 45877:1 (155.5 mm SL), designated by Silfvergrip (1996: 146).

Pimelodus (Rhamdia) Cuyabae Steindachner, 1877: 633. Type locality: Cuyaba. Lectotype: NMW 45919: 1 (123.1 mm SL), designated by Silfvergrip (1996: 28).

Rhamdia bransfordii Gill, 1877: 337. Type locality: Panama ... Camp Marie Caretta. Holotype: USNM 16674.

Pimelodus bathyurus Cope, 1878: 674. Type locality: Peruvian Amazon. Lectotype: ANSP 21437-38 (45.6 mm SL, smaller of two), designated by Silfvergrip (1996: 28).

Rhamdia oaxacae Meek, 1902: 74, pl. 14. Type locality: Rio Quiotepec, Cuicatlan, Oaxaca, Mexico. Holotype: FMNH 3717.

- Rhamdia depressa* Barbour & Cole, 1906: 155, pl. 1. Type locality: Ikil Cenote, near Chichen-Itza, Yucatan. Lectotype: MCZ 29072 (193.2 mm SL), designated by Silfvergrip (1996: 30, 133).
- Pimelodus Boucardi* Regan, 1907a: 258. Type locality: Yucatan. Holotype: BMNH 1880.7.13.33.
- Rhamdia heteracantha* Regan, 1907b: 134. Type locality: Costa Rica, Juan Viñas. Holotype: BMNH 1907.6.28.32.
- Rhamdia barbata* Meek, 1907a: 106. Type locality: San Francisco, Guatemala. Holotype: FMNH 5906.
- Rhamdia nasuta* Meek, 1909: 207. Type locality: Buenos Aires de Terraba, Costa Rica. Holotype: FMNH 6480.
- Rhamdia branneri* Haseman, 1911b: 377, pl. 75. Type locality: Creek of the Rio Iguassú near Serrinha, Paraná, Brazil. Holotype: FMNH 54235 [ex CM 2851].
- Rhamdia branneri voulezi* Haseman, 1911b: 378, pl. 76. Type locality: Porto União da Victoria, Rio Iguassú. Holotype: FMNH 54238 [ex CM 2854].
- Rhamdia mounseyi* Regan, 1913a: 282. Type locality: River Ucayali, Peru. Lectotype: BMNH 1913.7.30.13 (115.3 mm SL), designated by Silfvergrip (1996: 33, 139).
- Rhamdia riojae* Fowler, 1915: 209, fig. 2. Type locality: Rioja, near Moyabamba and Baka Puerto, on or near the lower course of the Huallagua River, Peru. Holotype: ANSP 21101.
- Rhamdia ortonii* Fowler, 1915: 211, fig. 3. Type locality: Peruvian Amazon. Holotype: ANSP 21928.
- Rhamdia microps* Eigenmann in Eigenmann & Fisher, 1917: 394, pl. 38 (text says pl. 28). Type locality: Uruguayana. Holotype: FMNH 58285 [ex CM 7283] (largest).
- Rhamdia pubescens* Miranda Ribeiro, 1920: 11, unnum. pl. 6. Type locality: Urucum (proximo de Corumbá), Matto Grosso. Lectotype: MNRJ 925A, designated by Miranda Ribeiro (1953: 404), but perhaps specimen not isolated. Lectotype also selected by Silfvergrip (1996: 34) as MNRJ 925 (180.3 mm SL, largest of five).
- ?*Silurus rivularis* Larrañaga, 1923: 376. Type locality: Peru, Depto Loreto, right bank quebradita tributary to R. Samiria between Caño Pastos and Hamburgo. Neotype: NRM 16091 (100.5 mm SL), designated by Silfvergrip (1996: 35). Appeared as *ribularis*; corresponds to *Silurus 9-radiatus* on p. 385.
- Rhamdia micayi* Eigenmann in Pearson, 1924: 11. Not available, no distinguishing features.
- Caecorhamdia urichi* Norman, 1926: 325, fig. 1. Type locality: Pool in interior of the Guacharo Cave, Trinidad. Lectotype: BMNH 1926.7.28.1-2 (99.7 mm SL, smaller of two), designated by Silfvergrip (1996: 35).
- Rhamdia guatemalensis muriei* Hubbs, 1935: 7, pl. 4 (fig. 1). Type locality: a stagnant aguada ... at edge of swamp, in the high tropical "bush" region at Uaxactun, Petén, Guatemala. Holotype: UMMZ 97881.
- Rhamdia guatemalensis decolor* Hubbs, 1936: 201, pl. 1 (fig. 3). Type locality: Mexico ... San Bulha Cave, Motul, Yucatan. Holotype: UMMZ 102217.
- Rhamdia guatemalensis stygaea* Hubbs, 1936: 203, pl. 1 (fig. 2). Type locality: Mexico ... San Isidro Cave in Salar Colony, near Merida. Holotype: UMMZ 102218.
- Rhamdia saijaensis* Rendahl, 1941: 2. Type locality: Rio Saija, südl. von Buenaventura, zwischen B. und Guapi [Saija River, in Pacific slope, Colombia]. Holotype: NRM 10675.
- Rhamdia duquei* Eigenmann & Pearson in Eigenmann & Allen, 1942: 93. Type locality: Rio Urubamba, Santa Ana. Holotype: SU 57895; holotype is mixed with the paratypes and cannot be distinguished (Silfvergrip, 1996: 36).
- Rhamdia sebae Martyi* Güntert, 1942: 33. Type locality: Riactis Canâwé, Dept. Ita, Paraguay. Holotype: NMBA 5279.
- Rhamdia lehmanni* Dahl, 1961: 487, unnum. fig. [1] on p. 489. Type locality: a small pool in a brook tributary to the Guayabero River, approx. 1500 meters from Expedition's camp No. I, and about 1000 meters from the mouth of the brook, on the left side of the river. Holotype: probably lost (Silfvergrip, 1996: 37; see Cala, 1981: 1).
- Maximum length: 38.7 cm SL
Distribution: North, Central, and South America: Rivers in Mexico in the north to central Argentina in the south.
Countries: Argentina, Belize, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, El Salvador, French Guiana, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay, Venezuela
Remarks and references: The nominal species *Rhamdia eigenmanniorum* Miranda Ribeiro (1911: 273), herein tentatively placed in the genus *Pimelodella*, was not treated in Silfvergrip (1996).
Common names: bagre, bagre de arroyo, bagre lagunero, bagre negro, bagre sapo, bagre sapo de las piedras, mandi hú, moncholo lagunero (Argentina); bagre (Bolivia); bagre, bagre-morcego, bagre-das-lagoas, bagre-sapo, mandi-chorão, mandi-moela, nhandiá, jandiá, jandiá-tingá, jundiá-tingá, peixe-sapo (Brazil); barbilla, barbudo negro, cantilero, capitán, guabina, lisa, liso, liso negro (Colombia); bagre, chuchin (Nicaragua); bagre (Peru)
- Rhamdia xetequepeque* Silfvergrip, 1996**
Rhamdia xetequepeque Silfvergrip, 1996: 98, pl. 2 (fig. 3). Type locality: Peru, Jequetepeque River, just W of Chilete (06°19'90"S, 78°25'90"W). Holotype: ROM 70112.
Maximum length: 7.2 cm SL
Distribution: South America: Jequetepeque River basin.
Countries: Peru
- RHAMDIOGLANIS**
Rhamdioglanis Ihering, 1907: 16. Type species: *Rhamdioglanis frenatus* Ihering, 1907. Type by original designation. Gender: masculine.
- Rhamdioglanis frenatus* Ihering, 1907**
Rhamdioglanis frenatus Ihering, 1907: 16. Type locality: riverlets of the Island of S. Sebastião, State of S. Paulo. Lectotype: MZUSP 154, designated by Britski (1969: 205).
Maximum length: 22 cm TL
Distribution: South America: Streams in the Island of São Sebastião, São Paulo State.
Countries: Brazil
Common names: mandi
- Rhamdioglanis transfasciatus* Miranda Ribeiro, 1908**
Rhamdioglanis transfasciatus Miranda Ribeiro, 1908: [3]. Type locality: Rio Bethary. Syntypes: MNRJ 965.
Maximum length: 19 cm SL
Distribution: South America: Coastal streams in Rio de Janeiro to Santa Catarina State.
Countries: Brazil
Common names: bagre, jundiá, mandi-pintado
- RHAMDIOPSIS**
Rhamdiopsis Haseman, 1911b: 375. Type species: *Rhamdiopsis moreirai* Haseman, 1911. Type by monotypy. Gender: feminine.
- Rhamdiopsis microcephala* (Lütken, 1874)**
Rhamdia microcephala Lütken, 1874: 35. Type locality: in flumine Rio das Velhas. Syntypes: ZMUC 324, 325, 327.
Maximum length: 7.8 cm SL
Distribution: South America: Upper Paraná and São Francisco River basins.
Countries: Brazil
Common names: bagre
Remarks and references: Detailed description and illustration of *R. microcephala* appeared in Lütken (1875: 177-179, pl. 3, fig. 7).
- Rhamdiopsis moreirai* Haseman, 1911**
Rhamdiopsis moreirai Haseman, 1911b: 375, pl. 73. Type locality: Serrinha Paraná, Rio Iguassú. Holotype: FMNH 54372 [ex CM

2849].

Maximum length: 11.7 cm SL

Distribution: South America: Iguaçu and Ribeira de Iguape River basins.

Countries: Brazil

Common names: bagre, jundiá, mandzinho

TAUNAYIA

Taunayia Miranda Ribeiro, 1918: 642. Type species: *Taunayia marginata* Miranda Ribeiro, 1918. Type by monotypy. Gender: feminine.

***Taunayia bifasciata* (Eigenmann & Norris, 1900)**

Nannoglanis bifasciatus Eigenmann & Norris, 1900: 350. Type locality: S. Paulo, Brazil. Holotype: CAS 75771 [IU 09291].

Taunayia marginata Miranda Ribeiro, 1918: 642. Type locality: Piquete. Holotype: MZUSP 2273.

Maximum length: 14 cm SL

Distribution: South America: Upper Paraíba do Sul and Tietê River basins.

Countries: Brazil

Common names: bagre

Remarks and references: The locality where the holotype of *Nannoglanis bifasciatus* was collected, according the title of Eigenmann & Norris (1900) article is "S. Paulo, Brazil" [=State of São Paulo, Brazil], either in tributaries of upper Paraná River and coastal streams (1900: 349). Considering its known distribution, its type locality can be restricted to the headwaters of the Paraíba do Sul and Tietê River basins, in the State of São Paulo (Oliveira & Britski, 2000: 128).

SPECIES INQUIRENDA

Pimelodus velifer Humboldt in Humboldt & Valenciennes, 1821: 171. Type locality: Río Magdalena, Colombia. No types known.

References

- Ahl, E. 1925. Neue südamerikanische Fische aus dem Zool. Museum Berlin. Sitzungsber. Ges. Naturf. Freunde Berlin, (1/10): 106-109.
- Ahl, E. 1936. Beschreibungen dreier neuer Welse aus Brasilien. Zool. Anz., 116 (3/4): 109-111.
- Amaral, M.F., J.M.R. Aranha and M. S. Menezes. 1998. Deproduction of the freshwater catfish *Pimelodella pappenheimi* in southern Brazil. Stud. Neotr. Fauna Environ., 33: 106-110.
- Aranha, J.M.R., D.F. Takeuti and T.M. Yoshimura. 1998. Habitat use and food partitioning of the fishes in a coastal stream of Atlantic Forest, Brazil. Ver. Biol. Trop., 46 (4): 951-959.
- Arratia, G. 1992. Development and variation of the suspensorium of primitive catfishes (Teleostei: Ostariophysi) and their phylogenetic relationships. Bonner Zoologische Monographien, 32: 1-149.
- Arratia, G. and A. Cione. 1996. The record of fossil fishes of southern South America. Münchner Geowissenschaftliche Abhandlungen, Reihe A - Geologie und Paläontologie, 30: 9-72.
- Axelrod, H.R. 1987. Two new species of catfishes (Siluriformes, Callichthyidae and Pimelodidae) from the Rio Unini, Amazonas, Brazil. Trop. Fish Hobbyist, 35 (12): 22-25.
- Barbour, T. and L.J. Cole. 1906. Reptilia, Amphibia, and Pisces. Bull. Mus. Comp. Zool., 50 (5): 146-159, pls. 1-2.
- Bertoletti, J.J. 1967. Nova espécie de "*Rhamdella*" Eigenmann & Eigenmann (Actinopterygii, Siluriformes, Pimelodidae). Rev. Bras. Biol., 27 (1): 77-83.
- Bizerril, C.R.S.F. 1991. Descrição de uma nova espécie de *Braichyglanis* Eigenmann, 1912 da bacia do rio Trombetas (Siluroidei, Pimelodidae). Bol. Mus. Nac. Zool. (N. S.), (347): 1-8.
- Bleeker, P. 1858. De visschen van den Indischen Archipel. Beschreven en toegelicht. Siluri. Acta Soc. Sci. Indo-Neerl., 4: i-xii + 1-370.
- Bleeker, P. 1862. Descriptions de quelques espèces nouvelles de Silures de Suriname. Versl. Akad. Weten. Amsterdam, 14: 371-389.
- Bloch, M.E. 1794. Naturgeschichte der ausländischen Fische, vol. 8. Berlin. iv + 174 p., pls. 361-396.
- Bockmann, F.A. 1994. Description of *Mastiglanis asopos*, a new pimelodid catfish from northern Brazil, with comments on phylogenetic relationships inside the subfamily Rhamdiinae (Siluriformes: Pimelodidae). Proc. Biol. Soc. Wash., 107 (4): 760-777.
- Bockmann, F.A. 1998. Análise filogenética da família Heptapteridae (Teleostei, Ostariophysi, Siluriformes) e redefinição de seus gêneros. Unpublished Doctoral Dissertation. São Paulo, Universidade de São Paulo. 599 p.
- Boeseman, M. 1953. Scientific results of the Surinam Expedition 1948-1949. Part II. Zoology No. 2. The Fishes (I). Zool. Meded. (Leiden), 32 (1): 1-24.
- Borodin, N.A. 1927a. A new blind catfish from Brazil. Am. Mus. Novit., (263): 1-5.
- Borodin, N.A. 1927b. Some new catfishes from Brazil. Am. Mus. Novit., (266): 1-7.
- Boulenger, G.A. 1887. An account of the fishes collected by Mr. C. Buckley in eastern Ecuador. Proc. Zool. Soc. Lond., 1887 (2): 274-283, pls. 20-24.
- Boulenger, G.A. 1891. An account of the siluroid fishes obtained by Dr. H. von Ihering and Herr Sebastian Wolff in the Province Rio Grande do Sul, Brazil. Proc. Zool. Soc. Lond., 1891 (2): 231-235, pls. 25-26.
- Boulenger, G.A. 1898. Viaggio del Dr. Enrico Festa nell' Ecuador e regioni vicine. Poissons de l'Équateur. [Part I]. Boll. Mus. Zool. Anat. Comp. Torino, 13 (329): 1-13.
- Boulenger, G.A. 1902. Additions à la faune ichthyologique de bassin du Congo. Matériaux pour la faune du Congo. Ann. Mus. Congo (Ser. Zool.), 2 (2): 19-57, pl. 7-16.
- Britski, H.A. 1969. Lista dos tipos de peixes das coleções do Departamento de Zoologia da Secretaria da Agricultura de São Paulo. Pap. Avulsos Zool. (São Paulo), 22 (19): 197-215.
- Britski, H.A. 1993. Uma nova espécie de *Phenacorhamdia* da bacia do Alto Paraná (Pisces, Siluriformes). Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre, 6: 41-50.
- Buckup, P.A. 1988. The genus *Heptapterus* (Teleostei, Pimelodidae) in southern Brazil and Uruguay, with the description of a new species. Copeia, 1988 (3): 641-653.
- Bussing, W.A. 1970. Two new species of catfishes of the genera *Nannorhamdia* and *Imparales* (family Pimelodidae) from Central America. Contrib. Sci. (Los Angeles), (196): 1-11.
- Cala, P. 1981. Catalogo de los ejemplares tipo en la colección de peces del Instituto de Ciencias Naturales - Museo de Historia Natural de la Universidad Nacional de Colombia. Lozania (Acta Zoologica Colombiana), (34): 1-5.
- Caramaschi, E.P. 1991. Levantamento da ictiofauna do rio Paraíba do Sul e ciclo reprodutivo das principais espécies, no trecho compreendido entre Três Rios e Campos. Vol. 2. Aspectos reprodutivos da ictiofauna. Parte A. Texto. Rio de Janeiro, Relatório Final do Convênio ENGEVIX/FUJB/UFRJ. 190 p.
- Carvalho, A.L. 1967. Novos dados para o conhecimento de *Phreatobius cisternarum* Goeldi (Pisces, Pygidiidae, Phreatobiinae). Atas do Simpósio sobre a Biota Amazonica 3 (Limnologia): 83-88.
- Casatti, L. and R.M.C. Castro. 1998. A fish community of the São Francico River headwaters riffles, southeastern Brazil. Ichthyol. Explor. Freshwaters, 9 (3): 229-242.
- Castro, R.M.C. and L. Casatti. 1997. The fish fauna from a small forest stream of the upper Paraná River basin, southeastern Brazil. Ichthyol. Explor. Freshwaters, 7 (4): 337-352.
- Casatti, L., F. Langeani and R.M.C. Castro. 2001. Peixes de riacho do Parque Estadual Morro do Diabo, bacia do Alto Rio Paraná, SP. Biota Neotropica, 1 (1/2): 1-15.

Check List of the Freshwater Fishes of South and Central America

- Chang, F. 1999. New species of *Myoglanis* (Siluriformes, Pimelodidae) from the Río Amazonas, Peru. *Copeia*, 1999 (2): 434-438.
- Cione, A.L. 1982. Peces del Pleistoceno tardío de la provincia de Buenos Aires. Consideraciones biogeográficas. Circular Informativa de la Asociación Paleontologica Argentina, 8: 12.
- Cione, A.L. 1986. Los peces continentales del Cenozoico de Argentina. Su significación paleoambiental y paleobiogeográfica. Pp. 101-106. In: Congreso Argentino de Paleontología y Bioestratigrafía No. 4, Actas, 2. Mendoza.
- Cope, E.D. 1867. Supplement on some new species of American and African fishes. *Trans. American Philos. Soc.*, 13 (2): 400-407.
- Cope, E.D. 1870. Contribution to the ichthyology of the Marañon. *Proc. American Philos. Soc.*, 11: 559-570.
- Cope, E.D. 1872. On the fishes of the Ambyiacu River. *Proc. Acad. Nat. Sci. Philadelphia*, 23: 250-294, pls.
- Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. *Proc. American Philos. Soc.*, 17 (101): 673-701.
- Cope, E.D. 1894. On the fishes obtained by the Naturalist Expedition in Rio Grande do Sul. *Proc. American Philos. Soc.*, 33: 84-108, pls. 4-9.
- Costa, W.J.E.M. 1987. Feeding habits of a fish community in a tropical coastal stream, rio Mato Grosso, Brazil. *Stud. Neotr. Fauna Environ.*, 22 (3): 145-153.
- Cuvier, G. 1829. Le règne animal, distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Edition 2. xviii + 532 p.
- Cuvier, G. and A. Valenciennes. 1840. Histoire naturelle des poissons. Tome quinzisième. Suite du livre dix-septième. Siluroïdes. Ch. Pitois, & V.° Levrault, Paris & Strasbourg. xxxi + 540 p., pls. 421-455.
- Dahl, G. 1961. Nematognathous fishes collected during the Macarena Expedition 1959. Part II: Pimelodidae, Callophysidae. *Novedades Colombianas*, 1 (6): 483-514.
- Dahl, G. and F. Medem. 1964. Informe sobre la fauna acuática del Río Sinu. I Parte. Los Peces y la Pesca del Río Sinu. Corporación Autónoma Regional de los Valles del Magdalena y del Sinu -CVM-. Departamento de Investigaciones Ictiologicas y Faunisticas. 109 p.
- Eigenmann, C.H. 1910. Catalogue of the fresh-water fishes of tropical and south temperate America. In: Reports of the Princeton University expeditions to Patagonia 1896-1899. *Zoology*: 375-511.
- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. *Mem. Carnegie Mus.*, 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. 1913. On two new species of fishes collected by Miss Lola Vance in Peru. *Ann. Carnegie Mus.*, 8 (nos. 3/4): 421-422, pl. 32.
- Eigenmann, C.H. 1916. New and rare fishes from South American rivers. *Ann. Carnegie Mus.*, 10 (1-2): 77-86, pls. 13-16.
- Eigenmann, C.H. 1917. *Pimelodella* and *Typhlobagrus*. *Mem. Carnegie Mus.*, 7 (4): 229-258, pls. 29-35.
- Eigenmann, C.H. 1918. The Pygidiidae, a family of South American catfishes. *Mem. Carnegie Mus.*, 7 (5): 259-398.
- Eigenmann, C.H. 1919a. *Trogloglanis pattersoni* a new blind fish from San Antonio, Texas. *Proc. American Phil. Soc.*, 58 (6): 397-400.
- Eigenmann, C.H. 1919b. Peces Colombianos de las cordilleras y de los llanos al oriente de Bogotá. *Boletín de la Sociedad Colombiana de Ciencias Naturales*, 7 (62/65): 126-136.
- Eigenmann, C.H. 1920. The fishes of Lake Valencia, Caracas, and of the Río Tuy at El Concejo, Venezuela. *Indiana Univ. Studies*, 7 (44): 1-13.
- Eigenmann, C.H. 1922. The fishes of western South America, Part I. The fresh-water fishes of northwestern South America, including Colombia, Panama, and the Pacific slopes of Ecuador and Peru, together with an appendix upon the fishes of the Río Meta in Colombia. *Mem. Carnegie Mus.*, 9 (1): 1-346, pls. 1-38.
- Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II. The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. *Univ. Kentucky*. xv + 494 p., pls. 1-22.
- Eigenmann, C.H. and R.S. Eigenmann. 1888. Preliminary notes on South American Nematognathi. I. *Proc. California Acad. Sci. (Ser. 2)*, 1 (2): 119-172.
- Eigenmann, C.H. and R.S. Eigenmann. 1889. Preliminary notes on South American Nematognathi. II. *Proc. California Acad. Sci. (Ser. 2)*, 2 (1): 28-56.
- Eigenmann, C.H. and R.S. Eigenmann. 1890. A revision of the South American Nematognathi or cat-fishes. *Occas. Pap. California Acad. Sci.*, No. 1: 1-508 + errata and map.
- Eigenmann, C.H. and H.G. Fisher. 1917. On some species of *Rhamdia*, a genus of South American Siluridae, in the Carnegie Museum. *Ann. Carnegie Mus.*, 11 (3/4): 394-397, pl. 38.
- Eigenmann, C.H., W.L. McAtee and D.P. Ward. 1907. On further collections of fishes from Paraguay. *Ann. Carnegie Mus.*, 4 (2): 110-157, pls. 31-45.
- Eigenmann, C.H. and A.A. Norris. 1900. Sobre alguns peixes de S. Paulo, Brazil. *Rev. Mus. Paulista*, 4: 349-362.
- Eschmeyer, W.N. (ed.). 1998. Catalog of fishes. San Francisco, California Academy of Sciences. 2905 p.
- Fernández-Yépez, A. 1950. Algunos peces del Río Autana. *Noved. Cient. Mus. Hist. Nat. La Salle (Ser. Zool.)*, No 2: 1-18, pls. 1-3.
- Fernández-Yépez, A. 1967. Resultados zoológicos de la expedición de la Universidad Central de Venezuela a la region del Auyantepui en la Guayana Venezolana, abril de 1956. 6. Primera contribucion al conocimiento de los peces, con descripción de dos especies y una subespecie nuevas. *Acta Biol. Venez.*, 5: 159-177.
- Fernández-Yépez, A. 1970. Analisis ictiologico del Complejo Hidrográfico (07) "Río Unare. Dirección de Obras Hidráulicas, Ministerio de Obras Públicas, Republica de Venezuela. 20 p., 41 pl.
- Fernández-Yépez, A. and F. Martín Salazar. 1952. Notas sobre la fauna ictiologica de la region Baruta-El Hatillo. *Mem. Soc. Cienc. Nat. La Salle*, 12 (31): 31-45.
- Ferraris, C.J., Jr. 1988. Relationships of the Neotropical catfish genus *Nemuroglanis*, with a description of a new species (Osteichthyes: Siluriformes: Pimelodidae). *Proc. Biol. Soc. Wash.*, 101 (3): 509-516.
- Ferraris, C.J., Jr. and F. Mago-Leccia. 1989. A new genus and species of pimelodid catfish from the Río Negro and Río Orinoco drainages of Venezuela (Siluriformes: Pimelodidae). *Copeia*, 1989 (1): 166-171.
- Ferraris, C. J., Jr. and R.P. Vari. 1992. Catalog of type specimens of recent fishes in the National Museum of Natural History, Smithsonian Institution, 4: Gonorynchiformes, Gymnitiformes, and Siluriformes (Teleostei: Ostariophysi). *Smithsonian Contrib. Zool.*, (535): iv+52 p.
- Fowler, H.W. 1914. Fishes from the Rupununi River, British Guiana. *Proc. Acad. Nat. Sci. Philadelphia*, 66: 229-284.
- Fowler, H.W. 1915. Notes on nematognathous fishes. *Proc. Acad. Nat. Sci. Philadelphia*, 67: 203-243.
- Fowler, H.W. 1932. Notes on fresh water fishes from Central America. *Proc. Acad. Nat. Sci. Philadelphia*, 84: 379-385.
- Fowler, H.W. 1936. Fresh-water fishes obtained in Guatemala by Mr. Rodolphe Meyer de Schauensee in 1935. *Proc. Acad. Nat. Sci. Philadelphia*, 87 (for 1935): 515-531.
- Fowler, H.W. 1940a. A collection of fishes obtained by Mr. William C. Morrow in the Ucayali River basin, Peru. *Proc. Acad. Nat. Sci. Philadelphia*, 91 (for 1939): 219-289.
- Fowler, H.W. 1940b. Zoological results of the second Bolivian

Check List of the Freshwater Fishes of South and Central America

- expedition for the Academy of Natural Sciences of Philadelphia, 1936-1937. Part I.--The fishes. Proc. Acad. Nat. Sci. Philadelphia, 92: 43-103.
- Fowler, H.W. 1941. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. Proc. Acad. Nat. Sci. Philadelphia, 93: 123-199.
- Fowler, H.W. 1945. Descriptions of seven new fresh-water fishes from Peru. Not. Nat. (Philadelphia), (159): 1-11.
- Freycinet, L. (ed.). 1824-1825. Voyage autour du monde, enterpris par ordre du roi, sous le ministère et conformement aux instructions de S. Exc. M. le Vicomte du Bouchage, secrétaire d'état au département de la marine, exécuté sur les corvettes de S. M. l'Oranie et la Physicienne, pendant les années 1817, 1818, 1819 et 1820. Paris, Pillet Ainé, Imprimeur-Libraire. 712 p. [1-328 in 1824; 329-616 in 1825].
- Fuhrmann, O. 1906. *Scleropages formosum* und über *Phreatobius cisternarum*. Verhandlungen der Schweizerischen Naturforschenden Gesellschaft in Luzern, 88: 50-51.
- Gill, T.N. 1858. Synopsis of the fresh water fishes of the western portion of the island of Trinidad, W. I. Ann. Lyc. Nat. Hist. N. Y., 6 (10-13): 363-430.
- Gill, T.N. 1861. Synopsis of the genera of the sub-family of Pimelodinae. Proc. Boston Soc. Nat. Hist., 8: 46-55.
- Gill, T.N. 1870. On some new species of fishes obtained by Prof. Orton from the Marañon, or Upper Amazon, and Napo Rivers. Proc. Acad. Nat. Sci. Philadelphia, 22: 92-96.
- Gill, T.N. 1877. Notes on fishes from the Isthmus of Panama, collected by Dr. J. F. Bransford, U. S. N. Proc. Acad. Nat. Sci. Philadelphia, 28 (for 1876): 335-339.
- Goeldi, E.A. 1905. Nova zoologica aus der Amazonas-region. Neue Wirbeltiere: 542-549. In: Bedot, M. (ed.), Compte-Rendu des Séances du Sixième Congrès International de Zoologie. Genève, Imprimerie W. Kündig & Fils. 733 p.
- Gomes, A.L. 1956. Descrição de uma nova espécie de "Luciopimelodinae" do Rio Mogi Guaçu, Estado de São Paulo, (Pisces, Nematognathi, Pimelodidae). Rev. Bras. Biol., 16 (4): 403-413.
- Gomes, A.L. and O. Schubart. 1958. Descrição de *Chasmocranus brachynema* sp. n., novo "Luciopimelodinae" da Bacia do Rio Mogi Guaçu, estado de São Paulo. (Pisces, Nematognathi, Pimelodidae). Rev. Bras. Biol., 18 (4): 413-416.
- Gosline, W.A. 1940. Rediscovery and redescription of *Pariolius armillatus*, a genus and species of pimelodid catfishes described by E. D. Cope from the Peruvian Amazon in 1872. Copeia, 1940 (2): 78-80.
- Gosline, W.A. 1941. Synopsis of the genera of pimelodid catfishes without a free orbital rim. Stanford Ichthyol. Bull., 2 (3): 83-88.
- Gosline, W.A. 1945. Catálogo dos nematognatos de água-doce da América do Sul e Central. Bol. Mus. Nac. Zool. (N. S.), (33): 1-138.
- Greenfield, D.W., T.A. Greenfield and R.L. Woods. 1982. A new subspecies of cave-dwelling pimelodid catfish, *Rhamdia laticauda typhla* from Belize, Central America. Brenesia, (19/20): 563-576.
- Greenfield, D.W. and J.E. Thomerson. 1997. Fishes of the continental waters of Belize. xxii + 311 p.
- Guazzelli, G.M. 1997. Revisão das espécies de *Pimelodella* Eigenmann & Eigenmann, 1888 (Teleostei: Siluriformes: Pimelodidae) dos sistemas costeiros do Sul e Sudeste brasileiro. Unpublished Master Dissertation. Porto Alegre, Pontifícia Universidade Católica do Rio Grande do Sul. 150 p.
- Güntert, H. 1942. Beschreibung einiger zum Teil noch unbekannter südamerikanischer Siluriden aus dem Naturhistorischen Museum in Basel. Zool. Anz., 138 (1/2): 27-40.
- Günther, A. 1860. Third list of cold-blooded vertebrata collected by Mr. Fraser in Ecuador. Proc. Zool. Soc. London, 1860 (2): 233-240, pl. 10.
- Günther, A. 1863. On new species of fishes from the Essequibo. Ann. Mag. Nat. Hist. (Ser. 3), 12 (72): 441-443.
- Günther, A. 1864. Catalogue of the fishes in the British Museum. Catalogue of the Physostomi, containing the families Siluridae, Characinae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomatidae in the collection of the British Museum. xxii + 455 p.
- Günther, A. 1867. On the fishes of the states of Central America, founded upon specimens collected in fresh and marine waters of various parts of that country by Messrs. Salvin and Godman and Capt. J. M. Dow. Proc. Zool. Soc. London, 1866 (3): 600-604.
- Günther, A. 1868. An account of the fishes of the states of Central America, based on collections made by Capt. J. M. Dow, F. Godman, Esq. and O. Salvin, Esq. Trans. Zool. Soc. London, 6 (pt 7, no. 14): 377-494, pls. 63-87.
- Haseman, J.D. 1911a. Descriptions of some new species of fishes and miscellaneous notes on others obtained during the expedition of the Carnegie Museum to central South America. Ann. Carnegie Mus., 7 (3-4): 315-328, pls. 46-48 (fig. 1), 49-50 (fig. 1), 51-52.
- Haseman, J.D. 1911b. Some new species of fishes from the Rio Iguassú. Ann. Carnegie Mus., 7 (3-4): 374-387, pls. 50, 58, 73-83.
- Hoedeman, J.J. 1961. Notes on the ichthyology of Surinam and other Guianas. 8. Additional records of siluriform fishes (2). Bull. Aquatic Biol., 2 (23): 129-139.
- Hubbs, C.L. 1935. Fresh-water fishes collected in British Honduras and Guatemala. Misc. Publ. Mus. Zool. Univ. Michigan, No. 28: 1-22, pls. 1-4.
- Hubbs, C.L. 1936. XVII. Fishes of the Yucatan Peninsula. Carnegie Inst. Wash. Publ., (457): 157-287, pls. 1-15.
- Humboldt, F.H.A. von and A. Valenciennes. 1821. Recherches sur les poissons fluviatiles de l'Amérique Équinoxiale, p. 145-216, pls. 45-52. In: Voyage de Humboldt et Bonpland, Deuxième partie. Observations de Zoologie et d'Anatomie comparée. Paris.
- ICZN [International Commission on Zoological Nomenclature]. 1999. International Code of Zoological Nomenclature. 4th Edition. London, International Trust of Zoological Nomenclature. 306 p.
- Ihering, R. von. 1907. Diversas especies novas de peixes nematognathas do Brazil. (Several new species of brazilian nematognath fishes.) Notas preliminares. Rev. Mus. Paulista (N. S.), 1 (1): 13-39.
- Inger, R.F. 1956. Notes on a collection of fishes from southeastern Venezuela. Fieldiana Zool., 34 (37): 425-440.
- Innes, W.T. and G.S. Myers. 1950. The "Imitator catfish," which mimics a *Corydoras*. The Aquarium, 19 (9): 222-223.
- Jenyns, L. 1840-42. Fish. In: The zoology of the voyage of H. M. S. Beagle, under the command of Captain Fitzroy, R. N., during the years 1832 to 1836. London: Smith, Elder, and Co. Issued in 4 parts. xvi + 172 p., pls. 1-29.
- Jordan, D.S. 1923. A classification of fishes including families and genera as far as known. Stanford Univ. Publ., Univ. Ser., Biol. Sci., 8 (2): 77-243.
- Kner, R. 1857. Ichthyologische Beiträge. II. Abtheilung. Sitzungsber. Akad. Wiss. Wien, 26: 373-448, pls. 1-9.
- Kner, R. and Steindachner, F. 1865. Neue Gattungen und Arten von Fischen aus Central-Amerika; gesammelt von Prof. Moritz Wagner. Bayer. Akad. Wiss. Münche, Math.-physik. Cl., 10: 1-61, pls. 1-6.
- Larrañaga, D.A. 1923. Escritos de Don Dámaso Antonio Larrañaga. Los Publica el Instituto Histórico y Geográfico del Uruguay. Edición Nacional. 512 p.
- Lamas, I.R. 1993. Análise de características reprodutivas de peixes brasileiros de água doce, com ênfase no local de desova. Unpublished Master Dissertation. Belo Horizonte, Universidade Federal de Minas Gerais. 72 p.
- Lichtenstein, M.H.C. 1823. Verzeichniss der Doubletten des zoologischen Museums der Königl. Universität zu Berlin, nebst Beschreibung vieler bisher unbekannter Arten von Saugthie-

Check List of the Freshwater Fishes of South and Central America

- ren, Vogeln, Amphibien und Fischen. Verz. Doubletten Zool. Mus. Univ. Berlin, x + 118 p., pl. 1
- Lucena, C.A.S. and J.F.P. Silva. 1991. Descrição de uma nova espécie do gênero *Rhamdella* Eigenmann & Eigenmann, 1888 (Siluriformes: Pimelodidae) para o médio rio Uruguai, sul do Brasil. *Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre*, 4 (3): 28-47.
- Lundberg, J.G., A.H. Bornbusch and F. Mago-Leccia. 1991a. *Gladioglanis conquistador* n. sp., from Ecuador with diagnoses of the subfamilies Rhamdiinae Bleeker and Pseudopimelodinae n. subf. (Siluriformes: Pimelodidae). *Copeia*, 1991 (1): 190-209.
- Lundberg, J.G., O. Linares, P. Nass and M.E. Antonio. 1988. *Phractocephalus hemioliopus* (Pimelodidae: Siluriformes) from the Late Miocene Urumaco formation, Venezuela: a further case of evolutionary stasis and local extinction among South American fishes. *Journal of Vertebrate Paleontology*, 8 (2) 131:-138.
- Lundberg, J.G., F. Mago-Leccia and P. Nass. 1991b. *Exallodontus aguanai*, a new genus and species of Pimelodidae (Pisces: Siluriformes) from deep river channels of South America, and delimitation of the subfamily Pimelodinae. *Proceedings of the Biological Society of Washington*, 104 (4): 840-869.
- Lundberg, J.G. and L.A. McDade. 1986. On the South American catfish *Brachyrhamdia imitator* Myers (Siluriformes, Pimelodidae), with phylogenetic evidence for a large intrafamilial lineage. *Not. Nat. (Philadelphia)*, (463): 1-24.
- Lundberg, J.G., P. Nass and F. Mago-Leccia. 1989. *Pteroglanis manni* Eigenmann and Pearson, a juvenile of *Sorubimichthys planiceps* (Agassiz), with a review of the nominal species of *Sorubimichthys* (Pisces: Pimelodidae). *Copeia*, 1989 (2): 332-344.
- Lütken, C.F. 1874. Siluridae novae Brasiliae centralis a clarissimo J. Reinhardt in provincia Minas-geraës circa oppidulum Lagoa Santa, praecipue in flumine Rio das Velhas et affluentibus collectae, secundum characteres essentialia, breviter descriptae a Chr. Lütken. *Overs. Danske Vidensk. Selsk. Forhandl Kjobenhavn*, 1874 (1): 29-36.
- Lütken, C.F. 1875. Velhas-Flodens Fiske. Et Bidrag til Brasiliens Ichthyologi; efter Professor J. Reinhardts Indsamlinger og Optegnelser. *K. Danske Vidensk. Selsk. Skr., Raekke 5*, 12 (2): 121-253, + 2 unnum., + I-XXI, pls. 1-5
- Meek, S.E. 1902. A contribution to the ichthyology of Mexico. *Field Columbian Mus. Zool. Ser.*, 3 (6): 63-128, pls. 14-31.
- Meek, S.E. 1905. Two new species of fishes from Brazil. *Proc. Biol. Soc. Washington*, 18: 241-242.
- Meek, S.E. 1906. Description of three new species of fishes from Middle America. *Field Columbian Mus. Zool. Ser.*, 7 (3): 91-95.
- Meek, S.E. 1907a. Synopsis of the fishes of the great lakes of Nicaragua. *Field Columbian Mus. Zool. Ser.*, 7 (4): 97-132.
- Meek, S.E. 1907b. Notes on fresh-water fishes from Mexico and Central America. *Field Columbian Mus. Zool. Ser.*, 7 (5): 133-157.
- Meek, S.E. 1909. New species of fishes from tropical America. *Field Columbian Mus. Zool. Ser.*, 7 (7): 207-211.
- Mees, G.F. 1967. Freshwater fishes of Suriname: the genus *Hepptapterus* (Pimelodidae). *Zool. Meded. (Leiden)*, 42 (20): 215-229.
- Mees, G.F. 1974. The Auchenipteridae and Pimelodidae of Suriname (Pisces, Nematognathi). *Zool. Verh. (Leiden)*, (132): 1-256, pls. 1-15.
- Mees, G.F. 1983. Naked catfishes from French Guiana (Pisces, Nematognathi). *Zool. Meded. (Leiden)*, 57 (5): 43-58.
- Mees, G.F. 1986. Records of Auchenipteridae and Pimelodidae from French Guiana (Pisces, Nematognathi). *Proc. K. Ned. Akad. Wet. (Ser. C, Biol. Med. Sci.)*, 89 (3): 311-325.
- Mees, G.F. 1987. A new species of *Hepptapterus* from Venezuela (Pisces, Nematognathi, Pimelodidae). *Proc. K. Ned. Akad. Wet. (Ser. C, Biol. Med. Sci.)*, 90 (4): 451-456.
- Mees, G.F. and P. Cala. 1989. Two new species of *Imparfinis* from northern South America (Pisces, Nematognathi, Pimelodidae). *Proc. K. Ned. Akad. Wet. (Ser. C, Biol. Med. Sci.)*, 92 (3): 379-394.
- Miles, C.W. 1943. Estudio economico y ecologico de los peces de agua dulce del valle de Cauca. *Publ. Secret. Agric. y Fomento del Depart. Peces de Cauca*: 99 p.
- Miller, Jr., G.S. 1905. Notes on the generic names *Pteronotus* and *Dermonotus*. *Proceedings of the Biological Society of Washington*, (18): 223.
- Miller, R.R. 1984. *Rhamdia reddelli*, new species, the first blind pimelodid catfish from Middle America, with a key to the Mexican species. *Trans. San Diego Soc. Nat. Hist.*, 20 (8): 135-144.
- Miquelarena A.M. and R.C. Menni. 1999. *Rhamdella aymarae*, a new species from the Itiyuro River, northern Argentina (Siluriformes: Pimelodidae). *Ichthyol. Explor. Freshwaters*, 10 (3): 201-210.
- Miranda Ribeiro, A. 1907a. Uma novidade ichthyologica. *Kosmos, Rio de Janeiro [Rev. Art. Sci. Litt.]*, 4 (1): 3 unnum. pp.
- Miranda Ribeiro, A. 1907b. Peixes do Iporanga -- S. Paulo. Resultados de excursões do Sr. Ricardo Krone, membro correspondente do Museu Nacional do Rio de Janeiro. *Bol. Soc. Nac. Agric., Rio de Janeiro [Lavoura]*, 11 (5): 185-190.
- Miranda Ribeiro, A. 1908. Peixes da Ribeira. Resultados de excursão do Sr. Ricardo Krone, membro correspondente do Museu Nacional do Rio de Janeiro. *Kosmos, Rio de Janeiro [Rev. Art. Sci. Litt.]*, 5 (2): 5 unnum. pp.
- Miranda Ribeiro, A. 1911. Fauna brasiliense. Peixes. Tomo IV (A) [Eleutherobranchios Aspirophoros]. *Arch. Mus. Nac. Rio de Janeiro*, 16: 1-504, pls. 22-54.
- Miranda Ribeiro, A. 1914. Pimelodidae, Trachycorystidae, Cetopsidae, Bunocephalidae, Auchenipteridae, e Hypophthalmidae. *Comissão de Linhas Telegraficas Estrategicas de Matto-Grosso ao Amazonas, Anexo5, Historia Natural, Zoologia*, 15: 1-13, pls. 1-2.
- Miranda Ribeiro, A. 1918. Tres generos e dezeseite especies novas de peixes Brasileiros. *Rev. Mus. Paulista*, 10: 631-646, 1 pl.
- Miranda Ribeiro, A. 1920. Peixes (excl. Characinidae). *Comissão de Linhas Telegraficas Estrategicas de Matto-Grosso ao Amazonas, Anexo 5, Historia Natural, Zoologia*, 58: 1-15, 17 unnum. pls.
- Miranda Ribeiro, P. 1953. Tipos das espécies e subespécies do Prof. Alipio de Miranda Ribeiro depositados no Museu Nacional. *Arq. Mus. Nac. Rio de Janeiro*, 42: 389-417.
- Miranda Ribeiro, P. 1964. *Rhamdella schultzi* sp. nov. (Pisces -- Siluriformes -- Pimelodidae). *Bol. Mus. Nac. Zool. (N. S.)*, (248): 1-4.
- Miranda Ribeiro, P. 1968. Apontamentos ictiológicos IV. *Bol. Mus. Nac. Zool. (n. s.)*, (262): 1-7.
- Mo, T. 1991. Anatomy, relationships and systematics of the Bagridae (Teleostei: Siluroidei) with a hypothesis of Siluroid phylogeny. *Koenigstein, Koeltz Scientific Books*. 216 p., 63 fig.
- Müller, J. and F.H. Troschel. 1849. *Horae Ichthyologicae. Beschreibung und Abbildung neuer Fische*. Berlin. 27 p. (+ additional p. 24), 5 pl.
- Müller, J.W. von. 1865. *Reisen in den Vereinigten Staaten, Canada und Mexico*. 3 vols. Leipzig, 1864-65.
- Myers, G.S. 1927. Descriptions of new South American freshwater fishes collected by Dr. Carl Ternetz. *Bull. Mus. Comp. Zool.*, 68 (3): 107-135.
- Myers, G.S. 1928. New fresh-water fishes from Peru, Venezuela, and Brazil. *Ann. Mag. Nat. Hist. (Ser. 10)*, 2 (7): 83-90.
- Myers, G.S. 1944. Two extraordinary new blind nematognath fishes from the Rio Negro, representing a new subfamily of Pygidiidae, with a rearrangement of the genera of the family, and illustrations of some previously described genera and species from Venezuela and Brazil. *Proc. California Acad. Sci. (Ser. 4)*, 23 (40): 591-602.

Check List of the Freshwater Fishes of South and Central America

- Nielsen, J.G. 1974. Fish types in the Zoological Museum of Copenhagen. 115 p.
- Norman, J.R. 1926. A new blind catfish from Trinidad, with a list of the blind cave-fishes. *Ann. Mag. Nat. Hist. (Ser. 9)*, 18 (106): 324-331.
- Oliveira, J.C. and H.A. Britski. 2000. Redescrção de *Taunayia bifasciata* (Eigenmann & Norris, 1900), comb. Nova, um bagre enigmático do Estado de São Paulo (Siluriformes, Pimelodidae, Heptapterinae). *Pap. Avulsos de Zool. (São Paulo)*, 41 (8): 119-133.
- Paepke, H.-J. 1995. Über das Leben und Werk von Ernst Ahl. *Mitt. Zool. Mus. Berlin*, 71 (1): 79-101.
- Pavan, C. 1946. Observations and experiments on the cave fish *Pimelodella kroniei* and its relatives. *Amer. Natur.*, 80 (792): 343-361
- Pearson, N.E. 1924. The fishes of the eastern slope of the Andes. I. The fishes of the Rio Beni basin, Bolivia, collected by the Mulford Expedition. *Indiana Univ. Studies*, 11 (64): 1-83, pls. 1-12.
- Pearson, N.E. 1937. The fishes of the Atlantic and Pacific slopes near Cajamarca, Peru. *Proc. California Acad. Sci. (Ser. 4)*, 23 (7): 87-98, pls. 12-13.
- Perugia, A. 1897. Di alcuni pesci raccolti in Bolivia dal Prof. Luigi Balzan. *Ann. Mus. Civ. Stor. Nat. Genova (Ser. 2a)*, 18: 16-27.
- de Pinna, M.C.C. 1993. Higher-level phylogeny of Siluriformes (Teleostei: Ostariophysi), with a new classification of the order. Unpublished Ph.D. Dissertation. New York, City University of New York. 482 p.
- de Pinna, M.C.C. 1998. Phylogenetic relationships of Neotropical Siluriformes (Teleostei: Ostariophysi): historical overview and synthesis of hypotheses. Pp. 279-330 In: L.R. Malabarba, R.E. Reis, R.P. Vari, C.A.S. Lucena and Z.M.S. Lucena (eds.). *Phylogeny and Classification of Neotropical Fishes*. Edipucrs, Porto Alegre.
- Proudlove, G.S. 1997. A synopsis of the hypogean fishes of the World. In: *Proc. 12th Int. Congr. Speleol., La Chau-de-Fonds*.
- Reichel, M. 1927. Étude anatomique du *Phreatobius cisternarum* Goeldi, silure aveugle du Brésil. *Rev. Suisse Zool.*, 34 (16): 285-403.
- Regan, C.T. 1903. Descriptions of new South-American fishes in the collection of the British Museum. *Ann. Mag. Nat. Hist. (Ser. 7)*, 12 (72): 621-630.
- Regan, C.T. 1907a. Descriptions of six new freshwater fishes from Mexico and Central America. *Ann. Mag. Nat. Hist. (Ser. 7)*, 19 (111): 258-260.
- Regan, C.T. 1907b. Pisces. Part 193 [1906-08]: 1-203, 25 pls. In: F.D. Godman and O. Salvin (eds.), *Biologia Central-Americana*. London. [Individual signatures dated to month and year; Heptapteridae accounts all date to 1907].
- Regan, C.T. 1911. The classification of the teleostean fishes of the order Ostariophysi. 2. Siluroidea. *Ann. Mag. Nat. Hist. (Ser. 8)*, 47: 553-577
- Regan, C.T. 1913a. Fishes from the River Ucayali, Peru, collected by W. Mounsey. *Ann. Mag. Nat. Hist. (Ser. 8)*, 12 (69): 281-283.
- Regan, C.T. 1913b. The fishes of the San Juan River, Colombia. *Ann. Mag. Nat. Hist. (Ser. 8)*, 12 (71): 462-473.
- Rendahl, H. 1941. Fische aus dem pazifischen Abflussgebiet Kolumbiens. *Ark. Zool.*, 33 A (4): 1-15.
- Sands, D. and B.K. Black. 1985. Two new species of *Brachyramdia*, Myers, 1927, from Brazil and Peru, together with a re-definition of the genus. In: D. Sands, *Catfishes of the World*. 58(1)-58(8).
- São-Tiago, H. 1990. Composição e distribuição longitudinal da ictiofauna do rio Parati-Mirim (RJ) e aspectos sobre a reprodução das principais espécies. Unpublished Master Dissertation. Museu Nacional/Universidade Federal do Rio de Janeiro, Rio de Janeiro. 165 p.
- Sato, G. 1987. Identificação de peixes predadores de larvas de simulídeos da região Joinville/SC. *Ciência e Cultura*, No. 39 (10): 962-966.
- Saul, W.G. 1975. An ecological study of fishes at a site in Upper Amazonian Ecuador. *Proc. Acad. Nat. Sci. Philadelphia*, 127 (12): 93-134.
- Schomburgk, R.H. 1841. The Natural history of fishes of Guiana.-- Part I. In: Jardine, W. (ed.), *The Naturalists' Library*. Vol. 3. W. H. Lizars, Edinburgh. 263 p., pls. 1-30.
- Schomburgk, R.H. 1848. Reisen in Britisch-Guiana in den Jahren 1840-1844. Im Auftrag Sr. Majestat des Königs von Preussen ausgeführt von Richard Schomburgk. Versuch einer Fauna und Flora von Britisch-Guiana. Nach Vorlagen von Johannes Muller, Ehrenberg, Erichson, Klotzch, Troschel, Cabanis und Andern, Leipzig.
- Schubart, O. 1964. Duas novas espécies de peixe da família Pimelodidae do Rio Mogi Guaçu (Pisces, Nematognathi). *Bol. Mus. Nac. Rio de Janeiro Zool. (N. S.)*, (244): 1-22.
- Schubart, O. and A.L. Gomes. 1959. Descrição de *Cetopsorhamdia iheringi* sp. n. (Pisces, Nematognathi, Pimelodidae, Luciopimelodinae). *Rev. Bras. Biol.*, 19 (1): 1-7.
- Schultz, L.P. 1944a. A new genus and species of pimelodid catfish from Colombia. *J. Washington Acad. Sci.*, 34 (3): 93-95.
- Schultz, L.P. 1944b. The catfishes of Venezuela, with descriptions of thirty-eight new forms. *Proc. U. S. Natl. Mus.*, 94 (3172): 173-338, pls. 1-14.
- Sherborn, C.D. and F.J. Griffin. 1934. On the dates of publication of the natural history portions of Alcide d'Orbigny's "Voyage Amerique meridionale". *Ann. Mag. Nat. Hist. (Ser. 10)*, 13: 130-134.
- Silfvergrip, A.M.C. 1996. A systematic revision of the Neotropical catfish genus *Rhamdia* (Teleostei, Pimelodidae). Stockholm, Swedish Museum of Natural History. 156 p., 8 pl.
- Silfvergrip, A.M.C. and H.-J. Paepke. 1997. Kritischer Katalog der Typen der Fischeammlung des Zoologischen Museums Berlin. Teil 7: Pimelodidae (Siluriformes). Critical Catalogue of the Types of the Fish Collection of the Zoological Museum of Berlin. Part 7: Pimelodidae (Siluriformes). *Mitt. Zool. Mus. Berlin*, 73 (1): 165-173.
- Soares-Porto, L.M. 1994. Dieta e ciclo diurno de atividade alimentar de *Pimelodella lateristriga* (Müller & Troschel, 1849) (Siluroidei, Pimelodidae) no rio Ubatiba, Maricá, Rio de Janeiro. *Rev. Bras. Biol.*, 54 (3): 451-458.
- Spix, J.B. von and L. Agassiz. 1829-31. *Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXXVII-MDCCCXXIX jussu et auspiciis Maximiliani Josephi I... colleget et pingendo curavit Dr J. B. de Spix.... Monachii*. Part 1: xvi + ii + 82, Pls. 1-48; part 2: 83-138, pls. 49-101.
- Starks, E.C. 1906. On a collection of fishes made by P. O. Simons in Ecuador and Peru. *Proc. U. S. Natl. Mus.*, 30 (1468): 761-800, pls. 65-66.
- Steindachner, F. 1864. Ichthyologische Notizen. *Sitzungsber. Akad. Wiss. Wien, Math.-Naturwiss. Klasse, Wien*, 49 (1): 200-214, pls. 1-2.
- Steindachner, F. 1866. Ichthyologische Notizen. *Anzeiger K. Akad. Wiss. Math.-Naturwiss. Cl.*, 1 (5): 37-38.
- Steindachner, F. 1876. Ichthyologische Beiträge. IV. *Sitzungsber. Akad. Wiss. Wien*, 72: 551-616.
- Steindachner, F. 1877. Die Süßwasserfische des südöstlichen Brasilien (III). *Sitzungsber. Akad. Wiss. Wien*, 74 (1): 559-694, pls. 1-13.
- Steindachner, F. 1881a. Beiträge zur Kenntniss der Flussfische Südamerika's. III und Ichthyologische Beiträge (XI). *Anz. Akad. Wiss. Wien*, 18 (11): 97-100.
- Steindachner, F. 1881b. Beiträge zur Kenntniss der Flussfische Südamerika's. III. *Denkschr. Akad. Wiss. Wien*, 44 (1): 1-18, 5 pl. [separate]
- Steindachner, F. 1882. Beiträge zur Kenntniss der Flussfische Südamerika's. III. *Denkschr. Akad. Wiss. Wien*, 44 (1): 1-18, 5 pl.
- Steindachner, F. 1902. Herpetologische und ichthyologische Er-

Check List of the Freshwater Fishes of South and Central America

- gebnisse einer Reise nach Südamerika, mit einer Einleitung von Therese Prinzessin von Bayern. Denkschr. Akad. Wiss. Wien, 72: 89-148, pls. 1-5.
- Steindachner, F. 1907. Über einige Fischarten aus dem Flusse Cubataõ im Staate Santa Catharina bei Theresopolis (Brasilien). Sitzungsber. Akad. Wiss. Wien, 116 (1): 475-492, 2 pls.
- Steindachner, F. 1915. Beiträge zur Kenntnis der Flussfische Südamerikas V. Anz. Akad. Wiss. Wien, 52 (18): 217-219.
- Steindachner, F. 1917. Beiträge zur Kenntnis der Flussfische Südamerikas V. Denkschr. Akad. Wiss. Wien, 93: 15-106, pls. 1-13.
- Stewart, D.J. 1985. A new species of *Cetopsorhamdia* (Pisces: Pimelodidae) from the Río Napo basin of eastern Ecuador. Copeia, 1985 (2): 339-344.
- Stewart, D.J. 1986a. Revision of *Pimelodina* and description of a new genus and species from Peruvian Amazon (Pisces: Pimelodidae). Copeia, 1986 (3): 653-672.
- Stewart, D.J. 1986b. A new pimelodid catfish from the deep-river channel of the Río Napo, eastern Ecuador (Pisces: Pimelodidae). Proc. Acad. Nat. Sci. Philadelphia, 38 (1): 46-52.
- Swainson, W. 1839. The natural history and classification of fishes, amphibians, reptiles, or monocardian animals. Vol. 2, London, Longman. 448 p.
- Swarça, A.C., L.G. Caetano and A.L. Dias. 2000. Cytogenetic of species of the families Pimelodidae and Rhamdiidae (Siluriformes). Genetics and Molecular Biology, 23 (3): 589-593.
- Thinès, G. 1969. L'évolution régressive des poissons cavernicoles et abissaux. Paris, Masson et Cie, Éditeurs. 394 p.
- Trajano, E. 1996. Os peixes que (sobre) vivem em cavernas. Ciência Hoje, 21 (122): 16-19.
- Trajano, E. 1997. Synopsis of Brazilian troglomorphic fishes. Mém. Biospéol., 24: 119-126.
- Trajano, E. 2001. Ecology of subterranean fishes: an overview. Environmental Biology of Fishes, 62: 133-160.
- Trajano, E. and F.A. Bockmann. 1999. Evolution of ecology and behaviour in Brazilian heptapterine cave catfishes, based on cladistic analysis (Teleostei: Siluriformes). Mém. Biospéol., 26: 123-129.
- Trajano, E. and H.A. Britski. 1992. *Pimelodella kronei* (Ribeiro, 1907) e seu sinônimo *Caecorhamdella brasiliensis* Borodin, 1927: morfologia externa, taxonomia e evolução (Teleostomi, Siluriformes). Bol. Zool. Univers. São Paulo, 12: 53-89.
- Valenciennes, A. 1835. Poissons [plate 2]. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Paris, Bertrand et Levrault.
- Valenciennes, A. 1847. Poissons. Catalogue des principales espèces de poissons, rapportées de l'Amérique Méridionale par M. d'Orbigny. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Vol. 5 (pt. 2). Paris, Bertrand et Levrault. 11 p.
- Van der Stigchel, J.W.R. 1964. A new species of pimelodid catfish from eastern Brazil, *Pimelodella boschmai* nov. spec. Zool. Meded. (Leiden), 39: 327-330.
- Villa, J. 1977. A new species of pimelodid catfish of the genus *Rhamdia* from Nicaragua, Central America. Brenesia, (12-13): 133-142.
- Weber, S.I.F. 1999. Étude comparative de deux genres de Pimelodidae (Actionopterygii, Siluriformes) du Paraguay: *Phenacorhamdia* Dahl et *Imparfinis* Eigenmann & Norris. Unpublished Undergraduation Work. Genève, Museum d'histoire naturelle de la Ville de Genève. 161 p.
- Weitzman, S.H. and R.P. Vari. 1988. Miniaturization in South American freshwater fishes; an overview and discussion. Proc. Biol. Soc. Wash., 101 (2): 444-465.
- Wilkens, H. 1993. A new species of *Rhamdia* (Pisces: Pimelodidae) from a cave in the Sierra de Zongolica (Veracruz, Mexico). Mitt. Hamb. Zool. Mus. Inst., 90: 375-378.
- Zarske, A. 1998. *Phenacorhamdia nigrolineata* spec. nov., ein neuer Antennenwels aus dem Einzugsgebiet des Rio Ucayali in Peru (Teleostei: Siluriformes: Pimelodidae). Zoologische Abhandlungen Staatliches Museum für Tierkunde Dresden, 50 (2): 27-31.

Family Pimelodidae (Long-whiskered catfishes)

John G. Lundberg and Michael W. Littmann

As here delimited the family Pimelodidae closely corresponds to subfamily Pimelodinae of Lundberg et al. (1991), Nass (1991) and de Pinna (1998). Thus, Pimelodidae includes *Hypophthalmus* and excludes the many catfishes long classified in Pimelodidae but now placed in Heptapteridae (Bockmann & Guazzelli, this volume) and Pseudopimelodidae (Shibatta, this volume). Furthermore, we remove *Conorhynchos conirostris* from Pimelodidae and place that species as Incertae Sedis at the family level within Siluriformes. Pimelodidae are a moderately species rich family of South American and lower Isthmian catfishes, with over ninety recognized and known but unnamed species. Pimelodid species are currently placed among thirty genera, but ongoing revisions and descriptions of new taxa will likely change the classification of genera.

Although pimelodids lack unique externally visible characteristics, its members can be identified among South American siluriforms, by a combination of features:

- skin naked (a few species have slightly enlarged lateral line ossicles);
- cutaneous laterosensory canals branched or anastomosing on the head and anterior trunk;
- skull roof never covered by jaw or epaxial musculature and its skin usually thin;
- skull roof bones ornamented with striate ridges, small tubercles, grooves or pits, not smooth;
- nares well separated and lacking barbels;
- 3 pairs of barbels: maxillary, inner and outer mentals;
- adipose fin well developed;
- caudal fin deeply emarginate, lobed or forked;
- gill membranes free, branchial openings not restricted;
- orbital rim free;
- dorsal- and pectoral-fin spines pungent or at least moderately stiffened, never completely flexible or mostly segmented.

The adults of most pimelodid species fall within an approximate size range of 20 - 80cm SL. However, the extremes of adult size in the family span two orders of magnitude from the giant >2 m *Brachyplatystoma filamentosum* down to a ~25 mm miniature, undescribed species from the deep channels of the Amazon. In body shape most pimelodids have moderately depressed snouts and laterally compressed tails. The “sorubimines” or shovel-nosed catfishes have markedly flattened heads and elongate, nearly circular caudal peduncles. *Hypophthalmus* have deep, strongly compressed bodies, and *Platynemateichthys notatus* has a streamlined, torpedo-shape.

Most pimelodids are generalized macrophagous to mesophagous carnivores or omnivores that consume large numbers of small fishes and invertebrates. Some (e.g. *Brachyplatystoma*) are active swimming predators, whereas others (e.g. *Pseudoplatystoma*) appear to be more sedentary, lie and wait predators. *Calophysus* are flesh-biting scavengers equipped with incisor-like teeth. *Hypophthalmus* are microphagous zooplanktivores. Most are benthic or bottom oriented, but *Hypophthalmus* and *Platynemateichthys* are distinctly pelagic.

Although most species exhibit standard countershading of black, gray or brown above a bright white or cream-colored or yellowish venter, pimelodids are wonderfully diverse in color and pigment pattern. In life some have a metallic sheen of silver, gold, blue or green. Many species present exuberant combinations of black to brown and even white stripes or spots or marblings on backgrounds of silver, white, yellow, orange, brown or black.

Sex dimorphism is scarcely developed in pimelodids. These catfishes are externally fertilizing and are not known to practice parental care. Juveniles of most species are miniature replicas of adults. However, some “sorubimines” have highly specialized young with tremendously elongated barbels and fin-ray filaments or enlarged wing-like pectoral fins (Mago-Leccia et al., 1986, Lundberg et al. 1991). Some species of *Brachyplatystoma* undertake long distance upriver migrations in the Amazon and Orinoco basins, presumably for spawning (Barthem and Goulding, 1997). The larvae and juveniles of these species float downstream high in the water column of the main channels.

Pimelodids inhabit a wide range of habitats in small to the very largest white, black and clear-water rivers and lakes where they are among the most abundant fishes. Pimelodids are most common in base level and lowland rivers with strong currents, and the migrating species are able to negotiate cataracts. However, these catfishes do not reach high-gradient upland or mountain streams, and they are rare or absent from small forest streams and stagnant swamps.

Pimelodids are endemic to the Neotropics with their species diversity highest in the Amazon, Paraná and Orinoco basins, and large rivers of the Guianas. Some species have a wide distribution throughout this vast region. The family also has locally endemic representatives in the Magdalena, Maracaibo, larger rivers of northwestern Colombia and eastern Panama, and southeastern Brazil. Fossil pimelodids have been found in rocks of Miocene age, and there are a few older records from the Oligocene and Eocene.

Many large-size pimelodine species are especially important, and in places overexploited, food resources throughout much of tropical South America. *Brachyplatystoma* spp. and *Pseudoplatystoma* spp. are the most important in commercial fisheries (Barthem and Goulding, 1997). Several species including shovel-nosed catfishes (*Sorubim* spp.), and *Pimelodus* spp. are popular in the aquarium fish industry. So-called “red-tailed” catfish (*Phractocephalus hemiliopterus*) and “tiger” catfish (*Merodontodus tigrinus*) are currently high-priced ornamental species.

Lundberg et al. (1988, 1991), Nass (1991) and de Pinna (1998) presented or reviewed morphological evidence supporting monophyly of the Pimelodidae. The most complex anatomical character shared by all pimelodids is a uniquely elongated moveable joint between the lateral ethmoid and palatine bones. The dendritic arrangement of the lateral line tubes in the skin of the head and anterior trunk is a clear synapomorphy, although a similar condition is found in Ariidae that is presumed to have evolved independently. Also, there is a deep sutural joint between the fifth and sixth centra, but this feature appears to be secondarily lost within the genus *Megalonema*, and similar sutural intervertebral joints appear to have evolved in some other siluriform clades. De Pinna (1993) described an unusual bifurcated dorsal process arising from the premaxilla that may be generally present in pimelodids.

The generic-level taxonomy of Pimelodidae signals the current need for phylogenetic systematic attention. There is an abundance (22 of 30) of monotypic or 2-species genera, and one large, catch-all or paraphyletic genus *Pimelodus* that includes about 38% of the species. Nevertheless, the results of recent research offer some well-supported hypotheses of relationship and this framework serves to identify targets for further study.

Phractocephalus, *Leiarius* and *Perrunichthys* comprise a small clade that is sister to all other pimelodines. Fossils of *Phractocephalus* of Middle to Late Miocene age provide important dates for calibrating pimelodine diversification. The distributions of modern *Perrunichthys* (Maracaibo) and fossil *Phractocephalus* (La Venta, Colombia; Urumaco, Venezuela) signal important vicariance events and major changes in the drainage patterns of northern South America's largest rivers. The *Phractocephalus* fossils are extraordinarily well-preserved skulls that document detailed aspects of morphological change and conservatism.

Most remaining pimelodines fall among three large subclades: *Calophysus* and *Pimelodus* groups, and “sorubimines.” The first two of these are sister groups. The *Calophysus* group is a clade of highly apomorphic and widespread big-river catfishes first indicated in 1919 by Driver, and phylogenetically delimited by Stewart (1986). Lundberg et al. (1991) confirmed the *Calophysus* group and added to it the uncertainly monophyletic genus *Megalonema*. *Megalonema* includes a complex of species, some undescribed, distributed in the Amazon, Orinoco, Maracaibo and Magdalena, that is likely to be biogeographically informative.

The *Pimelodus* group was diagnosed by Lundberg et al. (1991). This clade includes the likely paraphyletic genus *Pimelodus*, several possibly “segregate” genera each characterized by conspicuous specializations, and a few poorly-known nominal genera that have not been recently examined. It is possible that subgroups of *Pimelodus* are most closely related to some of the latter taxa. *Pimelodus* has an old and complex taxonomic history involving catfishes from all over the world. Even restricted as it is now to a group of South American catfishes, *Pimelodus* is complex. The species-level taxonomy of the species and populations similar to the type species *P. maculatus* is unsettled. Lundberg et al. (1991) identified derived characters of cranial nerves and skeleton that appear to diagnose a restricted subset of species including the type species.

The other *Pimelodus* group taxa include some of the most highly derived and biogeographically significant Neotropical catfishes. Systematic understanding of these catfishes is mixed and overall much phylogenetic resolution remains to be achieved. Of special biogeographic interest, *Platysilurus* (Bestor, 1995) and *Cheirocerus* (Stewart, 1986) each contain sister group pairs containing endemic species in the Maracaibo basin and others widespread in the Amazon, Orinoco or Guianas. There is an undescribed clade of four or five “miniature” *Pimelodus*-like species that live in deep river channels of the Amazon and Orinoco. The odd zooplanktivorous catfishes of the genus *Hypophthalmus* were long isolated in their own family but have been shown to be pimelodines (Howes, 1983; Lundberg et al., 1991). Recently de Pinna (1993, 1998) has located synapomorphies of the trophic apparatus that place *Hypophthalmus* sister to *Parapimelodus* within the *Pimelodus* group.

Pimelodines possessing large, palatal tooth plates have been taxonomically united and most recently named the Sorubiminae (Schultz, 1944). Thus diagnosed, Sorubiminae comprises 15, about half, of the genera and a little less than 1/3 of the species. The results of phylogenetic studies by Lundberg et al. (1991) and Nass (1991) based on morphological data suggest that Sorubiminae is not monophyletic and it has already been partly disassembled into smaller monophyletic subgroups. The clade containing *Phractocephalus*, *Leiarius* and *Perrunichthys*, all with palatal dentition and originally included in Sorubiminae, was noted above. *Zungaro* and *Steindachneridion* were also placed among sorubimines by Schultz

(1944). However, Lundberg et al. (1991) found no evidence for resolving the position of these catfishes within a large clade that also includes the *Calophysus* and *Pimelodus* groups.

The remaining genera of sorubimines fall into two groups that were partly analyzed by Nass (1991) and Littmann (1998). The first, comprising *Pseudoplatystoma*, *Sorubim*, *Sorubimichthys*, and possibly *Hemisorubim*, include the distinctive and colorful "sorubim" or shovel-nosed catfishes. *Pseudoplatystoma* and *Sorubim* have wide cis/trans-Andean distributions that partly reflect former drainage linkages among the present São Francisco, Paraná, Amazon, Orinoco, Maracaibo and Magdalena basins. The second group includes three monotypic genera *Platynemichthys*, *Goslinia* and *Merodontodus* plus the likely paraphyletic *Brachyplatystoma*. These are a diverse array of commercially important catfishes from the Amazon, Orinoco and Guianas.

AGUARUNICHTHYS

Aguarunichthys Stewart, 1986: 662. Type species: *Aguarunichthys torosus* Stewart, 1986. Type by original designation. Gender: masculine.

***Aguarunichthys inpai* Zuanon, Rapp Py-Daniel & Jégu, 1993**

Aguarunichthys inpai Zuanon, Rapp Py-Daniel & Jégu, 1993: 258, figs. 2b, 6. Type locality: Brazil: Amazonas state: Solimões River drainage, north of the Marchantaria Island, at about 15 km above confluence with Rio Negro drainage. Holotype: INPA 5398.

Maximum length: 42 cm SL

Distribution: South America: Middle Amazon River basin.

Countries: Brazil

Remarks and references: Collected at depth ~30 m, bottom trawl.

***Aguarunichthys tocantinsensis* Zuanon, Rapp Py-Daniel & Jégu, 1993**

Aguarunichthys tocantinsensis Zuanon, Rapp Py-Daniel & Jégu, 1993: 252, figs. 2a, 4. Type locality: Brazil, Pará State: Tocantins River drainage, rapids above Marabá. Holotype: INPA 5400.

Maximum length: 31.7 cm SL

Distribution: South America: Tocantins River basin.

Countries: Brazil

Remarks and references: Collected in areas with strong currents, rocky bottom.

***Aguarunichthys torosus* Stewart, 1986**

Aguarunichthys torosus Stewart, 1986: 663, figs. 7-8. Type locality: Peru, Departamento Amazonas, Río Cenepa, 1.6 km west of Huampami and near Peruvian military camp Chavez Valdivia, about 210 m elev., Approx. 4°28'S, 78°10'W. Holotype: LACM 39651-1.

Maximum length: 34.6 cm SL

Distribution: South America: Cenepa River basin in Amazon River drainage.

Countries: Peru

BAGROPSIS

Bagropsis Lütken, 1874b: 32. Type species: *Bagropsis reinhardti* Lütken, 1874. Type by monotypy. Gender: feminine.

***Bagropsis reinhardti* Lütken, 1874**

Bagropsis reinhardti Lütken, 1874b: 32. Type locality: Rio das Velhas [Minas Gerais, Brazil]. Syntypes: ZMUC 223, 225, 227. Species illustrated and described in Lütken (1875: 160 (and p. V of summary), pl. 1, fig. 2).

Maximum length: at least 22.7 cm SL

Distribution: South America: Das Velhas River basin in São Francisco River drainage.

Countries: Brazil

Common names: Mandi bagre

BERGIARIA

Bergiella Eigenmann & Norris, 1900: 355. Type species: *Pimelodus westermanni* Reinhardt, 1874. Type by original designation.

Gender: feminine. Preoccupied by *Bergiella* Baker, 1897 in Hymenoptera, replaced by *Bergiaria* Eigenmann & Norris, 1901.

Bergiaria Eigenmann & Norris, 1901: 272. Type species: *Pimelodus westermanni* Reinhardt, 1874. Type by being a replacement name. Gender: feminine. Replacement for *Bergiella* Eigenmann & Norris, 1900.

***Bergiaria platana* (Steindachner, 1908)**

Bergiella platana Steindachner, 1908d: 111. Type locality: La Plata [Argentina]. Holotype: whereabouts unknown.

Distribution: South America: Paraná River basin.

Countries: Argentina

***Bergiaria westermanni* (Lütken, 1874)**

Pimelodus westermanni Lütken, 1874b: 33. Type locality: Rio das Velhas [Minas Gerais, Brazil]. Syntypes: ZMUC 258, 259. Species illustrated and described in Lütken (1875: 167 (and p. VI of summary), pls. 2 (fig. 4), pl. 3 (fig. 4a-b)).

Distribution: South America: Das Velhas River basin in São Francisco River drainage.

Countries: Brazil

BRACHYPLATYSTOMA

Piramutana Bleeker, 1858: 356. Type species: *Bagrus piramuta* Kner, 1858. Type by monotypy. Gender: feminine.

Piratinga Bleeker, 1858: 355. Type species: *Bagrus reticulatus* Kner, 1858. Type by subsequent designation by Bleeker (1862a: 11). Gender: feminine.

Brachyplatystoma Bleeker, 1862a: 11. Type species: *Platystoma vaillanti* Valenciennes, 1840. Type by original designation. Gender: neuter. We have retained the younger name *Brachyplatystoma* of Bleeker for purposes of stability, there has been little use of either *Piratinga* or *Piramutana* since their original descriptions. Mees (1974) treated *Piratinga* and *Malacobagrus* as synonyms of *Brachyplatystoma*. Barthem and Goulding (1997) reviewed species biology.

Malacobagrus Bleeker, 1862a: 11. Type species: *Pimelodus filamentosus* Lichtenstein, 1819. Type by original designation. Gender: masculine.

Ginesia Fernández-Yépez, 1951: [1]. Type species: *Ginesia cunaguaro* Fernández-Yépez, 1951. Type by original designation. Gender: feminine.

***Brachyplatystoma filamentosum* (Lichtenstein, 1819)**

Pimelodes filamentosus Lichtenstein, 1819: 60. Type locality: Brazil. Holotype: ZMB 2973.

Platystoma affine Valenciennes in Cuvier & Valenciennes, 1840: 24 [18 in the Strasbourg deluxe edition]. Type locality: Rio de Janeiro [Brazil]. Holotype: MNHN A.9360 (mounted).

Platystoma gigas Günther, 1872: 450. Type locality: River Hualaga, Upper Amazon [Peru]. Holotype: BMNH uncat. (stuffed).

Piratinga pirá-aiba Goeldi, 1898: 464, 477, pl. (fig. 4). Type

locality: Pará, Brazil. Name available from plate.
Brachyplatystoma goeldii Eigenmann & Bean, 1907: 661, fig. 1.
 Type locality: Brazil: Amazon River, between Para and Manaos.
 Holotype: USNM 52561.
 Maximum length: 360 cm TL
 Distribution: South America: Amazon and Orinoco River basins and major rivers of the Guianas and NE Brazil.
 Countries: Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Peru, Suriname, Venezuela
 Common names: Piraíba, Pirahiba, Filhote, Lau lau, Valentón, Lechero, Zúngaro saltón

***Brachyplatystoma juruense* (Boulenger, 1898)**

Platystoma juruense Boulenger, 1898b: 421, pl. 39. Type locality: Brazil, Rio Juruá. Holotype: BMNH 1897.11.26.11.
Ginesia cunaguaro Fernández-Yépez, 1951: [2], fig. Type locality: Río Apure, 3 km east of San Fernando de Apure, Venezuela. Holotype: AFY 51189.
 Maximum length: 60 cm TL
 Distribution: South America: Amazon and Orinoco River basins.
 Countries: Bolivia (?), Brazil, Colombia (?), Ecuador (?), Peru, Venezuela
 Common names: Flamengo, Zebra, Cunaguaro, Siete babas, Zúngaro alianza

***Brachyplatystoma rousseauxii* (Castelnaud, 1855)**

Bagrus rousseauxii Castelnaud, 1855: 32, pl. 14 (fig. 1). Type locality: Amazon R., Brazil. Holotype: MNHN A.9457 (dry).
Bagrus goliath Kner, 1858a: 379. Type locality: Salto Theotonio [Brazil]. Holotype: whereabouts unknown.
Brachyplatystoma paraense Steindachner, 1909: 195. Type locality: Fischmarkt von Pará [Brazil]. Holotype: NMW 47590.
 Maximum length: 192 cm TL
 Distribution: South America: Amazon and Orinoco River basins and major rivers of French Guiana.
 Countries: Bolivia, Brazil, Colombia, Ecuador, French Guiana, Peru, Venezuela
 Remarks and references: Synonymy above based on personal observation and examination of types; see *Zungaro zungaro* for synonymy of *Bagrus flavicans* Castelnaud.
 Common names: Dourada, Dorado, Zúngaro Dorado, Plateado

***Brachyplatystoma vaillantii* (Valenciennes, 1840)**

Platystoma Vaillantii Valenciennes in Cuvier & Valenciennes, 1840: 21 [16 of Strasbourg deluxe ed.], pl. 423. Type locality: Cayenne [French Guiana]; Suriname. Syntypes: MNHN B.158 (1), B.159 (1).
Bagrus reticulatus Kner, 1858a: 376, pl. 1 (fig. 1). Type locality: Salto Theotonio, am Flusse Araguay, Forte do Rio branco und Rio Madeira [Brazil]. Holotype: whereabouts unknown.
Bagrus piramuta Kner, 1858a: 382. Type locality: Barra do Rio negro und Borba Rio Madeira [Brazil]. Type: unknown.
Brachyplatystoma parnahybae Steindachner, 1908c: 126. Type locality: Rio Parnahyba [Brazil]. Holotype: NMW.
 Maximum length: 150 cm TL
 Distribution: South America: Amazon and Orinoco River basins and major rivers of the Guianas and NE Brazil.
 Countries: Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Peru, Suriname, Trinidad and Tobago, Venezuela
 Common names: Atero, Piramutaba, Piramutana, Pira-botão, Mulher-ingrata, Manitoa,

Species inquirenda

Bagrus punctulatus Castelnaud, 1855: 33, pl. 14 (fig. 2). Type locality: de la rivière des Amazones [Brazil]. Holotype: whereabouts unknown.

CALOPHYSUS

Calophysis Müller & Troschel in Müller, 1843: 318. Type species: *Pimelodus macropterus* Lichtenstein, 1819. Type by subsequent designation by Bleeker (1862a: 12). Gender: masculine.
Pimeleotropis Gill, 1859: 196. Type species: *Pimeleotropis lateralis* Gill, 1859. Type by monotypy. Gender: feminine.
Pseudocallophysus Bleeker, 1862a: 12. Type species: *Pimelodus ctenodus* Spix & Agassiz, 1829. Type by original designation. Gender: masculine.

***Calophysis macropterus* (Lichtenstein, 1819)**

Pimelodes macropterus Lichtenstein, 1819: 59. Type locality: Brazil. Holotype: ZMB 3055.
Pimelodus ctenodus Spix & Agassiz, 1829: 21, pl. 8a. Type locality: aequitorialis fluviis [Brazil]. Holotype: whereabouts unknown.
Pimeleotropis lateralis Gill, 1859: 196. Type locality: Amazon River. Holotype: originally at Lyceum Nat. Hist. NY (whereabouts unknown).
 Maximum length: 40 cm TL
 Distribution: South America: Amazon and Orinoco River basins.
 Countries: Bolivia, Brazil, Colombia, Ecuador (?), Peru, Venezuela
 Common names: Zumurito, Mota pintada

CHEIROCERUS

Cheirocerus Eigenmann, 1917: 398. Type species: *Cheirocerus eques* Eigenmann, 1917. Type by original designation. Gender: masculine.
Sovichthys Schultz, 1944: 190. Type species: *Sovichthys abuelo* Schultz, 1944. Type by original designation. Gender: masculine.

***Cheirocerus abuelo* (Schultz, 1944)**

Sovichthys abuelo Schultz, 1944: 191, pl. 1 (fig. A). Type locality: Venezuela, Río de Los Pájaros, 3 km above Lago Maracaibo, at depth of 15 ft. Holotype: USNM 121183.
 Maximum length: 20 cm SL
 Distribution: South America: Lake Maracaibo basin.
 Countries: Colombia, Venezuela
 Remarks and references: See Stewart and Pavlik (1985) for recent revision.
 Common names: Abuelo

***Cheirocerus eques* Eigenmann, 1917**

Cheirocerus eques Eigenmann, 1917: 398, pl. 39. Type locality: Bolivia, Villa Bella. Holotype: FMNH 58255 [ex CM 7254].
 Distribution: South America: Amazon River basin.
 Countries: Bolivia, Brazil, Colombia, Ecuador, Peru
 Remarks and references: See Stewart and Pavlik (1985) for recent revision.

***Cheirocerus goeldii* (Steindachner, 1908)**

Pimelodina goeldii Steindachner, 1908a: 83. Type locality: Rio Purus [Brazil]. Holotype: NMW 45503.
Pimelodus leptus Eigenmann & Pearson in Eigenmann & Allen, 1942: 104, pl. 4 (fig. 3). Type locality: Peru, Río Pachitea. Holotype: CAS 47288 [ex IU 15858].
 Maximum length: 15.2 cm SL
 Distribution: South America: Purus River basin.
 Countries: Brazil, Colombia, Peru
 Remarks and references: See Stewart and Pavlik (1985) for recent revision.

DUOPALATINUS

Duopalatinus Eigenmann & Eigenmann, 1888: 136. Type species: *Platystoma emarginatum* Valenciennes, 1840. Type by monotypy. Gender: masculine.

***Duopalatinus emarginatus* (Valenciennes, 1840)**

Platystoma emarginatum Valenciennes in Cuvier & Valenciennes, 1840: 25 [19 of Strasbourg deluxe ed.]. Type locality: rivière de Saint-Francois [Rio São Francisco, Brazil]. Holotype: MNHN A.9353 (mounted).

Maximum length: 14 cm SL

Distribution: South America: São Francisco River basin.

Countries: Brazil

***Duopalatinus peruanus* Eigenmann & Allen, 1942**

Duopalatinus peruanus Eigenmann & Allen, 1942: 107, pl. 4 (fig. 4). Type locality: Peru, Río Puinagua, mouth of Río Pacaya, Río Ucayali system. Holotype: CAS 63630 [ex IU 15798].

Maximum length: 15 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Bolivia (?), Brazil, Colombia (?), Ecuador (?), Peru, Venezuela

EXALLODONTUS

Exallodontus Lundberg, Mago-Leccia & Nass, 1991: 843. Type species: *Exallodontus aguanai* Lundberg, Mago-Leccia & Nass, 1991. Type by original designation. Gender: masculine.

***Exallodontus aguanai* Lundberg, Mago-Leccia & Nass, 1991**

Exallodontus aguanai Lundberg, Mago-Leccia & Nass, 1991: 847, figs. 2-10, 13. Type locality: Venezuela, Territorio Federal Delta Amacuro, Río Orinoco near Los Castillos, 159 n mi from sea buoy at the terminus of the ship navigation channel in Boca Grande, 8°32'N, 62°23'W, 20-30 m. Holotype: MBUCV-V-18930.

Maximum length: ~20 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Bolivia (?), Brazil, Colombia, Ecuador (?), Peru, Venezuela

GOSLINIA

Taenionema Eigenmann & Bean, 1907: 662. Type species: *Taenionema steerei* Eigenmann & Bean, 1907. Type by original designation. Gender: neuter. Preoccupied by *Taenionema* Banks, 1905 in Plecoptera and by *Taenionema* Bolivar, 1906 in Orthoptera; replaced by *Goslinia* Myers, 1941.

Goslinia Myers, 1941: 88. Type species: *Taenionema steerei* Eigenmann & Bean, 1907. Type by being a replacement name. Gender: feminine. Replacement for *Taenionema* Eigenmann & Bean, 1907.

***Goslinia platynema* (Boulenger, 1898)**

Brachyplatystoma platynema Boulenger, 1898a: 477. Type locality: Brazil, Pará. Holotype: BMNH 1898.10.11.20.

Taenionema steerei Eigenmann & Bean, 1907: 662, fig. 2. Type locality: Brazil, Amazon River, between Para and Manaos. Holotype: USNM 52571.

Maximum length: 100 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Bolivia, Brazil, Colombia, Ecuador, Peru, Venezuela

HEMISORUBIM

Hemisorubim Bleeker, 1862a: 10. Type species: *Platystoma platyrhynchus* Valenciennes, 1840. Type by original designation. Gender: masculine.

***Hemisorubim platyrhynchus* (Valenciennes, 1840)**

Platystoma platyrhynchus Valenciennes in Cuvier & Valenciennes, 1840: 27 [20 of Strasbourg deluxe ed.]. Type locality: No locality. Holotype: MNHN 1203.

Silurus gerupoca Natterer in Kner, 1858a: 399. Type locality: Not

available, Natterer manuscript name mentioned in passing under *Platysoma platyrhynchus*.

Maximum length: 52.5 cm SL

Distribution: South America: Amazon, Maroni, Orinoco, and Paraná River basins.

Countries: Argentina, Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Paraguay, Peru, Suriname, Uruguay (?), Venezuela

Common names: Toa

HYPOPHTHALMUS

Hypophthalmus Cuvier, 1829: 293. Type species: *Hypophthalmus edentatus* Spix & Agassiz, 1829. Type by subsequent designation by Bleeker (1862a: 15). Gender: masculine. See Kottelat (1988: 78). See Howes (1983) and Lundberg et al. (1991) on relationships of *Hypophthalmus* within Pimelodidae. Lopez-Fernandez et al. (2000) treat Venezuelan *Hypophthalmus*.

Hypophthalmus Spix & Agassiz, 1829: 16. Type species: *Hypophthalmus edentatus* Spix & Agassiz, 1829. Type by subsequent designation Bleeker (1862a: 15). Gender: masculine.

Notophthalmus Hyrtl, 1859: 17. Type species: *Hypophthalmus marginatus* Valenciennes, 1840. Type by monotypy. Gender: masculine. Preoccupied by *Notophthalmus* Rafinesque, 1820 in Amphibia; apparently not replaced.

Pseudohypophthalmus Bleeker, 1862a: 15. Type species: *Hypophthalmus fimbriatus* Kner, 1858. Type by original designation. Gender: masculine.

***Hypophthalmus edentatus* Spix & Agassiz, 1829**

Hypophthalmus edentatus Spix & Agassiz, 1829: 16, pl. 9. Type locality: influviis Brasiliae equatorialis. Syntypes: MHNN 706 (2).

Hypophthalmus Spixii Valenciennes in Cuvier & Valenciennes, 1840: 231 [172 of Strasbourg deluxe ed.]. Type locality: Brazil. Holotype: whereabouts unknown. Unneeded new name for *Hypophthalmus edentatus* Spix & Agassiz, 1829.

Maximum length: 57.5 cm TL

Distribution: South America: Amazon and Orinoco River basins and Atlantic coastal rivers of Guyana and Suriname.

Countries: Brazil, Guyana, Peru, Suriname, Trinidad and Tobago, Venezuela

Common names: Maparate

***Hypophthalmus fimbriatus* Kner, 1858**

Hypophthalmus fimbriatus Kner, 1858a: 444, pl. 9 (fig. 30). Type locality: Rio negro [Brazil]. Syntypes: NMW 50519.

Distribution: South America: Known from Santarém and the Negro River basin.

Countries: Brazil, Venezuela

***Hypophthalmus marginatus* Valenciennes, 1840**

Hypophthalmus marginatus Valenciennes in Cuvier & Valenciennes, 1840: 225 [168 of Strasbourg deluxe ed.], pl. 439. Type locality: Cayenne [French Guiana]; Suriname. Syntypes: MNHN A.8961 (1); RMNH D1932 (1), 1933 (1).

Distribution: South America: Amazon and Orinoco River basins and major rivers of French Guiana and Suriname.

Countries: Brazil, French Guiana, Peru, Suriname

Common names: Maparate

***Hypophthalmus oremaculatus* Nani & Fuster, 1947**

Hypophthalmus oremaculatus Nani & Fuster, 1947: 3, figs. 2-3. Type locality: Brazil, Puerto Gaboto, Rio Paraná. Holotype: MACN 3496.

Distribution: South America: Paraná River basin.

Countries: Brazil

Species inquirendae

Hypophthalmus longifilis Valenciennes in Cuvier & Valenciennes, 1840: 230 [171 of Strasbourg deluxe ed.]. Type locality: Surinam. Syntypes: RMNH D1931 (1), 2974 (1), 2988 (1).

Hypophthalmus perporosus Cope, 1878: 673. Type locality: Peru, probably Nauta. Holotype: whereabouts unknown.

Hypophthalmus devall Röhl, 1942: 383. Type locality: Venezuela, rios Apure y Orinoco. Types: whereabouts unknown.

IHERINGICHTHYS

Iheringichthys Eigenmann & Norris, 1900: 354. Type species: *Pimelodus labrosus* Lütken, 1874. Type by original designation. Gender: masculine.

***Iheringichthys labrosus* (Lütken, 1874)**

Pimelodus labrosus Lütken, 1874a: 200. Type locality: La Plata. Syntypes: ZMUC 255-257, 310.

Distribution: South America: Paraná River basin.

Countries: Argentina, Brazil, Paraguay, Uruguay

***Iheringichthys megalops* Eigenmann & Ward, 1907**

Iheringichthys megalops Eigenmann & Ward in Eigenmann, McAtee & Ward, 1907: 115, pl. 32 (figs. 3-4). Type locality: Paraguay, Bahía Negra, Río Paraguay. Holotype: CAS 63631 [ex IU 10126].

Distribution: South America: Paraná River basin.

Countries: Paraguay

LEIARIUS

Leiarius Bleeker, 1862a: 10. Type species: *Arius? longibarbis* Castelnau, 1855. Type by original designation. Gender: masculine.

Sciadeoides Eigenmann & Eigenmann, 1888: 136. Type species: *Sciades marmoratus* Gill, 1870. Type by monotypy. Gender: masculine.

***Leiarius marmoratus* (Gill, 1870)**

Sciades marmoratus Gill, 1870: 95. Type locality: Peru or Ecuador, Amazon system, Río Marañón or Río Napo. Holotype: USNM 8447 (head and attached skin).

Maximum length: 60 cm TL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Bolivia, Brazil, Colombia, Peru, Venezuela

Common names: Achara comun

***Leiarius pictus* (Müller & Troschel, 1849)**

Bagrus (Sciades) pictus Müller & Troschel, 1849: 8, pl. 1 (fig. 1). Type locality: No locality stated. Holotype: ZMB 2991.

Maximum length: 60 cm TL

Distribution: South America: Amazon, Essequibo, and Orinoco River basins.

Countries: Bolivia (?), Brazil, Colombia, Ecuador (?), Guyana, Peru, Venezuela

Common names: Achara corbata

Species inquirendae

Pimelodus arekaima Jardine & Schomburgk in Schomburgk 1841: 178, pl. 5. Type locality: Upper Essequibo, Rio Branco. Holotype: whereabouts unknown.

Arius longibarbis Castelnau, 1855: 36, pl. 15 (fig. 2). Type locality: rivièrè des Amazones. Holotype: MNHN 1189. Originally as *Arius? longibarbis*.

Pimelodus multiradiatus Kner, 1858a: 414. Type locality: Borba am Rio Madeira and Forte do Rio branco am Rio Facutu [Brazil]. Syntypes: NMW 16515 (1), 16518 (1).

Silurus schandia Natterer in Kner, 1858a: 415. Type locality: ?

LUCIOPIMELODUS

Luciopimelodus Eigenmann & Eigenmann, 1888: 122. Type spe-

cies: *Pimelodus pati* Valenciennes, 1836. Type by original designation. Gender: masculine.

***Luciopimelodus pati* (Valenciennes, 1836)**

Pimelodus pati Valenciennes, 1836: pl. 1 (figs. 7-9). Type locality: Corrientes [Argentina]. Holotype: ?MNHN A.9419 (1, dry). Name available from plate, mentioned in Valenciennes (1847: 6), as *Platystoma pardale*.

Silurus pati Larrañaga, 1923: 376. Type locality: Uruguay. Perhaps not intended as new; corresponds to *Silurus 11-radiatus* on p. 386. Appeared as *Silurus pati* vel *11-radiatus* in Devincenzi 1925: 322, 308; Devincenzi treated as a synonym of *Luciopimelodus pati* (C. V.) [= *Pimelodus pati* Valenciennes, 1836].

Silurus 11-radiatus Larrañaga, 1923: 386. Type locality: Uruguay. Type(s): unknown. Same as *Silurus pati* on p. 376. Appeared as *Silurus pati* vel *11-radiatus* in Devincenzi 1925: 322, 308; Devincenzi treated as a synonym of *Luciopimelodus pati* (C. V.) [= *Pimelodus pati* Valenciennes 1836].

Maximum length: 96 cm SL

Distribution: South America: La Plata and Blanco River basins.

Countries: Argentina, Brazil, Paraguay, Uruguay (?)

Remarks and references: See also Cuvier & Valenciennes 1840: 176.

Common names: Pati

MEGALONEMA

Megalonema Eigenmann, 1912b: 150. Type species: *Megalonema platycephalum* Eigenmann, 1912. Type by original designation. Gender: neuter.

***Megalonema argentina* (MacDonagh, 1938)**

Perugia argentina MacDonagh 1938: 157. Type locality: Argentina, rio Paraná, Posadas, Territorio de Misiones. Holotype: MLP 5.V.I.35.

Maximum length: at least 27.1 cm SL

Distribution: South America: Paraná River basin.

Countries: Argentina

Common names: Pati de aletas negras

***Megalonema pauciradiatum* Eigenmann, 1919**

Megalonema pauciradiatum Eigenmann in Driver, 1919: 455. Type locality: Paraguay, Villa Rica. Holotype: CAS 63672 [ex IU 15029].

Maximum length: at least 3.8 cm SL

Distribution: South America: Paraná River basin.

Countries: Paraguay

Remarks and references: Catalog number listed for holotype in Eschmeyer (1998) is incorrect.

***Megalonema platanum* (Günther, 1880)**

Pimelodus platanus Günther, 1880: 10. Type locality: Parana. Holotype: BMNH 1872.6.8.18.

Distribution: South America: Paraná River basin.

Countries: Argentina, Brazil, Paraguay

***Megalonema platycephalum* Eigenmann, 1912**

Megalonema platycephalum Eigenmann, 1912b: 150, fig. 31, pl. 10 (fig. 2). Type locality: Tumatumari British Guiana. Holotype: FMNH 53224 [ex CM 1684].

Maximum length: 30 cm TL

Distribution: South America: Amazon, Essequibo, and Orinoco River basins.

Countries: Bolivia (?), Brazil, Colombia, Ecuador, Guyana, Peru, Venezuela

***Megalonema psammium* Schultz, 1944**

Megalonema platycephalum psammium Schultz, 1944: 216, pl. 2 (fig. b). Type locality: Venezuela, Rio Palmar at the bridge 70 km southwest of Maracaibo. Holotype: USNM 121175.

Distribution: South America: Lake Maracaibo basin.
Countries: Colombia, Venezuela
Common names: Ballo, Ballito

***Megalonema xanthum* Eigenmann, 1912**

Megalonema xanthum Eigenmann, 1912a: 16. Type locality: Colombia, Girardot. Holotype: FMNH 56032 [ex CM 4822].
Distribution: South America: Magdalena River basin.
Countries: Colombia

MERODONTOTUS

Merodontotus Britski, 1981: 109. Type species: *Merodontotus tigrinus* Britski, 1981. Type by original designation. Gender: masculine.

***Merodontotus tigrinus* Britski, 1981**

Merodontotus tigrinus Britski, 1981: 110, figs. 1-2. Type locality: Brazil, Cachoeira do Teotônio, rio Madeira, Território de Rondônia. Holotype: MZUSP 14004.
Maximum length: 60 cm TL
Distribution: South America: Amazon River basin.
Countries: Brazil, Colombia, Peru
Common names: Tiger-striped catfish, Tigrinus, Tigrino

PARAPIMELODUS

Parapimelodus La Monte, 1933: 226. Type species: *Pimelodus valenciennis* Lütken, 1874. Type by original designation. Gender: masculine.
Remarks and references: See Lucena et al. (1992) for recent revision.

***Parapimelodus nigribarb* (Boulenger, 1889)**

Pimelodus (Pseudorhamdia) nigribarb Boulenger, 1889: 266. Type locality: Brazil, Rio Grande do Sul, Camaquam River [not Camapuam]. Lectotype: BMNH 1889.8.24.6, designated by Lucena et al. (1992: 145).
Maximum length: 18.6 cm SL
Distribution: South America: Laguna dos Patos basin.
Countries: Brazil
Remarks and references: Bertaco & Becker (2000) ecology.

***Parapimelodus valenciennis* (Lütken, 1874)**

Pimelodus valenciennis Lütken, 1874a: 200. Type locality: La Plata [Argentina]. Holotype: ZMUC 250.
Pimelodus spegazzinii Perugia, 1891: 632. Type locality: Rio Durazno. Syntypes: MSNG 8026 (2).
Distribution: South America: Paraná River basin.
Countries: Argentina, Brazil, Paraguay, Uruguay
Remarks and references: Species redescribed by Lucena et al. (1992).

PERRUNICHTHYS

Perrunichthys Schultz, 1944: 229. Type species: *Perrunichthys perruno* Schultz, 1944. Type by original designation. Gender: masculine.

***Perrunichthys perruno* Schultz, 1944**

Perrunichthys perruno Schultz, 1944: 230, pl. 3 (fig. B); fig. 3. Type locality: Venezuela, Río Negro, below the mouth of the Río Yasa, about 75 km. south of Rosario, west side of Lago Maracaibo. Holotype: USNM 121189.
Maximum length: 60 cm TL
Distribution: South America: Lake Maracaibo basin.
Countries: Colombia, Venezuela
Common names: Jeta de perro, Perruno, toruno

PHRACTOCEPHALUS

Phractocephalus Spix & Agassiz, 1829: 10. Type species: *Phrac-*

tocephalus bicolor Spix & Agassiz, 1829. Type by monotypy. Gender: masculine. For a discussion of authorship and date see Kottelat (1988; 1989).

Pirarara Agassiz in Spix & Agassiz, 1829: 23. Type species: *Silurus hemioliopterus* Bloch & Schneider, 1801. Type by monotypy. Gender: feminine. Appeared first as name in synonymy under *Phractocephalus* and legend for pl. 6; made available by Bleeker (1862a: 11) back to Agassiz.

***Phractocephalus hemioliopterus* (Bloch & Schneider, 1801)**

Silurus hemioliopterus Bloch & Schneider, 1801: 385. Type locality: in flumine Maranh [Brazil].
Pimelodus grunniens Humboldt, in Humboldt & Valenciennes 1821: 172. Type locality: le Bas-Orénoque. No types known.
Phractocephalus bicolor Spix & Agassiz, 1829: 23, pl. 6. Type locality: in fluvio Amazonum [Brazil]. No types known. As *Pirarara bicolor* on plate.
Maximum length: 132 cm TL
Distribution: South America: Amazon and Orinoco River basins.
Countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Venezuela
Common names: Cajaro, Pirarara, Bagre papagayo, Red-tail catfish

PIMELODINA

Pimelodina Steindachner, 1877b: 149. Type species: *Pimelodina flavipinnis* Steindachner, 1877. Type by monotypy. Gender: feminine.

***Pimelodina flavipinnis* Steindachner, 1877**

Pimelodina flavipinnis Steindachner, 1877b: 150, pl. 13 (fig. 2). Type locality: Amazonenstrom bei Para [Pará, Brazil]. Holotype: NMW 45498.
Pimelodina nasus Eigenmann & Eigenmann, 1888: 120. Type locality: Para [Brazil]. Holotype: MCZ 7490.
Distribution: South America: Amazon and Orinoco River basins.
Countries: Bolivia (?), Brazil, Colombia, Ecuador (?), Peru, Venezuela
Remarks and references: See Stewart (1986) for recent revision.

PIMELODUS

Pimelodus La Cepède, 1803: 93. Type species: *Pimelodus maculatus* La Cepède, 1803. Type by subsequent designation, by Gill 1861. Gender: masculine.
Pseudariodes Bleeker, 1862a: 11. Type species: *Silurus clarias* Linnaeus, 1758. Type by original designation. Gender: masculine. Type species designation given as “*Pseudariodes clarias* = *Silurus clarias* Bl. [Bloch]”.
Pseudorhamdia Bleeker, 1862a: 11. Type species: *Pimelodus maculatus* La Cepède, 1803. Type by original designation. Gender: feminine.

***Pimelodus absconditus* Azpelicueta, 1995**

Pimelodus absconditus Azpelicueta, 1995: 72, figs. 1-2. Type locality: Argentina, Misiones, San Javier, Uruguay River. Holotype: MLP 8781.
Maximum length: 15.2 cm SL
Distribution: South America: Paraná River basin.
Countries: Argentina, Brazil (?), Uruguay (?)
Remarks and references: See original description for comments on diet.

***Pimelodus albicans* (Valenciennes, 1840)**

Arius albicans Valenciennes in Cuvier & Valenciennes, 1840: 80 [60 of Strasbourg deluxe ed.]. Type locality: Buéno-Ayres [Argentina]. Syntype: MNHN A.9400 (dry). Based on one specimen and literature sources. As *Arius albidus* in Valenciennes (1836:

pl. 3, fig. 2).

Silurus muticus Larrañaga, 1923: 386. Type locality: Uruguay. See Devincenzi (1925).

Distribution: South America: Paraná River basin.

Countries: Argentina

Remarks and references: We have retained the younger name *P. albicans* Valenciennes for purposes of stability, there has been virtually no use of *P. albidus* since its original description, thus we treat it as a Nomen oblitum.

***Pimelodus albofasciatus* Mees, 1974**

Pimelodus albofasciatus Mees, 1974: 137, pl. 4. Type locality: Suriname, Sipaliwini. Holotype: RMNH 26156.

Maximum length: 25 cm TL

Distribution: South America: Amazon, Orinoco, upper Corantijn and Sipaliwini River basins.

Countries: Brazil, Suriname, Venezuela

***Pimelodus altissimus* Eigenmann & Pearson, 1942**

Pimelodus altissimus Eigenmann & Pearson in Eigenmann & Allen, 1942: 106, pl. 5 (fig. 5). Type locality: Peru, Rio Ucayali, near Orellana. Holotype: CAS 55369 [ex IU 15797].

Distribution: South America: Amazon River basin.

Countries: Brazil, Colombia (?), Peru

***Pimelodus argenteus* Perugia, 1891**

Pimelodus argenteus Perugia 1891: 631. Type locality: Río della Plata; Río Paraná (Colonia Resistencia) [Argentina]. Syntypes: MSNG 14570 (2).

Maximum length: 20 cm SL.

Distribution: South America: Paraná River basin.

Countries: Argentina

Remarks and references: Eschmeyer (1998) listed this name as permanently invalid as a junior primary homonym of *Pimelodus argenteus* La Cepède, 1803 (a synonym of the ariid *Selenaspis herzbergi*). However, herein we continue to recognize Perugia's name as valid, which has long been so treated for the pimelodid species in question (e.g., Ringulet et al., 1967; López et al., 1987; Burgess, 1989; Britski et al., 1999; and others (M. Azpelicueta, pers. comm)), as required by art. 23.9.5 of the current Code (ICZN, 1999).

***Pimelodus atrobrunneus* Vidal & Lucena, 1999**

Pimelodus atrobrunneus Vidal & Lucena, 1999: 123, figs. 1-3, tab.

1. Type locality: Brasil: rio Ligeiro na estrada entre Marcelino Ramos e Maximiliano de Almeida, Marcelino Ramos, 27°38'S-51°52'O, Rio Grande do Sul. Holotype: MCP 19678.

Maximum length: ~15 cm SL

Distribution: South America: Upper Uruguay River basin.

Countries: Brazil

***Pimelodus blochii* Valenciennes, 1840**

Pimelodus Blochii Valenciennes in Cuvier & Valenciennes, 1840: 188 [139 of Strasbourg deluxe ed.]. Type locality: Suriname. Lectotype: MNHN B.72. On *Silurus clarias* of Bloch (1782: pl. 35, figs. 1-2).

Pseudorhamdia macronema Bleeker, 1864: 79, pls. 13 (fig 7), 14. Type locality: Suriname. Lectotype: RMNH 3069, designated by Boeseman (1972: 317).

Pseudorhamdia piscatrix Cope, 1870: 569. Type locality: Peru, Pebas. Syntypes: ANSP 8386-87.

Maximum length: 35 cm TL

Distribution: South America: Gulf of Paria, Amazon, Corantijn, Essequibo, and Orinoco River basins.

Countries: Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Peru, Suriname, Venezuela

***Pimelodus brevis* Marini, Nichols & La Monte, 1933**

Pimelodus brevis Marini, Nichols & La Monte, 1933: 1, fig. 1. Type locality: Argentina, Rio de la Plata, San Fernando. Holo-

type: AMNH 12240 (missing since 1960s).

Maximum length: 28.5 cm SL

Distribution: South America: Paraná River basin; Durazno River.

Countries: Argentina

Remarks and references: This species description was based on one specimen that is now missing.

***Pimelodus coprophagus* Schultz, 1944**

Pimelodus clarias coprophagus Schultz, 1944: 203, fig. 2. Type locality: Venezuela, Río Agua Caliente, 2- to 3 km above the southwestern corner of Lago Maracaibo. Holotype: USNM 121150.

Maximum length: 25 cm SL

Distribution: South America: lake Maracaibo basin.

Countries: Colombia, Venezuela

Remarks and references: Mierderito

***Pimelodus fur* (Lütken, 1874)**

Pseudorhamdia fur Lütken, 1874b: 33. Type locality: Rio das Velhas [Minas Gerais, Brazil]. Syntypes: ZMUC 271, 274, 275, 283-285. Illustrated and described in more detail in Lütken (1875: 169 (and p. VI of summary), pl. 2 (fig. 3), pl. 3 (fig. 3a)).

Distribution: South America: Das Velhas River basin in São Francisco River drainage.

Countries: Brazil

***Pimelodus garciabarrigai* Dahl, 1961**

Pimelodus garcia-barrigai Dahl, 1961: 494. Type locality: Colombia, Deep pool in Caño Lozada, about 11 km above its junction with the Guayabero River. Holotype: whereabouts unknown.

Distribution: South America: Guayabero River basin in Orinoco River drainage.

Countries: Colombia

***Pimelodus grosskopfii* Steindachner, 1879**

Pimelodus (Pimelodus) grosskopfii Steindachner, 1879a: 194. Type locality: Río Cauca [Colombia]. Syntypes: NMW ?. Species described in more detail in Steindachner (1879b: 186).

Pimelodus longifilis Posada, 1909: 294. Type locality: Río Cauca, Colombia. No types known.

Distribution: South America: Magdalena River and Lake Maracaibo basins.

Countries: Colombia, Venezuela

Remarks and references: Miles (1947: p. 71) lists *P. longifilis* Posada as synonym.

***Pimelodus heraldoi* Azpelicueta, 2001**

Pimelodus heraldoi Azpelicueta 2001: 194, figs. 1-2 Type locality: Brazil, Estado de São Paulo: Município de Pirassununga, rio Mogi Guaçu in Emas. Holotype: MZUSP 22713.

Maximum length: 17.9 cm SL

Distribution: South America: Upper Paraná River basin.

Countries: Brazil

***Pimelodus jivaro* Eigenmann & Pearson, 1942**

Pimelodus jivaro Eigenmann & Pearson in Eigenmann & Allen, 1942: 105, pl. 4 (fig. 2). Type locality: Peru, Rio Morona. Syntypes: CAS 55891 [ex IU 15859 (3), 15813 (2)].

Distribution: South America: Upper Amazon River basin.

Countries: Ecuador, Peru

***Pimelodus maculatus* La Cepède, 1803**

Pimelodus maculatus La Cepède, 1803: 94. Type locality: Argentina, le grand fleuve de la Plata. No types known.

Silurus lima Natterer in Kner, 1858a: 414. Type locality: Not available, Natterer manuscript name mentioned in passing under *Pimelodus maculatus*.

Maximum length: 36 cm SL

Distribution: South America: Paraná and São Francisco River basins.

Countries: Argentina, Brazil

***Pimelodus microstoma* Steindachner, 1877**

Pimelodus microstoma Steindachner, 1877a: 604. Type locality: Brazil, von Irisanga, Rio branco und Barra do Rio negro. Syntypes: NMW 45823-45824. Maximum length: 14.9 cm SL. Distribution: South America: Amazon River basin. Countries: Brazil

***Pimelodus misteriosus* Azpelicueta, 1998**

Pimelodus misteriosus Azpelicueta, 1988: 88, figs. 1-3, 5-6, 8, 10, 12, 14. Type locality: Argentina, Misiones, Candelaria, arroyo Anselmo. Holotype: MLP 9191. Maximum length: 14.3 cm SL. Distribution: South America: Paraná River basin. Countries: Argentina, Brazil

***Pimelodus navarroi* Schultz, 1944**

Pimelodus grosskopfii navarroi Schultz, 1944: 207, pl. 1 (fig. C). Type locality: Venezuela, Río Palmar at the bridge 70 km south-west of Maracaibo. Holotype: USNM 121174. Maximum length: 30 cm SL. Distribution: South America: Lake Maracaibo basin. Countries: Colombia, Venezuela. Common names: Rampuche

***Pimelodus ornatus* Kner, 1858**

Pimelodus ornatus Kner, 1858a: 411, pl. 6 (fig. 18). Type locality: Surinam; Rio negro und Cujaba [Brazil]. Syntypes: NMW 45832 (2), 45843 (1). *Megalonema rhabdostigma* Fowler, 1914: 256, fig. 10. Type locality: Rupununi R., 2°-3°N, 50°20'W [Guyana]. Holotype: ANSP 39338. Maximum length: 38.5 cm SL. Distribution: South America: Amazon, Corantijn, Essequibo, Orinoco, and Paraná River basins and major rivers of the Guianas. Countries: Brazil, Colombia, Ecuador, French Guiana, Guyana, Paraguay, Peru, Suriname, Venezuela

***Pimelodus ortmanni* Haseman, 1911**

Pimelodus ortmanni Haseman, 1911b: 379, pl. L (fig. 2). Type locality: Brazil, Porto União da Victoria, Rio Iguassú. Holotype: FMNH 54240 [ex CM 2856]. Distribution: South America: Paraná River basin. Countries: Brazil

***Pimelodus paranaensis* Britski & Langeani, 1988**

Pimelodus paranaensis Britski & Langeani, 1988: 410, figs. 1-2. Type locality: Brazil, Ilha Solteira, Rio Paraná, SP. Holotype: MZUSP 23089. Distribution: South America: Upper Paraná River basin. Countries: Brazil

***Pimelodus pictus* Steindachner, 1877**

Pimelodus pictus Steindachner, 1877b: 144. Type locality: Amazonenstrom, Hyavary [Peru-Brazil border]. Syntypes: ?NMW. Maximum length: 11 cm TL. Distribution: South America: Amazon and Orinoco River basins. Countries: Brazil, Colombia, Peru, Venezuela

***Pimelodus platycirris* Borodin, 1927**

Pimelodus platycirris Borodin, 1927: 2. Type locality: Brazil, Salto de Pirassunungo, Rio Mogy Guassu, São Paulo Prov. Holotype: AMNH 8628. Distribution: South America: Paraná River basin. Countries: Brazil. Remarks and references: This species is known only from one specimen.

***Pimelodus punctatus* (Meek & Hildebrand, 1913)**

Megalonema punctatum Meek & Hildebrand, 1913: 77. Type locality: Río Tuyra, Boca de Cupe, Panama. Holotype: FMNH 7577. *Megalonema robustum* Meek & Hildebrand, 1913: 78. Type locality: Panama, Río Tuyra, Marriganti. Holotype: FMNH 7578. Distribution: Central America: Tuira River basin. Countries: Panama

Species inquirendae

Pimelodes lateristrigus Lichtenstein, 1823: 112. Type locality: Brazil. Holotype: unknown. *Pimelodus rigidus* Spix & Agassiz, 1829: 19, pl. 7 (fig. 2). Type locality: Brazil aequatoriali. Holotype: unknown. *Pseudorhamdia ascita* Bleeker, 1862b: 384. Type locality: Suriname. *Pseudariodes pantherinus* Lütken, 1874a: 192. Type locality: Caracas [Venezuela]. Syntypes: BMNH 1876.1.10.10 (1), NMW 45851 (1), USNM 44970 (1), ZMB 9180 (3). *Piramutana macropila* Günther, 1880: 10, pl. 2. Type locality: Rio de la Plata. Holotype: BMNH 1878.9.10.14.

PINIRAMPUS

Pinirampus Bleeker, 1858: 198. Type species: *Pimelodus pinirampus* Agassiz [= *pirinampu* Spix & Agassiz, 1829]. Type by monotypy. Gender: masculine. *Pirinampus* Günther, 1864: 135. Type species: *Pimelodus pirinampu* Spix & Agassiz, 1829. Gender: masculine. Unjustified emendation of *Pinirampus* Bleeker. *Perugia* Eigenmann & Norris, 1900: 355. Type species: *Pirinampus* [sic] *agassizii* Steindachner, 1876. Type by original designation. Gender: feminine.

***Pinirampus pirinampu* (Spix & Agassiz, 1829)**

Pimelodus barbancho Humboldt in Humboldt & Valenciennes, 1821: 172. Type locality: Guarico, l'Apure et d'autres rivières des steppes de Venezuela. Holotype: whereabouts unknown. *Pimelodus pirinampu* Spix & Agassiz, 1829: 20, pl. 8. Type locality: Brasiliae fluvii. No types known. *Pimelodus insignis* Jardine in Schomburgk, 1841: 180, pl. 6. Type locality: Rio Branco [Brazil]. Holotype: unknown. *Galeichthys araguayensis* Castelnau, 1855: 37, pl. 17 (fig. 3). Type locality: Rio Araguay [Brazil]. Holotype: MNHN A.9366 (mounted). *Pinirampus typus* Bleeker, 1862a: 11. Type locality: Brasiliae fluvii. Unneeded replacement for *Pimelodus pinirampu* Spix & Agassiz, 1829, apparently to avoid Stricklandian tautonymy. *Pirinampus agassizii* Steindachner, 1876: 607, pl. 12. Type locality: Brazil, Parà. Holotype: NMW 45955. Maximum length: 120 cm TL. Distribution: South America: Amazon, Essequibo, Orinoco, and Paraná River basins. Countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Paraguay, Peru, Venezuela. Remarks and references: We have retained the younger name *P. pirinampu* (Spix & Agassiz) for purposes of stability, there has been virtually no use of *P. barbancho* since its original description, thus we treat it as a nomen oblitum. Common names: Barbancho, Mota blanca

PLATYNEMATICHTHYS

Platynematichthys Bleeker, 1858: 356. Type species: *Bagrus punctulatus* Kner, 1858a. Type by monotypy. Gender: masculine. *Platypogon* Starks, 1913: 28. Type species: *Platypogon caerulostriis* Starks, 1913. Type by monotypy. Gender: masculine.

***Platynematichthys notatus* (Jardine, 1841)**

Pimelodus notatus Jardine in Schomburgk, 1841: 181, pl. 7. Type locality: Brazil: Fort St. Joaquim on the Rio Branco. Holotype: unknown.

Bagrus punctulatus Kner, 1858a: 380. Type locality: Forte do Principe am Rio Guapore und Rio branco [Brazil]. Holotype: unknown. Preoccupied by *Bagrus punctulatus* Castelnau, 1855; replaced by *Bagrus nigropunctatus* Kner, 1858b.

Bagrus nigropunctatus Kner, 1858b: 345. Type locality: Forte do Principe am Rio Guapore und Rio branco [Brazil]. Holotype: unknown. Replacement for *Bagrus punctulatus* Kner, 1858b, preoccupied by *Bagrus punctulatus* Castelnau, 1855.

Platypogon caerulostris Starks, 1913: 29, pl. 5. Type locality: Brazil, Pará. Holotype: SU 22228.

Maximum length: 80 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Bolivia (?), Brazil, Colombia, Ecuador (?), Peru (?), Venezuela

Common names: Bagre tigre, Coroaá

PLATYSILURUS

Platysilurus Haseman, 1911a: 320. Type species: *Platysilurus barbatus* Haseman, 1911. Type by monotypy. Gender: masculine.

Platysilurus malarmo Schultz, 1944

Platysilurus malarmo Schultz, 1944: 234, pl. 3 (fig. C); fig. 3g. Type locality: Venezuela, Lago Maracaibo near the mouth of the Río Concho. Holotype: USNM 121179.

Maximum length: 70 cm SL

Distribution: South America: Lake Maracaibo basin.

Countries: Colombia, Venezuela

Common names: Malarmo

Platysilurus mucosus (Vaillant, 1880)

Platystoma mucosa Vaillant, 1880: 151. Type locality: à Caldéron (Haute-Amazone) [Brazil]. Holotype: MNHN A.1955.

Duoplatinus goeldii Steindachner, 1908b: 65. Type locality: Rio Purus [Brazil]. Holotype: NMW (not located).

Platysilurus barbatus Haseman, 1911a: 320, pl. 52. Type locality: São Antonio de R. Madeira [Brazil]. Holotype: FMNH 60306 [ex CM 2987].

Maximum length: at least 20 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Bolivia, Brazil, Colombia, Peru, Venezuela

PLATYSTOMATICHTHYS

Platystomatichtsys Bleeker, 1862a: 10. Type species: *Platystoma sturio* Kner, 1858a. Type by original designation. Gender: masculine.

Platystomatichtsys sturio (Kner, 1858)

Platystoma sturio Kner, 1858a: 395, pl. 3 (figs. 9-9a). Type locality: Rio branco [Brazil]. Holotype: whereabouts unknown.

Maximum length: 40 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil, Ecuador, Peru, Venezuela

Common names: Zorrito cat.

PROPIMELODUS

Propimelodus Lundberg & Parisi, 2002:77. Type species: *Pimelodus eigenmanni* van der Stigchel, 1946. Type by original designation.

Propimelodus eigenmanni (van der Stigchel, 1946)

Pimelodus eigenmanni van der Stigchel, 1946: 64. Type locality: Brazil. Holotype: RMNH 15465.

Maximum length: 24 cm SL

Distribution: South America: Amazon, Approuague, Kourou, and Oyapock River basins.

Countries: Brazil, French Guiana

Remarks and references: *Pimelodus eigenmanni* is treated as the valid name for the species, despite being a primary junior homonym of *Pimelodus eigenmanni* Boulenger (currently considered a valid species in *Pimelodella*), following Art. 23.9.5 of the current Code of Zoological Nomenclature. Widely misidentified as *Pimelodus altipinnis* (e.g., Steindachner, 1877b, and Eigenmann & Eigenmann, 1888). Redescribed in Lundberg and Parisi (2002).

PSEUDOPLATYSTOMA

Pseudoplatystoma Bleeker, 1862a: 10. Type species: *Silurus fasciatus* Linnaeus, 1766. Type by original designation. Gender: neuter. *Pseudoplatystoma* treated as valid by first reviser action of Eigenmann and Eigenmann (1888).

Hemiplatystoma Bleeker, 1862a: 10. Type species: *Platystoma tigrinum* Valenciennes, 1840. Type by original designation. Gender: neuter.

Pseudoplatystoma corruscans (Spix & Agassiz, 1829)

Platystoma corruscans Spix & Agassiz, 1829: 26 [pl. 13]. Type locality: in flumine S. Francisci [Brazil]. Holotype: whereabouts unknown. As *Sorubim caparary* on plate.

Sorubim caparary Spix & Agassiz, 1829: pl. 13. Type locality: in flumine S. Francisci [Brazil]. Holotype: whereabouts unknown. Name available from plate.

Platystoma coruscans Valenciennes in Cuvier & Valenciennes, 1840: 17 [p. 13 in the Strasbourg deluxe edition]. Type locality: unknown.

Silurus macrocephalus Larrañaga, 1923: 386. Type locality: Uruguay. Corresponds to *Silurus mangrullo* on p. 377, as name only (See Devincenzi 1925: 310, 322).

Maximum length: 114 cm SL

Distribution: South America: São Francisco and Paraná River basins.

Countries: Argentina, Brazil, Paraguay, Uruguay

Common names: Spotted sorubim

Pseudoplatystoma fasciatum (Linnaeus, 1766)

Silurus fasciatus Linnaeus, 1766: 505. Type locality: Brazil, Suriname. Holotype: whereabouts unknown.

Platystoma artedii Günther, 1864: 106. Type locality: South America. Type(s): whereabouts unknown.

Pseudoplatystoma fasciatum intermedium Eigenmann & Eigenmann, 1888: 138. Type locality: Obidos [Brazil]. Holotype: MCZ 7321.

Pseudoplatystoma fasciatum brevifile Eigenmann & Eigenmann, 1889: 31. Type locality: Goyaz [Brazil]. Holotype: MCZ 7317.

Pseudoplatystoma fasciatum reticulatum Eigenmann & Eigenmann, 1889: 30. Type locality: Rio Negro [Brazil]. Holotype: MCZ 23813.

Pseudoplatystoma fasciatum nigricans Eigenmann & Eigenmann, 1889: 31. Type locality: Xingu [Brazil]. Syntypes: MCZ 7301, 7311 (2).

Maximum length: 90 cm FL

Distribution: South America: Amazon, Corantijn, Essequibo, Orinoco, and Paraná River basins.

Countries: Argentina, Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Paraguay (?), Peru, Suriname, Uruguay (?), Venezuela

Remarks and references: See Loubens and Panfili (2000) for reproductive biology and ecology.

Common names: Barred sorubim, Doncella, Bagre tigre, Rayao

Pseudoplatystoma tigrinum (Valenciennes, 1840)

Platystoma truncatum Spix & Agassiz, 1829: 27, pl. 13a. Type locality: Brazil, Japurá and Solimoen.

Platystoma tigrinum Valenciennes in Cuvier & Valenciennes, 1840: 10 [8 of Strasbourg deluxe ed.], pl. 422. Type locality:

Probably Brazil. Holotype: MNHN A.9354 (mounted).
Platystoma punctatum Valenciennes in Cuvier & Valenciennes, 1840: 20 [15 of Strasbourg deluxe ed.]. Type locality: ?
 Maximum length: 130 cm TL
 Distribution: South America: Amazon and Orinoco River basins.
 Countries: Bolivia, Brazil, Colombia, Ecuador, French Guiana, Peru, Venezuela
 Remarks and references: We believe based on the original description, plate, and locality that *Platystoma truncatum* is a synonym of *Pseudoplatystoma tigrinum*. We have retained the younger name *P. tigrinum* (Valenciennes, 1840) for purposes of stability, there has been virtually no use of *P. truncatum* since its original description, thus we treat it as a Nomen oblitum. For reproductive biology and ecology, see Loubens and Panfili (2000).
 Common names: Tiger sorubim, Tigre zúngaro, Bagre tigre, Rayao

Species inquirendae

Platystoma pardalis Valenciennes, 1836: pl. 4 (fig. 2). Type locality: Buenos Aires, Argentina. Holotype: MNHN A.8833. Name available from plate, mentioned in Valenciennes (1847: 6), as *Platystoma panthale*. Also in Cuvier & Valenciennes (1840: 15), as *Platystoma pardale*.
Platystoma orbignianus Valenciennes, 1836: pl. 4 (fig. 3). Type locality: Brazil. Holotype: MNHN B.160. Name available from plate, description in Valenciennes (1847: 6), as *Platystoma orbignyanum*. See also Cuvier & Valenciennes (1840: 12).
Platystoma panthale Valenciennes, 1847: 6. Type locality: No locality. Holotype: MNHN A.8833. New name proposed for *Platystoma pardalis* Valenciennes, 1836, without explanation.
Platystoma punctifer Castelnau, 1855: 40, pl. 19 (fig. 2). Type locality: de l' Amazone [Brazil]. Holotype: MNHN 1582.
Platystoma forschammeri Lütken, 1875: 154. Type locality: unknown. Not available, name in the synonymy of *Platystoma orbignianum* Valenciennes, 1836.

SORUBIM

Platystoma Spix & Agassiz, 1829: 23. Type species: *Silurus lima* Bloch & Schneider, 1801. Type by subsequent designation by Jordan (1917: 131). Gender: neuter. Preoccupied by *Platystoma* Meigen, 1803 in Diptera.
Sorubim Cuvier, 1829: 293. Type species: *Silurus lima* Bloch & Schneider, 1801. Type by subsequent designation. Gender: masculine.
Sorubim Spix & Agassiz, 1829: 24. Type species: *Silurus lima* Bloch & Schneider, 1801. Type by subsequent designation by Bleeker (1862a). Gender: masculine. First appeared in synonymy in Spix & Agassiz as above, but made available back to that authorship and date because of use as a valid name by Bleeker (1862a: 10).
Abron Gistel, 1848: X. Type species: *Silurus lima* Bloch & Schneider, 1801. Type by being a replacement name. Gender: neuter. Replacement for *Platystoma* Valenciennes [= Spix & Agassiz, 1829].

Sorubim cuspicaudus Littmann, Burr & Nass, 2000

Sorubim cuspicaudus Littmann, Burr & Nass, 2000: 903, fig. 2b, 3, 4c. Type locality: Colombia, Departamento de Tolima, Río Magdalena drainage, at Puerto Soplaviento. Holotype: FMNH 56223.
 Maximum length: ~80 cm SL
 Distribution: South America: Lake Maracaibo, Magdalena and Sinu River basins.
 Countries: Colombia, Venezuela
 Common names: Antioqueno, Bagre blanco, Blanco pobre, Blanquillo, Cucharó, Gallego, Trans-Andean hocico de paletón

Sorubim elongatus Littmann, Burr, Schmidt & Isern, 2001

Sorubim elongatus Littmann, Burr, Schmidt & Isern, 2001: 4, fig. 2. Type locality: Peru: Departamento Loreto, Maynas Province, Ullpa Caño, 50 m upstream of confluence with Moena Caño, Río Itaya drainage, Río Amazonas basin (approx. 3°46'20''S 73°14'17''W). Holotype: SIUC 30303.
 Maximum length: 30 cm SL
 Distribution: South America: Amazon, Essequibo, and Orinoco River basins.
 Countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Venezuela
 Common names: Slender shovelnose catfish, Paleta delgada

Sorubim lima (Bloch & Schneider, 1801)

Silurus lima Bloch & Schneider, 1801: 384. Type locality: in flumine Maranhã [Brazil]. Holotype: ZMB 3185 (stuffed).
Sorubim infraoculare Spix in Spix & Agassiz, 1829: 24, pl. 15. Type locality: Brazil. Not available, first published in the synonymy of *Platystoma lima* (Bloch & Schneider 1801).
Silurus gerupensis Natterer in Kner, 1858a: 399. Type locality: stemmen von Rio Guaporé, Rio blanco und Rio negro. Holotype: whereabouts unknown. Not available, Natterer manuscript name mentioned in synonymy under *Platystoma lima*.
Platystoma luceri Weyenbergh, 1877: 10, pl. 3 (figs. 1-3). Type locality: Argentina, Santa-Fe. Holotype: whereabouts unknown.
Sorubim latirostris Miranda Ribeiro, 1920: 14, pl. [12]. Type locality: Amazonas [Brazil]. Holotype: MNRJ 631.
 Maximum length: 50.5 cm SL
 Distribution: South America: Amazon, Orinoco, Paraná and Paranaíba River basin.
 Countries: Argentina, Bolivia, Brazil, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela
 Common names: Lima shovelnose, Duckbill catfish, Chiripira, Chucharón, Pico de pato

Sorubim maniradii Littmann, Burr & Buitrago-Suárez, 2001

Sorubim maniradii Littmann, Burr & Buitrago-Suárez, 2001: 88, figs. 1 a-c. Type locality: Ecuador, Napo State, Río Yasuni, Río Napo drainage, 0°59'06"S 75°25'36"W. Holotype: FMNH 108814.
 Maximum length: 25 cm SL
 Distribution: South America: Amazon River basin.
 Countries: Bolivia, Brazil, Ecuador, Peru

Sorubim trigonocephalus Miranda Ribeiro, 1920

Sorubim trigonocephalus Miranda Ribeiro, 1920: 12, pls. [10, 11]. Type locality: Porto Velho [Brazil]. Holotype: MNRJ 882.
 Maximum length: 50.7 cm SL
 Distribution: South America: Madeira and Tapajós River basins.
 Countries: Brazil
 Remarks and references: Extremely rare in collections; known from only three specimens.
 Common names: Arrowhead shovelnose

SORUBIMICHTHYS

Sorubimichthys Bleeker, 1862a: 10. Type species: *Sorubim jandia* Spix & Agassiz, 1829. Type by original designation. Gender: masculine.
Pteroglanis Eigenmann & Pearson in Pearson, 1924: 9. Type species: *Pteroglanis manni* Eigenmann & Pearson, 1924. Type by monotypy. Gender: masculine.

Sorubimichthys planiceps (Spix & Agassiz, 1829)

Platystoma planiceps Spix & Agassiz, 1829: 25, pl. 12. Type locality: Brazil: in fluminae Amazonum, Solimoëns, Rio Negro. Lectotype: MHNN 811 (see Lundberg et al., 1989).
Sorubim Pirauáca Spix & Agassiz, 1829: pl. 12. Type locality: Brazil: in fluminae Amazonum, Solimoëns, Rio Negro.
Sorubim jandia Spix & Agassiz, 1829: pl. 14. Type locality: equa-

torialis fluviis [Brazil]. No types known.
Platystoma spatula Spix & Agassiz, 1829: 26, pl. 14. Type locality: equatorial fluviis [Brazil]. No types known.
Sorubimichthys ortonii Gill, 1870: 94. Type locality: Marañon, or Upper Amazon, and Napo Rivers [Peru or Ecuador]. Holotype: USNM 8238.
Pteroglanis manni Eigenmann & Pearson in Pearson, 1924: 9, pl. 1 (fig. 1). Type locality: Bolivia, Little Rio Negro, tributary to Rio Beni. Holotype: CAS 59623 [ex IU 16001].
 Maximum length: 150 cm SL
 Distribution: South America: Amazon and Orinoco River basins.
 Countries: Bolivia, Brazil, Colombia, Ecuador, Peru, Venezuela
 Remarks and references: Lundberg et al. (1989) treat taxonomy and development.
 Common names: Achacubo, Doncella

STEINDACHNERIDION

Steindachneria Eigenmann & Eigenmann, 1888: 137. Type species: *Steindachneria amblyurus* Eigenmann & Eigenmann, 1888. Type by original designation. Gender: feminine. Preoccupied by *Steindachneria* Goode & Bean, 1888 in fishes, replaced by *Steindachneridion* Eigenmann & Eigenmann, 1919.
Steindachneridion Eigenmann & Eigenmann, 1919: 525. Type species: *Steindachneria amblyurus* Eigenmann & Eigenmann, 1888. Type by being a replacement name. Gender: neuter. Replacement for *Steindachneria* Eigenmann & Eigenmann, 1888.

***Steindachneridion amblyurus* (Eigenmann & Eigenmann, 1888)**

Steindachneria amblyurus Eigenmann & Eigenmann, 1888: 137. Type locality: Jequitinhonha [Brazil]. Syntypes: MCZ 7324 (3).
 Distribution: South America: Jequitinhonha River basin.
 Countries: Brazil

***Steindachneridion doceana* (Eigenmann & Eigenmann, 1889)**

Steindachneria doceana Eigenmann & Eigenmann, 1889: 30. Type locality: Rio Doce [Brazil]. Syntypes: MCZ 23792 (1), 23793 (1), 23794 (7).
 Distribution: South America: Doce River basin.
 Countries: Brazil

***Steindachneridion parahybae* (Steindachner, 1877)**

Platystoma parahybae Steindachner, 1877a: 640, pl. 9. Type locality: Rio Parahyba bei Juiz de Fora; Rio Jequitinhonha [Brazil]. Syntypes: MCZ 7323 (2), 25521 (2).
 Distribution: South America: Paraíba do Sul and Jequitinhonha River basins.
 Countries: Brazil

***Steindachneridion scripta* (Miranda Ribeiro, 1918)**

Steindachneria scripta Miranda Ribeiro, 1918: 640. Type locality: Itaqui, Rio Grande do Sul [Brazil]. Lectotype: MZUSP 2286, designated by Britski (1969).
 Distribution: South America: Upper Uruguay River basin.
 Countries: Brazil, Uruguay

ZUNGARO

Zungaro Bleeker, 1858: 1916. Type species: *Pimelodus humboldtii* Bleeker [= *Pimelodus zungaro* Humboldt 1821]. Type by absolute tautonymy. Gender: masculine. See Silvergrip (1992: 306).
Paulicea Ihering, 1898: 108. Type species: *Paulicea jahu* Ihering, 1898. Type by subsequent designation by Eigenmann (1910). Gender: feminine.

***Zungaro jahu* (Ihering, 1898)**

Paulicea jahu Ihering, 1898: 108. Type locality: [Brazil]: Sao Paulo. Types: Unknown (see Haseman (1911a, p. 321)).

Maximum length: 140 cm SL
 Distribution: South America: Paraná-Paraguay River basin.
 Countries: Argentina, Bolivia, Brazil, Paraguay (?)
 Common names: Jau (Brazil)
 Remarks and references: Recognition of *Z. jahu* based on *O. shibatta* (pers. comm.).

***Zungaro zungaro* (Humboldt, 1821)**

Pimelodus zungaro Humboldt in Humboldt & Valenciennes, 1821: 170, pl. 46 (fig. 1). Type locality: Near Tomependa, Río Marañón, Amazon R. basin, Peru. Holotype: not preserved.
Bagrus flavicans Castelnau, 1855: 31, pl. 13 (fig. 2). Type locality: Brazil, l'Amazone. Holotype: MNHN A.8823 (mounted).
Zungaro humboldtii Bleeker, 1858: 207. Type locality: Tomedenda, Río Marañón, Amazon R. basin, Peru. Holotype: not preserved. Proposed as a replacement name for *Pimelodus zungaro*.
Platystoma lütkeni Steindachner, 1876: 609, pl. 13. Type locality: Laufe des Amazonenstromes gefangen. Syntypes: NMW (missing).
 Maximum length: 140 cm SL
 Distribution: South America: Amazon and Orinoco River basins.
 Countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Venezuela
 Common names: Jau (Brazil), Cunchimama, Toruno

GENUS INQUIRENDUM

Zungaropsis Steindachner 1908b: 67. Type species: *Zungaropsis multimaculatus* Steindachner 1908b. Type by monotypy. Gender: feminine.

SPECIES INQUIRENDAE

Pimelodus (Bagrus) maculatus Jardine in Schomburgk 1841: 175, fig. Type (s): Unknown. Type locality: Most rivers of Guyana, also Rio Negro and Amazon R. Permanently invalid, preoccupied by *Pimelodus maculatus* La Cépède 1803.
Zungaropsis multimaculatus Steindachner 1908b: 67. Type locality: Rio Xingu [Brazil]. Holotype: NMW 43537.

References

- Azpelicueta, M.M. 1995. *Pimelodus absconditus*, a new species of pimelodid catfish from the la Plata basin (Siluriformes: Pimelodidae). *Ichthyol. Explor. Freshwaters*, 6 (1): 71-76.
- Azpelicueta, M.M. 1998. A new species of *Pimelodus* (Siluriformes: Pimelodidae) from the Paraguay and lower Paraná rivers. *Neotrópica*, 44 (111-112): 87-94.
- Azpelicueta, M.M. 2001. A new species of *Pimelodus* (Siluriformes: Pimelodidae) from the upper Paraná basin, Brazil. *Ichthyol. Explor. Freshwaters*, 12 (3): 193-200.
- Barthem, R. and M. Goulding. 1997. The catfish connection: ecology, migration, and conservation of Amazon predators. New York: Columbia University Press.
- Bertaco, V.A. and F.G. Becker. 2000. Observações sobre a abundância de *Parapimelodus nigribarbis* (Boulenger, 1889) (Pimelodidae) no lago Guaíba, Rio Grande do Sul, Brasil. *Comun. Mus. Ciênc. Tecnol. PUCRS, Sér. Zool.*, Porto Alegre, 13 (2), 185-195.
- Bestor, C. 1995. A revision of the South American catfish genus *Platysilurus* (Siluriformes, Pimelodidae). Unpublished M.S. Dissertation, Duke University.
- Bleeker, P. 1858. De visschen van den Indischen Archipel. Beschreven en toegelicht. *Siluri. Acta Soc. Sci. Indo-Neerl.*, 4: i-xii + 1-370.
- Bleeker, P. 1862a. Atlas ichthyologique des Indes Orientales Néerlandaises, publié sous les auspices du Gouvernement colonial néerlandais. Tome II. Siluroïdes, Chacoïdes et Hétérobranchoïdes. Amsterdam. 112 p., pls. 49-101.
- Bleeker, P. 1862b. Descriptions de quelques espèces nouvelles de

Check List of the Freshwater Fishes of South and Central America

- Silures de Suriname. Versl. Akad. Amsterdam, 14: 371-389.
- Bleeker, P. 1864. Description des espèces de Silures de Suriname, conservées aux Musées de Leide et d'Amsterdam. Natuurk. Verh. Holland. Maatsch. Wet. Haarlem (Ser. 2), 20: 1-104, pls. 1-16.
- Bloch, M.E. and J.G. Schneider. 1801. M. E. Blochii, Systema Ichthyologiae iconibus cx illustratum. Post obitum auctoris opus inchoatum absolvit, correxit, interpolavit Jo. Gottlob Schneider, Saxo. Berolini. Sumtibus Austoris Impressum et Bibliopolio Sanderiano Commisum. lx + 584 p., 110 pl.
- Boeseman, M. 1972. Notes on South American catfishes, including remarks on Valenciennes and Bleeker types in the Leiden Museum. Zool. Meded. (Leiden), 47 (23): 293-320, pls. 1-2.
- Borodin, N.A. 1927. *Pimelodus platycirris*, new species, and other notes on Brazilian catfishes. Am. Mus. Novit., No. 271: 1-4.
- Boulenger, G.A. 1889. Descriptions of a new snake and two new fishes obtained by Dr. H. von Ihering in Brazil. Ann. Mag. Nat. Hist. (Ser. 6), 4 (22): 265-267.
- Boulenger, G.A. 1891. An account of the siluroid fishes obtained by Dr. H. von Ihering and Herr Sebastian Wolff in the Province Rio Grande do Sul, Brazil. Proc. Zool. Soc. London, 1891 (2): 231-235, pls. 25-26.
- Boulenger, G.A. 1898a. Descriptions of two new siluroid fishes from Brazil. Ann. Mag. Nat. Hist. (Ser. 7), 2 (12): 477-478.
- Boulenger, G.A. 1898b. On a collection of fishes from the Rio Jurua, Brazil. Trans. Zool. Soc. London, 14 (7, no. 2): 421-428, pls. 39-42.
- Britski, H.A. 1969. Lista dos tipos de peixes das coleções do Departamento de Zoologia da Secretaria da Agricultura de São Paulo. Pap. Avulsos Dep. Zool. (São Paulo), 22 (19): 197-215.
- Britski, H.A. 1981. Sobre um novo gênero e espécie de Sorubimíniae da Amazônia (Pisces, Siluriformes). Pap. Avulsos Dep. Zool. (São Paulo), 34 (7): 109-114.
- Britski, H.A. and F. Langeani. 1988. *Pimelodus paranaensis* sp. n., um novo Pimelodidae (Pisces, Siluriformes) do Alto Paraná, Brasil. Rev. Bras. Zool., 5 (3): 409-417.
- Britski, H.A., Silimon, K.Z.S. and B.S. Lopes. 1999. Peixes do Pantanal. Manual de identificação. Embrapa. Serviço de Produção-SPI, Brasília, DF. Peixes Pantanal 1-184.
- Burgess, W.E. 1989. An atlas of freshwater and marine catfishes. A preliminary survey of the Siluriformes. T.F.H. Publications, Neptune City, New Jersey, 784 p., pls. 1-285.
- Castelnau, F.L. 1855. Poissons. In: Animaux nouveaux or rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847 ... xii + 112 p., 50 pl.
- Cope, E.D. 1870. Contribution to the ichthyology of the Marañon. Proc. Am. Philos. Soc., 11: 559-570.
- Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. Proc. Am. Philos. Soc., 17 (101): 673-701.
- Cuvier, G. 1829. Le règne animal, distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Edition 2. xviii + 532 p.
- Cuvier, G. and A. Valenciennes. 1840. Histoire naturelle des poissons. Tome quinzième. Suite du livre dix-septième. Siluroïdes. Ch. Pitois & V^e Levrault, Paris & Strasbourg. xxxi + 540 p., pls. 421-455.
- Devincenzi, G.J. 1925. El primer ensayo sobre Ictiología del Uruguay. La clase "Peces" de la zoología de don Dámaso A. Larrañaga. An. Mus. Nac. Hist. Nat. Montevideo (Ser. 2), 6: 295-323.
- Driver, C.S. 1919. On the Luciopimelodinae, a new subfamily of the South American Siluridae. Proc. Am. Philos. Soc., 58 (7): 448-456, pls. 2-3.
- Eigenmann, C.H. 1910. Catalogue of the fresh-water fishes of tropical and south temperate America, Zoology: 375-511. In: Reports of the Princeton University expeditions to Patagonia 1896-1899.
- Eigenmann, C.H. 1912a. Some results from an ichthyological reconnaissance of Colombia, South America. Part I. Indiana Univ. Studies, No. 16 [sic, No. 8]: 1-27.
- Eigenmann, C.H. 1912b. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. 1917. New and rare species of South American Siluridae in the Carnegie Museum. Ann. Carnegie Mus., 11 (3-4): 398-404, pls. 39-41.
- Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II.- The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. Univ. Kentucky. xv + 494 p., pls. 1-22.
- Eigenmann, C.H. and B.A. Bean. 1907. An account of Amazon River fishes collected by J. B. Steere; with a note on *Pimelodus clarias*. Proc. U. S. Natl. Mus., 31 (1503): 659-668.
- Eigenmann, C.H. and R.S. Eigenmann. 1888. Preliminary notes on South American Nematognathi. I. Proc. California Acad. Sci. (Ser. 2), 1 (2): 119-172.
- Eigenmann, C.H. and R.S. Eigenmann. 1889. Preliminary notes on South American Nematognathi. II. Proc. California Acad. Sci. (Ser. 2), 2: 28-56.
- Eigenmann, C.H. and R.S. Eigenmann. 1919. *Steindachneridion*. Science (n. s.), 50 (1301): 525-526.
- Eigenmann, C.H., W.L. McAtee and D.P. Ward. 1907. On further collections of fishes from Paraguay. Ann. Carnegie Mus., 4 (2): 110-157, pls. 31-45.
- Eigenmann, C.H. and A.A. Norris. 1900. Sobre alguns peixes de S. Paulo, Brazil. Rev. Mus. Paulista, 4: 349-362.
- Eigenmann, C.H. and A.A. Norris. 1901. *Bergiaria*. Commun. Mus. Nac. Buenos Aires, 1 (8): 272.
- Eschmeyer, W.N. (ed.). 1998. Catalog of fishes. California Academy of Sciences, San Francisco.
- Fernández-Yépez, A. 1951. *Ginesia cunaguaro*, nuevo pez para la Ciencia colectado en el Río Apure, Venezuela. Evencias No. 10: [1-4].
- Fowler, H.W. 1914. Fishes from the Rupununi River, British Guiana. Proc. Acad. Nat. Sci. Philadelphia, 66: 229-284.
- Gill, T.N. 1859. Description of new South American type of siluroids, allied to *Callophysus*. Proc. Acad. Nat. Sci. Philadelphia, 11: 196-197.
- Gill, T. N. 1861. Synopsis of the genera of the sub-family of Pimelodinae. Proc. Boston Soc. Nat. Hist., 8 (for 1861-1862): 46-55.
- Gill, T.N. 1870. On some new species of fishes obtained by Prof. Orton from the Marañon, or Upper Amazon, and Napo Rivers. Proc. Acad. Nat. Sci. Philadelphia, 22: 92-96.
- Gistel, J. 1848. Naturgeschichte des Thierreichs, für höhere Schulen. Stuttgart. xvi + 216 p., 32 pl.
- Goeldi, E.A. 1898. Primeira contribuição para o conhecimento dos peixes do valle do Amazonas e das Guianas. Estudos ichthyológicos dos annos 1894-1898. Bol. Mus. Parensis Hist. Nat. Ethnogr., Pará, 2 (4, art. 3): 443-488, 1 pl.
- Günther, A. 1864. Catalogue of the fishes in the British Museum, vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiidae in the collection of the British Museum. Trustees, London. xxii + 455 p.
- Günther, A. 1872. Notice of a large siluroid from the upper Amazons. Ann. Mag. Nat. Hist. (Ser. 4), 10 (60): 449-450.
- Günther, A. 1880. A contribution to the knowledge of the fish fauna of the Rio de la Plata. Ann. Mag. Nat. Hist. (Ser. 5), 6 (31): 7-13, pl. 2.
- Haseman, J.D. 1911a. Descriptions of some new species of fishes and miscellaneous notes on others obtained during the expedition of the Carnegie Museum to central South America. Ann. Carnegie Mus., 7 (3-4): 315-328, pls. 46-52.

Check List of the Freshwater Fishes of South and Central America

- Haseman, J.D. 1911b. Some new species of fishes from the Rio Iguassú. *Ann. Carnegie Mus.*, 7 (3-4): 374-387, pls. 50, 58, 73-83.
- Howes, G.J. 1983. Problems in catfish anatomy and phylogeny exemplified by the Neotropical Hypophthalmidae (Teleostei: Siluroidei). *Bulletin of the British Museum of Natural History (Zool.)*, 45 (1): 1-39.
- Humboldt, F.H.A. von and A. Valenciennes. 1821. Recherches sur les poissons fluviatiles de l'Amérique Équinoxiale, 145-216, pls. 45-52. In: *Voyage de Humboldt et Bonpland, Deuxième partie. Observations de Zoologie et d'Anatomie comparée*. Paris.
- Hyrtil, C.J. 1859. Anatomische Untersuchung des *Clarotes (Gonocephalus) heuglini* Kner. Mit einer Abbildung und einer osteologischen Tabelle der Siluroiden. *Denkschr. Akad. Wiss. Wien*, 16: 1-18, 1 pl.
- Ihering, H. von. 1898. Description of a new fish from Sao Paulo. Pp. 108-109, appended to: "Contributions to the herpetology of Sao Paulo.—1." *Proc. Acad. Nat. Sci. Philadelphia*, 50: 101-109.
- Jordan, D.S. 1917. The genera of fishes, from Linnaeus to Cuvier, 1758-1833, seventy-five years, with the accepted type of each. A contribution to the stability of scientific nomenclature. (Assisted by Barton Warren Evermann.). Leland Stanford Jr. Univ. Publ., Univ. Ser., (27): 1-161.
- Jordan, D.S. 1920. The genera of fishes, part IV, from 1881 to 1920, thirty-nine years, with the accepted type of each. A contribution to the stability of scientific nomenclature. Leland Stanford Jr. Univ. Publ., Univ. Ser., (43): 411-576 + i-xviii.
- Kner, R. 1858a. Ichthyologische Beiträge. II. Abtheilung. Sitzungsber. *Akad. Wiss. Wien*, 26 (373): 373-448, pls. 1-9.
- Kner, R. 1858b. Kritische Bemerkungen über Castelnau's Siluroiden. *Arch. Naturgeschichte*, 24 (1): 344-350.
- Kottelat, M. 1988. Authorship, dates of publication, status and types of Spix and Agassiz's Brazilian fishes. *Spixiana*, 11 (1): 69-93.
- Kottelat, M. 1989. On the validity of *Phractocephalus* Agassiz, 1829, vs. *Pirarara* Agassiz, 1829 (Osteichthyes: Pimelodidae). *Spixiana*, 12 (3): 321.
- La Cépède, B.G.E. 1803. *Histoire naturelle des poissons*, vol. 5. Plassan, Paris. lxxviii + 803 p. + index, pls. 1-21.
- La Monte, F. 1933. *Pimelodus valenciennis* Kr. the type of a new genus. *Copeia*, 1933 (4): 226.
- Larrañaga, D.A. 1923. *Escritos de Don Dámaso Antonio Larrañaga*. Los Publica el Instituto Histórico y Geográfico del Uruguay. Edición Nacional. 512 p.
- Lichtenstein, M. H. C. 1819. Ueber einige neue Arten von Fischen aus der Gattung *Silurus*. *Zool. Mag. (Wiedemann)* 1819, 1 (3): 57-63.
- Lichtenstein, M.H.C. 1823. Verzeichniss der Doubletten des zoologischen Museums der Königl. Universität zu Berlin, nebst Beschreibung.... Berlin. x + 118 p., 1 pl.
- Linnaeus, C. 1758. *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis*. Tomus I. Editio decima, reformata. Holmiae. ii + 824 p.
- Linnaeus, C. 1766. *Systema naturae sive regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis*. 12th ed., Vol. 1, pt. 1. Laurentii Salvi, Holmiae. 532 p.
- Littmann, M. W. 1998. Revision of the South American Shovel-nose Catfishes of the genus *Sorubim* (Siluriformes: Pimelodidae), with descriptions of two new species. Unpublished M. S. Dissertation. Southern Illinois University, Carbondale.
- Littmann, M.W., B. M. Burr, and U. A. Buitrago-Suárez. 2001. A new cryptic species of *Sorubim* Cuvier (Siluriformes: Pimelodidae) from the upper and middle Amazon basin. *Proc. Acad. Nat. Sci. Philadelphia*, 151: 21-27.
- Littmann, M. W., B. M. Burr, and P. Nass. 2000. *Sorubim cuspidus*, a new long-whiskered catfish from northwestern South America (Siluriformes: Pimelodidae). *Proc. Biol. Soc. Wash.*, 113 (4): 900-917.
- Littmann, M. W., B. M. Burr, R. E. Schmidt and E. R. Isern. 2001. *Sorubim elongatus*, a new species of catfish (Siluriformes: Pimelodidae) from tropical South America syntopic with *S. lima*. *Ichthyol. Explor. Freshwaters*, 12 (1): 1-16.
- Lopez, H.L., R.C. Menni & A.M. Miquelarena. 1987. Lista de los Peces de agua dulce de la Argentina. *Biología Acuática*, 12: 1-50.
- Lopez-Fernandez, H. and K.O. Winemiller. 2000. A review of Venezuelan species of *Hypophthalmus* (Siluriformes: Pimelodidae). *Ichthyol. Explor. Freshwaters*, 11 (1): 35-46.
- Lucena, C.A.S., L.R. Malabarba and R.E. Reis. 1992. Resurrection of the Neotropical pimelodid catfish *Parapimelodus nigribarbis* (Boulenger), with a phylogenetic diagnosis of the genus *Parapimelodus* (Teleostei: Siluriformes). *Copeia*, 1992 (1): 138-146.
- Lundberg, J.G. 1997. Fishes of the La Venta fauna: additional taxa, biotic and paleoenvironmental implications. Ch. 5, pp. 67-91. In R. F. Kay et al. (eds.) *Vertebrate paleontology in the Neotropics: The Miocene fauna of La Venta Colombia*. Smithsonian Institution Press, Washington.
- Lundberg, J.G. 1998. The Temporal Context for Diversification of Neotropical Fishes. Pp. 49-68 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.) *Phylogeny and Classification of Neotropical Fishes*. Edipucrs, Porto Alegre.
- Lundberg, J.G., O. Linares, P. Nass and M.E. Antonio. 1988. *Phractocephalus hemiliopterus* (Pimelodidae: Siluriformes) from the Late Miocene Urumaco formation, Venezuela: a further case of evolutionary stasis and local extinction among South American fishes. *Journal of Vertebrate Paleontology*, 8 (2): 131-138.
- Lundberg, J.G., F. Mago-Leccia and P. Nass. 1991. *Exallodontus aguanaei*, a new genus and species of Pimelodidae (Pisces: Siluriformes) from deep river channels of South America, and delimitation of the subfamily Pimelodinae. *Proc. Biol. Soc. Washington*, 104 (4): 840-869.
- Lundberg, J.G., P. Nass, and F. Mago-Leccia. 1989. *Pteroglanis manni* Eigenmann and Pearson, a juvenile of *Sorubimichthys planiceps* (Agassiz), with a review of the nominal species of *Sorubimichthys* (Pisces: Pimelodidae). *Copeia*, 1989: 332-344.
- Lundberg, J.G. and B.M. Parisi. 2002. *Propimelodus*, new genus, and redescription of *Pimelodus eigenmanni* Van der Stigchel 1946, a long-recognized yet poorly-known South American catfish (Pimelodidae: Siluriformes). *Proc. Acad. Nat. Sci. Philadelphia*, 152:75-88.
- Lütken, C.F. 1874a. Ichthyographische Bidrag. II. Nye eller mindre vel kjendte Malleformer fra forskjellige Verdensdele. *Vidensk. Medd. Naturh. Foren. København*, for 1874: 190-220.
- Lütken, C.F. 1874b. Siluridae novae Brasiliae centralis a clarissimo J. Reinhardt in provincia Minas-geraës circa oppidulum Lagoa Santa, praecipue in flumine Rio das Velhas et affluentibus collectae, secundum caracteres essentialia, breviter descriptae. *Overs. Danske Vidensk. Selsk. Forhandl Kjobenhavn*, 1873 (3): 29-36.
- Lütken, C.F. 1875. Velhas-Flodens Fiske. Et Bidrag til Brasiliens Ichthyologi; efter Professor J. Reinhardts Indsamlinger og Optegnelser. *K. Danske Vidensk. Selsk. Skr.*, Raekke 5, 12 (2): 121-253, + 2 unnum., + I-XXI, pls. 1-5.
- MacDonagh, E. J. 1938. Contribución a la sistemática y etología de los peces fluviatiles Argentinos. *Rev. Mus. La Plata Secc. Zool.* 1: 119-208, Pls. 1-5.
- Mago-Leccia, F., P. Nass, and O. Castillo. 1986. Larvas, juveniles y adultos de bagres de la familia Pimelodidae (Teleostei, Siluriformes) de Venezuela. Proyecto SI-1500-Conicit Informe Final. Caracas, Venez.
- Marini, T.L., J.T. Nichols and F.R. La Monte. 1933. Six new

Check List of the Freshwater Fishes of South and Central America

- eastern South American fishes examined in the American Museum of Natural History. *Am. Mus. Novit.*, (618): 1-7.
- Meek, S.E. and S.F. Hildebrand. 1913. New species of fishes from Panama. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 10 (8): 77-91.
- Mees, G.F. 1974. The Auchenipteridae and Pimelodidae of Suriname (Pisces, Nematognathi). *Zool. Verh. (Leiden)* (132): 1-256, pls. 1-15.
- Meigen, J. W. 1803. Versuch einer neuen Gattungs Eintheilung der europäischen Zweiflügligen Insekten. *Mag. Insektenk. (Illiger)* 2: 259-281.
- Miles, C. 1947. Los peces del rio Magdalena. Bogota, Colombia. 214 pp. + xxviii.
- Miranda Ribeiro, A. 1918. Tres generos e dezeseite especies novas de peixes Brasileiros. *Rev. Mus. Paulista*, 10: 631-646, 1 pl.
- Miranda Ribeiro, A. 1920. Peixes (excl. Characinidae). In: Comissão de Linhas Telegraficas Estrategicas de Matto-Grosso ao Amazonas. *Historia Natural. Zoologia*. 15 p., 17 unnum, pls.
- Müller, J. 1843. Beiträge zur Kenntniss der natürlichen Familien der Fische. *Arch. Naturgeschichte*, 9: 292-330.
- Müller, J. and F.H. Troschel. 1849. *Horae Ichthyologicae*. Beschreibung und Abbildung neuer Fische. Berlin. 1-27 + additional p. 24, 5 pl.
- Myers, G. S. 1941. A new name for *Taenionema*, a genus of Amazonian siluroid fishes. *Stanford Ichthyol. Bull.*, 2 (3): 88.
- Nani, A. and M.L. Fuster. 1947. *Hypophthalmus oremaculatus* una nueva especie del orden "Nematognathi" (Pisces, Hypophthal.). *Comun. Mus. Argent. Cienc. Nat. B. Aires Ser. Zool.*, (2): 1-9.
- Nass, P. 1991. Anatomía comparada del bagre cunagaro *Brachyplatystoma juruense* (Boulenger, 1898), incluyendo un analisis filogenético de la familia Pimelodidae. Ph.D. Dissertation, Universidad Central de Venezuela, Caracas.
- Pearson, N.E. 1924. The fishes of the eastern slope of the Andes. I. The fishes of the Rio Beni basin, Bolivia, collected by the Mulford expedition. *Indiana Univ. Studies*, 11 (64): 1-83, pls. 1-12.
- Perugia, A. 1891. Appunti sopra alcuni pesci sud-americani conservati nel Museo Civico di Storia Naturale di Genova. *Ann. Mus. Civ. Stor. Nat. Genova (Ser. 2a)*, 10: 605-657.
- de Pinna, M. C. C. 1993. Higher-level phylogeny of Siluriformes (Teleostei: Ostariophysi), with a new classification of the order. Unpublished Ph.D. Dissertation, City University of New York, New York. 482p.
- de Pinna, M. C. C. 1998. Phylogenetic relationships of Neotropical Siluriformes (Teleostei: Ostariophysi): historical overview and synthesis of hypotheses. Pp. 279-330 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). *Phylogeny and Classification of Neotropical Fishes*. Edipucrs. Porto Alegre.
- Posada, A. 1909. Los peces. Pp. 285-322 In: *Estudios científicos del doctor Andres Posada con algunos otros escritos suyos sobre diversos temas*. Medellin, Colombia. 432 p.
- Ringuelet, R.A., R.H. Aramburu, A. Alonso de Aramburu. 1967. Los peces Argentinos de agua dulce. La Plata. 602 pp.
- Röhl, E. 1942. Fauna descriptiva de Venezuela. Caracas. 432 p.
- Schomburgk, R.H. 1841. The Natural history of fishes of Guiana.-- Part I. In: Jardine, W. (ed.), *The Naturalists' Library*. Vol. 3. W. H. Lizars, Edinburgh. [1-16], 17-263, pls. 1-30.
- Schultz, L.P. 1944. The catfishes of Venezuela, with descriptions of thirty-eight new forms. *Proc. U. S. Natl. Mus.*, 94 (3172): 173-338, pls. 1-14.
- Silfvergrip, A.M.C. 1992. *Zungaro*, a senior synonym of *Paulicea* (Teleostei: Pimelodidae). *Ichthyol. Explor. Freshwaters*, 3 (4): 305-310.
- Spix, J.B. von and L. Agassiz. 1829. *Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXVII-MDCCCXX jussu et auspiciis Maximiliani Josephi I.... colleget et pingendo curavit Dr J. B. de Spix.... Monachii*. xvi + ii + 82 p., 48 pl.
- Starks, E.C. 1913. The fishes of the Stanford expedition to Brazil. Stanford Univ. Publ., Univ. Ser., 77 p., 15 pl.
- Steindachner, F. 1876. *Ichthyologische Beiträge*. IV. *Sitzungsber. Akad. Wiss. Wien*, 72: 551-616, pl. 1-13.
- Steindachner, F. 1877a. Die Süßwasserfische des südöstlichen Brasilien (III). *Sitzungsber. Akad. Wiss. Wien*, 74: 559-694, pls. 1-13.
- Steindachner, F. 1877b. *Ichthyologische Beiträge* (V). *Sitzungsber. Akad. Wiss. Wien*, 74: 49-240, pls. 1-15.
- Steindachner, F. 1879a. *Ichthyologische Beiträge* (VIII). *Anz. Akad. Wiss. Wien*, 16 (18): 194-195.
- Steindachner, F. 1879b. *Ichthyologische Beiträge* (VIII). *Sitzungsber. Akad. Wiss. Wien*, 80: 119-191, pls. 1-3.
- Steindachner, F. 1908a. Über drei neue Arten von Süßwasserfischen aus dem Amazonasgebiet und aus dem See Candidius auf der Insel Formosa, ferner über die vorgerückte Altersform von *Loricaria acuta* C. V. *Anz. Akad. Wiss. Wien*, 45 (7): 82-87.
- Steindachner, F. 1908b. Über drei neue Characinen und drei Siluroiden aus dem Stromgebiete des Amazonas innerhalb Brasilien. *Anz. Akad. Wiss. Wien*, 45 (6): 61-69.
- Steindachner, F. 1908c. Über eine während der brasilianischen Expedition entdeckte *Brachyplatystoma*-Art aus dem Rio Parahyba und über eine dicht gefleckte und gestrichelte Varietät von *Giton fasciatus* aus den Gewässern von Santos (Staat Sao Paulo). *Anz. Akad. Wiss. Wien*, 45 (9): 126-130.
- Steindachner, F. 1908d. Ueber eine noch unbekannte Art der Gattung *Bergiella* Eig. aus dem La Plata. *Anz. Akad. Wiss. Wien*, 45 (8): 110-113.
- Steindachner, F. 1909. Über eine neue *Brachyplatystoma*-art aus der Umgebung von Pará, welche während der brasilianischen Expedition der kaiserl. *Anz. Akad. Wiss. Wien*, 46 (12): 195-197.
- Stewart, D.J. 1986. Revision of *Pimelodina* and description of a new genus and species from the Peruvian Amazon (Pisces: Pimelodidae). *Copeia*, 1986 (3): 653-672.
- Stewart, D.J. and M.J. Pavlik. 1985. Revision of *Cheirocerus* (Pisces: Pimelodidae) from tropical freshwaters of South America. *Copeia*, 1985 (2): 356-367.
- Vaillant, L.L. 1880. Synopsis des espèces de Siluridae recueillies par M. le Dr. Jobert, à Caldéron (Haute-Amazone). *Bull. Soc. Philomath. Paris (Ser. 7)*, 4: 150-159.
- Valenciennes, A. 1836. Poissons [pls. 1, 3, 4]. In: A. d'Orbigny. *Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833*. Paris, Bertrand et Levrault.
- Valenciennes, A. 1847. Poissons. Catalogue des principales espèces de poissons, rapportées de l'Amérique méridionale, 1-11. In: A. d'Orbigny. *Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833*. Vol. 5 (pt. 2). Paris, Bertrand et Levrault.
- Van der Stigchel, J.W.R. 1946. The South American Nematognathi of the museums at Leiden and Amsterdam. *E.J. Brill, Leiden*. 204 p., 3 tables.
- Vidal, E.S. and C.A.S. Lucena. 1999. *Pimelodus atrobrunneus*, uma nova espécie de pimelodídeo do rio Uruguai superior (Teleostei, Siluriformes, Pimelodidae). *Biociências, Porto Alegre*, 7 (1): 121-134.
- Weyenbergh, H. 1877. Algunos nuevos pescados del Museo Nacional, y algunas noticias ictiológicas. *Actas Acad. Nacional Cien. Exactas*, 3 (1): 1-21, pls. 1-4.
- Zuanon, J.A.S., L.H. Rapp Py-Daniel and M. Jégu. 1993. Two new species of *Aguarunichthys* from the Amazon basin (Siluroidei: Pimelodidae). *Ichthyol. Explor. Freshwaters*, 4 (3): 251-260.

Family Ariidae (Sea catfishes)

Alexandre P. Marceniuk and Carl J. Ferraris, Jr.

The family Ariidae is a large group of medium to very large-sized (20-120 cm TL) catfishes with world wide distribution. Species are all very similar in general appearance. Shape and arrangement of the vomer and accessory toothplates are usually used to distinguish species and genera. Head with a conspicuous bony shield covered with thin skin in some species or by thick skin and muscles in others. Maxillary, mandibular and mental barbels usually present, although maxillary or mandibular barbels may be absent in some species. Anterior and posterior nostrils close together, the posterior with a valve and without barbel. Eyes usually have a free orbital margin, but subcutaneous in some species. Vomerine and accessory vomerine toothplates usually present. Teeth on vomer and accessory toothplates conical or granular. Gill membranes united and connected with isthmus, with at most a narrow free posterior flap. Pectoral and dorsal fin each possess a spine anteriorly. Pelvic fin with 6 soft rays, inner rays modified in mature females of certain species. Adipose fin present, its origin at vertical through origin of anal fin. Anal fin with 14 to 40 soft rays. Caudal fin deeply forked. Lateral line complete, branching at caudal fin onto dorsal and or ventral lobes.

Sea catfishes are found along the coastline, in estuaries, and in tidal rivers of warm-temperate and tropical regions. Some marine species are known to occur at depths more than 100 m while, at the other extreme, a few are confined to freshwater. The males commonly practice oral incubation of the eggs, carrying these in the mouth until hatched.

Some of the larger species are fished from coastlines up to 100 m depth, mainly with bottom trawls and lines. These fishes have a high economic value, as the flesh is usually of good quality. At least one species from Ecuador is sold in the pet trade in North America.

The taxonomy presented here follows the conclusions reached in the doctoral dissertation research of the senior author (Marceniuk, 2003).

ARIUS

Arius Valenciennes in Cuvier & Valenciennes, 1840b: 53 [40 of Strasbourg deluxe ed.]. Type species: *Pimelodus arius* Hamilton, 1822. Type by absolute tautonymy. Gender: masculine.

Hemiaris Bleeker, 1862a: 7, 29. Type species: *Cephalocassis stormii* Bleeker, 1858. Type by original designation. Gender: masculine.

Pseudarius Bleeker, 1862a: 8. Type species: *Pimelodus arius* Hamilton, 1822. Type by original designation. Gender: masculine.

Neoarius Castelnau, 1878: 237. Type species: *Arius curtisii* Castelnau, 1878. Type by monotypy. Gender: masculine.

Pachyula Ogilby, 1898: 33. Type species: *Hemipimelodus crassilabris* Ramsay & Ogilby, 1886. Type by original designation. Gender: feminine.

Nemapteryx Ogilby, 1908: 3, 10. Type species: *Arius stirlingi* Ogilby, 1898. Type by original designation. Gender: feminine.

Pararius Whitley, 1940: 409. Type species: *Arius proximus* Ogilby, 1898. Type by original designation. Gender: masculine. Originally proposed as a subgenus of *Tachysurus*.

Arius cookei Acero & Betancur, 2002

Arius cookei Acero & Betancur, 2002a: 134, fig. 1. Type locality: 7 km from the mouth of Rio Santa Maria, Paris, Herrera, Panama (8°9'N, 80°33'W). Holotype: INVEMAR-PEC 3752.

Maximum length: 42.8 cm SL

Distribution: Central and South America: Pacific coastal rivers and estuaries from Costa Rica to Colombia

Countries: Colombia, Costa Rica, Panama.

Remarks and references: Provisionally placed in *Arius* at this time.

Arius neogranatensis Acero & Betancur, 2002

Arius neogranatensis Acero & Betancur, 2002b: 7, fig. 1. Type locality: mouth of Río Tinajones medio, San Antero, Córdoba, Colombia (9°25'N 75°48'W). Holotype: INVEMAR-PEC 3754.

Maximum length: 30 cm SL

Distribution: South America: Caribbean coast of Colombia and nearby rivers mouths.

Countries: Colombia

Common names: Bagre parindera (Colombia), Caribbean sculptured sea catfish (USA).

Remarks and references: Provisionally placed in *Arius* at this time.

Arius phrygiatus (Valenciennes, 1840)

Arius phrygiatus Valenciennes in Cuvier & Valenciennes, 1840b: 79 [59 of Strasbourg deluxe ed.]. Type locality: Cayenne [interpreted by Boeseman (1972) as having come from Suriname]. Holotype: RMNH 3038.

Arius dieperinki Bleeker, 1862: 375. Type locality: Suriname. Holotype: RMNH 3038.

Maximum length: 30 cm TL

Distribution: South America: Atlantic coastal rivers and estuaries from Guyana to the mouth of the Amazon River.

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela (?)

Remarks and references: Provisionally placed in *Arius* at this time. Boeseman (1972) considered RMNH 3038 as the holotype of *A. phrygiatus*.

Arius rugispinis (Valenciennes, 1840)

Arius rugispinis Valenciennes in Cuvier & Valenciennes, 1840b:

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77 [58 of Strasbourg deluxe ed.]. Type locality: Cayenne. Syntypes: MNHN A.9403 (1).
Tachysurus atropilumbeus Fowler, 1931: 394, fig. 2. Type locality: Vessigny Beach, Brighton, Trinidad I., West Indies. Holotype: ANSP 53316.
 Maximum length: 45 cm TL
 Distribution: South America: Atlantic coastal rivers from Guyana to mouth of Amazon River.
 Countries: Brazil, French Guiana, Guyana, Suriname, Trinidad and Tobago (?), Venezuela (?)
 Remarks and references: Provisionally placed in *Arius* at this time.

ASPISTOR

Aspistor Jordan & Evermann, 1898: 2763. Type species: *Arius luniscutis* Valenciennes, 1840. Type by original designation. Gender: masculine.

***Aspistor luniscutis* (Valenciennes, 1840)**

Arius luniscutis Valenciennes in Cuvier & Valenciennes, 1840b: 109 [82 of Strasbourg deluxe ed.]. Type locality: Brésil. Syntypes: MNHN A.8980 (2), B.595 (1).
Arius physacanthus Vaillant, 1899: 155. Type locality: le Mahury [French Guiana]. Holotype: MNHN 1899-58.
Arius bonneti Puyo, 1936: 107, fig. 17 (middle). Type locality: not stated [Cayenne River, French Guiana]. Holotype: MNHN 1936-162.
Arius clavispinosus Puyo, 1936: 103, fig. 16 (left). Type locality: ile de Cayenne (rivière de Cayenne) [French Guiana]. Holotype: MNHN 1936-163.
Arius despaxi Puyo, 1936: 110, fig. 17 (right). Type locality: not stated [Cayenne River, French Guiana]. Holotype: MNHN 1936-161.
 Maximum length: 120 cm TL
 Distribution: South America: Atlantic coastal rivers from French Guiana to southern Brazil.
 Countries: French Guiana, Brazil

***Aspistor quadriscutis* (Valenciennes, 1840)**

Arius quadriscutis Valenciennes in Cuvier & Valenciennes, 1840b: 111 [83 of Strasbourg deluxe ed.]. Type locality: Cayenne ou de la Mana; Cayenne. Syntypes: MNHN A.9402 (1), B.596 (1), B.613 (1); RMNH 3049 (1), 3050 (1).
 Maximum length: 50 cm TL
 Distribution: South America: Atlantic coastal rivers from Guyana to northeastern Brazil.
 Countries: Brazil, French Guiana, Guyana, Suriname

BAGRE

Bagre Cloquet, 1816: 52. Type species: *Silurus bagre* Linnaeus, 1766. Type by absolute tautonymy. Gender: masculine. Placed on Official List (Opinion 1402).
Glanis Spix & Agassiz, 1829: 46. Type species: *Silurus bagre* Linnaeus, 1766. Type by subsequent designation by Kottelat (1988). Gender: masculine.
Stearopterus Minding, 1832: 116. Type species: *Stearopterus bagre* Minding, 1832. Type by monotypy. Gender: masculine.
Breviceps Swainson, 1838: 328, 343. Type species: *Silurus bagre* of Bloch, 1794. Type by monotypy. Gender: neuter. Preoccupied by *Breviceps* Merrem, 1820 in herpetology; replaced by *Felichthys* Swainson, 1839.
Felichthys Swainson, 1839: 305. Type species: *Silurus bagre* Bloch, 1794. Type by being a replacement name. Gender: masculine. Replacement for *Breviceps* Swainson, 1838.
Ailurichthys Baird & Girard, 1854: 26. Type species: *Silurus marinus* Mitchill, 1815. Type by subsequent designation by Jordan & Evermann (1896: 116). Gender: masculine.
Mystus Gray, 1854: 155. Type species: *Mystus carolinensis* Gronow, 1854. Type by subsequent designation by Jordan & Ever-

mann (1896: 116). Gender: masculine.
Paradiplomystes Bleeker, 1862a: 8. Type species: *Pimelodus coruscans* Lichtenstein, 1819. Type by original designation. Gender: masculine.
Anemanotus Fowler, 1944: 171. Type species: *Ailurichthys panamensis* Gill, 1863. Type by original designation. Gender: masculine. Originally proposed as a subgenus of *Ailurichthys*.

***Bagre bagre* (Linnaeus, 1766)**

Silurus bagre Linnaeus, 1766: 505. Type locality: America meridionali. No types known.
 ?*Pimelodus coruscans* Lichtenstein, 1819: 58. Type locality: Brazil. Holotype: Not known, not ZMB 2978.
Felichthys filamentosus Swainson, 1839: 392. Type locality: Estuaries of rivers near Pernambuco, Brazil. No types known.
Galeichthys Gronovii Valenciennes & Valenciennes, 1840b: 40 [30 of Strasbourg deluxe ed.]. Type locality: Terre-Ferme ou de la Guyane, Maracaibo; la Mana, Cayenne, Bahia. Syntypes: MNHN A.8977 (1), A.9368 (1).
Bagrus macronemus Ranzani, 1841: 65. Type locality: Fiume Brasiliano detto di S. Francesco. Holotype: MZUB 930. Illustrated and described in additional detail in Ranzani (1842: 334, pl. 28).
Mystus carolinensis Gronow in Gray, 1854: 156. Type locality: fluminibus majoribus Americis Meridionalis. No types known.
 Maximum length: 55 cm TL
 Distribution: South America: Colombia to the mouth of the Amazon River.
 Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela
 Common names: Bagre-bandeira (Brazil)

***Bagre marinus* (Mitchill, 1815)**

Silurus marinus Mitchill, 1815: 433. Type locality: New York, U.S.A. No types known.
Galeichthys Blochii Valenciennes in Cuvier & Valenciennes, 1840b: 44 [33 of Strasbourg deluxe ed.]. Type locality: Surinam; Bahia. No types known.
Galeichthys Parrae Valenciennes in Cuvier & Valenciennes, 1840b: 33 [25 of Strasbourg deluxe ed.]. Type locality: New-York ... ou de Charlestown, Nouvelle-Orléans, Rio-Janéiro. Syntypes: MNHN 1565 (1), A.8988 (1), A.9367 (1), B-0056 (1), B-0074 (1).
Galeichthys bahiensis Castelnau, 1855: 37, pl. 18 (fig. 1). Type locality: Bahia. Holotype: MNHN B.692.
Aelurichthys longispinis Günther, 1864: 178. Type locality: South America; Mexico. Syntypes: (3) BMNH 1976.2.18.1 (1), 1976.2.18.2 (1).
 Maximum length: 60 cm TL
 Distribution: North, Central and South America and Caribbean Islands: Coast of Gulf of Mexico, Cuba, western margin of Caribbean, and northern margin of South America: sometimes in rivers and estuaries
 Countries: Brazil, Colombia, Costa Rica, Cuba, French Guiana, Guatemala, Guiana, Honduras, Mexico, Panama, Suriname, Venezuela

***Bagre panamensis* (Gill, 1863)**

Aelurichthys panamensis Gill, 1863: 172. Type locality: Western coast of Central America. Holotype: USNM (not found).
Aelurichthys nuchalis Günther, 1864: 179, fig. Type locality: Pacific coast of Panama. Holotype: BMNH 1864.1.26.344.
Aelurichthys scutatus Regan, 1907: 116, pl. 15 (fig. 2), 19 (fig. 2). Type locality: Panama or Ecuador. Syntypes: (2) BMNH 1903.5.15.328.
Aelurichthys isthmensis Regan, 1907: 117, pl. 15 (fig. 1), 19 (fig. 1). Type locality: Colón, Panama.
 Maximum length: 38 cm TL
 Distribution: Eastern Pacific: From off Santa Ana River in southern California, USA to Peru. Rare north of southern Baja Cali-

fornia.

Countries: Colombia, Costa Rica, Ecuador, El Salvador, Mexico, Nicaragua, Panama, Peru, USA

***Bagre pinnimaculatus* (Steindachner, 1876)**

?*Galeichthys Eydouxii* Valenciennes in Cuvier & Valenciennes, 1840b: 43 [32 of Strasbourg deluxe ed.]. Type locality: la rivière de Guayaquil. Holotype: MNHN 1572. Name spelled *Eydouxii* on p. 43 and *Eydouxii* in table of contents (p. xviii). First reviser apparently Eschmeyer, Ferraris, Hoang, & Long (in Eschmeyer, 1998).

Aelurichthys pinnimaculatus Steindachner, 1876: 565, pl. 8. Type locality: Panama, Altata, Westküste von Costa-Rica. Syntypes: (several) MCZ 4941 (1), 23746(3); 23747 (1); NMW 47895 (1), 47897-99 (1 each), 50577 (1); USNM 123011 [ex MCZ 23746] (2) Panama.

Maximum length: 50 cm TL

Distribution: North, Central, and South America: Pacific draining rivers from the Gulf of California to Ecuador.

Countries: Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama

Remarks and references: Species treated as valid in Kailola & Bussing in Fischer et al. (1995: 878), but with *Galeichthys eydouxii* as a possible senior synonym. Therefore, the name *G. eydouxii* is tentatively placed here.

CATHOROPS

Cathorops Jordan & Gilbert, 1882: 39. Type species: *Arius hypophthalmus* Steindachner, 1876. Type by monotypy. Gender: masculine. Originally proposed as a subgenus of *Arius*. Name dates to key on p. 39, which is part of a signature dated as 25 Sept 1882.

***Cathorops agassizii* (Eigenmann & Eigenmann, 1888)**

Tachysurus agassizii Eigenmann & Eigenmann, 1888: 145. Type locality: Rio Grande do Sul. Holotype: MCZ 7670.

Arius pleurops Boulenger, 1897: 296. Type locality: Magoarisinho, Cape Magoary [Marajo I., Brazil]. Holotype: BMNH 1897.7.17.7 (plus eggs and embryos in mouth).

Maximum length: 22 cm TL

Distribution: South America: Guyana, north and northeast Brazil.

Countries: Brazil, Guyana

Remarks and references: Species found primarily in estuarine waters.

***Cathorops aguadulce* (Meek, 1904)**

Galeichthys aguadulce Meek, 1904: 9, pl. 4. Type locality: Río Tesehocacán, Pérez, Vera Cruz. basin of the Rio Papaloapam [Mexico]. Holotype: FMNH 4678.

Maximum length: 21 cm TL

Distribution: North America: Papaloapam River basin.

Countries: Mexico

Common names: Coruco, Bagre (Mexico)

***Cathorops arenatus* (Valenciennes, 1840)**

Arius arenatus Valenciennes in Cuvier & Valenciennes, 1840b: 106 [79 of Strasbourg deluxe ed.]. Type locality: Cayenne [interpreted by Boeseman (1972) as having come from Suriname]. Holotype: RMNH 3099.

Arius fissus Valenciennes in Cuvier & Valenciennes, 1840b: 107 [79 of Strasbourg deluxe ed.]. Type locality: Cayenne [interpreted by Boeseman (1972) as having come from Suriname]. Holotype: RMNH 3036.

Maximum length: 25 cm SL

Distribution: South America: Atlantic coastal rivers from Guyana to northeastern Brazil.

Countries: Brazil, French Guiana, Guyana, Suriname

***Cathorops dasycephalus* (Günther, 1864)**

Arius dasycephalus Günther, 1864: 157, fig. on p. 157. Type locality: Oahu, Sandwich Islands. Holotype: BMNH 1855.9.19.1100.

Tachysurus longicephalus Eigenmann & Eigenmann, 1888: 143.

Type locality: Gulf of Panama, Panama. Holotype: MCZ 4972.

Name spelled *longicephalus* in account heading, *longicephalus* in introduction. The latter spelling considered valid herein.

Maximum length: 29 cm TL

Distribution: South and Central America: Pacific coast.

Countries: Costa Rica, Ecuador, Panama

Remarks and references: Placed by Kailola & Bussing (in Fischer et al., 1995: 867) tentatively in *Arius*. Possibly restricted to marine environments.

***Cathorops fuerthii* (Steindachner, 1876)**

Arius Fürthii Steindachner, 1876: 579. Type locality: Panama. Syntypes: (4) MCZ 4943 (2), 4973 (3), 7691 (1); NMW 50568 (2).

Tachysurus evermanni Gilbert & Starks, 1904: 32, pl. 5 (fig. 10).

Type locality: Panama Bay, e. Pacific. Holotype: SU 6706.

Maximum length: 28 cm TL

Distribution: North, Central, and South America: Pacific draining rivers from Mexico to Ecuador.

Countries: Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Mexico, Nicaragua, Panama

Remarks and references: Placed by Kailola & Bussing (in Fischer et al., 1995: 880) tentatively in *Cathorops*.

***Cathorops hypophthalmus* (Steindachner, 1876)**

Arius hypophthalmus Steindachner, 1876: 581, pl. 10. Type locality: Panama. Holotype: NMW (not found).

Tachysurus gulosus Eigenmann & Eigenmann, 1888: 146. Type locality: Panama. Syntypes: MCZ 4974 (2).

Maximum length: 35 cm TL

Distribution: Central America: Pacific draining rivers, in brackish and fresh water.

Countries: Panama

***Cathorops melanopus* (Günther, 1864)**

Arius melanopus Günther, 1864: 172. Type locality: Rio Motagua. Syntypes: (apparently 2) BMNH 1865.4.29.51-53 (3).

Maximum length: 23 cm

Distribution: Central America: Motagua River basin.

Countries: Guatemala

***Cathorops multiradiatus* (Günther, 1864)**

Bagrus arioides Kner, 1863: 227, fig. 15. Type locality: Rio Bayano im Staate Panama, Südseite. Holotype: NMW (not found). Preoccupied by *Bagrus arioides* Valenciennes 1840; permanently invalid.

Arius multiradiatus Günther, 1864: 173. Type locality: Rio Bayano im Staate Panama, Südseite. Holotype: NMW (not found). New name for *Bagrus arioides* Kner.

Tachysurus emmelane Gilbert in Jordan & Evermann, 1898: 2785. Type locality: Panama. Holotype: SU 5818.

Tachysurus equatorialis Starks, 1906: 766, fig. 3. Type locality: Guayaquil, Ecuador. Holotype: USNM 53470.

Maximum length: 30 cm TL

Distribution: Central America: Rivers and bays of Pacific coast, from Guatemala to Panama.

Countries: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama

Remarks and references: Kailola & Bussing (in Fischer et al. 1995: 881) tentatively placed the species in *Cathorops*.

***Cathorops spixii* (Spix & Agassiz, 1829)**

Pimelodus spixii Spix & Agassiz, 1829: 19, Pl. 7 (fig. 1). Type locality: Brasilia aequatoriali. No types known.

Pimelodus albidus Spix & Agassiz, 1829: Pl. 7 (fig. 1). Type locality not stated. No types known. Name available from plate.

Maximum length: 30 cm TL

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Distribution: South America: Atlantic and Caribbean rivers and estuaries from Colombia to Brazil.

Countries: Brazil, Colombia, French Guiana, Guyana, Suriname, Venezuela

Remarks and references: Taylor & Menezes (1978) indicate that two or more species may be included here.

Common names: Bagre-amarelo (Brazil)

***Cathorops steindachneri* (Gilbert & Starks, 1904)**

Tachysurus steindachneri Gilbert & Starks, 1904: 29, pl. 5 (fig. 9).

Type locality: Panama Bay. Holotype: SU 7026.

Arius taylori Hildebrand, 1925: 250, fig. 10. Type locality: Río Lempa, San Marcos, El Salvador. Holotype: USNM 87224.

Maximum length: 36 cm TL

Distribution: Central America: Pacific draining rivers and estuaries.

Countries: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama

Remarks and references: Kailola & Bussing (in Fischer et al. 1995: 882) tentatively placed the species in *Cathorops*.

***Cathorops tuyra* (Meek & Hildebrand, 1923)**

Arius tuyra Meek & Hildebrand, 1923: 128, pl. 5. Type locality: Río Tuyra, mouth of Río Yape, Darien, Panama (Pacific). Holotype: USNM 79413.

Maximum length: 29 cm TL

Distribution: South and Central America: Pacific drainage rivers and estuaries, from Panama to Peru.

Countries: Colombia, Ecuador, Panama, Peru

Remarks and references: Placed by Kailola & Bussing (in Fischer et al., 1995: 883) tentatively in *Cathorops*.

Species inquirendae

Arius variolosus Valenciennes in Cuvier & Valenciennes, 1840b: 107 [80 of Strasbourg deluxe ed.]. Type locality: Cayenne. Holotype: MNHN 4169.

Arius punctulatus Valenciennes in Cuvier & Valenciennes, 1840b: 108 [81 of Strasbourg deluxe ed.]. Type locality: Buénos-Ayres. Holotype: MNHN.

Arius nuchalis Günther, 1864: 171, fig. on p. 171. Type locality: Guyana. Syntypes: (at least 6) BMNH 1975.1.17.3-5 (3), BMNH uncat. (? 2).

Arius laticeps Günther, 1864: 171, figs. on p. 171. Type locality: Trinidad [and] British Guiana. Syntypes: BMNH 1863.6.18.8 (1) Trinidad, 1976.2.25.1 (1) Guyana.

Tachysurus liropus Bristol in Gilbert, 1897: 438. Type locality: San Juan Lagoon, near mouth of Río Ahome, Sonora, Mexico. Syntypes: (6) SU 324 (3); USNM 47584 (2).

GALEICHTHYS

Galeichthys Valenciennes in Cuvier & Valenciennes, 1840b: 28 [21 of Strasbourg deluxe ed.]. Type species: *Galeichthys feliceps* Valenciennes, 1840. Type by subsequent designation by Bleeker (1862). Gender: masculine.

***Galeichthys peruvianus* Lütken, 1874**

Galeichthys peruvianus Lütken, 1874: 205. Type locality: Callao. Syntypes: ZMUC 150 (1), 490 (1).

Maximum length: 35 cm TL

Distribution: South America: Pacific coast.

Countries: Ecuador, Peru

Remarks and references: Possibly restricted to marine environments.

GENIDENS

Genidens Castelnau, 1855: 33. Type species: *Bagrus genidens* Cuv. Val. [= *Pimelodus genidens* Cuvier, 1829]. Type by absolute tautonymy. Gender: masculine.

Guiritinga Bleeker, 1858: 62, 67. Type species: *Pimelodus commersonii* La Cepède, 1803. Type by monotypy. Gender: feminine. Higuchi et al. (1982: 3) suggest that this may be the valid genus for the Neotropical species generally placed in *Netuma*.

***Genidens barbuis* (La Cepède, 1803)**

Pimelodus commersonii La Cepède, 1803: 95, 103, pl. 3 (fig. 1). Type locality: No locality stated. No types known.

Pimelodus barbuis La Cepède, 1803: 94, 102. Type locality: Amérique méridionale. No types known.

Bagrus barbatus Quoy & Gaimard, 1824: 230, pl. 49 (figs. 1-2). Type locality: Río de la Plata, South America. No types known.

Pimelodus versicolor Castelnau, 1855: 35, pl. 16 (fig. 3). Type locality: río Araguay, dans la province de Goyaz (Brésil). Syntypes: MNHN 1206 (2).

Tachysurus upsulonophorus Eigenmann & Eigenmann, 1889: 31. Type locality: Rio Grande do Sul, Brazil. Holotype: MCZ 23750.

Silurus 16-radiatus Larrañaga, 1923: 386. Type locality: Uruguay. No types known.

Silurus marinus Larrañaga, 1923: 376. Type locality: Uruguay. No types known.

Maximum length: 120 cm TL

Distribution: South America: Atlantic coast from La Plata River to eastern Brazil.

Countries: Argentina, Brazil, Uruguay

Remarks and references: Synonymy follows Higuchi et al (1982).

Common names: Bagre-branco (Brazil)

***Genidens genidens* (Cuvier, 1829)**

Pimelodus genidens Cuvier, 1829: 294. Type locality: Not stated. Syntypes: MNHN 1213 (2), MNHN B-0678 (1). Species described in more detail as *Bagrus genidens* in Cuvier & Valenciennes (1840a: 453 [335 of Strasbourg deluxe ed.], pl. 419), with type locality: Rio-Janéiro.

Genidens granulatus Castelnau, 1855: 34, pl. 16 (fig. 1). Type locality: la riviere d'Araguay, dans la province bresilienne de Goyaz. Holotype: MNHN 1197.

Genidens cuvieri Castelnau, 1855: 34. Type locality: la Plata. Syntypes: MNHN 1213 (2), MNHN B-0678 (1). Unneeded replacement name for *Bagrus genidens* Cuv. Val. [= *Pimelodus genidens* Cuvier].

Genidens valenciennesii Bleeker, 1858: 68. Type locality: Rio de Janeiro, Brazil; Argentina. Syntypes: MNHN 1213 (2) Rio de Janeiro, B.678 (1) Rio de la Plata. Unneeded replacement name for *Bagrus genidens* Cuv. Val. [= *Pimelodus genidens* Cuvier].

Maximum length: 35 cm TL

Distribution: South America: Atlantic draining rivers of southern South America.

Countries: Argentina, Brazil, Uruguay

Common names: Bagre urutu (Brazil)

***Genidens machadoi* (Miranda Ribeiro, 1918)**

Tachysurus machadoi Miranda Ribeiro, 1918: 108. Type locality: Macaé, Rio de Janeiro, Brasil. Holotype: MNRJ 661.

Maximum length: 80 cm TL

Distribution: South America: Coastal rivers of southern Atlantic, from Rio de Janeiro to Argentina and possibly Chile.

Countries: Argentina, Brazil, Chile (?), Uruguay

Remarks and references: Known only from marine environments.

Possible inclusion of this species in the fauna of Chile is based on report by Sielfeld (1979).

Common names: bagre do Corso (Brazil).

***Genidens planifrons* (Higuchi, Reis & Araújo, 1982)**

Netuma planifrons Higuchi, Reis & Araújo, 1982: 12, fig. 1. Type locality: Lagoa dos Patos, RS, Brazil. Holotype: MZUSP 14828.

Maximum length: 57 cm SL

Distribution: South America: Laguna dos Patos drainage and nearby Atlantic Ocean.

Countries: Brazil

HEXANEMATICHTHYS

?*Sciades* Müller & Troschel, 1849: 6. Type species: *Bagrus (Sciades) emphysetus* Müller & Troschel, 1849. Type by subsequent designation by Bleeker (1862a: 8). Gender: masculine. Originally proposed as a subgenus of *Bagrus*.

Hexanematichtys Bleeker, 1858: 61, 126. Type species: *Bagrus sondaicus* Valenciennes, 1840. Type by monotypy. Gender: masculine.

?*Sciadeichthys* Bleeker, 1858: 62. Type species: *Bagrus (Sciades) emphysetus* Müller & Troschel, 1849. Type by monotypy. Gender: masculine.

Selenaspis Bleeker, 1858: 62. Type species: *Silurus herzbergii* Bloch, 1794. Type by subsequent designation, apparently by Jordan & Evermann (1896: 119). Gender: feminine.

Leptarius Gill, 1863: 170. Type species: *Leptarius dowii* Gill, 1863. Type by monotypy. Gender: masculine.

***Hexanematichtys assimilis* (Günther, 1864)**

Arius assimilis Günther, 1864: 146. Type locality: Lake of Yzabal, Guatemala. Holotype: BMNH 1864.1.26.98.

Maximum length: 32 cm TL

Distribution: Central America: Belize River basin, Monkey River.

Countries: Belize, Guatemala

***Hexanematichtys bonillai* (Miles, 1945)**

Galeichthys bonillai Miles, 1945: 454, figs. 4-4a. Type locality: Río Magdalena, Honda, Colombia. Holotype: Sec. Caza y Pesca, Min. Nat. Econ. Bogotá.

Maximum length: 80 cm TL

Distribution: South America: Caribbean draining rivers, including Magdalena River.

Countries: Colombia

Common names: Bagre cazón (Colombia), Cazón (Colombia)

***Hexanematichtys couma* (Valenciennes, 1840)**

Bagrus couma Valenciennes in Cuvier & Valenciennes, 1840a: 459 [340 of Strasbourg deluxe ed.]. Type locality: Cayenne. Syntypes: MNHN A.9338 (1), MNHN A.9339 (1).

Sciadeichthys (Selenaspis) walrechtii Boeseman, 1954: 60, pl. 3. Type locality: Suriname. Holotype: RMNH 2141.

Maximum length: 97 cm TL

Distribution: South America: Gulf of Paria to the mouth of the Amazon.

Countries: Brazil, Colombia, French Guiana, Guyana, Suriname, Venezuela

***Hexanematichtys dowii* (Gill, 1863)**

Leptarius dowii Gill, 1863: 171. Type locality: Western coast of Central America. Holotype: USNM (not found).

Arius alatus Steindachner, 1876: 569, pl. 6. Type locality: Panama. Holotype: MCZ 7725.

Maximum length: 90 cm TL

Distribution: South and Central America: Fresh and brackish water along Pacific side of Panama to Ecuador.

Countries: Colombia, Ecuador, Panama

***Hexanematichtys guatemalensis* (Günther, 1864)**

Arius guatemalensis Günther, 1864: 145. Type locality: Guatemala [and] Chiapan. Syntypes: (2) BMNH 1853.1.11.6 (1).

Arius caeruleascens Günther, 1864: 149, fig. on p. 149. Type locality: Huamuchal, Guatemala. Syntypes: BMNH 1864.1.26.208-209 (2).

Galeichthys azureus Jordan & Williams in Jordan, 1895: 398, pl. 27. Type locality: Estuary at Mazatlán, Sinaloa, w. Mexico. Holotype: SU 11575 [originally printed as 1575].

Maximum length: 37 cm TL

Distribution: North and Central America: Pacific coast from Mex-

ico to Honduras.

Countries: El Salvador, Guatemala, Honduras, Mexico

Remarks and references: Placed by Kailola & Bussing (in Fischer et al., 1995: 868) tentatively in *Arius*.

***Hexanematichtys herzbergii* (Bloch, 1794)**

Silurus herzbergii Bloch, 1794: 33, pl. 367. Type locality: Suriname. Syntypes: ZMB 2962 (1), 8785 (1, skin).

Pimelodus argenteus La Cèpède, 1803: 94, 102. Type locality: Suriname. ZMB 2962 (1), 8785 (1). Unneeded new name for *Silurus herzbergii* Bloch.

Bagrus mesops Valenciennes in Cuvier & Valenciennes, 1840a: 456 [338 of Strasbourg deluxe ed.]. Type locality: not stated [Puerto Rico]. Holotype: MNHN A.9347.

Bagrus pemecus Valenciennes in Cuvier & Valenciennes, 1840a: 456 [338 of Strasbourg deluxe ed.]. Type locality: Cayenne, French Guiana. Holotype: MNHN A.9348 (dry).

Bagrus coelestinus Müller & Troschel, 1849: 7. Type locality: Guiana. Syntypes: ZMB 2970 (1), 2977 (1).

Hexanematichtys hymenorrhinos Bleeker, 1862b: 377. Type locality: Perhaps Suriname. Holotype: RMNH 3056.

Netuma dubia Bleeker, 1862b: 382. Type locality: Suriname. Syntypes: RMNH 3051-52 (1, 1).

Maximum length: 54 cm TL

Distribution: South America: Caribbean and Atlantic draining rivers and estuaries from Colombia to Brazil.

Countries: Brazil, Colombia, French Guiana, Guyana, Suriname, Venezuela

***Hexanematichtys kessleri* (Steindachner, 1876)**

Arius Kessleri Steindachner, 1876: 574, pl. 5. Type locality: Panama, Altata. Syntypes: MCZ 4944 (6); NMW 48112 (1), 48247 (1), 48248 (1), 48249 (2).

Arius elatturus Jordan & Gilbert, 1882: 45. Type locality: Panama. Holotype: USNM 29408.

Arius insculptus Jordan & Gilbert, 1882: 41. Type locality: Panama. Syntypes: USNM 29415 (1), 30977 (2).

Netuma insularum Greene in Gilbert, 1897: 439. Type locality: Galapagos Archipelago [later corrected to: Gulf of Panama]. Holotype: USNM 47577.

Maximum length: 45 cm TL

Distribution: Central America: Pacific coast .

Countries: Costa Rica, Panama

Remarks and references: Placed by Kailola & Bussing (in Fischer et al., 1995: 869) tentatively in *Arius*. Possibly restricted to marine environments.

***Hexanematichtys osculus* (Jordan & Gilbert, 1882)**

Arius osculus Jordan & Gilbert, 1882: 46. Type locality: Panama. Holotype: USNM 29476.

Maximum length: 28 cm SL

Distribution: Central America: Pacific coast in Costa Rica and Panama.

Countries: Costa Rica, Panama

Remarks and references: Placed by Kailola & Bussing (in Fischer et al., 1995: 871) tentatively in *Arius*. Possibly restricted to marine environments.

***Hexanematichtys parkeri* (Traill, 1832)**

Silurus parkeri Traill, 1832: 377, pl. 6 (fig. 1). Type locality: Guiana. Holotype: whereabouts unknown.

?*Bagrus (Sciades) emphysetus* Müller & Troschel, 1849: 8. Type locality: Surinam. Holotype: ZMB 2990.

Maximum length: 150 cm SL

Distribution: South America: Coastal rivers from Guyana to northern Brazil.

Countries: Brazil, French Guiana, Guyana, Suriname, (?) Venezuela

***Hexanematichtys passany* (Valenciennes, 1840)**

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- Bagrus passany* Valenciennes in Cuvier & Valenciennes, 1840a: 458 [340 of Strasbourg deluxe ed.]. Type locality: Cayenne. Holotype: MNHN A.9399.
Maximum length: 100 cm TL
Distribution: Western Atlantic: Guyana to the mouth of the Amazon River.
Countries: Brazil, French Guiana, Guyana, Suriname
- Hexanemachthys platypogon* (Günther, 1864)**
Arius platypogon Günther, 1864: 147, figs. Type locality: San Jose, Guatemala. Syntypes: BMNH 1964.1.26.316-319 (4).
Netuma mazatlana Gilbert, 1904: 255, pl. 25. Type locality: Mazatlán, Sinaloa, w. Mexico. Holotype: SU 7138.
Maximum length: 45 cm TL
Distribution: North, Central, and South America: Pacific coast from Mexico to Ecuador.
Countries: Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama
Remarks and references: Placed by Kailola & Bussing (in Fischer et al., 1995: 873) tentatively in *Arius*. Possibly restricted to marine environments.
- Hexanemachthys proops* (Valenciennes, 1840)**
Bagrus proops Valenciennes in Cuvier & Valenciennes, 1840a: 457 [339 of Strasbourg deluxe ed.]. Type locality: Cayenne ou de Surinam; Porto-Rico. Syntypes: MNHN A-9331 (1), A-9332 (1), A-9333 (1), B-0245 (1), B-0618 (2).
Maximum length: 100 cm TL
Distribution: South America and Caribbean Islands: Caribbean and Atlantic draining rivers and estuaries from Colombia to Brazil.
Countries: Brazil, Colombia, French Guiana, Guyana, Puerto Rico, Suriname, Venezuela
- Hexanemachthys seemanni* (Günther, 1864)**
Arius seemanni Günther, 1864: 147, fig. Type locality: Central America. Holotype: BMNH 1855.9.19.1107.
Tachisurus jordani Eigenmann & Eigenmann, 1888: 142. Type locality: Panama. Syntypes: MCZ 4945 (2).
Galeichthys gilberti Jordan & Williams in Jordan, 1895: 395, pl. 26. Type locality: Upper part of astillero at Mazatlán, Sinaloa, w. Mexico. Holotype: USNM 29213.
Galeichthys eigenmanni Gilbert & Starks, 1904: 21, pl. 4 (fig. 8 [incorrectly listed as fig. 7]). Type locality: Panama. Holotype: SU 6986.
Galeichthys simonsi Starks, 1906: 764, fig. 1. Type locality: Callao, Peru. Holotype: USNM 53466.
Maximum length: 35 cm TL
Distribution: North, Central, and South America: Pacific draining rivers and estuaries from Mexico to Peru.
Countries: Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Mexico, Nicaragua, Panama, Peru
Remarks and references: Placed by Kailola & Bussing (in Fischer et al., 1995: 874) tentatively in *Arius*.
- Species inquirendae***
Bagrus albicans Valenciennes in Cuvier & Valenciennes, 1840a: 461 [342 of Strasbourg deluxe ed.], pl. 420. Type locality: Cayenne [French Guiana]. Holotype: MNHN A.9350.
Hexanemachthys surinamensis Bleeker, 1862b: 380. Type locality: Suriname. Holotype: RMNH 3055.
- NOTARIUS**
Notarius Gill, 1863: 171. Type species: *Arius grandicassis* Valenciennes, 1840. Type by monotypy. Gender: masculine.
Sciadeops Fowler, 1944: 211. Type species: *Sciades troschelii* Gill, 1863. Type by original designation. Gender: masculine. Originally proposed as a subgenus of *Sciades*.
- Notarius grandicassis* (Valenciennes, 1840)**
Arius grandicassis Valenciennes in Cuvier & Valenciennes, 1840b: 54 [41 of Strasbourg deluxe ed.], pl. 427. Type locality: Guyane. Holotype: MNHN A.4608.
Arius parmocassis Valenciennes in Cuvier & Valenciennes, 1840b: 57 [43 of Strasbourg deluxe ed.]. Type locality: Bahia. Holotype: MNHN A.8966.
Arius stricticassis Valenciennes in Cuvier & Valenciennes, 1840b: 58 [44 of Strasbourg deluxe ed.]. Type locality: Cayenne. Syntypes: MNHN A.9406 (1), RMNH 3034 (1).
Arius vandeli Puyo, 1936: 123, figs. 21G. Type locality: not stated [French Guiana]. Holotype: MNHN 1936-160.
Maximum length: 63 cm TL
Distribution: South America: Rivers and estuaries from Gulf of Venezuela to mouth of the Amazon River.
Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela
Common names: Bagre-papai (Brazil)
- Notarius lentiginosus* (Eigenmann & Eigenmann, 1888)**
Tachisurus lentiginosus Eigenmann & Eigenmann, 1888: 139. Type locality: Panama. Syntypes: MCZ 4970 (2).
Galeichthys xenauchen Gilbert in Jordan & Evermann, 1898: 2777. Type locality: Panama. Holotype: SU 5821. Holotype figured in Gilbert & Starks 1904, Pl. 4 (fig. 7).
Maximum length: 35 cm TL
Distribution: Central America: Pacific coast in Panama.
Countries: Panama
Remarks and references: Placed by Kailola & Bussing (in Fischer et al., 1995: 870) tentatively in *Arius*. Possibly restricted to marine environments.
- Notarius planiceps* (Steindachner, 1876)**
Arius planiceps Steindachner, 1876: 576, pl. 4. Type locality: Panama, Altata. Syntypes: NMW 48194 (1); NMW 48195 (1); NMW 48196 (1); NMW 48197 (1); NMW 48198 (1); NMW 48199 (2); ZMUC 839 (1).
Maximum length: 59 cm TL
Distribution: North and Central America: Pacific draining rivers and estuaries from Mexico to Panama.
Countries: Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama
Remarks and references: Placed by Kailola & Bussing (in Fischer et al., 1995: 872) tentatively in *Arius*.
- Notarius troschelii* (Gill, 1863)**
Sciades troschelii Gill, 1863: 171. Type locality: Western coast of Central America. Holotype: USNM (not found).
Arius Brandtii Steindachner, 1876: 571, pl. 3. Type locality: Altata, Panama. Syntypes: (several) ?MCZ 4964 (1); NMW 48107 (3), 48110 (1).
Maximum length: 52 cm TL
Distribution: Eastern Pacific: Pacific coast from Mexico to Peru.
Countries: Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru
Remarks and references: Possibly restricted to marine environments.
- POTAMARIUS**
Potamarius Hubbs & Miller, 1960: 101. Type species: *Conorhynchos nelsoni* Evermann & Goldsborough, 1902. Type by original designation. Gender: masculine.
- Potamarius grandoculis* (Steindachner, 1877)**
Arius grandoculis Steindachner, 1877: 644, pl. 11. Type locality: Rio doce (nach Salmin). Holotype: NMW 48272.
Maximum length: 35 cm SL
Distribution: South America: Doce and Paraíba do Sul rivers, at and near their mouths.
Countries: Brazil

Remarks and references: Name spelled *granducolis* in plate caption.

***Potamarius izabalensis* Hubbs & Miller, 1960**

Potamarius izabalensis Hubbs & Miller, 1960: 104, figs. 2. Type locality: Lago de Izabal, Guatemala, 1 mi. west of El Paraíso. Holotype: USNM 134347.

Maximum length: 44 cm SL

Distribution: Central America: Izabal Lake and, possibly, Polochic River.

Countries: Guatemala

***Potamarius nelsoni* (Evermann & Goldsborough, 1902)**

Conorhynchos nelsoni Evermann & Goldsborough, 1902: 140, fig. 1. Type locality: Río Usumacinta, Montecristo, Yucatán, Mexico. Holotype: USNM 50001.

Maximum length: 39 cm SL

Distribution: North America: Usumacinta River basin.

Countries: Mexico

Common names: Bagre lacadon (Mexico)

SPECIES INQUIRENDAE

Arius nigricans Valenciennes, 1835: pl. 3 (fig. 3). Type locality: No locality stated [La Plata River, Montevideo, Uruguay]. Holotype: MNHN 176. Name available from plate.

Arius molliceps Valenciennes in Cuvier & Valenciennes, 1840b: 108 [80 of Strasbourg deluxe ed.]. Type locality: No locality stated. Holotype: MNHN (? Not found).

Arius festae Boulenger, 1898: 5. Type locality: Narrangal, Equateur occidental. Holotype: MZUT 1479.

Arius labiatus Boulenger, 1898: 6. Type locality: Rio Peripa, Equateur. Holotype: MZUT 1540.

Netuma aulometopon Fowler, 1915: 204, fig. 1. Type locality: Suriname. Holotype: ANSP 8372.

Hexanematichthys henni Fisher & Eigenmann, in Eigenmann, 1922: 30, fig. 9. Type locality: Colimes, Rio Daule, Ecuador. Holotype: CAS 60620 [ex IU 15045]. Authorship based on footnote on p. 27.

Netuma hassleriana Borodin, 1934: 33, fig. B. Type locality: Panama. Holotype: MCZ 33213 [ex MCZ 4965].

References

Acero-P., A. and R. Betancur-R. 2002a. *Arius cookei*, a new species of ariid catfish from the tropical American Pacific. *Aqua, J. Ichthy. Aquat. Biol.*, 5(4): 133-138.

Acero P., A. and R. Betancur-R. 2002b. Description of *Arius neogranatensis*, a new species of sea catfish from Colombia, with an identification key for Caribbean ariid fishes. *Aqua, J. Ichthy. Aquat. Biol.*, 6(1): 133-138.

Baird, S.F. and C.F. Girard. 1854. Descriptions of new species of fishes collected in Texas, New Mexico and Sonora, by Mr. John H. Clark, on the U. S. and Mexican Boundary Survey, and in Texas by Capt. Stewart Van Vliet, U. S. A. *Proc. Acad. Nat. Sci. Philadelphia*, 7: 24-29.

Bleeker, P. 1858. De visschen van den Indischen Archipel. Beschreven en toegelicht. *Siluri. Acta Soc. Sci. Indo-Neerl.*, 4: i-xii + 1-370.

Bleeker, P. 1862a. Atlas ichthyologique des Indes Orientales Néerlandaises, publié sous les auspices du Gouvernement colonial néerlandais. Tome II. Siluroïdes, Chacoïdes et Hétérobranchoïdes. Amsterdam. 1-112, pls. 49-101.

Bleeker, P. 1862b. Descriptions de quelques espèces nouvelles de Silures de Suriname. *Versl. Akad. Amsterdam*, 14: 371-389.

Bloch, M.E. 1794. *Naturgeschichte der ausländischen Fische*. Vol. 8. Berlin. iv + 174 p., pls. 361-396.

Boeseman, M. 1954. On *Sciadeichthys (Selenaspis) walrechtii*, a

new South American catfish. *Zool. Meded. (Leiden)*, 33 (9): 59-62, pl. 3.

Boeseman, M. 1972. Notes on South American catfishes, including remarks on Valenciennes and Bleeker types in the Leiden Museum. *Zool. Meded. (Leiden)*, 47 (23): 293-320, pls. 1-2.

Borodin, N.A. 1934. *Netuma hassleriana*, a new catfish from Panama. *Copeia*, 1934 (1): 33-34.

Boulenger, G.A. 1897. On a collection of fishes from the island of Marajo, Brazil. *Ann. Mag. Nat. Hist. (Ser. 6)*, 20 (117): 294-299.

Boulenger, G.A. 1898. Viaggio del Dr. Enrico Festa nell' Ecuador e regioni vicine (XII). Poissons de l'Équateur. (Première Partie). *Boll. Mus. Zool. Anat. Comp. Torino*, 13 (329): 1-13.

Castelnau, F.L. 1855. Poissons. In: Animaux nouveaux or rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847 xii + 112 p., 50 pl.

Castelnau, F.L. 1878. Australian fishes. New or little known species. *Proc. Linn. Soc. New South Wales*, 2 (3): 225-248, pls. 2-3.

Cloquet, H. 1816-30. [Pisces accounts.] In: Dictionnaire des sciences naturelles. Volumes 1-60.

Cuvier, G. 1829. Le règne animal, distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Edition 2. xviii + 532 p.

Cuvier, G. and A. Valenciennes. 1840a. Histoire naturelle des poissons. Tome quatorzième. Suite du livre seizième. Labroïdes. Livre dix-septième. Des Malacoptérygiens. Ch. Pitois, Paris; V. Levrault, Strasbourg. xxii + 2 + 464 + 4 pp., pls. 389-420.

Cuvier, G. and A. Valenciennes. 1840b. Histoire naturelle des poissons. Tome quinzième. Suite du livre dix-septième. Siluroïdes. Ch. Pitois, Paris; V. Levrault, Strasbourg. xxxi + 540 p., pls. 421-455.

Eigenmann, C.H. 1922. The fishes of western South America, Part I. The fresh-water fishes of northwestern South America, including Colombia, Panama, and the Pacific slopes of Ecuador and Peru, together with an appendix upon the fishes of the Rio Meta in Colombia. *Mem. Carnegie Mus.*, 9 (1): 1-346, pls. 1-38.

Eigenmann, C.H. and R.S. Eigenmann. 1888. Preliminary notes on South American Nematognathi. I. *Proc. California Acad. Sci. (Ser. 2)*, 1 (2): 119-172.

Eigenmann, C.H. and R.S. Eigenmann. 1889. Preliminary notes on South American Nematognathi. II. *Proc. California Acad. Sci. (Ser. 2)*, 2: 28-56.

Eschmeyer, W.N. (ed.). 1998. *Catalog of Fishes*. California Academy of Sciences, San Francisco.

Evermann, B.W. and E.L. Goldsborough. 1902. A report on fishes collected in Mexico and Central America, with notes and descriptions of five new species. *Bull. U. S. Fish Comm.*, 21 [for 1901]: 137-159.

Fischer, W., F. Krupp W. Schneider, C. Sommer, K.E. Carpenter and V.H. Niem. 1995. Guía FAO para la identificación para los fines de la pesca. Pacífico centro-oriental. Volumen II. Vertebrados -- Parte 1: 647-1200.

Fowler, H.W. 1915. Notes on nematognathous fishes. *Proc. Acad. Nat. Sci. Philadelphia*, 67: 203-243.

Fowler, H.W. 1931. Fishes obtained by the Barber Asphalt Company in Trinidad and Venezuela in 1930. *Proc. Acad. Nat. Sci. Philadelphia*, 83: 391-410.

Fowler, H.W. 1944. Results of the fifth George Vanderbilt expedition (1941) (Bahamas, Caribbean Sea, Panama, Galápagos Archipelago and Mexican Pacific islands). *The Fishes. Monogr. Acad. Nat. Sci. Philadelphia*, no. 6: 57-529, pls. 1-20.

Gilbert, C.H. 1897. Descriptions of twenty-two new species of fishes collected by the steamer Albatross, of the United States Fish Commission. *Proc. U. S. Natl. Mus.*, 19 (1115): 437-457,

Check List of the Freshwater Fishes of South and Central America

- pls. 49-55.
- Gilbert, C.H. 1904. Notes on fishes from the Pacific coast of North America. Proc. California Acad. Sci. (Ser. 3), 3 (9): 255-271, pls. 25-29.
- Gilbert, C.H. and E.C. Starks. 1904. The fishes of Panama Bay. Mem. California Acad. Sci., 4: 1-304, pls.
- Gill, T.N. 1863. Descriptive enumeration of a collection of fishes from the western coast of Central America, presented to the Smithsonian Institution by Captain John M. Dow. Proc. Acad. Nat. Sci. Philadelphia, 15: 162-174.
- Gray, J.E. 1854. Catalogue of fish collected and described by Laurence Theodore Gronow, now in the British Museum. London. vii + 196 p.
- Günther, A. 1864. Catalogue of the fishes in the British Museum, vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiidae in the collection of the British Museum. Trustees, London. xxii + 455 p.
- Higuchi, H., E.G. Reis and F.G. Araújo. 1982. Uma nova espécie de bagre marinho do litoral do Rio Grande do sul e considerações sobre o gênero nominal *Netuma* Bleeker, 1858 no Atlântico sul ocidental (Siluriformes, Ariidae). Atlantica, Rio Grande, 5: 1-15.
- Hildebrand, S.F. 1925. Fishes of the Republic of El Salvador, Central America. Bull. Bur. Fish., 41 (985): 237-287.
- Hubbs, C.L. and R.R. Miller. 1960. *Potamarius*, a new genus of ariid catfishes from the fresh waters of Middle America. Copeia, 1960 (2): 101-112, pl. 1.
- Jordan, D.S. 1895. The fishes of Sinaloa. Proc. California Acad. Sci. (Ser. 2), 5: 377-514, pls. 26-55.
- Jordan, D.S. and B.W. Evermann. 1898. The fishes of North and Middle America: a descriptive catalogue of the species of fish-like vertebrates found in the waters of North America north of the Isthmus of Panama. Part III. Bull. U. S. Natl. Mus., (47): i-xxiv + 2183a-3136.
- Jordan, D.S. and C.H. Gilbert. 1882. A review of the silurid fishes found on the Pacific coast of tropical America, with descriptions of three new species. Bull. U. S. Fish Comm., 2: 34-54.
- Kner, R. 1863. Eine Uebersicht der ichthyologischen Ausbeute des Herrn Professors Dr. Mor. Wagner in Central-Amerika. Sitzungsber. Konigl. Bayer. Akad. Wiss. Muenchen, 2: 220-230.
- Kner, R. and F. Steindachner. 1864. Neue Gattungen und Arten von Fischen aus Central-Amerika; gesammelt von Prof. Moritz Wagner. Abh. Bayer. Akad. Wiss., 10: 1-61, pls. 1-6.
- La Cèpède, B.G.E. 1803. Histoire naturelle des poissons, Vol. 5. Chez Plassan, Paris. lxxviii + 803 p. + index, 21 pl.
- Larrañaga, D.A. 1923. Escritos de Don Dámaso Antonio Larrañaga. Los Publica el Instituto Histórico y Geográfico del Uruguay. Edición Nacional. 512 p.
- Lichtenstein, M.H.C. 1819. Ueber einige neue Arten von Fischen aus der Gattung *Silurus*. Zool. Mag. (Wiedemann), 1 (pt 3): 57-63.
- Linnaeus, C. 1766. Systema naturae sive regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. 12th ed., Vol. 1, pt. 1. Laurentii Salvii, Holmiae. 532 p.
- Lütken, C.F. 1874. Ichthyographische Bidrag. II. Nye eller mindre vel kjendte Malleformer fra forskjellige Verdensdele. Vidensk. Medd. Naturh. Foren. København, 1874: 190-220.
- Marceniuk, A.P. 2003. Relações filogenéticas e revisão dos gêneros da família Ariidae (Ostariophysi, Siluriformes). Unpublished Ph.D. Thesis, University of São Paulo, 383p.
- MEEK, S.E. 1904. The fresh-water fishes of Mexico north of the isthmus of Tehuantepec. Field Columbian Mus. Zool. Ser., 5: i-lxiii + 1-252, pls. 1-17.
- Meek, S.E. and S.F. Hildebrand. 1923. The marine fishes of Panama. Part I. Field Mus. Nat. Hist. Publ. Zool. Ser., 15 (publ. 215): i-xi + 1-330, pls. 1-24.
- Miles, C. 1945. Some newly recorded fishes from the Magdalena River system. Caldasia, 3 (15): 453-464.
- Minding, J. 1832. Lehrbuch der Naturgeschichte der Fische. Berlin. xii + 132 p., 6 pls.
- Miranda Ribeiro, A. 1918. Nova chave para a determinação das espécies do gênero *Tachysurus*. Revista da Sociedade Brasileira de Ciências, 2: 108-111.
- Mitchill, S.L. 1815. The fishes of New York described and arranged. Trans. Lit. Phil. Soc. N. Y., 1: 355-492, pls. 1-6.
- Müller, J. and F.H. Troschel. 1849. Horae Ichthyologicae. Beschreibung und Abbildung neuer Fische. Berlin. 27 p. (+ additional p. 24), pls. 1-5.
- Ogilby, J.D. 1898. New genera and species of fishes. Proc. Linn. Soc. New South Wales, 23 (1): 32-41.
- Ogilby, J.D. 1908. New or little known fishes in the Queensland Museum. Ann. Queensland Mus., 9 (1): 1-41.
- Puyo, J. 1936. Contribution a l'étude ichthyologique de la Guyane française. Pêches et pêcheries. Bull. Soc. Hist. Nat. Toulouse, 70: 5-258.
- Quoy, J.R.C. and J.P. Gaimard. 1824-25. Description des Poissons. Chapter IX. In: Freycinet, L. de, Voyage autour du Monde...exécuté sur les corvettes de L. M. "L'Uranie" et "La Physicienne," pendant les années 1817, 1818, 1819 et 1820. Paris. 192-401 [1-328 in 1824; 329-616 in 1825], Atlas pls. 43-65.
- Ranzani, C. 1841. De nonnullis novis speciebus Piscium, Opusculum tertium. Nuovi Annuli delle Scienze Naturali, Anno 1841, Anno III, 5:60-66.
- Ranzani, C. 1842. De nonnullis novis speciebus piscium. Opusculum tertium. Novi Comment. Acad. Sci. Inst. Bonon., 5: 307-338, pls. 23-28.
- Regan, C.T. 1907. Pisces. Part 193 [1906-08]: 1-203, 25 pls. In: F.D. Godman and O. Salvin (eds.), Biologia Central-Americana. London. [Individual signatures dated to month and year; Ariidae accounts all date to 1907].
- Sielfeld-K., W.H. 1979. Nuevo registro de *Netuma barbuis* (La Cèpède) 1803 para águas chilenas (Pisces: Siluriformes). Anales del Instituto de la Patagônia 10: 189-192.
- Spix, J.B. von and L. Agassiz. 1829-31. Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXXVII-MDCCCXXX jussu et auspiciis Maximiliani Josephi I.... colleget et pingendo curavit Dr J. B. de Spix.... Monachii. xvi + ii + 82 p., pls. 1-48 (1829); 83-138, pls. 49-101 (1831).
- Starks, E.C. 1906. On a collection of fishes made by P. O. Simons in Ecuador and Peru. Proc. U. S. Natl. Mus., 30 (1468): 761-800, pls. 65-66.
- Steindachner, F. 1876. Ichthyologische Beiträge. IV. Sitzungsber. Akad. Wiss. Wien, 72: 551-616, pl. 1-13.
- Steindachner, F. 1877. Die Süßwasserfische des südöstlichen Brasilien (III). Sitzungber. Akad. Wiss. Wien, 74: 559-694, pls. 1-13.
- Swainson, W. 1838. The natural history and classification of fishes, amphibians, & reptiles, or monocardian animals. vol. 1. London. vi + 368 p.
- Swainson, W. 1839. The natural history and classification of fishes, amphibians, & reptiles, or monocardian animals. Vol. II. London. vi + 448 p.
- Taylor, W.R. and N.A. Menezes. 1978. Family Ariidae. In: W. Fischer (ed.), FAO species identification sheets fishery purposes. Western Central Atlantic (fishing area 31). Vol. 1-7. FAO, Rome.
- Traill, T.S. 1832. Description of a *Silurus*, known in Demerara by the name of Gilbacke, more properly Geelbuik. Mem. Wernerian Nat. Hist. Soc. Edinburgh, 6: 377-380, pl. 6.
- Vaillant, L.L. 1899. Note préliminaire sur les collections ichthyologiques recueillies par M. Geay en 1897 et 1898 dans la Guyane française et le Contesté franco-brésilien. Bull. Mus. Hist. Nat., Paris, 5 (4): 154-156.
- Valenciennes, A. 1835. Poissons [plate 3]. In: A. d'Orbigny.

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Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivia, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829,

1830, 1832 et 1833. Paris, Bertrand et Levraut.

Whitley, G.P. 1940. Illustrations of some Australian fishes. Aust. Zool., 9 (4): 397-428, Pls. 30-31.

Family Doradidae (Thorny catfishes)

Mark H. Sabaj and Carl J. Ferraris, Jr.

The Doradidae is a monophyletic family of freshwater catfishes endemic to South America that can be diagnosed by at least three synapomorphies: tympanic area delimited by supracleithrum, postoccipital process, infranuchal scute and humeral process of cleithrum; presence of at least two ossified lateral scutes in the postcranial region, one articulating with posterior nuchal plate and first pleural rib; and reduction or absence of middle posterodorsal process of cleithrum, between the articular and humeral processes (Higuchi, 1992; see also de Pinna, 1998). In all but a few species, the ossified tubules of the lateral-line are variously expanded to form a conspicuous row of midlateral scutes each with a medial retrorse spine or thorn. Most species also are characterized by a well-developed cephalic shield, subterminal mouth, large exposed humeral processes, sturdy serrated pectoral- and dorsal-fin spines, and ventrally-flattened bodies.

A total of 127 species (over half published before 1900) and 41 genera of doradids (plus three replacement names) have been proposed in a taxonomic history that dates back to Linnaeus (1758). In the only published revision of the family, Eigenmann (1925) recognized 68 valid species in 26 genera including 9 new species and 10 new genera. A number of species and/or generic descriptions and a review of Venezuelan doradids (Fernández-Yépez, 1968) followed, accounting for a total of 16 new species, 5 new genera and many questionable or apparent synonyms (11 at the species level, 6 at the generic). Higuchi's (1992) unpublished doctoral dissertation presented a classification of nearly all nominal forms and the first cladistic analysis of intergeneric relationships based on 115 morphological characters (plus 85 autapomorphies, see de Pinna 1998). Higuchi demonstrated the monophyly of Doradidae (including *Wertheimeria*) and presented a phylogeny for 32 genera, three of which were newly proposed (but remain unavailable). Herein, we recognize 72 valid species in 30 genera. In addition, four nominal forms are treated as Species inquirendae in their appropriate genera, and one is a Species inquirendae whose generic identity was not precisely determined.

Doradids range considerably in size from *Physopyxis lyra*, a specialized form that rarely exceeds 3.5 cm SL (Sabaj, pers. obs.), to *Oxydoras niger*, a widely distributed species that reaches about 120 cm fork length and 20 kg (Goulding, 1980). A few other large river forms (*Lithodoras*, *Megalodoras*, *Pterodoras*) can exceed 50 cm, but most doradids attain lengths between 10 and 20 cm SL. Doradids are often separated into two easily-recognized groups, one with simple, and the other with fimbriate, maxillary barbels. Doradids with simple barbels include the two basal-most species and appear to be non-monophyletic (Higuchi, 1992). Many have large broadly rounded heads, are moderately depressed anteriorly and heavily armored with well-developed midlateral scutes. In a few (*Doraops*, *Kalyptodoras*, *Wertheimeria*) the row of midlateral scutes are variously reduced or interrupted. The fimbriate-barbel taxa form a monophyletic group sister to *Oxydoras* (Higuchi, 1992), a genus with simple barbels. *Oxydoras* and most fimbriate-barbel taxa are further characterized by long, conical snouts, relatively narrow heads with deeper bodies; and, like the remaining taxa, many are ventrally flattened. A few fimbriate species are fusiform or torpedo-shaped (e.g., *Anduzedoras*, *Hassar*, some *Leptodoras*, some *Nemadoras*) with features streamlined for midwater or swiftwater habitats (e.g., eyes covered with adipose tissue, slender fin spines, and midlateral plates significantly reduced anteriorly). The morphology of barbels and associated labial membranes exhibit considerable intergeneric/interspecific variation and is useful for diagnosing fimbriate taxa.

Doradids occur in all of the major river basins of South America and inhabit coastal drainages from the Orinoco Delta to the Parnaíba River (possibly further east) and the Paraguaçu and Jequitinhonha rivers on the east-central coast of Brazil. Doradids are not known from Pacific Coast drainages, nor have they been reported from Atlantic Coast drainages south of the La Plata River, or west of the Magdalena River.

Over 70% of the 72 valid species are found in the Amazonas basin (52 total) and 28 species are presently known only from this basin. The nearby Tocantins River is inhabited by a small number of Amazonian species (7) and one possible endemic (*Hassar wilderi*). The Orinoco basin supports the second largest doradid fauna with about 22 species, 7 of which appear to be endemic. The Essequibo basin has 17 species, only one of which (*Doras micropoeus*) is not among the Amazonian fauna. The other Guiana drainages are relatively depauperate with 8 species total, all of which also occur in the Essequibo and/or Amazonas basins. Seven species are known from the Paraguay-Paraná basin, four of which appear to be endemic. The remaining drainages support only a few species, nearly all of which are endemic and many representing monotypic genera: Magdalena (*Centrochir crocodili*), Maracaibo (*Doraops zuloagai*, *Rhinodoras thomersoni*), Parnaíba (*Hassar affinis*, *Platydoras costatus*), São Francisco (*Franciscodoras marmoratus*, *Oxydoras niger*, ? *Platydoras costatus*), Paraguaçu (*Kalyptodoras bahiensis*), and Jequitinhonha (*Wertheimeria maculata*). Unfortunately, estimations of species distributions

are confused by the fact that many museum specimens are miss- or unidentified.

As one might guess from their distributions, doradids are particularly abundant and species-rich in large river systems and lowland habitats (below 200 m) that experience prolonged seasonal flooding. Adults of the large heavy-bodied taxa typically inhabit the main channels of large rivers (*Centrodoras*, *Pterodoras*) or migrate into such habitats during the low-water season (*Lithodoras*, *Megalodoras*). The latter forms move into flooded forests when the lowlands become inundated. *Oxydoras* also occupies flooded forests during the high-water season and retires to large oxbows, floodplain lakes and the depths of large river channels when waters subside. Some fimbriate-barbel doradids (*Leptodoras*, *Nemadoras*, *Trachydoras*) are particularly common in deepwater channels and move into shallower water near shore at night. Many of the smaller taxa (*Opsodoras*, *Hemidoras*, *Trachydoras*) also prefer larger rivers and are sometimes encountered in extensive heterospecific schools of up to five similar-looking species. Other small-sized taxa (*Acanthodoras*, *Agamyxis*, *Amblydoras*, *Anadoras*, *Physopyxis*) inhabit the calm shallow waters of ponds, lowland creeks, sluggish channels and sheltered margins of rivers. Most are active at night and remain hidden in submerged cavities in wood or partially buried along silted or sandy beaches during the day. A few species are adapted for the swift currents of large cataracts (*Anduzedoras*, *Hassar*) or open water (*Nemadoras elongatus*, *N. hemipeltis*). Some species appear restricted to black or clear-water river systems (*Anduzedoras oxyrhynchus*, *Centrodoras hasemani*, *Hassar* spp., *Leptodoras copei*, *Scorpiodoras heckelii*) and at least one species (*Lithodoras dorsalis*) is presumably tolerant of brackish water. *Lithodoras* is especially common in estuaries near the mouth of the Amazon River; adults seasonally migrate upstream while juveniles remain in the estuary (Goulding et al., 1996).

Information on ecology and life history is scarce and largely anecdotal. Doradids are generally considered opportunistic omnivores and are known to feed on detritus, fruits and other vegetable matter, mollusks, aquatic insects and annelids, crustaceans and small fishes (Eigenmann, 1925; Schultz, 1944; Menezes & Menezes, 1948; Menezes, 1949; Ringuelet et al., 1967; Goulding, 1980; Galvis et al., 1997). Gut contents of a few species (*Hassar*, *Leptodoras*) also may include substantial amounts of sand grains and/or small pebbles (Menezes, 1949; Sabaj, pers. obs.). *Oxydoras* and presumably other long-snouted forms forage the bottom for aquatic invertebrates and may derive some nutrition from ingesting detritus (Goulding, 1980). *Lithodoras dorsalis* migrates into flooded forests to forage on fruits and grasses and may be an effective dispersal agent for certain tree species (Goulding, 1980). The diets of *Megalodoras* and *Pterodoras* are evidently dominated by pulmonate snails and bivalves respectively (Mago-Leccia, 1978; Goulding, 1980; Sabaj, pers. obs.). The uniquely bizarre *Rhynchodoras* has vertical bill-like jaws which it may use as tweezers to extract prey from small cavities (Klauser & Rössel, 1961). Trematode, nematode and acanthocephalan parasites reportedly infest doradid species in the Paraná River (Hamman, 1982).

Very little is known of doradid reproduction. A few species (in *Acanthodoras*, *Agamyxis*, *Amblydoras*, and *Platydoras*) have been observed spawning in aquaria (Franke, 1989). As in the closely related Auchenipteridae, the male's body clasps that of the female as gametes are shed. However, unlike auchenipterids, males do not have an intromittent organ, fertilization is external and sexual dimorphism has not been reported. In nature, *Hassar wilderi* reaches sexual maturity at about 15 cm and spawns in the Tocantins River when waters ascend from November to January (Santos et al., 1984). *Oxydoras* participates in mass heterospecific fish runs in the Madeira River, Brazil, in periods of low water (Smith, 1981). The large species of the Paraguay-Paraná basin (*Oxydoras kneri*, *Pterodoras granulosus*, *Rhinodoras dorgibnyi*) also partake in seasonal migrations (Ringuelet et al., 1967) presumably related to their reproductive cycles.

Two other features of doradid morphology and behavior are of particular interest. Doradids often are called "talking catfishes" because many species can produce audible sounds described as groans, chatters or purrs (Burgess, 1989; Nelson, 1994). Some species (*Acanthodoras*, *Agamyxis*, *Doras*) produce stridulation sounds by moving their pectoral-fin spines (Le Bail et al., 2000; Sabaj, pers. obs.) and the pectoral girdle may serve as an acoustic radiator as in ictalurid catfishes (Fine et al., 1997). Doradids also can produce harmonic sounds via the elastic-spring apparatus (Tavolga, 1962; Pfeiffer & Eisenberg, 1965; Kastenberger, 1977), a special arrangement of the parapophyses of the fourth vertebra, swim bladder and associated muscles and ligaments (Higuchi, 1992; de Pinna 1993).

Doradid taxonomy and systematics have been somewhat neglected since Eigenmann's (1925) revision. The most recent paper was published over a decade ago (Higuchi et al., 1990). Taxonomic progress on the family remains guarded by the uncertain placement and identity of many nominal forms. Further investigation of the taxa treated herein as Species inquirenda may result in additional valid species or effect further name changes. Synonymies of species in five genera (*Hassar*, *Megalodoras*, *Oxydoras*, *Platydoras* and especially *Pterodoras*) must be considered tentative at this time. Thorough revision of widely distributed taxa (e.g., *Platydoras costatus*, *Trachydoras*, *Leptodoras* and *Amblydoras*) will likely yield new species; however, their discovery awaits the taxonomic resolution of nominal forms.

The larger doradids (e.g., *Megalodoras*, *Pterodoras*, *Oxydoras*) are commonly marketed for consumption; however, their commercial value is moderate. In the Amazonas estuary, *Lithodoras dorsalis* is a relatively important subsistence and commercial fish, especially in smaller local markets. *Oxydoras* is said to be of little importance to commercial fisherman in the Orinoco River because the dark color of its flesh reduces its marketability (Novoa & Ramos, 1978). A few of the small and relatively "colorful" species (*Acanthodoras*, *Agamyxis*, *Amblydoras*, *Platydoras*) are routinely harvested and exported as ornamental fishes.

SPECIES INCERTAE SEDIS IN DORADIDAE

***Doras fimbriatus* Kner, 1855**

Doras lorricatus Kner, 1853: 146, fig. 2 on unnumbered plate. Type locality: not stated. Syntypes: NMW 45407-09 (4). Name made available on illustration of a swimbladder. Species description and illustration in Kner (1855: 134, pl. 3, fig. 5), as *Doras fimbriatus*, with locality given as: "Rio Guaporé." Published prior to *Doras fimbriatus* but not treated as valid since 1899 and, therefore, considered a nomen oblitum.

Doras fimbriatus Kner, 1855: 134, pl. 3 (fig. 5). Type locality: Rio Guaporé. Syntypes: NMW 45407-09 (4).

Maximum length: 8 cm SL

Distribution: South America: Guaporé River basin.

Countries: Bolivia, Brazil

Remarks and references: Species to be transferred to new genus (Sabaj, in prep.).

***Doras punctatus* Kner, 1853**

Doras (Corydoras) punctatus Kner, 1853: 146, fig. 5 on unnumbered plate. Type locality: not stated. Syntypes (17): NMW 45434-41 (14), RMNH 2966 (1). Name made available on illustration of a swimbladder. Later described and illustrated in Kner (1855: 136, pl. 6, fig. 10) on 17 specimens with locality given as: "Mato-grosso und Rio Guaporé."

Maximum length: 11 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil, Colombia, Ecuador, Peru

Remarks and references: Species to be transferred to new genus (Sabaj, in prep.).

Common names: Bagre hueso (Ecuador), Pirillo (Peru)

***Oxydoras eigenmanni* Boulenger, 1895**

Oxydoras eigenmanni Boulenger, 1895: 524. Type locality: Descalvados, Matto Grosso. Syntypes: BMNH 1895.5.17.50-52 (3); BMNH 1895.5.17.53 (1).

Maximum length: 9.7 cm SL

Distribution: South America: Amazon and upper Paraguay River basins.

Countries: Argentina, Bolivia, Brazil, Paraguay, Peru

Remarks and references: Species to be transferred to new genus (Sabaj, in prep.).

Common names: Armado (Argentina)

ACANTHODORAS

Cataphractus Edwards in Catesby, 1771: appendix. Type species: *Silurus cataphractus* Linnaeus, 1758. Type by absolute tautonymy. Gender: masculine. Predates *Acanthodoras* Bleeker, 1862, but the latter has not been treated as valid since before 1899 and *Acanthodoras* is in wide use. Therefore, *Cataphractus* is considered a nomen oblitum.

Acanthodoras Bleeker, 1862: 5. Type species: *Silurus cataphractus* Linnaeus, 1758. Type by original designation. Gender: masculine. Nomen protectum.

***Acanthodoras cataphractus* (Linnaeus, 1758)**

Silurus cataphractus Linnaeus, 1758: 307. Type locality: America. Syntype: BMNH 1853.11.12.193 (1). Type figured in Gronow (1754: pl. 3, figs. 3 & 4).

Cataphractus Americanus Bloch & Schneider, 1801: 107, pl. 28. Type locality: America, pedalis. Syntype: BMNH 1853.11.12.193 (1). Syntype figured in Gronow (1754: pl. 3, figs. 3 & 4).

Cataphractus americanus La Cépède, 1803: 124. Type locality: les deux Indes...l'américain...particulièrement dans la Caroline. Syntype: BMNH 1853.11.12.193 (1). Type locality evidently misinterpreted by La Cépède.

Doras Blochii Valenciennes in Cuvier & Valenciennes, 1840: 277 [207 of Strasbourg deluxe ed.]. Type locality: Not stated. Syntype: BMNH 1853.11.12.193 (1). Syntype figured in (Gronow 1754: pl. 3, figs. 3 & 4).

Callichthys asper Gronow in Gray, 1854: 157. Type locality: Americes Meridionalis rivulis. Syntype: BMNH 1853.11.12.193 (1). Syntype figured in Gronow (1754: pl. 3, figs. 3 & 4).

Maximum length: 11.5 cm SL

Distribution: South America: Amazon River basin; coastal drainages of French Guiana, Guyana and Suriname.

Countries: Bolivia, Brazil, Colombia, French Guiana, Guyana, Peru, Suriname

Common names: Bacu (Brazil), Bagre hueso (Ecuador), Baiacu (Brazil), Daqueiro (Brazil), Kronkron dilé (French Guiana), Silure cataphracte (French Guiana), Spiny catfish (USA), Talking catfish (USA)

***Acanthodoras depressus* (Steindachner, 1881)**

Doras (Rhinodoras) depressus Steindachner, 1881: 103, pl. 1 (fig. 3). Type locality: Ausstände (Lago Alexo) am mittleren Laufe des Amazonen-Stromes. Holotype: NMW 46870.

Maximum length: 8.1 cm SL

Distribution: South America: Amazon and Negro River basins.

Countries: Brazil

***Acanthodoras spinosissimus* (Eigenmann & Eigenmann, 1888)**

Doras brunnescens Jardine in Schomburgk, 1841: 163. Type locality: Upper Essequibo [British Guiana]. No types known. Predates *Doras spinosissimus* Eigenmann & Eigenmann, but not treated as valid since before 1899 and *D. spinosissimus* is in wide use. Therefore, *Doras brunnescens* considered a nomen oblitum.

Doras spinosissimus Eigenmann & Eigenmann, 1888: 161. Type locality: Coary [Brazil]. Holotype: MCZ 7222. Nomen protectum.

Maximum length: 13.7 cm SL

Distribution: South America: Amazon and Essequibo River basins.

Countries: Brazil, Colombia, Guyana, Peru

Common names: Bagre hueso (Ecuador), Kiru-kiru (Guyana), Macusi (Guyana), Sierra espinosa (Venezuela), Spiny catfish (USA), Talking catfish (USA)

Species inquirendae

Doras castaneo-ventris Jardine in Schomburgk, 1841: 161, pl. 3. Type locality: river Pasawiri. No types known.

Doras polygramma Kner, 1853: 145, fig. 1 on unnumbered plate. Type locality: not stated. Syntypes: NMW 46844 (2). Name made available on an illustration of a swimbladder. Treated in Kner (1855: 126-127) as *Doras cataphractus*, based on specimens from "Rio Guaporé and Barra do Rio negro".

AGAMYXIS

Agamyxis Cope, 1878: 679. Type species: *Doras pectinifrons* Cope, 1870. Type by monotypy. Gender: feminine.

***Agamyxis albomaculatus* (Peters, 1877)**

Doras albomaculatus Peters, 1877: 470. Type locality: Calabozo [Venezuela]. Syntypes (2): ZMB 10043 (1).

Maximum length: 15 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Common names: Sierra pintada (Venezuela), Spotted raphael catfish (USA)

***Agamyxis pectinifrons* (Cope, 1870)**

Doras pectinifrons Cope, 1870: 568. Type locality: Pebas, Ecuador [now Peru]. Holotype: ANSP 8346.

Doras (Agamyxis) flavopictus Steindachner, 1908a: 84. Type

locality: Iquitos [Amazonasgebiet]. Syntypes: NMW 46598-99 (2).
 Maximum length: 15 cm SL
 Distribution: South America: Amazon River basin.
 Countries: Bolivia, Brazil, Colombia, Peru
 Common names: Bagre (Peru), Bagre hueso (Ecuador), Spotted raphael catfish (USA)

AMBLYDORAS

Amblydoras Bleeker, 1862: 5. Type species: *Doras affinis* Kner, 1855. Type by original designation. Gender: masculine.
Zathorax Cope, 1871a: 112. Type species: *Zathorax monitor* Cope, 1872. Type by subsequent monotypy. Gender: masculine. Appeared first with no included species, subsequently described with one species (Cope 1872: 271).

***Amblydoras affinis* (Kner, 1855)**

Doras affinis Kner, 1855: 121, pl. 2 (fig. 1). Type locality: Rio branco und Guaporé. Syntypes (11): NMW 46822-23 (4); NMW 46826 (3); RMNH 2973 (1).
 Maximum length: 10 cm SL
 Distribution: South America: Guaporé, Branco and Essequibo River basins.
 Countries: Bolivia, Brazil, Guyana
 Remarks and references: Syntypes include one specimen (RMNH 2973) designated the holotype of *Amblydoras truncatus* Bleeker 1863; syntypes from Guaporé River (NMW 46823, 46826) also may be referable to this species if distinct.
 Common names: Saurauwari (Guyana), Yarauira (Guyana)

***Amblydoras bolivarensis* (Fernández-Yépez, 1968)**

Hildadoras bolivarensis Fernández-Yépez, 1968: 43, fig. 18. Type locality: Qda. El Pílon, al este del Río Parguaza, afluente (margen derecho) del Río Orinoco, frente a Pararuma [Estado Bolívar, Venezuela]. Holotype: FMNH 84067 [ex AFY 66121].
 Maximum length: 10.2 cm SL
 Distribution: South America: Orinoco River basin.
 Countries: Venezuela
 Common names: Sierra puyona (Venezuela)

***Amblydoras gonzalezi* (Fernández-Yépez, 1968)**

Zathorax gonzalezi Fernández-Yépez, 1968: 70, fig. 36. Type locality: Laguna "Punta Vista", a orillas del Río Caroní (margen izquierda) en el Parque Cachamay [Venezuela]. Holotype: MBUCV V-3940 [ex AFY 66119].
 Maximum length: 9.8 cm SL
 Distribution: South America: Orinoco River basin and Casiquiare Canal.
 Countries: Colombia, Venezuela
 Common names: Sierra del Caroní (Venezuela)

***Amblydoras monitor* (Cope, 1872)**

Zathorax monitor Cope, 1872: 272, pl. 4 (figs. 1a-1c). Type locality: [small streams tributary to the Ambyiacu, as well as ... the river itself ... which empties into the Amazon near Pebas, in Eastern Ecuador, some distance east of the Napo]. Lectotype: ANSP 8296, designated and figured in Eigenmann (1925: 363, pl. 16, fig. 3).
 Maximum length: 9 cm SL
 Distribution: South America: Upper Amazon River basin.
 Countries: Brazil, Colombia, Peru
 Common names: Bagre (Peru)

***Amblydoras nauticus* (Cope, 1874)**

Zathorax nauticus Cope, 1874: 133. Type locality: Nauta [Upper Amazon]. Syntypes: ANSP 21390-95 (6).
 Maximum length: 7.5 cm SL
 Distribution: South America: Upper Amazon River basin.
 Countries: Peru

Remarks and references: Four of six syntypes (excluding largest) are juvenile *Amblydoras monitor* Cope.
 Common names: Bagre (Peru)

Species inquirenda

Amblydoras truncatus Bleeker, 1863: 18. Type locality: flumine Guapore. Holotype: RMNH 2973. Holotype is also a syntype of *Doras affinis* Kner.

ANADORAS

Anadoras Eigenmann, 1925: 327. Type species: *Doras grypus* Cope, 1872. Type by original designation. Gender: masculine.

***Anadoras grypus* (Cope, 1872)**

Doras grypus Cope, 1872: 270, pl. 15 (figs. 1, 1a). Type locality: [small streams tributary to the Ambyiacu, as well as ... the river itself ... which empties into the Amazon near Pebas, in Eastern Ecuador, some distance east of the Napo]. Syntypes: ANSP 8345 (1), 16460 (1).
 Maximum length: 11.4 cm SL
 Distribution: South America: Upper Amazon River basin.
 Countries: Ecuador, Peru
 Common names: Bagre (Peru), Bagre hueso (Ecuador)

***Anadoras regani* (Steindachner, 1908)**

Doras regani Steindachner, 1908b: 163. Type locality: Fischmerke von Pará [Amazonasgebiete innerhalb Brasiliens]. Syntypes: NMW 46889 (4).
 Maximum length: 11 cm SL
 Distribution: South America: Amazon and Oyapock River basins.
 Countries: Brazil, French Guiana
 Remarks and references: Specimen from Oyapock River figured as *Amblydoras hancockii* in Le Bail et al. (2000: 41) appears to be *A. regani*.
 Common names: quiri-quiri (Brazil)

***Anadoras weddellii* (Castelnau, 1855)**

Doras weddellii Castelnau, 1855: 48, pl. 17 (fig. 1). Type locality: petites flaques d'eau de la province des Chiquitos. Holotype: MNHN 4155.
 Maximum length: 12 cm TL
 Distribution: South America: Upper Mamoré, Paraguay and Pilcomayo River basins.
 Countries: Argentina, Bolivia, Brazil, Paraguay
 Common names: Armado (Argentina), Carataí (Argentina, Brazil), Iagivá (Paraguay), Uarioroch (Brazil), Yagivá (Argentina)

ANDUZEDORAS

Anduzedoras Fernández-Yépez, 1968: 28. Type species: *Anduzedoras arleoi* Fernández-Yépez, 1968. Type by original designation. Gender: masculine.

***Anduzedoras oxyrhynchus* (Valenciennes, 1821)**

Doras Oxyrhynchus Valenciennes in Humboldt & Valenciennes, 1821: 184. Type locality: Probablement ... originaires d'Amérique. Holotype: MNHN 4190.
Doras (Corydoras) ophthalmus Kner, 1853: 146, fig. 3 on unnumbered plate. Type locality: not stated. Syntypes: NMW 45418-20 (4). Name made available on an illustration of a swimbladder. Species illustrated and described in more detail in Kner (1855: 147, pl. 5, fig. 8), as *D. (Oxydoras) lipophthalmus*, based on four specimens, with locality given as: "Rio negro."
Doras (Oxydoras) lipophthalmus Kner, 1855: 147, pl. 5 (fig. 8). Type locality: Rio negro [Brazil]. Syntypes: NMW 45418-20 (4).
Opsodoras steindachneri Eigenmann, 1925: 354. Type locality: Mouth of Rio Negro [Brazil]. Holotype: NMW 46379.
Anduzedoras arleoi Fernández-Yépez, 1968: 29, fig. 9. Type locality: Río Autana, al este de Puerto Ayacucho, terr. Fed. Amazonas [Venezuela]. Holotype: FMNH 84068 [ex AFY 66,122].

Maximum length: 32.3 cm SL

Distribution: South America: Negro and upper Orinoco River basins.

Countries: Brazil, Venezuela

Common names: Sierra ojona (Venezuela)

ASTRODORAS

Astrodoras Bleeker, 1862: 5. Type species: *Doras asterifrons* Kner, 1853. Type by original designation. Gender: masculine.

Astrodoras asterifrons (Kner, 1853)

Doras asterifrons Kner, 1853: 146, fig. 4 on unnumbered plate. Type locality: not stated. Syntypes (12): NMW 46412 (2), 46611 (6), 58211 (3), RMNH 2972 (1). Name made available on an illustration of a swimbladder. Species later described and illustrated in Kner (1855: 123, pl. 2, fig. 2), with the locality given as: "Barra do Rio negro und R. Guaporé."

Maximum length: 8 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil

CENTROCHIR

Centrochir Spix & Agassiz, 1829: 14. Type species: *Doras crocodili* Humboldt, 1821. Type by monotypy. Gender: feminine.

Centrochir crocodili (Humboldt, 1821)

Doras Crocodili Humboldt in Humboldt & Valenciennes, 1821: 181, pl. 48 (fig. 2). Type locality: Rio Magdalena...Nouvelle-Grenade...entre Pinto et Mompoix, par les 9° et 9°1/2 de latitude...[&] près du confluent du Rio Cauca [Colombia]. No types known.

Doras longispinis Steindachner, 1878: 89. Type locality: [Magdalena-Stromes]. Syntypes: NMW 46624 (4). Species illustrated and described in more detail in Steindachner (1879: 39, pls. 4 (fig. 2), 5 (fig. 1)).

Maximum length: 21 cm SL

Distribution: South America: Magdalena River basin.

Countries: Colombia

Common names: Cachegua (Colombia), Matacaimán (Colombia)

CENTRODORAS

Centrodoras Eigenmann, 1925: 309. Type species: *Doras brachiatus* Cope, 1872. Type by original designation. Gender: masculine.

Centrodoras brachiatus (Cope, 1872)

Doras brachiatus Cope, 1872: 270. Type locality: Between the mouth of the Rio Negro and the Huallaga, in the Marañon. Holotype: ANSP 8342. Appeared first as name only in Cope (1871b: 55).

Rhinodoras amazonum Steindachner, 1875: 141, pl. 2. Type locality: Amazonenstrom bei Teffé [brasilianische]. Holotype: ?NMW.

Maximum length: 41 cm TL

Distribution: South America: Amazon River basin (except Negro River).

Countries: Brazil, Colombia, Peru

Common names: Bagre (Peru)

Centrodoras hasemani (Steindachner, 1915)

Oxydoras (Rhinodoras) amazonum hasemani Steindachner, 1915a: 54. Type locality: Mündung des Rio Negro. Holotype: ?NMW. Name available from offprint that pre-dates the release of main work (Steindachner, 1917).

Maximum length: 21 cm SL

Distribution: South America: Negro River basin.

Countries: Brazil

DORAOPS

Doraops Schultz, 1944: 270. Type species: *Doraops zuloagai* Schultz, 1944. Type by original designation. Gender: masculine.

Doraops zuloagai Schultz, 1944

Doraops zuloagai Schultz, 1944: 271, pl. 7 (fig. A). Type locality: Río de Los Pajaros, 3 km above Lago Maracaibo [southwestern end of lake, Venezuela]. Holotype: USNM 121015.

Maximum length: 50 cm SL

Distribution: South America: Lake Maracaibo basin including lake itself (along southwest shore) and Apon, Santa Ana, Catatumbo, Escalante and de Los Pajaros River basins.

Countries: Colombia, Venezuela

Common names: Mariana (Colombia), Sierra malarma (Venezuela), Sierra mariano (Venezuela)

DORAS

Doras La Cèpède, 1803: 116. Type species: *Silurus carinatus* Linnaeus, 1766. Type by subsequent designation by Bleeker (1862: 5). Gender: masculine.

Mormyrostoma Miranda Ribeiro, 1911: 192. Type species: *Silurus carinatus* Linnaeus, 1766. Type by original designation. Gender: neuter.

Doras carinatus (Linnaeus, 1766)

Silurus carinatus Linnaeus, 1766: 504. Type locality: Surinami. No types known.

Maximum length: 30 cm SL

Distribution: South America: Essequibo River basin and other coastal drainages east to mouth of Amazon River, possibly in lower Amazon and lower Orinoco River basins.

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela

Remarks and references: Forms inhabiting lower Amazon and lower Orinoco are tentatively identified as *D. carinatus* and may represent one or more undescribed species.

Common names: Agunosu (French Guiana), Akuwi (French Guiana), Botinho (Brazil), Bukuturuma (French Guiana), Gonibita (French Guiana), Mandi-serra (Brazil), Poson agouti (French Guiana), Wakui (French Guiana)

Doras micropoeus (Eigenmann, 1912)

Hemidoras micropoeus Eigenmann, 1912: 195. Type locality: Wismar [Demerara, British Guiana]. Holotype: FMNH [ex CM 1636] (missing).

Maximum length: 35 cm SL

Distribution: South America: Essequibo, Demerara and Corantijn River basins, possibly other coastal drainages east to mouth of Amazon River.

Countries: French Guiana (?), Guyana, Suriname

Remarks and references: Le Bail et al. (2000) tentatively identified *Doras* cf. *micropoeus* from French Guiana.

Common names: Agunosu (French Guiana), Akuwi (French Guiana), Botinho (Brazil), Bukuturuma (French Guiana), Gonibita (French Guiana), Mandi-serra (Brazil), Poson agouti (French Guiana), Wakui (French Guiana)

Species inquirenda

Doras insculptus Miranda Ribeiro, 1912: 22. Type locality: Manáos. Lectotype: MNRJ 656A, designated by Miranda Ribeiro (1953: 398). [Species inquirenda and Incertae Sedis. Generic placement is likely *Anadoras* or *Amblydoras*].

FRANCISCODORAS

Franciscodoras Eigenmann, 1925: 317. Type species: *Doras marmoratus* Reinhardt, 1874. Type by original designation. Gender: masculine.

Franciscodoras marmoratus (Reinhardt, 1874)

Doras marmoratus Reinhardt in Lütken, 1874: 30. Type locality: flumine Rio das Velhas [in provincia Minas-geraës circa oppidulum Lagoa Santa, Brasiliae centralis]. Holotype: ZMUC 87. Also described and illustrated in Lütken (1875: 146 (and p. III of summary), pl. 1 (fig. 1)).

Maximum length: 36 cm TL

Distribution: South America: São Francisco River basin.

Countries: Brazil

Common names: Bozó (Brazil), Caboje (Brazil), Caborje (Brazil), Serrudo (Brazil), Vasconcellos (Brazil)

HASSAR

Hassar Eigenmann & Eigenmann, 1888: 158. Type species: *Doras orestis* Steindachner, 1875. Type by subsequent designation by Eigenmann (1910: 394). Gender: masculine.

Hassar affinis (Steindachner, 1881)

Oxydoras affinis Steindachner, 1881: 107, pl. 1 (fig. 1). Type locality: Rio Puty. Holotype: NMW 45394. Originally as *Oxydoras affinis*? (an *Oxyd. Orestes* var.?).

Hassar woodi Fowler, 1941: 139, fig. 36. Type locality: Rio Parnahyba, Therezina, Piahy [eastern Brazil]. Holotype: ANSP 69392.

Hassar iheringi Fowler, 1941: 140, fig. 39. Type locality: Rio Parnahyba, Therezina, Piahy [eastern Brazil]. Holotype: ANSP 69393.

Maximum length: 20 cm SL

Distribution: South America: Parnaíba River basin.

Countries: Brazil

Remarks and references: Questionable records from Itapicuru River and Fortaleza, Brazil (Steindachner 1917: 73, Fowler 1941: 142).

Common names: Bagre (Brazil), Cabeça de burro (Brazil), Mandí bicudo (Brazil), Mandí cachorro (Brazil), Mandí pirá (Brazil)

Hassar orestis (Steindachner, 1875)

Oxydoras Orestis Steindachner, 1875: 138, pl. 1. Type locality: Rio Xingu (bei den Wasserfällen) und Rio Iça [brasilianische]. Syntypes: NMW 45427-30 (7), NMW 78651 (1). Steindachner consistently spelled the name *orestis* in 1875, but later changed the spelling to *orestes*, which had been widely adopted.

Hemidoras notospilus Eigenmann, 1912: 196, pl. 19 (fig. 2). Type locality: Crab Falls [Essequibo, British Guiana]. Holotype: FMNH 53184 [ex CM 1623] (missing).

?*Hassar ucayalensis* Fowler, 1940: 228, fig. 16. Type locality: Ucayali River basin, Contamana, Peru. Holotype: ANSP 68647.

Maximum length: 20.6 cm SL

Distribution: South America: Amazon, Orinoco and Essequibo River basins.

Countries: Brazil, Colombia, Ecuador, Guyana, Peru, Venezuela

Remarks and references: Occurrence in Colombia and Peru tentative, based on questionable synonym *Hassar ucayalensis* Fowler. Common names: Bagre hueso (Ecuador), Botinho (Brazil), Chanchito (Peru), Sierra barbona (Venezuela)

Hassar wilderi Kindle, 1895

Hassar wilderi Kindle, 1895: 251. Type locality: Trocera, on Tocantins, Brazil. Lectotype: CAS 60711 [ex IU 5120 in part], designated and figured in Eigenmann (1925: 364, pl. 22, fig. 2); lectotype designation in Myers & Weitzman (1956: 4) not valid.

Maximum length: 25 cm TL

Distribution: South America: Tocantins River basin.

Countries: Brazil

Common names: Botinho (Brazil)

HEMIDORAS

Hemidoras Bleeker, 1858: 53. Type species: *Doras (Oxydoras) stenopeltis* Kner, 1855. Type by monotypy. Gender: masculine.

Hemidoras morrisoni Eigenmann, 1925

Hemidoras morrisoni Eigenmann, 1925: 347, pl. 27 (fig. 3). Type locality: Iquitos. Holotype: CAS 52130 [ex IU 15962, in part].

Maximum length: 14 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Brazil, Colombia, Ecuador, Peru

Remarks and references: Related to and possibly a junior synonym of *Opsodoras boulengeri* (Steindachner).

Common names: Bagre hueso (Ecuador), Rego rego (Peru)

Hemidoras stenopeltis (Kner, 1855)

Doras (Oxydoras) stenopeltis Kner, 1855: 142, pl. 4 (fig. 7). Type locality: Rio negro. Syntypes: NMW 45443 (2).

Maximum length: 12.5 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Colombia, Peru

Common names: Rego rego (Peru)

HYPODORAS

Hypodoras Eigenmann, 1925: 329. Type species: *Hypodoras forficulatus* Eigenmann, 1925. Type by original designation. Gender: masculine.

Hypodoras forficulatus Eigenmann, 1925

Hypodoras forficulatus Eigenmann, 1925: 330, pl. 25 (fig. 3). Type locality: Iquitos. Holotype: CAS 37246 [ex IU 15876].

Maximum length: 10.4 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

Common names: Pirillo (Peru)

KALYPTODORAS

Kalyptodoras Higuchi, Britski & Garavello, 1990: 220. Type species: *Kalyptodoras bahiensis* Higuchi, Britski & Garavello, 1990. Type by original designation. Gender: masculine.

Kalyptodoras bahiensis Higuchi, Britski & Garavello, 1990

Kalyptodoras bahiensis Higuchi, Britski & Garavello, 1990: 222, fig. 1. Type locality: Brazil, Bahia State, Rio Paraguaçu, lower course, downstream from Bananeiras dam, portion just before construction site of Pedra do Cavalo dam (12°32'05"S, 38°29'30"W to 12°35'50"S, 39°05'15"W). Holotype: MZUSP 38565.

Maximum length: 24.5 cm SL

Distribution: South America: Paraguaçu River River in Bahia State.

Countries: Brazil

Common names: Peracuca (Brazil)

LEPTODORAS

Leptodoras Boulenger, 1898a: 477. Type species: *Oxydoras acipenserinus* Günther, 1868a. Type by subsequent designation by Eigenmann (1910: 395). Gender: masculine.

Leptodoras acipenserinus (Günther, 1868)

Oxydoras acipenserinus Günther, 1868a: 475. Type locality: Xeberos [Upper Amazons]. Holotype: BMNH 1867.6.13.32. Species described in more detail and illustrated in Günther (1868b: 230, pl. 20).

Maximum length: 20.3 cm SL

Distribution: South America: Upper Amazon and Orinoco River basins.

Countries: Brazil, Colombia, Ecuador, Peru, Venezuela

Remarks and references: Böhlke (1970) briefly discussed taxonomy and relationships. Specimens from Venezuela identified as *Opsodoras limelli* (Eigenmann) by Fernández-Yépez (1968: 49-

50) appear to be closer to *L. acipenserinus*. Specimens from Orinoco and Negro River basins are tentatively identified as *Leptodoras acipenserinus* and may warrant recognition as one or more distinct species upon thorough revision.

Common names: Bagre hueso (Ecuador), Mandi-serra (Brazil), Pirillo (Peru), Sierra barbata (Venezuela)

***Leptodoras copei* (Fernández-Yépez, 1968)**

Anduzedoras copei Fernández-Yépez, 1968: 31, fig. 10. Type locality: una laguna al lado del Río Capanaparo [Venezuela].

Holotype: FMNH 84069 [ex AFY 51311].

Maximum length: 14.2 cm SL

Distribution: South America: Capanaparo, upper Orinoco and Negro River basins.

Countries: Brazil, Venezuela

Common names: Botinho (Brazil), Sierra del capanaparo (Venezuela)

***Leptodoras hasemani* (Steindachner, 1915)**

Hemidoras hasemani Steindachner, 1915b: 218. Type locality: [Amazonas, Südamerikas]. Syntypes: NMW 46381-85 (15), NMW 46470 (3). Species later illustrated and described in Steindachner (1917: 75, pl. 10, figs. 4-7), with locality as: "des Rio branco bei Boa Vista und Serra grande und an der Mündung des Rio negro."

Maximum length: 16.7 cm SL

Distribution: South America: Branco, Orinoco and Essequibo River basins.

Countries: Brazil, Guyana, Venezuela

Remarks and references: One syntype (NMW 46384) is *Hemidoras stenopeltis*.

***Leptodoras juruensis* Boulenger, 1898**

Leptodoras juruensis Boulenger, 1898a: 478. Type locality: Juruá River, Brazil. Holotype: BMNH 1898.10.11.25.

Maximum length: 28.8 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Colombia, Peru

Remarks and references: Böhlke (1970) briefly discussed taxonomy and relationships.

***Leptodoras linnelli* Eigenmann, 1912**

Leptodoras linnelli Eigenmann, 1912: 191, pl. 18 (fig. 1). Type locality: Tumatumari [lower Potaro, British Guiana]. Holotype: FMNH 53561 [ex CM 1626].

Maximum length: 23 cm SL

Distribution: South America: Upper Orinoco (Mavaca River), Essequibo and Demerara River basins and northern (left bank) tributaries to lower Amazon.

Countries: Brazil, Guyana, Venezuela

Remarks and references: Böhlke (1970) briefly discussed taxonomy and relationships.

Common names: Mandi-serra (Brazil)

***Leptodoras myersi* Böhlke, 1970**

Leptodoras myersi Böhlke, 1970: 54, fig. 1. Type locality: Peru, vicinity of Iquitos, Rio Amazonas (Marañon) between Isla Iquitos and Isla Lapuna, near Isla Lapuna shore. Holotype: ANSP 112318.

Maximum length: 7.7 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

Remarks and references: Böhlke (1970) briefly discussed taxonomy and relationships.

***Leptodoras praelongus* (Myers & Weitzman, 1956)**

Hassar praelongus Myers & Weitzman, 1956: 2, fig. 1. Type locality: São Gabriel Rapids of the Rio Negro,

Amazonas, Brazil. Holotype: SU 48679.

Maximum length: 17.3 cm SL

Distribution: South America: Negro and Orinoco River basins.

Countries: Brazil, Venezuela

Common names: Botinho (Brazil)

LITHODORAS

Lithodoras Bleeker, 1862: 5. Type species: *Doras lithogaster* Kner, 1855. Type by original designation. Gender: masculine.

***Lithodoras dorsalis* (Valenciennes, 1840)**

Doras dorsalis Valenciennes in Cuvier & Valenciennes, 1840: 284 [211 in Strasbourg deluxe ed.]. Type locality: not stated. Holotype: MNHN 4156.

Doras papilionatus De Filippi, 1853: 167. Type locality: in flumine Amazonum. Holotype: MZUT 229.

Doras lithogaster Kner, 1855: 132. Type locality: Forte do Rio branco. Syntypes (2): ?NMW. Name credited to Heckel manuscript; however, availability of name appears attributable solely to Kner.

Megalodoras paucisquamatus Van der Stigchel, 1946: 71, fig. 1. Type locality: Brazil. Holotype: RMNH 15480.

Maximum length: 100 cm TL

Distribution: South America: Amazon River basin and estuary near Cayenne, French Guiana.

Countries: Brazil, French Guiana

Common names: Bacu pedra (Brazil), Cascudo (Brazil), Doras à écussons dorsaux (French Guiana), Pacú (Brazil), Rock-bacu (USA), Vacú (Brazil)

MEGALODORAS

Megalodoras Eigenmann, 1925: 306. Type species: *Megalodoras irwini* Eigenmann, 1925. Type by original designation. Gender: masculine.

Hoplodoras Eigenmann, 1925: 310. Type species: *Doras uranoscopus* Eigenmann & Eigenmann, 1888. Type by original designation. Gender: masculine. Spelled *Haplodoras* on p. 311, *Hoplodoras* on fig. 12c, and *Hoplodoras* in key and main account. First reviser apparently Eschmeyer & Bailey, in Eschmeyer (1990).

Deltadoras Fernández-Yépez, 1968: 36. Type species: *Deltadoras guayoensis* Fernández-Yépez, 1968. Type by original designation. Gender: masculine.

***Megalodoras guayoensis* (Fernández-Yépez, 1968)**

Deltadoras guayoensis Fernández-Yépez, 1968: 37, fig. 14. Type locality: Caño de Guayo, Territorio Delta Amacuro, Venezuela. Holotype: MBUCV V-15211 [ex AFY 54818].

Hoplodoras ramirezi Fernández-Yépez, 1968: 47, fig. 19. Type locality: bajo Orinoco [Venezuela]. Holotype: AFY 66117 (missing).

Maximum length: 53 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Common names: Sierra conchua (Venezuela), Sierra gruñona (Venezuela)

***Megalodoras uranoscopus* (Eigenmann & Eigenmann, 1888)**

Doras uranoscopus Eigenmann & Eigenmann, 1888: 159. Type locality: Lake Hyanuary [Brazil]. Holotype: MCZ 7235.

?*Oxydoras (Rhinodoras) huberi* Steindachner, 1911: 324. Type locality: Rio Tocantins, bei Cameté [Amazonasgebiete]. Holotype: NMW 12615.

Doras libertatis Miranda Ribeiro, 1912: 20. Type locality: Manáos. Holotype: MNRJ 718 (missing). Holotype figured in Eigenmann (1925: Pl. 7).

Megalodoras irwini Eigenmann, 1925: 308, pl. 25 (fig. 2). Type locality: Iquitos. Holotype: CAS 80243 [ex IU 15427 in part]. Species account appears twice in paper; the first (p. 307) based on a single specimen (CAS 20735) intended as the holotype of

another new species description, which was recanted (except for word "holotype", which is considered here a lapsus calami) in the species account.

Maximum length: 53 cm SL

Distribution: South America: Amazon, Tocantins and Essequibo River basins.

Countries: Bolivia, Brazil, Colombia, Ecuador, Peru

Remarks and references: Species-level distinctiveness of Tocantins and Amazonas *Megalodoras* not investigated.

Common names: Bacu (Brazil), Bagre hueso (Ecuador), Key-way-mamma (Guyana), Rebeca (Brazil), Rego rego (Peru)

NEMADORAS

Nemadoras Eigenmann, 1925: 359. Type species: *Oxydoras elongatus* Boulenger, 1898. Type by original designation. Gender: masculine.

Nemadoras elongatus (Boulenger, 1898)

Oxydoras elongatus Boulenger, 1898b: 424, pl. 40 (fig. 4). Type locality: Rio Jurua, an affluent of the Amazons, Brazil. Holotype: BMNH 1971.4.13.1.

Opsodoras parallelus Eigenmann, 1925: 350, pl. 19 (fig. 3). Type locality: Iquitos. Holotype: CAS 60229 [ex IU 15964].

Maximum length: 12.7 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Colombia, Peru

Common names: Pirillo (Peru)

Nemadoras hemipeltis (Eigenmann, 1925)

Opsodoras hemipeltis Eigenmann, 1925: 349, pl. 19 (fig. 2). Type locality: Rio Ucayali at Contamana. Holotype: CAS 60236 [ex IU 15879].

Maximum length: 14.4 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Colombia, Peru

Common names: Pirillo (Peru)

Nemadoras humeralis (Kner, 1855)

Doras humeralis Kner, 1855: 140, pl. 4 (fig. 6). Type locality: Barra do Rio negro. Syntypes: NMW 45410 (2).

Oxydoras bachi Boulenger, 1898b: 423, pl. 40 (fig. 3). Type locality: Rio Jurua, an affluent of the Amazons, Brazil. Holotype: BMNH 1897.12.1.46.

Maximum length: 13 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil, Colombia, Peru

Common names: Pirillo (Peru)

Nemadoras leporhinus (Eigenmann, 1912)

Hemidoras leporhinus Eigenmann, 1912: 195, pl. 19 (fig. 1). Type locality: Tumatumari [lower Potaro, British Guiana]. Holotype: FMNH 53185 [ex CM 1624].

Maximum length: 8.1 cm SL

Distribution: South America: Orinoco, Branco and Essequibo River basins.

Countries: Brazil, Guyana, Venezuela

Remarks and references: Steindachner (1917: 72) appears to have correctly identified (in part) specimens of *N. leporhinus* from Branco River, Brazil.

Common names: Sierra llanera (Venezuela)

Nemadoras trimaculatus (Boulenger, 1898)

Oxydoras trimaculatus Boulenger, 1898b: 422, pl. 40 (fig. 1). Type locality: Rio Jurua, an affluent of the Amazons, Brazil. Syntypes: BMNH 1897.12.1.41-43 (3).

Leptodoras trimaculatus Fowler, 1914: 264, fig. 14. Type locality: Rupununi River, British Guiana [approximately ... North Latitude 2° to 3° and West Longitude 50°20']. Holotype: ANSP

39342. Preoccupied in *Opsodoras* by *Opsodoras trimaculatus* (Boulenger, 1898), replaced by *Opsodoras ogilviei* Fowler, 1958. *Opsodoras ogilviei* Fowler, 1958: 13. Type locality: Rupununi River, British Guiana [approximately ... North Latitude 2° to 3°, and West Longitude 50°20']. Holotype: ANSP 39342. Replacement for *Leptodoras trimaculatus* Fowler, 1914, preoccupied in *Opsodoras* by *Opsodoras trimaculatus* (Boulenger, 1898).

Maximum length: 10.8 cm SL

Distribution: South America: Amazon, Orinoco and Essequibo River basins.

Countries: Brazil, Colombia, Ecuador, Guyana, Peru, Venezuela

Common names: Bagre hueso (Ecuador)

OPSODORAS

Opsodoras Eigenmann, 1925: 348. Type species: *Opsodoras orthacanthus* Eigenmann, 1925. Type by original designation. Gender: masculine.

Opsodoras boulengeri (Steindachner, 1915)

Hemidoras boulengeri Steindachner, 1915b: 218. Type locality: Mündung des Rio negro [Südamerikas]. Holotype: NMW (not found in 2000). Species illustrated and described in more detail as *Hemidoras (Leptodoras) boulengeri* in Steindachner (1917: 77, pl. 8, figs. 1-3) and separate preprint Steindachner (1915a).

Maximum length: 14.2 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil

Remarks and references: Related to and possibly a senior synonym of *Hemidoras morrisi* Eigenmann.

Opsodoras morei (Steindachner, 1881)

Oxydoras Morei Steindachner, 1881: 106, pl. 1 (fig. 2). Type locality: Rio Negro. Holotype: NMW 45433.

Maximum length: 10.3 cm SL

Distribution: South America: Negro River basin.

Countries: Brazil

Remarks and references: Related to *Opsodoras boulengeri* (Steindachner) and *Hemidoras morrisi* Eigenmann.

Common names: Pirillo (Peru)

Opsodoras stuebelii (Steindachner, 1882)

Oxydoras Stuebelii Steindachner, 1882: 175. Type locality: Aus dem Huallaga. Syntypes (3): NMW (not found in 2000). Species illustrated and described in more detail in Steindachner (1883: 5, pl. 3, figs. 1-1b).

Opsodoras orthacanthus Eigenmann, 1925: 351, pl. 22 (fig. 3). Type locality: Iquitos. Holotype: CAS 60231 [ex IU 15884].

Maximum length: 11 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil, Colombia, Ecuador, Peru

Remarks and references: Related or possibly conspecific form present in Orinoco basin.

Common names: Bagre hueso (Ecuador), Pirillo (Peru), Shitari (Brazil)

Opsodoras ternetzi Eigenmann, 1925

Opsodoras ternetzi Eigenmann, 1925: 353. Type locality: Tapajos at Santarem. Holotype: CAS 60230 [ex IU 16173].

Maximum length: 12.2 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Colombia, Peru

Remarks and references: Related form in Negro River basin; also related or possibly conspecific form in Orinoco basin.

ORINOCODORAS

Orinocodoras Myers, 1927: 124. Type species: *Orinocodoras eigenmanni* Myers, 1927. Type by original designation. Gender: masculine.

***Orinocodoras eigenmanni* Myers, 1927**

Orinocodoras eigenmanni Myers, 1927: 124. Type locality: Venezuela: Caño de Quiribana near Caicara. Holotype: SU 58747 [ex IU 17689].

Maximum length: 20 cm SL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Common names: Sierra paeña (Venezuela)

OXYDORAS

Oxydoras Kner, 1855: 115. Type species: *Doras niger* Valenciennes, 1821. Type by subsequent designation by Eigenmann & Eigenmann (1890: 246). Gender: masculine. Designation of *Oxydoras kneri* Bleeker, 1862 [= *Doras (Oxydoras) niger* of Kner 1855] in Bleeker (1862: 5) considered invalid because the name *O. kneri* was not listed in Kner (1855).

Pseudodoras Bleeker, 1858: 53. Type species: *Doras niger* Valenciennes, 1821. Type by subsequent designation by Jordan (1919: 278). Gender: masculine.

Hildadoras Fernández-Yépez, 1968: 41. Type species: *Hildadoras orinocensis* Fernández-Yépez, 1968. Type by original designation. Gender: masculine.

***Oxydoras kneri* Bleeker, 1862**

Oxydoras kneri Bleeker, 1862: 5. Type locality: not stated. Holotype: ?NMW (not found in 2000). Based on *Doras niger* of Kner (1855), from Cujaba.

Maximum length: 70 cm TL

Distribution: South America: Paraná River basin.

Countries: Argentina, Bolivia, Brazil, Paraguay, Uruguay

Common names: Armado (Argentina), Armado blanco (Argentina), Armado chanco (Argentina, Uruguay), Armao (Argentina), Armao chanco (Argentina), Focinho de porco (Brazil), Itagua-pochih (Paraguay), Ytaguá pochic (Argentina), Ytaguá-poschú (Argentina)

***Oxydoras niger* (Valenciennes, 1821)**

Doras niger Valenciennes in Humboldt & Valenciennes, 1821: 184. Type locality: Probablement ... Originaires d' Amérique. Holotype: MNHN 4189.

?*Corydoras edentatus* Spix in Spix & Agassiz, 1829: pl. 5. Type locality: not stated. Type(s): apparently lost. Name available from plate illustrating syntype of *Doras humboldti* Spix & Agassiz, 1829.

?*Doras humboldti* Spix & Agassiz, 1829: 14, pl. 5. Type locality: fluvio S. Francisci mediae Brasiliae. Syntypes: apparently lost.

Rhinodoras prianomus Cope, 1874: 134. Type locality: Nauta [upper Amazon]. Holotype: ANSP 21203.

Rhinodoras teffeanus Steindachner, 1875: 145, pl. 3. Type locality: Teffé am Amazonenstrom [brasilianische]. Syntypes: NMW 44568-69 (2).

?*Oxydoras holdeni* Fernández-Yépez, 1968: 54, fig. 24. Type locality: Río Apure, frente a Mango Verde [Venezuela]. Holotype: AFY 51265 (missing).

Maximum length: 100 cm SL

Distribution: South America: Amazon, São Francisco and Essequibo River basins, possibly Orinoco River basin.

Countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Venezuela (?)

Remarks and references: Occurrence in Orinoco basin tentative, dependent upon identification of questionable synonym *Oxydoras holdeni* Fernández-Yépez; specimens of *Oxydoras niger* reported from Venezuela by Fernández-Yépez (1968: 57) pertain to *Oxydoras sifontesi* Fernández-Yépez. Species-level distinctiveness of São Francisco and Amazon *Oxydoras* not investigated.

Common names: Bagre hueso (Ecuador), Black doras (USA), Cuiu-cuiu (Brazil, Guyana), Cuyú-cuyú (Brazil, Guyana), Macusi (Guyana), Saurawari (Guyana), Toro (Brazil, Guyana), Turu-

shuqui (Peru)

***Oxydoras sifontesi* Fernández-Yépez, 1968**

Oxydoras sifontesi Fernández-Yépez, 1968: 58, fig. 28. Type locality: Laguna rebalsera "El Medio", Ciudad Bolívar [Venezuela]. Holotype: MBUCV V-1584.

Hildadoras orinocensis Fernández-Yépez, 1968: 41, fig. 17. Type locality: Boca del caño San Juan, Terr. Delta Amacuro [Venezuela]. Holotype: MBUCV V-3939 [ex AFY 61111].

Maximum length: 76 cm TL

Distribution: South America: Orinoco River basin.

Countries: Colombia, Venezuela

Remarks and references: Specimens of *Oxydoras niger* reported by Fernández-Yépez (1968: 57) pertain to this species.

Common names: Guitarrilla (Venezuela), Guitarrilla amarilla (Venezuela), Sierra lagunera (Venezuela), Sierra negra (Venezuela), Sierrita (Venezuela), Trompa de cochino (Venezuela)

PHYSOPYXIS

Physopyxis Cope, 1871a: 112. Type species: *Physopyxis lyra* Cope, 1871. Type by monotypy. Gender: feminine. More complete description in Cope (1872: 273).

***Physopyxis lyra* Cope, 1871**

Physopyxis lyra Cope, 1871a: 112. Type locality: Amazon. Holotype: ANSP 8282. Illustrated and described in more detail in Cope (1872: 273, pl. 5, figs. 1a-1c), with locality as Ambyiacu River, Ecuador [now Peru].

Maximum length: 3.5 cm SL

Distribution: South America: Amazon and Essequibo River basins.

Countries: Brazil, Colombia, Guyana, Peru

Remarks and references: Smallest known species of Doradidae.

Common names: Pirillo (Peru)

PLATYDORAS

Platydoras Bleeker, 1862: 5. Type species: *Silurus costatus* Linnaeus, 1758. Type by original designation. Gender: masculine.

***Platydoras armatulus* (Valenciennes, 1840)**

Doras armatulus Valenciennes in Cuvier & Valenciennes, 1840: 273 [204 in Strasbourg deluxe ed.]. Type locality: Brésil, ... le Parana, mais non au-dessous du 27°30' de latitude sud. Holotype: MNHN 4152.

Maximum length: 20 cm SL

Distribution: South America: Paraná River basin.

Countries: Argentina, Bolivia, Brazil, Paraguay, Uruguay

Common names: Armadillo (Brazil), Armado (Argentina), Botoado (Brazil), Itagwa (Paraguay)

***Platydoras costatus* (Linnaeus, 1758)**

Silurus costatus Linnaeus, 1758: 306. Type locality: Indiis. Type(s): apparently lost. More detailed description and illustration of type in Gronow (1754: 24-25, pl. 5, figs. 1 & 2).

Mystus ascita Gronow in Gray, 1854: 156. Type locality: Not stated. Type(s): apparently lost. Permanently invalid, preoccupied by *Mystus ascita* Walbaum (1792).

?*Doras dentatus* Kner, 1855: 118, pl. 3 (fig. 3). Type locality: Surinam. Holotype: NMW 46869. Originally proposed as *Doras dentatus*?

?*Doras helicophilus* Günther, 1868a: 475. Type locality: Surinam [Maroni River]. Syntypes: BMNH 1866.8.19.1-3 (3). Type locality confirmed in Günther (1868b: 229-230).

Maximum length: 24 cm SL

Distribution: South America: Amazon, Tocantins, Parnaíba, Orinoco, Essequibo River basins and coastal drainages in French Guiana and Suriname.

Countries: Bolivia, Brazil, Colombia, French Guiana, Guyana, Peru, Suriname, Venezuela

Remarks and references: Widespread and geographically variable species. Le Bail et al. (2000) recognized two distinct species of *Platydoras* in the Maroni River, however, their use of available names is questionable. Accurate determination of available names and the likely discovery of undescribed species await thorough revision.

Common names: Alasawa (French Guiana), Bacu (Brazil), Bacurebeca (Brazil), Corome (Suriname), Graviola (Brazil), Kiri kiri (Brazil), Okye okye (French Guiana), Rego rego (Peru), Roque roque (Brazil), Sierra rayada (Venezuela), Silure rayé (French Guiana), Soké (French Guiana), Striped raphael catfish (USA), Urutu (Brazil), Yaranira (Brazil)

Species inquirenda

Doras Hancockii Valenciennes in Cuvier & Valenciennes, 1840: 279 [207 in Strasbourg deluxe ed.]. Type locality: not stated. Holotype: BMNH 1857.6.13.163. Based on *Doras costata* of Hancock (1828), from Demerara [Guyana].

PTERODORAS

Pterodoras Bleeker, 1862: 5. Type species: *Doras granulosus* Valenciennes, 1821. Type by original designation. Gender: masculine.

Apuredoras Fernández-Yépez, 1950a: 195. Type species: *Apuredoras rivasi* Fernández-Yépez, 1950a. Type by original designation. Gender: masculine.

Parapterodoras Risso & Morra, 1964: 1. Type species: *Parapterodoras paranensis* Risso & Morra, 1964. Type by original designation. Gender: masculine.

Sachsdoras Fernández-Yépez, 1968: 66. Type species: *Sachsdoras apurensis* Fernández-Yépez, 1968. Type by original designation. Gender: masculine.

***Pterodoras granulosus* (Valenciennes, 1821)**

Doras granulosus Valenciennes in Humboldt & Valenciennes, 1821: 184. Type locality: Probablement Originaires d'Amérique. Holotype: MNHN 4187.

?*Doras maculatus* Valenciennes, 1836: pl. 5 (fig. 3). Type locality: not stated. Holotype: MNHN 8201 (1 of 2). Name available from plate that, according to Valenciennes (in Cuvier & Valenciennes 1840: 210 in Strasbourg deluxe ed.), was based on single specimen, but description in Cuvier & Valenciennes (1840: 209-211 in Strasbourg deluxe ed.) based on holotype (MNHN 4187) of *Doras granulosus* Valenciennes 1821 and two specimens (MNHN 8201) with locality as Buéno-Ayres.

?*Doras murica* Kner, 1855: 129. Type locality: Cujaba. Holotype: NMW. Name credited to Natterer manuscript; however, availability of name appears attributable solely to Kner.

?*Doras laevigatulus* Berg, 1901: 298. Type locality: Dock Sud, que comunica con el Río de la Plata y el Riachuelo de la Boca. Holotype: MACN 2118.

?*Doras lentiginosus* Eigenmann, 1917: 401, pl. 40. Type locality: Santarem. Holotype: FMNH 58056 [ex CM 7048a].

?*Silurus 12-radiatus* Larrañaga, 1923: 386. Type locality: [Uruguay]. No types known.

?*Silurus armatus* Larrañaga, 1923: 377. Type locality: [Uruguay]. No types known. Originally as *Silurus* (armado) *armatus*.

?*Parapterodoras paranensis* Risso & Morra, 1964: 2, pl. 1. Type locality: Río Paraná, frente a Corrientes. Holotype: Mus. Cien. Nat. del Chaco X-64-1.

Maximum length: 70 cm TL

Distribution: South America: Amazon and Paraná River basins and coastal drainages in Guyana and Suriname.

Countries: Argentina, Bolivia, Brazil, Colombia, Guyana, Paraguay, Peru, Suriname, Uruguay

Remarks and references: Specimens from Guyana and Suriname tentatively referred to *P. granulosus*.

Species-level distinctiveness of Paraná and Amazon *Pterodoras*

not investigated.

Common names: Abotoado (Brazil), Armado común (Argentina, Uruguay), Bacu (Brazil), Barriga-de-folha (Brazil), Botoado (Brazil), Itagivá (Paraguay), Rego rego (Peru)

***Pterodoras rivasi* (Fernández-Yépez, 1950)**

Apuredoras rivasi Fernández-Yépez, 1950a: 195, fig. on p. 196. Type locality: Río Apure, 2 km al este de San Fernando. Holotype: AFY 51062 (missing).

Pterodoras angeli Fernández-Yépez, 1968: 65, fig. 32. Type locality: Río Arauca, Edo. Apure [Venezuela]. Holotype: AFY 66803 (missing). Name spelled *Ptedoras angelis* in description heading but *Pterodoras angeli* seven times. Previous first reviser not found.

Sachsdoras apurensis Fernández-Yépez, 1968: 66, fig. 33. Type locality: Río Orinoco, cerca de la boca del Río Apure [Venezuela]. Holotype: AFY 66802 (missing).

Maximum length: 55 cm SL

Distribution: South America: Orinoco River basin.

Countries: Colombia, Venezuela

Remarks and references: Seven of eight paratypes (paratopotypes) designated by Fernández-Yépez (1950a: 196) for *Apuredoras rivasi* are extant as FMNH 84066.

Common names: Sierra apureña (Venezuela), Sierra cochina (Venezuela), Sierra manteca (Venezuela)

RHINODORAS

Rhinodoras Bleeker, 1862: 5. Type species: *Doras (Oxydoras) dorbignyi* Kner, 1855. Type by original designation. Gender: masculine.

***Rhinodoras boehlkei* Glodek, Whitmire & Orcés, 1976**

Rhinodoras boehlkei Glodek, Whitmire & Orcés, 1976: 3, fig. 1. Type locality: Eastern Ecuador, Río Bobonaza between Montalvo and Chicherato. Holotype: FMNH 79203.

Maximum length: 13.3 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Ecuador, Peru

Common names: Bagre hueso (Ecuador)

***Rhinodoras dorbignyi* (Kner, 1855)**

Doras (Oxydoras) d'Orbignyi Kner, 1855: 149, pl. 5 (fig. 9). Type locality: Río de la Plata. Holotype: NMW 44551. Name spelled *d'Orbigny* in description heading, *d'Orbignyi* three times in introduction to section on doradids. Previous first reviser not found; *dorbignyi* herein selected as correct original spelling. Name credited to Krøyer in Heckel manuscript; however, availability of name appears attributable solely to Kner.

Doras nebulosus Eigenmann & Kennedy, 1903: 500. Type locality: either in Mato Grosso [at Descalvados, Brazil] or [in the Paraguay at] Asuncion. Holotype: CAS 31186 [ex IU 9837].

Maximum length: 50 cm TL

Distribution: South America: Paraná River basin.

Countries: Argentina, Bolivia, Brazil, Paraguay, Uruguay

Common names: Armado (Argentina, Uruguay), Armado amarillo (Argentina), Botoado (Brazil), Marieta (Argentina, Brazil, Uruguay)

***Rhinodoras thomersoni* Taphorn & Lilyestrom, 1984**

Rhinodoras thomersoni Taphorn & Lilyestrom, 1984: 87, fig. 1. Type locality: Venezuela Noroccidental. Cuenca del Lago Maracaibo, Estado Zulia, desembocadura del Río Catatumbo, cerca de El Congo. Holotype: MCNG 368.

Maximum length: 20 cm SL

Distribution: South America: River basins along southwest shore of Lake Maracaibo (Santa Ana, Catatumbo and Escalante rivers).

Countries: Colombia, Venezuela

Common names: Mariano (Colombia)

RHYNCHODORAS

Rhynchodoras Klausewitz & Rösse, 1961: 45. Type species: *Rhynchodoras xingui* Klausewitz & Rösse, 1961. Type by original designation. Gender: masculine.

Rhynchodoras woodsi Glodek, 1976

Rhynchodoras woodsi Glodek, 1976: 44, fig. 1. Type locality: Eastern Ecuador, Moreta Bobonaza, between Sarayacu and Montalvo. Río Bobonaza, a tributary of Río Pastaza, itself a tributary of Río Marañon in Peru. Holotype: FMNH 77008.

Maximum length: 10.5 cm SL

Distribution: South America: Pastaza River basin in Marañon River drainage.

Countries: Ecuador

Common names: Bagre hueso (Ecuador)

Rhynchodoras xingui Klausewitz & Rösse, 1961

Rhynchodoras xingui Klausewitz & Rösse, 1961: 46, fig. 1. Type locality: Südamerika, Brasilien, Oberlauf des Rio Xingu. Holotype: SMF 5281.

Maximum length: 6.3 cm SL

Distribution: South America: Upper Xingu River basin.

Countries: Brazil

SCORPIODORAS

Scorpiodoras Eigenmann, 1925: 324. Type species: *Doras heckelii* Kner, 1855. Type by original designation. Gender: masculine.

Autanadoras Fernández-Yépez, 1950b: 8. Type species: *Autanadoras milesi* Fernández-Yépez, 1950b. Type by original designation. Gender: masculine.

Scorpiodoras heckelii (Kner, 1855)

Doras Heckelii Kner, 1855: 125, pl. 3 (fig. 4). Type locality: R. negro. Holotype: NMW 46613.

Doras Calderonensis Vaillant, 1880: 154. Type locality: [Caldéron (Haute-Amazone)]. Holotype: MNHN A.1980.

Autanadoras milesi Fernández-Yépez, 1950b: 8, pl. 1 (fig. 4). Type locality: Río Autana [Territorio Amazonas, Venezuela]. Holotype: MBUCV V-15210 [ex AFY 48163].

Maximum length: 16.1 cm SL

Distribution: South America: Negro, Orinoco, and upper Amazon River basins.

Countries: Brazil, Venezuela

Common names: Sierra gñere (Venezuela)

TRACHYDORAS

Trachydoras Eigenmann, 1925: 337. Type species: *Trachydoras atripes* Eigenmann, 1925. Type by original designation. Gender: masculine.

Trachydoras brevis (Kner, 1853)

Doras (Corydoras) brevis Kner, 1853: 146, fig. 8 on unnumbered plate. Type locality: Not stated. Syntypes (8): NMW 45397-99 (5), NMW 46375 (2), RMNH 2965 (1). Name made available on illustration of swimbladder. Species later described and illustrated in Kner (1855: 138-140, pl. 6, fig. 11), on 8 specimens with locality given as Barra do Rio negro; and swimbladder illustration in Kner (1853) corrected from fig. 6 to fig. 8.

Maximum length: 9.3 cm SL

Distribution: South America: Negro and Essequibo River basins.

Countries: Brazil, Guyana

Remarks and references: Larger (73.6 mm SL) of two specimens in NMW 45398 is referable to an undescribed species of *Trachydoras*.

Trachydoras microstomus (Eigenmann, 1912)

Hemidoras microstomus Eigenmann, 1912: 193, pl. 18 (fig. 2). Type locality: Rockstone [Essequibo, British Guiana]. Holotype:

FMNH 53206 [ex CM 1650].

Maximum length: 5.9 cm SL

Distribution: South America: Amazon, Orinoco and Essequibo River basins.

Countries: Bolivia, Brazil, Colombia, Guyana, Peru, Venezuela

Remarks and references: Specimens from Amazon and Orinoco rivers are tentatively identified as *Trachydoras microstomus* and may warrant recognition as one or more distinct species upon thorough revision.

Common names: Sierra culata (Venezuela)

Trachydoras nattereri (Steindachner, 1881)

Oxydoras Nattereri Steindachner, 1881: 104, pl. 2 (fig. 1). Type locality: Amazonen-Strome bei Teffe. Holotype: NMW (not found in 2000).

Maximum length: 10.3 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Colombia, Peru

Common names: Pirillo (Peru)

Trachydoras paraguayensis (Eigenmann & Ward, 1907)

Hemidoras paraguayensis Eigenmann & Ward in Eigenmann, McAtee & Ward, 1907: 116, pl. 34 (fig. 1). Type locality: [Paraguay River at ...] Corumba [in Matto Grosso, Brazil]. Holotype: CAS 37216 [ex IU 10127].

Maximum length: 10.4 cm SL

Distribution: South America: Paraná River basin.

Countries: Argentina, Bolivia, Brazil, Paraguay

Common names: Armado (Argentina, Paraguay), Rique-rique (Brazil)

Trachydoras steindachneri (Perugia, 1897)

Oxydoras steindachneri Perugia, 1897: 20. Type locality: Rio Beni [Bolivia]. Syntypes: MSNG 8834 (17).

Oxydoras trachyparia Boulenger, 1898b: 423, pl. 40 (fig. 2). Type locality: Rio Jurua, an affluent of the Amazons, Brazil. Syntypes: BMNH 1897.12.1.44-45 (2).

Trachydoras atripes Eigenmann, 1925: 339, pl. 26 (fig. 4). Type locality: Brook near R. Itaya, above Iquitos. Holotype: CAS 60234 [ex IU 15877].

Maximum length: 8.6 cm SL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil, Colombia, Ecuador, Peru

Common names: Bagre hueso (Ecuador), Pirillo (Peru)

WERTHEIMERIA

Wertheimeria Steindachner, 1877: 659. Type species: *Wertheimeria maculata* Steindachner, 1877. Type by monotypy. Gender: feminine.

Wertheimeria maculata Steindachner, 1877

Wertheimeria maculata Steindachner, 1877: 660, pl. 10. Type locality: Rio Jequitinhonha. Syntypes: NMW 43460 (1, lost), NMW 43461 (1).

Maximum length: 30 cm SL

Distribution: South America: Jequitinhonha River basin.

Countries: Brazil

Remarks and references: Placement in Doradidae first suggested by Miranda Ribeiro (1911); later corroborated by Higuchi et al. (1990) who briefly discussed possible relationship with *Kalyptodoras bahiensis*.

References

Berg, C. 1901. Comunicaciones ictiológicas. IV. Commun. Mus. Nac. Buenos Aires, 1 (9): 293-311.

Check List of the Freshwater Fishes of South and Central America

- Bleeker, P. 1858. De visschen van den Indischen Archipel Beschreven en toegelicht. Siluri. Acta Soc. Sci. Indo-Neerl., 4: i-xii + 1-370.
- Bleeker, P. 1862-63. Atlas ichthyologique des Indes Orientales Néerlandaises, publié sous les auspices du Gouvernement colonial néerlandais. Tome II. Siluroïdes, Chacoïdes et Hétérobranchoïdes. Amsterdam. 1-112, pls. 49-101.
- Bleeker, P. 1863. Sur quelques genres nouveaux du groupe des Doras. Neder. Tijdschr. Dierk., 1: 10-18.
- Bloch, M.E. and J.G. Schneider. 1801. M. E. Blochii, Systema Ichthyologiae iconibus cx illustratum. Post obitum auctoris opus inchoatum absolvit, correxit, interpolavit Jo. Gottlob Schneider, Saxo. Berolini. Sumtibus Austoris Impressum et Bibliopolio Sanderiano Commissum. lx + 584 p., 110 pl.
- Böhlke, J.E. 1970. A new species of the doradid catfish genus *Leptodoras*, with comments on related forms. Proc. California Acad. Sci. (Ser. 4), 38 (3): 53-61.
- Boulenger, G.A. 1895. [Abstract of a report on a large collection of fishes formed by Dr. C. Ternetz in Matto Grosso and Paraguay, with descriptions of new species.]. Proc. Zool. Soc. London, 1895 (3): 523-529.
- Boulenger, G.A. 1898a. Descriptions of two new siluroid fishes from Brazil. Ann. Mag. Nat. Hist. (Ser. 7), 2 (12): 477-478.
- Boulenger, G.A. 1898b. On a collection of fishes from the Rio Jurua, Brazil. Trans. Zool. Soc. London, 14 (7, no. 2): 421-428, pls. 39-42.
- Burgess, W.E. 1989. An atlas of freshwater and marine catfishes. A preliminary survey of the Siluriformes. T.F.H. Publications, Neptune City, New Jersey, U.S.A. 784 p., 285 pl.
- Castelnau, F.L. 1855. Poissons. In: Animaux nouveaux or rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847 ... +. xii + 112 p., 50 pl.
- Catesby, M. 1771. The natural history of Carolina, Florida and the Bahama Islands; containing the figures of birds, beasts, fishes, serpents...with their descriptions in English and French, etc. 3rd ed. 2 vols. London.
- Cope, E.D. 1870. Contribution to the ichthyology of the Marañon. Proc. Am. Philos. Soc., 11: 559-570.
- Cope, E.D. 1871a. [Some anatomical points of importance in the classification of the siluroids of the Amazon...]. Proc. Acad. Nat. Sci. Philadelphia, 23: 112-113.
- Cope, E.D. 1871b. [Fishes from the Amazon above the mouth of the Rio Negro.]. Proc. Acad. Nat. Sci. Philadelphia, 23: 55.
- Cope, E.D. 1872. On the fishes of the Ambyiacu River. Proc. Acad. Nat. Sci. Philadelphia, 23: 250-294, pls.
- Cope, E.D. 1874. On some Batrachia and Nematognathi brought from the upper Amazon by Prof. Orton. Proc. Acad. Nat. Sci. Philadelphia, 26: 120-137.
- Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. Proc. Am. Philos. Soc., 17 (101): 673-701.
- Cuvier, G. and A. Valenciennes. 1840. Histoire naturelle des poissons. Tome quinzisième. Suite du livre dix-septième. Siluroïdes. Ch. Pitois & V.° Levrault, Paris & Strasbourg. xxxi + 540 p., pls. 421-455.
- De Filippi, F. 1853. Nouvelles espèces de poissons. Rev. Mag. Zool. (Ser. 2), 5: 164-171.
- Eigenmann, C.H. 1910. Catalogue of the fresh-water fishes of tropical and south temperate America. In: Reports of the Princeton University expeditions to Patagonia 1896-1899. Zoology: 375-511.
- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. 1917. New and rare species of South American Siluridae in the Carnegie Museum. Ann. Carnegie Mus., 11 (3-4): 398-404, pls. 39-41.
- Eigenmann, C.H. 1925. A review of the Doradidae, a family of South American Nematognathi, or catfishes. Trans. Am. Philos. Soc. (N. S.), 22 (5): 280-365, pls. 1-27.
- Eigenmann, C.H. and R.S. Eigenmann. 1888. Preliminary notes on South American Nematognathi. I. Proc. California Acad. Sci. (Ser. 2), 1 (2): 119-172.
- Eigenmann, C.H. and R.S. Eigenmann. 1890. A revision of the South American Nematognathi or cat-fishes. Occas. Pap. California Acad. Sci., No. 1: 1-508 + errata and map.
- Eigenmann, C.H. and C.H. Kennedy. 1903. On a collection of fishes from Paraguay, with a synopsis of the American genera of cichlids. Proc. Acad. Nat. Sci. Philadelphia, 55: 497-537.
- Eigenmann, C.H., W.L. McAtee and D.P. Ward. 1907. On further collections of fishes from Paraguay. Ann. Carnegie Mus., 4 (2): 110-157, pls. 31-45.
- Eschmeyer, W.E. (ed.). 1990. Catalog of the genera of Recent fishes. California Academy of Sciences, 697 p.
- Fernández-Yépez, A. 1950a. Un nuevo pez de la familia Doradidae. Mem. Soc. Cienc. Nat. La Salle, 10 (27): 195-198.
- Fernández-Yépez, A. 1950b. Algunos peces del Rio Autana. Noved. Cient. Mus. Hist. Nat. La Salle (Ser. Zool.), (2): 1-18, pls. 1-3.
- Fernández-Yépez, A. 1968. Contribucion al conocimiento de la familia Doradidae en Venezuela. Bol. Inst. Oceanogr. Univ. Oriente, Cumana, 7 (1): 7-72.
- Fine, M.L., J.P. Friel, D. McElroy, C.B. King, K.E. Loesser and S. Newton. 1997. Pectoral spine locking and sound production in the channel catfish *Ictalurus punctatus*. Copeia, 1997 (4): 777-790.
- Fowler, H.W. 1914. Fishes from the Rupununi River, British Guiana. Proc. Acad. Nat. Sci. Philadelphia, 66: 229-284.
- Fowler, H.W. 1940. A collection of fishes obtained by Mr. William C. Morrow in the Ucayali River basin, Peru. Proc. Acad. Nat. Sci. Philadelphia, 91 (for 1939): 219-289.
- Fowler, H.W. 1941. A collection of fresh-water fishes obtained in eastern Brazil by Dr. Rodolpho von Ihering. Proc. Acad. Nat. Sci. Philadelphia, 93: 123-199.
- Fowler, H.W. 1958. Some new taxonomic names of fishlike vertebrates. Notulae Naturae (Philadelphia), No. 310: 1-16.
- Franke, H.-J. 1989. The first successful spawning of a white-spotted doradid. Tropical Fish Hobbyist, 38 (10): 111-116.
- Galvis, G., J.I. Mojica and M. Camargo. 1997. Peces del Catatumbo. Asociación Cravo Norte, Bogotá. 118 p.
- Glodek, G.S. 1976. *Rhynchodoras woodsi*, a new catfish from eastern Ecuador (Siluriformes: Doradidae) with a redefinition of *Rhynchodoras*. Copeia, 1976 (1): 43-46.
- Glodek, G.S., G.L. Whitmire and G. Orces V. 1976. *Rhinodoras boehlkei*, a new catfish from eastern Ecuador (Osteichthyes, Siluroidei, Doradidae). Fieldiana Zool., 70 (1): 1-11.
- Goulding, M. 1980. The fishes and the forest, explorations in Amazonian natural history. Univ. California Press, Berkeley. 280 p.
- Goulding, M., N.J.H. Smith and D.J. Mahar. 1996. Floods of fortune: ecology and economy along the Amazon. Columbia University Press, New York. 193 p.
- Gray, J.E. 1854. Catalogue of fish collected and described by Laurence Theodore Gronow, now in the British Museum. London. vii + 196 p.
- Gronow, L.T. 1754. Museum Ichthyologicum, sistens Piscium indigenorum & quorundam exoticorum, qui in Museo Laurenti Theodori Gronovii... adservantar 70 p. 4 pls. Leiden.
- Günther, A. 1868a. Diagnoses of some new freshwater fishes from Surinam and Brazil, in the collection of the British Museum. Ann. Mag. Nat. Hist., (Ser. 4) 1 (6): 475-481.
- Günther, A. 1868b. Descriptions of freshwater fishes from Surinam and Brazil. Proc. Zool. Soc. London, 1868 (2): 229-247, pls. 20-22.
- Hamman, M.I. 1982. Parásitos en peces de la familia Doradidae

Check List of the Freshwater Fishes of South and Central America

- del Río Paraná medio, Republica Argentina. Hist. Nat. (Corrientes), 2 (22): 193-199, 1 fig.
- Hancock, J. 1828. Notes on some species of fishes and reptiles, from Demerara, presented to the Zoological Society by John Hancock, Esq., corr. memb. Zool. Soc. In a letter addressed to the secretary of the Society. Zool. J., 4: 240-247.
- Higuchi, H. 1992. A phylogeny of the South American thorny catfishes (Osteichthyes; Siluriformes, Doradidae). Ph.D. dissertation, Harvard University, Cambridge, Massachusetts. 372 p.
- Higuchi, H., H.A. Britski and J.C. Garavello. 1990. *Kalyptodoras bahiensis*, a new genus and species of thorny catfish from northeastern Brazil (Siluriformes: Doradidae). Ichthyol. Explor. Freshwaters, 1 (3): 219-225.
- Humboldt, F.H.A. von and A. Valenciennes. 1821. Recherches sur les poissons fluviatiles de l'Amérique Équinoxiale. In: Voyage de Humboldt et Bonpland, Deuxième partie. Observations de Zoologie et d'Anatomie comparée. Paris. 145-216, pls. 45-52.
- Jordan, D.S. 1919. The genera of fishes, part II, from Agassiz to Bleeker, 1833-1858, twenty-six years, with the accepted type of each. A contribution to the stability of scientific nomenclature. Leland Stanford Jr. Univ. Publ. (Univ. Ser.): i-ix + 163-284 + i-xiii.
- Kastenberger, G. 1977. Der trommelapparat der Doradidae (Siluriformes, Pisces). Zool. J. Allgemeine Zool. Physiol. Tiere, 81: 281-309.
- Kindle, E.M. 1895. The South American cat-fishes belonging to Cornell University. Ann. N. Y. Acad. Sci., 7 [for 1894]: 249-256.
- Klausewitz, W. and F. Rössel. 1961. *Rhynchodoras xingui*, ein bemerkenswerter neuer Wels aus Brasilien (Pisces, Siluroidea, Doradidae). Senckenb. Biol., 42 (1/2): 45-48.
- Kner, R. 1853. Ueber einige Sexual-Unterschiede bei der Gattung *Callichthys* und die Schwimmblase bei *Doras* C. Val. Sitzungsber. Akad. Wiss. Wien, 11: 138-146, 1 pl.
- Kner, R. 1855. Ichthyologische Beiträge. Sitzungsber. Akad. Wiss. Wien, 17: 92-162, pls. 1-6.
- La Cépède, B.G.E. 1803. Histoire naturelle des poissons, vol. 5. Chez Plassan, Paris. lxxviii + 803 p. + index, 21 pl.
- Larrañaga, D.A. 1923. Escritos de Don Dámaso Antonio Larrañaga. Los Publica el Instituto Histórico y Geográfico del Uruguay. Edición Nacional. 512 p.
- Le Bail, P.-Y., P. Keith and P. Planquette. 2000. Atlas des poissons d'eau douce de Guyane, Tome 2, fascicule II: Siluriformes. Patrimoines naturels (M.N.H.N./S.P.N.), 43(II): 307 p.
- Linnaeus, C. 1758. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Tomus I. Editio decima, reformata. Holmiae. ii + 824 p.
- Linnaeus, C. 1766. Systema naturae sive regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. 12th ed., Vol. 1, pt. 1. Laurentii Salvii, Holmiae. 532 p.
- Lütken, C.F. 1874. Siluridae novae Brasiliae centralis a clarissimo J. Reinhardt in provincia Minas-geraês circa oppidulum Lagoa Santa, praecipue in flumine Rio das Velhas et affluentibus collectae, secundum characteres essentielles, breviter descriptae. Overs. Danske Vidensk. Selsk. Forhandl. Kjobenhavn, 1873 (3): 29-36.
- Lütken, C.F. 1875. Velhas-Flodens Fiske. Et Bidrag til Brasiliens Ichthyologi; efter Professor J. Reinhardts Indsamlinger og Optegnelser. K. Danske Vidensk. Selsk. Skr., Raekke 5, 12 (2): 121-253, + 2 unnum., + I-XXI, pls. 1-5.
- Mago-Leccia, F. 1978. Los peces de agua dulce de Venezuela. Cuadernos Lagoven, Venezuela. 35 p.
- Menezes, R.S. 1949. Alimentação de mandí bicudo, "Hassar affinis" (Steindachner), da bacia do Rio Parnaíba, Piauí (Actinopterygii, Doradidae, Doradinae). Rev. Brasil. Biol., 9(1): 93-96.
- Menezes, R.S. and M.F. Menezes. 1948. Alimentação de "graviola", "*Platydoras costatus*" (Linnaeus) da Lagoa de Nazaré, Piauí (Actinopterygii, Doradidae). Rev. Brasil. Biol., 8 (2): 255-260.
- Miranda Ribeiro, A. 1911. Fauna brasiliense. Peixes. Tomo IV (A) [Eleutherobranchios Aspirophoros]. Arq. Mus. Nac. Rio de Janeiro, 16: 1-504, Pls. 22-54.
- Miranda Ribeiro, A. 1912. Loricariidae, Callichthyidae, Doradidae e Trichomycteridae. In: Comissão de Linhas Telegraficas Estrategicas de Matto-Grosso ao Amazonas. 31 p., 1 pl.
- Miranda Ribeiro, P. 1953. Tipos das espécies e subespécies do Prof. Alipio de Miranda Ribeiro depositados no Museu Nacional. Arq. Mus. Nac. Rio de Janeiro 42: 389-417.
- Myers, G.S. 1927. Descriptions of new South American freshwater fishes collected by Dr. Carl Ternetz. Bull. Mus. Comp. Zool., 68 (3): 107-135.
- Myers, G.S. and S.H. Weitzman. 1956. Two new Brazilian freshwater fishes. Stanford Ichthyol. Bull., 7 (1): 1-4.
- Nelson, J.S. 1994. Fishes of the world. Third edition. John Wiley and Sons, New York. 600 p.
- Novoa, D.F. and F. Ramos. 1978. Las pesquerías comerciales del río Orinoco. Corp. Venezolana de Guayana. 161 p.
- Perugia, A. 1897. Di alcuni pesci raccolti in Bolivia dal Prof. Luigi Balzan. Ann. Mus. Civ. Stor. Nat. Genova, (Ser. 2a) 18: 16-27.
- Peters, W.C.H. 1877. Über die von Dr. C. Sachs in Venezuela gesammelten Fische. Monatsb. Akad. Wiss. Berlin, 1877: 469-473.
- Pfeiffer, W. and J.F. Eisenberg. 1965. Die lauterzeugung der dornwelse (Doradidae) und der fiederbartwelse (Mochokidae). Z. Morph. Ökol. Tiere, 54 (6): 669-679.
- de Pinna, M.C.C. 1998. Phylogenetic relationships of Neotropical Siluriformes (Teleostei: Ostariophysi): historical overview and synthesis of hypotheses. Pp. 279-330 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). Phylogeny and Classification of Neotropical fishes. Edipucers, Porto Alegre.
- Ringuélet, R.A., R.H. Arámburu and A.A. Arámburu. 1967. Los peces argentinos de agua dulce. Comisión de Investigación Científica, La Plata. 602 p.
- Risso, E.N.P. and M.I. Morra. 1964. *Parapterodoras paranensis*: nuevo género, nueva especie de Doradidae (Pisces--Nematognathi). Not. Mus. Cienc. Nat. Chaco, 1 (2): 1-5, pl. 1.
- Santos, G.M., M. Jégu and B. Merona. 1984. Catálogo de peixes comerciais do baixo rio Tocantins. Projeto Tucuruí, Eletro-norte/CNPq/INPA, Manaus. 83 p.
- Schomburgk, R.H. 1841. The Natural history of fishes of Guiana.-- Part I. In: Jardine, W. (ed.), The Naturalists' Library. Vol. 3. W. H. Lizars, Edinburgh. [1-16], 17-263, pls. 1-30.
- Schultz, L.P. 1944. The catfishes of Venezuela, with descriptions of thirty-eight new forms. Proc. U. S. Natl. Mus., 94 (3172): 173-338, pls. 1-14.
- Smith, N.J.H. 1981. Man, fishes and the Amazon. Columbia Univ. Press, New York. 180 p.
- Spix, J.B. von and L. Agassiz. 1829-31. Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXXVII-MDCCCXXX jussu et auspiciis Maximiliani Josephi I.... colleget et pingendo curavit Dr J. B. de Spix.... Monachii. Part 1: i-xvi + i-ii + 1-82, Pls. 1-48; part 2: 83-138, pls. 49-101.
- Steindachner, F. 1875. Über einige neue brasilienische Siluroiden aus der Gruppe der Doradinen. Sitzungsber. Akad. Wiss. Wien, 71: 138-151, pls. 1-4.
- Steindachner, F. 1877. Die Süßwasserfische des südöstlichen Brasilien (III). Sitzungsber. Akad. Wiss. Wien, 74: 559-694, pls. 1-13.
- Steindachner, F. 1878. Zur Fischfauna des Magdalenen-Stromes. Anz. Akad. Wiss. Wien, 15 (12): 88-91.
- Steindachner, F. 1879. Zur Fisch-fauna des Magdalenen-Stromes. Denkschr. Akad. Wiss. Wien, 39: 19-78, pls. 1-15.
- Steindachner, F. 1881. Beiträge zur Kenntniss der Flussfische Südamerikas. II. Denkschr. Akad. Wiss. Wien, 43: 103-146, pls. 1-7.

Check List of the Freshwater Fishes of South and Central America

- Steindachner, F. 1882. Beiträge zur Kenntniss der Flussfische Südamerikas (IV). Anz. Akad. Wiss. Wien, 19 (19): 175-180.
- Steindachner, F. 1883. Beiträge zur Kenntniss der Flussfische Südamerikas. IV. Denkschr. Akad. Wiss. Wien, 46: 1-44, Pls. 1-7.
- Steindachner, F. 1908a. Über drei neue Arten von Süßwasserfischen aus dem Amazonasgebiet und aus dem See Candidius auf der Insel Formosa, ferner über die vorgerückte Altersform von *Loricaria acuta* C. V. Anz. Akad. Wiss. Wien, 45 (7): 82-87.
- Steindachner, F. 1908b. Über zwei neue Siluroiden und zwei *Curimatus*-Arten, sowie über eine Varietät von *Ancistrus vittatus* aus dem Amazonasgebiete innerhalb Brasiliens. Anz. Akad. Wiss. Wien, 45 (11): 163-168.
- Steindachner, F. 1911. Über vier neue Siluroiden und Characinen aus dem Amazonasgebiete und von Ceará aus der Sammlung des Museums Göldi in Pará. Anz. Akad. Wiss. Wien, 48 (15): 324-331.
- Steindachner, F. 1915a. Beiträge zur Kenntniss der Flussfische Südamerikas. V. Denkschr. Akad. Wiss. Wien, 93: 15-106.
- Steindachner, F. 1915b. Beiträge zur Kenntnis der Flussfische Südamerikas V. Anz. Akad. Wiss. Wien, 52 (18): 217-219.
- Steindachner, F. 1917. Beiträge zur Kenntnis der Flussfische Südamerikas V. Denkschr. Akad. Wiss. Wien, 93:15-106, pls. 1-13.
- Taphorn, D.C. and C.G. Lilyestrom. 1984. *Rhinodoras thomersoni*: un bagre sierra nuevo en Venezuela (Pisces, Doradidae). Rev. Unellez Cien. Tec., 2 (2): 87-92.
- Tavolga, W.N. 1962. Mechanisms of sound production in the ariid catfishes *Galeichthys* and *Bagre*. Bull. Amer. Mus. Nat. Hist., 124 (1): 1-30.
- Vaillant, L.L. 1880. Synopsis des espèces de Siluridae recueillies par M. le Dr. Jobert, à Caldéron (Haute-Amazone). Bull. Soc. Philomath. Paris (Ser. 7), 4: 50-159.
- Valenciennes, A. 1836. Poissons [plate 5]. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivia, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Bertrand et Levrault, Paris.
- Van der Stigchel, J.W.R. 1946. The South American Nematognathi of the Museums at Leiden and Amsterdam. Zool. Meded. (Leiden), 27: 1-204, tables 1-3.
- Walbaum, J.J. 1792. Petri Artedi Sueci Genera piscium. In quibus systema totum ichthyologiae proponitur cum classibus, ordinibus, generum characteribus, specierum differentiis, observationibus plurimis. Redactis speciebus 242 ad genera 52. Ichthyologiae, pars iii. Pt. 3: 1-723, Pls. 1-3. [Reprint 1966 by J. Cramer.]

Family Auchenipteridae (Driftwood catfishes)

Carl J. Ferraris, Jr.

The Auchenipteridae comprise a group of small to medium sized catfishes that are endemic to the Neotropics. The family can be readily recognized by the following combination of characters: Body without bony plates; dorsal region of body, between head and dorsal fin origin, covered with bony plates that are sutured together and readily visible beneath a thin skin; nasal barbel absent; adipose dorsal fin small, rarely absent; eye covered with adipose tissue and not possessing a distinct orbital rim. Internally, the family possesses a number of osteological features, especially of the cranium and anterior vertebrae, which serve as the basis of the hypothesis that the species form a natural group.

Auchenipterids are unique among catfishes in at least one aspect of their reproductive biology. All species are thought to undergo internal insemination and the female does not necessarily expel her mature ova immediately following spawning. Instead, females may carry mature, unfertilized eggs and packets of sperm inside her reproductive organs for an extended period of time before triggering fertilization and deposition of the eggs. This presumably allows the female time to search for a suitable location for egg deposition after spawning. In all genera for which nuptial males and females have been found, there is a pronounced sexual dimorphism of the anal fin and, in some species, the dorsal fin, maxillary barbels, and other parts of the body. Some of the anterior rays of the anal fin in males become enlarged and modified in shape, forming an intromittent organ for the deposition of sperm packets inside the female. In most cases, the urogenital opening of the male is at the end of an elongated tube that is sometimes attached to the anterior margin of the anal fin, which presumably facilitates transfer of the sperm. Elongated dorsal-fin spines and stiffened maxillary barbels in nuptial males appear to act as clasping organs, which hold the female near to the male during spawning. The surface of the maxillary barbels, along with the dorsal surface of the head, may be covered with fine bumps or ridges, composed of unculi, which may also assist the males in firmly grasping the female. Except for the modified anal-fin rays, the secondary sexually dimorphic characters found in male auchenipterids disappear at the end of the reproductive season.

Auchenipterids are typically nocturnal, although species of *Auchenipterus*, *Ageneiosus*, and some *Centromochlus* appear to actively feed during the daylight hours. Most species for which food habits have been studied feed on insects, especially those that fall onto the surface of the water. At night, auchenipterids can be observed swimming just below the surface of the water, darting around picking at insects that struggle on the water's surface. A few auchenipterids, such as species of *Auchenipterus*, are planktivores, and species of *Ageneiosus* as well as *Asterophysus batrachus* appear to be primarily piscivorous. During the day, many of the nocturnal species retreat to deeper water and hide. They can often be found in crevices in submerged logs, giving rise to the common name for the family: the driftwood, or wood, catfish. Most species of auchenipterids are quite small, not reaching beyond 20 cm SL. The smallest species is *Gelanoglanis nanonocticolus*, which is known to reach only 2.2 cm. The largest auchenipterids are species of *Ageneiosus*, several of which reach to nearly one-half meter in length.

Auchenipterids are widely distributed in South America. One or more species is found in all major river drainages east of the Andes, and species are known from the Caribbean trans-Andean drainages and one Pacific basin: the Tuira River of Panama. Auchenipterids are otherwise not known from the Pacific versant drainages of the Americas. One species, *Pseudoauchenipterus nodosus*, is routinely found in estuarine waters; all other species appear to be restricted to freshwaters.

Some species of *Ageneiosus* reach large enough size to be valuable food fishes. However, most auchenipterids are not large enough, or abundant enough, to be important for food. In recent years, *Auchenipterus osteomystax* has become the most abundant species of the Itaipú Reservoir of the upper Paraná River (Agostino et al., 1994), where it could become an important food source. A few auchenipterid species are exported into the ornamental fish trade, but inasmuch as most species are nocturnal, they are often kept only by advanced hobbyists.

As currently recognized, the Auchenipteridae includes two subfamilies: the Centromochlinae, which includes the genera *Centromochlus*, *Gelanoglanis*, *Glanidium* and *Tatia*; and the Auchenipterinae, which includes all the remaining genera. The Auchenipterinae, as now recognized, includes the genera *Ageneiosus* and *Tetranematichthys* which until recently comprised the family Ageneiosidae. In keeping with the other family accounts in this volume, all genera of the family are not subdivided into subfamilies but are instead listed below in alphabetical order. The taxonomy of the Auchenipteridae has changed dramatically over the past few decades as studies of the relationships among species have been completed. There are still a number of unresolved problems that will most likely result in the proposal of additional generic names to accom-

moderate newly recognized natural groups of species. In addition, the number of species recognized for this family will likely increase dramatically, especially when additional collecting of the small, secretive species brings more specimens to the attention of catfish taxonomists.

AGENEIOSUS

Ageneiosus La Cèpède, 1803: 132. Type species: *Ageneiosus armatus* La Cèpède, 1803. Type by subsequent designation by Eigenmann & Eigenmann (1890: 299). Gender: masculine. Earlier type designation by Bleeker (1862: 14) of *Ageneiosus militaris* Blkr (nec Val.) = *Silurus militaris* Bl not valid. Genus revised, with key to species, in Walsh (pers. comm. and 1990).

Ceratorhynchus Spix & Agassiz, 1829: 10. Type species: *Silurus militaris* [= ? *Silurus militaris* of Bloch, nec Linnaeus]. Type by monotypy. Gender: masculine.

Agenius Agassiz, 1846: 11. Type species: *Ageneiosus armatus* La Cèpède, 1803. Gender: masculine. Unjustified emendation of *Ageneiosus*, therefore taking the same type species.

Davalla Bleeker, 1858: 58, 64. Type species: *Davalla schomburgkii* Bleeker, 1858. Type by monotypy. Gender: feminine.

Pseudogeneiosus Bleeker, 1862: 14. Type species: *Ageneiosus brevifilis* Valenciennes, 1840. Type by original designation. Gender: masculine.

Tympanopleura Eigenmann, 1912: 203. Type species: *Tympanopleura piperata* Eigenmann, 1912. Type by original designation. Gender: feminine.

Ageneiosus atronasus Eigenmann & Eigenmann, 1888

Ageneiosus atronasus Eigenmann & Eigenmann, 1888: 149. Type locality: exact locality unknown [South America]. Holotype: MCZ 27270.

Ageneiosus melanopogon Miranda Ribeiro, 1917: 51. Type locality: Fluvio Solimões, Brazil. Holotype: Not found.

Tympanopleura nigricollis Eigenmann & Allen, 1942: 139, pl. 5 (figs. 2-3), 6 (fig. 3). Type locality: Iquitos [Peru]. Holotype: CAS 57940 [ex IU 15788].

Maximum length: 12 cm SL

Distribution: South America: Middle and upper Amazon River basin.

Countries: Bolivia, Brazil, Peru

Remarks and references: Redescribed with new synonymy in Walsh (pers. comm., and 1990).

Common names: Cunshi novia (Peru)

Ageneiosus brevis Steindachner, 1881

Ageneiosus brevis Steindachner, 1881b: 16. Type locality: Amazonenstrom bei Coary und aus dem Hyavary [Brazil]. Syntypes: (4) NMW 47801 (2).

Ageneiosus rondoni Miranda Ribeiro, 1914: 12, pl. 1 (fig. 3). Type locality: Rio Negro (Mañaos) [Brazil]. Lectotype: MNRJ 962A, designated by Miranda Ribeiro (1953: 394).

Ageneiosus madeirensis Fisher, 1917: 426, pl. 42. Type locality: San Joaquín, Bolivia. Holotype: FMNH 58143 [ex CM 7143].

Tympanopleura alta Eigenmann & Myers in Myers, 1928: 85. Type locality: Iquitos, Rio Marañon, Peru. Holotype: CAS 58258 [ex IU 15790].

Maximum length: 16 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Bolivia, Brazil, Peru

Remarks and references: Redescribed, with new synonymy, in Walsh (pers. comm., and 1990).

Common names: Cunshi novia (Peru)

Ageneiosus inermis (Linnaeus, 1766)

Silurus inermis Linnaeus, 1766: 503. Type locality: Surinam. No types known.

Ageneiosus armatus La Cèpède, 1803: 132, 133. Type locality: les eaux de Surinam, et peut-etre dans celles des Grandes Indes.

Types: On Bloch, pl. 362; *Silurus militaris* Linné; and others.

Ageneiosus brevifilis Valenciennes in Cuvier & Valenciennes, 1840: 242 (180 in Strasbourg deluxe ed.). Type locality: Cayenne [but changed to Suriname in Boeseman (1972: 303)]. Holotype: RMNH 2975 (larger of 2).

Hypothalmus dawalla Jardine in Schomburgk, 1841: 191, pl. 9. Type locality: Junction of Rupununi and Essequibo [Guyana], and Fort St. Joaquim, in the Rio Bronco. No types known. Name spelled dawalla in text; *davalla* on plate; first reviser not found.

Davalla schomburgkii Bleeker, 1858: 64. Type locality: Junction of Rupununi and Essequibo rivers [Guyana]. No types known. Unneeded replacement for *Hypothalmus dawalla* Jardine, 1841.

Ageneiosus axillaris Günther, 1864: 431. Type locality: Surinam. Holotype: BMNH 1864.6.2.2.

Ageneiosus sebae Günther, 1864: 192. Type locality: Suriname. Syntypes: MNHN ?(1) and Seba specimen.

?*Ageneiosus (Pseudogeneiosus) therezinae* Steindachner, 1909: 341. Type locality: Rio Parnahyba und Rio Puty bei Therezina [Brazil]. Syntypes: NMW 47840-41 (2 of "several").

Ageneiosus ogilviei Fowler, 1914: 266, fig. 15. Type locality: Rupununi River, British Guiana. Holotype: ANSP 39343.

Ageneiosus gabardinii Risso & Risso, 1964: 12, pl. 3 (fig. 1). Type locality: Río Paraná, a la altura de la Ciudad de Corrientes [Argentina]. Holotype: Mus. Cienc. Nat. del Chaco 3, VI-63-2.

Maximum length: 47 cm SL

Distribution: South America.

Countries: Argentina, Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Paraguay, Suriname, Venezuela

Remarks and references: Redescribed in Walsh (pers. comm., and 1990) as *Ageneiosus brevifilis* Valenciennes.

Common names: Doncella (Venezuela), Palmito (Brazil)

Ageneiosus magoi Castillo & Brull, 1989

Ageneiosus magoi Castillo & Brull, 1989: 73, fig. 1-2. Type locality: Los esteros de Camaguán, km 270, Estado Guárico [Venezuela]. Holotype: MBUCV-V-15666.

Maximum length: 18.1 cm SL

Distribution: South America: Orinoco basin.

Countries: Venezuela

Common names: Doncella (Venezuela)

Ageneiosus marmoratus Eigenmann, 1912

Ageneiosus marmoratus Eigenmann, 1912: 206, pl. 22 (fig. 1). Type locality: Creek below Potaro Landing [Guyana]. Holotype: FMNH 53245 [ex CM 1710].

?*Ageneiosus barranquerensis* Risso & Risso, 1964: 11, pl. 2. Type locality: frente a la desembocadura del Río Negro, Riacho Barranqueras [Argentina]. Holotype: Mus. Cien. Nat. del Chaco 11, III-63.

Maximum length: 18.5 cm SL

Distribution: South America.

Countries: Argentina, Ecuador, Guyana, Peru, Suriname

Remarks and references: Redescribed in Walsh (pers. comm., and 1990).

Common names: Doncella (Venezuela)

Ageneiosus militaris Valenciennes, 1836

Ageneiosus militaris Valenciennes, 1836: pl. 4 (fig. 1). Type locality: not stated. Holotype: MNHN B.690, B.691, or B.3167. Name available from plate; later described in Cuvier & Valenciennes (1840: 233; 173 in Strasbourg deluxe ed.), with type locality as: La Plata.

Ageneiosus valenciennesi Bleeker, 1864: 82. Type locality: La Plata. Holotype: MNHN B.690, B.691 or B.3167. New name for *Ageneiosus militaris* Valenciennes.

- Silurus 38-radiatus* Larrañaga, 1923: 386. Type locality: Uruguay. No types known.
- Silurus imberbis* Larrañaga, 1923: 376. Type locality: Uruguay. No types known.
- Ageneiosus uruguayensis* Devincenzi, 1933: 3, pl. 1. Type locality: Río Uruguay frente a Paysandú [Uruguay]. Holotype: MHNM CI 317.
- Ageneiosus marquesi* Risso & Risso, 1964: 20, pl. 6 (fig. 1). Type locality: Río Paraná, frente al tanque de obras Sanitarias de la ciudad de Corrientes, Argentina. Holotype: Mus. Cienc. Nat. del Chaco 12-V-64-1.
- Maximum length: 30 cm SL
Distribution: South America: La Plata River basin.
Countries: Argentina, Brazil, Paraguay, Uruguay
Remarks and references: Redescribed in Walsh (pers. comm., and 1990) as *Ageneiosus valenciennesi* Bleeker.
- Ageneiosus pardalis* Lütken, 1874**
Ageneiosus pardalis Lütken, 1874a: 190. Type locality: Caraccas [apparently in error, S. Walsh (pers. comm., and 1990)]. Holotype: ZMUC 207.
- Ageneiosus caucanus* Steindachner, 1880: 61, pl. 6 (fig. 1-1a). Type locality: [Río] Cauca [Colombia]. Syntypes: NMW 47811 (2).
- Ageneiosus virgo* Posada, 1909: 295. Type locality: [Río] Magdalena [Colombia]. No types known. *Ageneiosus freiei* Schultz, 1944: 240, pl. 4 (fig. B). Type locality: Río Agua Caliente, 2 to 3 km above Lago Maracaibo. Holotype: USNM 121260.
- Maximum length: 44 cm SL
Distribution: South America: Lake Maracaibo basin and Magdalena, Cauca, San Juan, and Tuirá River basins.
Countries: Colombia, Panama, Venezuela
Remarks and references: Redescribed in Walsh (pers. comm., and 1990).
Common names: Barbul rollera (Colombia), Doncella (Colombia, Venezuela), Fria (Colombia), Gata (Colombia), Niña (Colombia), Señorita (Colombia)
- Ageneiosus piperatus* (Eigenmann, 1912)**
Tympanopleura piperata Eigenmann, 1912: 203, pl. 20 (fig. 3). Type locality: Crab Falls [Essequibo R., Guyana]. Holotype: FMNH 53243 [ex CM 1708].
- Maximum length: 4.8 cm SL
Distribution: South America: Essequibo and upper Negro rivers near confluence of Branco River.
Countries: Brazil, Guyana
Remarks and references: Redescribed in Walsh (pers. comm., and 1990).
- Ageneiosus polystictus* Steindachner, 1915**
Ageneiosus polystictus Steindachner, 1915b: 217. Type locality: not stated. Holotype: NMW 47839. Redescribed and illustrated in Steindachner (1917: 84, pl. 7, figs. 1-3) with origin of specimen reported as "Mündung des Rio Negro".
- Maximum length: 45 cm SL
Distribution: South America: Negro and lower Branco River basins.
Countries: Brazil
Remarks and references: Redescribed in Walsh (pers. comm., and 1990).
- Ageneiosus ucayalensis* Castelnau, 1855**
Ageneiosus ucayalensis Castelnau, 1855: 49, pl. 17 (fig. 2). Type locality: un lac, près de l'Ucayale, et qui communiquait avec cette rivière. Holotype: MNHN B.611.
- ?*Ageneiosus dentatus* Kner, 1858: 441. Type locality: Surinam. Syntypes: NMW 47823 (6).
- ?*Ageneiosus porphyreus* Cope, 1867: 404. Type locality: Surinam. Lectotype: ANSP 8389, designated by Fowler (1915: 224).
- ?*Ageneiosus parnaguensis* Steindachner, 1910: 399, figured on p. 400. Type locality: see von Lake Parnaguá in brasilienischen Staate Piauhy, Brazil. Syntypes: NMW 47832, 47837, 47838.
- ?*Ageneiosus guianensis* Eigenmann, 1912: 204, pl. 21 (fig. 2). Type locality: Wismar [Guyana]. Holotype: FMNH 53247 [ex CM 1712a].
- Maximum length: 28.3 cm SL
Distribution: South America: Amazon and Orinoco River basins; Guianas, and upper Paraná River basin.
Countries: Argentina, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, Venezuela
Remarks and references: Redescribed in Walsh (pers. comm., and 1990).
Common names: Cunshi novia (Peru)
- Ageneiosus vittatus* Steindachner, 1908**
Ageneiosus vittatus Steindachner, 1908: 64. Type locality: Rio Purús [Brazil]. Holotype: NMW 47853.
- Maximum length: 22 cm SL
Distribution: South America: Middle Orinoco and upper Amazon River basins.
Countries: Bolivia, Brazil, Ecuador, Venezuela
Remarks and references: Redescribed in Walsh (pers. comm., and 1990).
- ASTEROPHYSUS**
Asterophysus Kner, 1858: 402. Type species: *Asterophysus batrachus* Kner, 1858. Type by monotypy. Gender: masculine.
- Astrophysus* Bleeker, 1858: 356. Type species: *Asterophysus batrachus* Kner, 1858. Gender: masculine. Unjustified emendation of *Asterophysus* Kner, therefore taking the same type species.
- Asterophysus batrachus* Kner, 1858**
Asterophysus batrachus Kner, 1858: 403, pl. 5 (fig. 13). Type locality: Marabitanos [Brazil]. Syntypes: NMW 47515-16 (2).
- Maximum length: 25 cm SL
Distribution: South America: Orinoco and Negro River basins.
Countries: Brazil, Venezuela
Common names: Bagre sapo (Venezuela)
- AUCHENIPTERICHTHYS**
Auchenipterichthys Bleeker, 1862: 7. Type species: *Auchenipterus thoracatus* Kner, 1858. Type by original designation. Gender: masculine.
- Auchenipterichthys coracoideus* (Eigenmann & Allen, 1942)**
Trachycorystes coracoideus Eigenmann & Allen, 1942: 120. Type locality: Iquitos [Peru]. Syntypes: CAS 63746 [ex IU 15974] (3).
- Maximum length: 10 cm SL
Distribution: South America: Upper Amazon River basin.
Countries: Peru
- Auchenipterichthys longimanus* (Günther, 1864)**
Auchenipterus longimanus Günther, 1864: 195. Type locality: River Capin [Pará, Brazil]. Syntypes: BMNH 1849.121.8; ZMB 5059.
- Maximum length: 15 cm SL
Distribution: South America: Amazon River basin.
Countries: Brazil
- Auchenipterichthys punctatus* (Valenciennes, 1840)**
Auchenipterus punctatus Valenciennes in Cuvier & Valenciennes, 1840: 219 (163 in Strasbourg deluxe ed.). Type locality: Probablement de Brésil. Holotype: MNHN B.216.
- Auchenipterichthys dantei* Soares-Porto, 1994: 282, fig. 3. Type locality: Brazil, Amazonas, Paricatuba, Rio Negro (3°07'S,

60°26'W). Holotype: MZUSP 43332.
 Maximum length: 15.1 cm SL
 Distribution: South America: Upper Amazon River basin.
 Countries: Brazil

***Auchenipterichthys thoracatus* (Kner, 1858)**

Auchenipterus thoracatus Kner, 1858: 425, pl. 7 (fig. 22). Type locality: Rio Guaporé [Brazil]. Syntypes: NMW 47452 (2).
Auchenipterus thoracicus Günther, 1864: 194. Type locality: Rio Guaporé. Syntypes: NMW 47452 (2). Unjustified emendation of *Auchenipterus thoracatus* Kner, 1858.
 Maximum length: 11 cm TL
 Distribution: South America: Amazon River basin.
 Countries: Peru
 Common names: Bagre (Peru), Barbudo (Ecuador)

AUCHENIPTERUS

Auchenipterus Valenciennes in Cuvier & Valenciennes, 1840: 207 (154 in Strasbourg deluxe ed.). Type species: *Hypophthalmus nuchalis* Spix & Agassiz, 1829. Type by subsequent designation by Bleeker (1862: 15). Gender: masculine. Revised, with a key to species, in Ferraris & Vari (1999).

Euanemus Müller & Troschel in Müller, 1842: 203. Type species: *Euanemus colymbetes* Müller & Troschel, 1842. Type by monotypy. Gender: masculine.

Auchenipterus Agassiz, 1846: 40. Type species: *Hypophthalmus nuchalis* Spix & Agassiz, 1829. Gender: masculine. Unjustified emendation of *Auchenipterus* Valenciennes, 1840, therefore taking the same type species.

Ceratocheilus Miranda Ribeiro, 1918: 644. Type species: *Ceratocheilus osteomystax* Miranda Ribeiro, 1918. Type by monotypy. Gender: masculine. Preoccupied by *Ceratocheilus* Wesché, 1810, in Diptera, replaced by *Osteomystax* Whitley, 1940.

Osteomystax Whitley, 1940: 242. Type species: *Ceratocheilus osteomystax* Miranda Ribeiro, 1918. Type by original designation. Gender: masculine. Replacement for *Ceratocheilus* Miranda Ribeiro, 1918, preoccupied by *Ceratocheilus* Wesché, 1810, in Diptera.

***Auchenipterus ambyiacus* Fowler, 1915**

Auchenipterus ambyiacus Fowler, 1915: 222, fig. 6. Type locality: Ambyiacu R., Ecuador [= Ampiyacu River, Peru]. Holotype: ANSP 21484.
 Maximum length: 24.4 cm SL
 Distribution: South America: Upper and middle Amazon and Orinoco River basins, coastal rivers of Guyana.
 Countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Venezuela
 Remarks and references: Redescribed in Ferraris & Vari (1999).
 Common names: Barbudo (Ecuador), Mararate (Peru)

***Auchenipterus brachyurus* (Cope, 1878)**

Euanemus brachyurus Cope, 1878: 676. Type locality: Peruvian Amazon. Holotype: ANSP 21552.
 Maximum length: 16.5 cm SL
 Distribution: South America: Upper Amazon River basin.
 Countries: Bolivia, Brazil, Ecuador, Peru
 Remarks and references: Redescribed in Ferraris & Vari (1999).
 Common names: Barbudo (Ecuador), Mararate (Peru)

***Auchenipterus brevior* Eigenmann, 1912**

Auchenipterus brevior Eigenmann, 1912: 202. Type locality: Tumatumari, British Guiana [= Guyana]. Holotype: FMNH 53249 [ex CM 1715].
 Maximum length: 8.4 cm SL
 Distribution: South America: Potaro River basin.
 Countries: Guyana
 Remarks and references: Redescribed in Ferraris & Vari (1999).

***Auchenipterus britskii* Ferraris & Vari, 1999**

Auchenipterus britskii Ferraris & Vari, 1999: 414, figs. 10-11.
 Type locality: Lago Janaucá, vicinity of Rio Solimões (approx. 3°28'S, 60°17'W), Amazonas, Brazil. Holotype: MZUSP 48358.
 Maximum length: 14 cm SL
 Distribution: South America: Middle Amazon River.
 Countries: Brazil

***Auchenipterus demerarae* Eigenmann, 1912**

Auchenipterus demerarae Eigenmann, 1912: 202, pl. 21 (fig. 1).
 Type locality: Wismar, British Guiana [= Guyana]. Holotype: FMNH 53248 [ex CM 1714].
 Maximum length: 10.3 cm SL
 Distribution: South America: Demerara, Rupununi, Essequibo and Cuyuni River basins.
 Countries: Guyana, Venezuela
 Remarks and references: Redescribed in Ferraris & Vari (1999).

***Auchenipterus dentatus* Valenciennes, 1840**

Auchenipterus dentatus Valenciennes in Cuvier & Valenciennes, 1840: 210 (163 in Strasbourg deluxe ed.). Type locality: Cayenne [= Paramaribo, Suriname]. Holotype: MNHN B.592.
Euanemus colymbetes Müller & Troschel in Müller, 1842: 203. Type locality: Suriname. Lectotype: ZMB 3095, designated by Ferraris & Vari (1999).
 Maximum length: 12.1 cm SL
 Distribution: South America: Northern coastal rivers of the Guianas: Corantijn, Suriname, Arataye, Sinnamary, and Oyapock rivers.
 Countries: French Guiana, Suriname
 Remarks and references: Redescribed in Ferraris & Vari (1999).

***Auchenipterus fordicei* Eigenmann & Eigenmann, 1888**

Auchenipterus fordicei Eigenmann & Eigenmann, 1888: 151. Type locality: Coary [=Coari, Amazonas, Brazil]. Holotype: MCZ 7289.
 Maximum length: 9.9 cm SL
 Distribution: South America: Middle Amazon River basin.
 Countries: Brazil
 Remarks and references: Redescribed in Ferraris & Vari (1999).

***Auchenipterus menezesi* Ferraris & Vari, 1999**

Auchenipterus menezesi Ferraris & Vari, 1999: 426, fig. 17. Type locality: Lago de Viana, Rio Pindaré. Mirim basin, Maranhão, Brazil. Holotype: MZUSP 43591.
 Maximum length: 13.1 cm SL
 Distribution: South America: Parnaíba and Pindaré-Mirim River basins of Maranhão and Piauí States.
 Countries: Brazil
 Common names: Peixe-gato (Brazil)

***Auchenipterus nigripinnis* (Boulenger, 1895)**

Euanemus nigripinnis Boulenger, 1895: 524. Type locality: Paraguay. Lectotype: BMNH 1895.5.17.37, designated by Ferraris & Vari (1999).
Auchenipterus paysanduani Devincenzi, 1933: 2. Type locality: Río Uruguay, frente a Paysandú [Uruguay]. Holotype: MNHM 4889 [ex CI 318].
 Maximum length: 20.2 cm SL
 Distribution: South America: La Plata River basin.
 Countries: Argentina, Brazil, Paraguay, Uruguay
 Remarks and references: Redescribed in Ferraris & Vari (1999).
 Common names: Hocicón (Brazil), Palmitinho (Brazil)

***Auchenipterus nuchalis* (Spix & Agassiz, 1829)**

Hypophthalmus nuchalis Spix & Agassiz, 1829: 17, pl. 17. Type locality: Brasilia aequatoriali, now restricted to Rio Capim, near São Domingos do Capim, Brazil. Neotype: MZUSP 47945, des-

ignated in Ferraris & Vari (1999).
 Maximum length: 15.4 cm SL
 Distribution: South America: Lower Amazon and Tocantins rivers northward to Marowijne River. Possibly also Rupununi River, Guyana, and Negro River, Brazil.
 Countries: Brazil, French Guiana
 Remarks and references: Redescribed in Ferraris & Vari (1999).

Auchenipterus osteomystax Miranda Ribeiro, 1918
Ceratocheilus osteomystax Miranda Ribeiro, 1918: 644, unnumbered pl. Type locality: Santa Rita das Antas, Rio Vermelho [Goiás], Brazil. Holotype: MZUSP 2317.
 Maximum length: 23 cm SL
 Distribution: South America: La Plata River basin, Tocantins River, and several rivers of lower Amazon River basin.
 Countries: Argentina, Brazil, Paraguay
 Remarks and references: Redescribed in Ferraris & Vari (1999).
 Common names: Buzo (Argentina), Hocicón (Argentina), Palmintinho (Brazil)

CENTROMOCHLUS

Centromochlus Kner, 1858: 430. Type species: *Centromochlus megalops* Kner, 1858. Type by subsequent designation by Bleeker (1862: 7). Gender: masculine. Expanded species membership follows Soares-Porto (1998), except for continued recognition of *Gelanoglanis*.

Centromochlus altae Fowler, 1945
Centromochlus altae Fowler, 1945: 109, fig. 8. Type locality: Morelia, Río Caquetá basin, Colombia. Holotype: ANSP 71700.
 Maximum length: 3.5 cm SL
 Distribution: South America: Caquetá River basin.
 Countries: Colombia
 Common names: Barbudito (Ecuador)

Centromochlus concolor (Mees, 1974)
Tatia concolor Mees, 1974: 84, fig. 22. Type locality: Headwaters of Coppename Rivier [sic] (3°49'N, 56°57'W), Suriname. Holotype: ZMA 106210.
 Maximum length: 3.3 cm SL
 Distribution: South America: Coppename River basin.
 Countries: Suriname

Centromochlus existimatus Mees, 1974
Centromochlus existimatus Mees, 1974: 50, fig. 8 (right). Type locality: Harbour of Manaus [Brazil]. Holotype: ANSP 73154.
 Maximum length: 6.6 cm SL
 Distribution: South America: Amazon River basin.
 Countries: Brazil, Peru
 Common names: Pirillo (Peru)

Centromochlus heckelii (De Filippi, 1853)
Auchenipterus Heckelii De Filippi, 1853: 167. Type locality: Rio Napo. Syntype: ZMUT 233.
Centromochlus Steindachneri Gill, 1870: 95. Type locality: Marañón River, upper Amazon and Napo Rivers. Type(s) not found at USNM (Ferraris & Vari, 1992).
 Maximum length: 7 cm SL
 Distribution: South America: Amazon and Orinoco River basins.
 Countries: Peru
 Common names: Barbudito (Ecuador), Pirillo (Peru)

Centromochlus macracanthus Soares-Porto, 2000
Centromochlus macracanthus Soares-Porto, 2000: 282, fig. 1. Type locality: Brazil: Amazonas: São Pedro, rio Negro. Holotype: MZUSP 30620.
 Maximum length: 7.1 cm SL
 Distribution: South America: Upper Negro River basin.
 Countries: Brazil

Centromochlus megalops Kner, 1858
Centromochlus megalops Kner, 1858: 430, pl. 8 (fig. 24). Type locality: Bogota [Colombia]. Syntypes: NMW 47359-60.
 Distribution: South America: Bogota (?).
 Countries: Colombia
 Remarks and references: Type locality probably in error.

Centromochlus punctatus (Mees, 1974)
Tatia punctata Mees, 1974: 88, fig. 24. Type locality: Creeks between Kabel and Lombé [Suriname]. Holotype: RMNH 26495.
 Maximum length: 4.5 cm SL
 Distribution: South America: Atlantic coastal rivers above Amazon River mouth.
 Countries: Suriname

Centromochlus reticulatus (Mees, 1974)
Tatia reticulata Mees, 1974: 90, fig. 25. Type locality: Karanambo, Rupununi, British Guiana. Holotype: BMNH 1972.7.27.702.
 Maximum length: 2.7 cm SL
 Distribution: South America: Rupununi River basin.
 Countries: Guyana

Centromochlus romani (Mees, 1988)
Tatia romani Mees, 1988: 412, fig. 3. Type locality: Río Guaraipiche, affluent of the Río San Juan, near Maturín, Monagas [Venezuela]. Holotype: RMNH 30490.
 Maximum length: 3.1 cm SL
 Distribution: South America: San Juan River basin.
 Countries: Venezuela

Centromochlus schultzi Rössel, 1962
Centromochlus schultzi Rössel, 1962: 27, fig. 1. Type locality: Brasilien, oberer Rio Xingu. Holotype: SMF 5462.
 Maximum length: 10.2 cm SL
 Distribution: South America: Upper Xingu and Tocantins River basins.
 Countries: Brazil
 Remarks and references: Redescribed in Mees (1974).

ENTOMOCORUS

Entomocorus Eigenmann, 1917: 403. Type species: *Entomocorus benjamini* Eigenmann, 1917. Type by monotypy. Gender: masculine.

Entomocorus benjamini Eigenmann, 1917
Entomocorus benjamini Eigenmann, 1917: 403, pl. 41. Type locality: San Joaquin [Bolivia]. Holotype: FMNH 58109 [ex CM 7006a].
 Maximum length: 7 cm SL
 Distribution: South America: Upper Madeira River basin.
 Countries: Bolivia

Entomocorus gameroi Mago-Leccia, 1984
Entomocorus gameroi Mago-Leccia, 1984: 217, figs. 1-6. Type locality: Boca del Río Apurito en el Río Apuré, cerca de San Fernando de Apuré, Guárico State, Venezuela. Holotype: MBUCV V-13808.
 Maximum length: 7 cm SL
 Distribution: South America: Apuré River basin in Orinoco River drainage.
 Countries: Venezuela

EPAPTERUS

Epapterus Cope, 1878: 677. Type species: *Epapterus dispilurus* Cope, 1878. Type by monotypy. Gender: masculine. Revised, with a key to species, in Vari & Ferraris (1998).

Epapterus blohmi Vari, Jewett, Taphorn & Gilbert,

1984

Epapterus blohmi Vari, Jewett, Taphorn & Gilbert, 1984: 463, fig. 1. Type locality: Laguna Los Guácimos, a broad shallow lagoon located on Fundo Pecuario Masaguaral, Guarico State, Venezuela, 8°34'N, 67°35'W. Holotype: MBUCV V-14100.

Maximum length: 8.5 cm SL

Distribution: South America: Orinoco River basin and Tuy River of the Caribbean coast of Venezuela.

Countries: Venezuela

Remarks and references: Reviewed in Vari & Ferraris (1998).

Epapterus dispilurus Cope, 1878

Epapterus dispilurus Cope, 1878: 677. Type locality: Peruvian Amazon. Lectotype: ANSP 21353, designated by Fowler (1941).

Euanemus longipinnis Steindachner, 1881b: 17. Type locality: Hyavary [=Rio Javary (Javari)]. Lectotype: NMW 46682.1, designated by Vari & Ferraris (1998: 992).

Epapterus chaquensis Risso & Risso, 1962: 5, figs. 1-3. Type locality: La laguna concida como "del Golf", en la proximidades de la ciudad de Resistencia, Provincia del Chaco, Argentina. Holotype: Univ. Nac. del Nordeste 17/VII/961-1.

Maximum length: 12.3 cm SL

Distribution: South America: Central and western parts of the Amazon River basin along and south of the main channel of the Amazon River, and Paraguay River basin in Paraguay, northern Argentina and southern Brazil.

Countries: Argentina, Bolivia, Paraguay, Peru

Remarks and references: Redescribed in Vari & Ferraris (1998).

Common names: Maparate (Peru)

GELANOGLANIS

Gelanoglanis Böhlke, 1980: 150. Type species: *Gelanoglanis stroudi* Böhlke, 1980. Type by original designation. Gender: masculine.

Gelanoglanis nanonotocolus Soares-Porto, Walsh, Nico & Netto, 1999

Gelanoglanis nanonotocolus Soares-Porto, Walsh, Nico & Netto, 1999: 65, fig. 1. Type locality: Venezuela: Amazonas State: Río Asisa 22-30 km upstream from confluence with Río Paru, Río Ventuari drainage, Orinoco River basin (approximately 4°33'N, 65°54'W). Holotype: MCNG 22690.

Maximum length: 2.22 cm SL

Distribution: South America: Asisa River basin in Orinoco drainage and Negro River basin.

Countries: Brazil, Venezuela

Gelanoglanis stroudi Böhlke, 1980

Gelanoglanis stroudi Böhlke, 1980: 152, fig. 1. Type locality: Colombia, Depto. Meta, Río Metica, ca. 22 km (air) SW of Puerto Lopez and 3 km SE of Hacienda Mozambique, 3°56'42"N, 73°02'23"W. Holotype: ANSP 142937.

Maximum length: 3.6 cm SL

Distribution: South America: Meta, Apure and Masparro River basins.

Countries: Colombia, Venezuela

GLANIDIUM

Glanidium Lütken, 1874b: 31. Type species: *Glanidium albescens* Lütken, 1874. Type by monotypy. Gender: neuter.

Gephyromochlus Hoedeman, 1961: 135. Type species: *Centromochlus (Gephyromochlus) leopardus* Hoedeman, 1961. Type by monotypy. Gender: masculine.

Glanidium albescens Lütken, 1874

Glanidium albescens Lütken, 1874b: 31. Type locality: Rio das Velhas [Minas Gerais, Brazil]. Syntypes: MNHN 9571 (1); NMW 46572 (1); ZMB 9176 (1); ZMUC 335-338, 341-342 (6).

Distribution: South America: Das Velhas River basin.

Countries: Brazil

Glanidium catharinensis Miranda Ribeiro, 1962

Glanidium catharinensis Miranda Ribeiro, 1962: 3, fig. 2. Type locality: Rio do Braço do Norte, São Ludgero, Município de Tubarão, Estado de Santa Catarina, Brazil. Holotype: MNRJ 5169.

Maximum length: 8.8 cm SL

Distribution: South America: Tubarão River basin in Santa Catarina State.

Countries: Brazil

Glanidium cesarpinto Ihering, 1928

Glanidium cesarpinto Ihering, 1928: 46, fig. 1. Type locality: Cachoeira de Emas (Pirassununga), Rio Mogy-guassú, Est. de S. Paulo, Brazil. Syntypes: (3), location unknown.

Distribution: South America: Mogi-guassú River basin, São Paulo State.

Countries: Brazil

Glanidium leopardum (Hoedeman, 1961)

Centromochlus (Gephyromochlus) leopardus Hoedeman, 1961: 135, fig. 3. Type locality: Litany River, village Aloiké, sta. 295 [French Guiana]. Holotype: ZMA 102233.

Maximum length: 10.9 cm SL

Distribution: South America: Coastal rivers of the Guianas.

Countries: French Guiana, Guyana, Suriname

Glanidium melanopteron Miranda Ribeiro, 1918

Glanidium melanopteron Miranda Ribeiro, 1918: 643. Type locality: Piquete, S. Paulo [Brazil]. Lectotype: MZUSP 345, designated in Britski (1969).

Maximum length: 15.1 cm SL

Distribution: South America: Piquete, São Paulo, Brazil.

Countries: Brazil

Glanidium ribeiroi Haseman, 1911

Glanidium ribeiroi Haseman, 1911: 381, pl. 78. Type locality: Porto União da Victoria, Paraná, Brazil, from Rio Iguassú. Holotype: FMNH 54253.

Distribution: South America: Iguazu River basin.

Countries: Brazil

LIOSOMADORAS

Liosomadoras Fowler, 1940: 226. Type species: *Liosomadoras morrowi* Fowler, 1940. Type by original designation. Gender: masculine.

Liosomadoras morrowi Fowler, 1940

Liosomadoras morrowi Fowler, 1940: 226, fig. 13. Type locality: Ucayali River basin, Contamana, Peru. Holotype: ANSP 68646.

Distribution: South America: Ucayali River basin.

Countries: Peru

Liosomadoras oncinus (Jardine, 1841)

Arius oncinus Jardine in Schomburgk, 1841: 173, pl. 4. Type locality: Padauri River No types known. Name spelled *oncinus* in text, *oncina* on figure caption. Mees (1978) serves as first reviser in selecting *oncinus*.

Maximum length: 17 cm TL

Distribution: South America: Branco River basin.

Countries: Brazil

PSEUDAUCHENIPTERUS

Pseudauchenipterus Bleeker, 1862: 6. Type species: *Silurus nodosus* Bloch, 1794. Type by original designation. Gender: masculine.

Silvaichthys Fernández-Yépez, 1973: [3]. Type species: *Silvaichthys aguilerae* Fernández-Yépez, 1973. Type by original designa-

tion. Gender: masculine.

***Pseudauchenipterus affinis* (Steindachner, 1877)**

Auchenipterus (Pseudauchenipterus) affinis Steindachner, 1877: 651. Type locality: Rio S. Matheus; Rio Mucury bei Porto Allegre [Brazil]. Syntypes: NMW 47384-87 (8).

Maximum length: 12 cm SL

Distribution: South America: Mucuri and São Mateus River basins.

Countries: Brazil

***Pseudauchenipterus flavescens* (Eigenmann & Eigenmann, 1888)**

Felichthys flavescens Eigenmann & Eigenmann, 1888: 152. Type locality: Rio San Francisco [Brazil]. Holotype: MCZ 7362.

Distribution: South America: São Francisco River basin.

Countries: Brazil

***Pseudauchenipterus jequitinhonhae* (Steindachner, 1877)**

Auchenipterus (Pseudauchenipterus) Jequitinhonhae Steindachner, 1877: 647, pl. 6 (fig. 1). Type locality: Rio Jequitinhonha, Brazil. Syntypes: NMW 19785-92 (8).

Maximum length: 11 cm SL

Distribution: South America: Jequitinhonha River basin.

Countries: Brazil

***Pseudauchenipterus nodosus* (Bloch, 1794)**

Silurus nodosus Bloch, 1794: 35, pl. 368 (fig. 1). Type locality: Tranquebar [South America]. Syntypes: ZMB 3096, 3097.

Auchenipterus furcatus Valenciennes in Cuvier & Valenciennes, 1840: 211 (157 in Strasbourg deluxe ed.). Type locality: Cayenne ou de Surinam. Syntypes: MNHN B.213 (1), 3049 (1), A.8855 (1).

Pseudauchenipterus guppyi Regan, 1906: 387, pl. 23 (not 24 as stated in the species account). Type locality: Caroni River [Trinidad]. Syntypes: BMNH 1906.6.23.49-50.

Pseudauchenipterus nigrolineatus Fowler, 1911: 434, fig. 5. Type locality: Pedernales, Venezuela. Holotype: ANSP 37876.

Silvaichthys aguilerae Fernández-Yépez, 1973: [4], unnumbered fig. Type locality: Gulfo de Paria, noreste de Venezuela, frente a IRAPA, Estado Suene. Syntypes: (4) originally as "Holotipo macho AFY 731.201, Holotipo hembra AFY 731.202, y los paratipos ... AFY 731.203 (2);" said to have been transferred to ANSP, but there are no records of the specimens having been cataloged there.

Maximum length: 22 cm SL

Distribution: South America: Lower reaches of rivers and into estuaries from Venezuela to Brazil, at least to Bahia, including southern Trinidad.

Countries: Brazil, French Guiana, Guyana, Suriname, Trinidad and Tobago, Venezuela

PSEUDEPAPTERUS

Pseudepapterus Steindachner, 1915b: 199. Type species: *Auchenipterus (Pseudepapterus) hasemani* Steindachner, 1915. Type by monotypy. Gender: masculine. Revised, with a key to species, in Ferraris & Vari (2000).

***Pseudepapterus cucuhyensis* Böhlke, 1951**

Pseudepapterus cucuhyensis Böhlke, 1951: 38, fig. 1. Type locality: Sandbank at Cucuhy on the Columbian [sic] border, Rio Negro, Brazil. Holotype: SU 16788.

Maximum length: 5.9 cm SL

Distribution: South America: Amazon and Negro River basins.

Countries: Brazil

Remarks and references: Redescribed in Ferraris & Vari (2000).

***Pseudepapterus gracilis* Ferraris & Vari, 2000**

Pseudepapterus gracilis Ferraris & Vari, 2000: 109, fig. 5. Type locality: Venezuela, Bolivar, Caño Chuapo, approximately 20 minutes downstream from Jabillal (on opposite bank) along Rio Caura, 7°07'N, 65°00'W. Holotype: ANSP 139502.

Maximum length: 8.1 cm SL

Distribution: South America: Caura River basin.

Countries: Venezuela

***Pseudepapterus hasemani* (Steindachner, 1915)**

Auchenipterus (Pseudepapterus) hasemani Steindachner, 1915b: 199. Type locality: Pará (Belem) [Brazil]. Holotype: NMW 47397.

Maximum length: 9.9 cm SL

Distribution: South America: Amazon River and many of its major tributary rivers, and Tocantins River basin.

Countries: Brazil, Peru

Common names: Bagre (Peru)

PSEUDOTATIA

Pseudotatia Mees, 1974: 105. Type species: *Pseudotatia parva* Mees, 1974. Type by original designation. Gender: feminine.

***Pseudotatia parva* Mees, 1974**

Pseudotatia parva Mees, 1974: 105, fig. 29. Type locality: Joazeiro, Brazil. Holotype: FMNH 70580.

Maximum length: 4.6 cm SL

Distribution: South America: São Francisco River basin.

Countries: Brazil

TATIA

Tatia Miranda Ribeiro, 1911: 360. Type species: *Centromochlus intermedius* Steindachner, 1877. Type by subsequent designation by Jordan (1920: 545). Gender: feminine.

***Tatia aulopygia* (Kner, 1858)**

Centromochlus aulopygius Kner, 1858: 432, pl. 8 (fig. 25). Type locality: Rio Guaporé [Brazil]. Syntypes: NMW 47329-33 (15), 47388 (1).

Maximum length: 6.5 cm TL

Distribution: South America: Guaporé River basin.

Countries: Brazil

***Tatia boemia* Koch & Reis, 1996**

Tatia boemia Koch & Reis, 1996: 86, fig. 2. Type locality: Rio Pelotas (tributary of the Rio Uruguai) approx. 27°47'S, 51°11'W, Rio Grande do Sul, Brazil. Holotype: MCP 17438.

Maximum length: 6.9 cm SL

Distribution: South America: Upper Uruguay River basin.

Countries: Brazil

***Tatia brunnea* Mees, 1974**

Tatia brunnea Mees, 1974: 84, fig. 21. Type locality: Compagnie Kreek [Suriname]. Holotype: RMNH 26196.

Maximum length: 7 cm SL

Distribution: South America: Suriname and Marowijne River basins.

Countries: French Guiana, Suriname

***Tatia creutzbergi* (Boeseman, 1953)**

Centromochlus creutzbergi Boeseman, 1953: 7, fig. 1c. Type locality: Djaijkreek, Surinam. Holotype: RMNH.

Maximum length: 3.3 cm SL

Distribution: South America: Suriname coastal rivers and Cudajas.

Countries: Brazil, Suriname

Remarks and references: Redescribed by Mees (1974).

***Tatia dunnii* Fowler, 1945**

Centromochlus dunnii Fowler, 1945: 111, fig. 11. Type locality: Morelia, Río Caquetá drainage, Colombia. Holotype: ANSP

71705.

Maximum length: 12 cm SL

Distribution: South America: Caquetá River basin.

Countries: Colombia

***Tatia galaxias* Mees, 1974**

Tatia galaxias Mees, 1974: 86, fig. 23. Type locality: Caño de Quiribana into Río Orinoco, Venezuela. Holotype: CAS 6567.

Maximum length: 9 cm TL

Distribution: South America: Middle Orinoco River basin.

Countries: Venezuela

***Tatia gyrina* (Eigenmann & Allen, 1942)**

Centromochlus gyrinus Eigenmann & Allen, 1942: 118, pl. 5 (fig. 4). Type locality: Río Itaya, Iquitos [Peru]. Holotype: CAS 36979 [ex IU 15795].

Maximum length: 4 cm

Distribution: South America: Upper Amazon River basin.

Countries: Peru

Common names: Kere kere (Peru)

***Tatia intermedia* (Steindachner, 1877)**

Centromochlus intermedius Steindachner, 1877: 664. Type locality: Marabitanos, Pará, Brazil. Holotype: NMW 47355.

Maximum length: 12 cm SL

Distribution: South America: Amazon River basin and rivers of Guianas.

Countries: Brazil, French Guiana, Guyana, Peru

Common names: Kere kere (Peru)

***Tatia musaica* Royero, 1992**

Tatia musaica Royero, 1992: 301, fig. 1. Type locality: Río Atuana, Caño Cabeza de Manteco, aproximadamente a 12 kms debajo del raudel Perezza, en el piedemonte del tepui Autana, Territorio Federal, Amazonas, Venezuela, 4°47'N, 67°23'W. Holotype: MBUCV-V15663.

Maximum length: 4.7 cm SL

Distribution: South America: Atabapo and Autana River basins in upper Orinoco River drainage.

Countries: Venezuela

***Tatia neivai* (Ihering, 1930)**

Glanidium neivai Ihering, 1930: 99, pl. 13 (fig. 1). Type locality: Piracicaba, Rio Piracicaba, Est. de S. Paulo [Brazil]. Holotype: not found.

Maximum length: 5.7 cm SL

Distribution: South America: Piracicaba River basin in São Paulo State.

Countries: Brazil

***Tatia perugiae* (Steindachner, 1882)**

Centromochlus Perugiae Steindachner, 1882a: 178. Type locality: Canelos [Ecuador]. Syntypes: NMW 47358 (3), SMF 5355 (1). Species described in more detail and illustrated in Steindachner (1882b: 29, pl. 7, figs. 2-2a).

Maximum length: 5 cm SL

Distribution: South America: Upper Amazon River basin.

Countries: Ecuador, Peru

Common names: Pirillo (Peru)

***Tatia simplex* Mees, 1974**

Tatia simplex Mees, 1974: 90, fig. 26. Type locality: Xaventina house beach, Rio das Mortes, Mato Grosso, Brazil. Holotype: BMNH 1971.7.29.5.

Maximum length: 2.8 cm SL

Distribution: South America: Das Mortes River in Mato Grosso State.

Countries: Brazil

***Tatia strigata* Soares-Porto, 1995**

Tatia strigata Soares-Porto, 1995: 202, fig. 1. Type locality: Brazil, Amazonas, Municipio de Maués, Igarapé Limãozinho. Holotype: MZUSP 44065.

Distribution: South America: Amazon River basin and upper reaches of the Orinoco River.

Countries: Brazil, Venezuela

TETRANEMATICHTHYS

Tetranematichtys Bleeker, 1858: 357. Type species: *Ageneosus quadrifilis* Kner, 1858. Type by monotypy. Gender: masculine.

***Tetranematichtys quadrifilis* (Kner, 1858)**

Ageneosus quadrifilis Kner, 1858: 442, pl. 9 (fig. 29). Type locality: Rio Guaporé [Brazil]. Holotype: NMW 43343.

Maximum length: 16 cm SL

Distribution: South America: Amazon and Orinoco River basins.

Countries: Brazil, Colombia, Venezuela

TOCANTINSIA

Tocantinsia Mees, 1974: 108. Type species: *Tocantinsia depressa* Mees, 1974. Type by original designation. Gender: feminine.

***Tocantinsia piresi* (Miranda Ribeiro, 1920)**

Glanidium piresi Miranda Ribeiro, 1920: 14, unnumbered pls. 15-17. Type locality: Rio S. Manoel [Mato Grosso, Brazil]. ?MNRJ.

Tocantinsia depressa Mees, 1974: 108, fig. 30. Type locality: Tocantins near Porto Nacional, Goyaz, Brazil. Holotype: CAS 6573.

Maximum length: 10 cm SL

Distribution: South America: Upper Tocantins River basin.

Countries: Brazil

Remarks and references: Synonymy follows Mees (1984).

TRACHELYICHTHYS

Trachelyichthys Mees, 1974: 111. Type species: *Trachelyichthys decaradiatus* Mees, 1974. Type by original designation. Gender: masculine.

***Trachelyichthys decaradiatus* Mees, 1974**

Trachelyichthys decaradiatus Mees, 1974: 112, fig. 31. Type locality: Karanambo area, Rupununi, British Guiana [= Guyana]. Holotype: BMNH 1971.7.29.30.

Maximum length: 8 cm SL

Distribution: South America: Rupununi River basin.

Countries: Guyana

***Trachelyichthys exilis* Greenfield & Glodek, 1977**

Trachelyichthys exilis Greenfield & Glodek, 1977: 49, fig. 2. Type locality: Río Mamón, a tributary of Río Nanay, approximately 25 km west of Iquitos, 3°42'S, 73°16'W, Peru. Holotype: FMNH 80476.

Maximum length: 8 cm SL

Distribution: South America: Nanay River basin in upper Amazon River drainage.

Countries: Peru

Common names: Cunshi novia (Peru)

TRACHELYOPTERICHTHYS

Trachelyopterichthys Bleeker, 1862: 16. Type species: *Trachelyopterus taeniatus* Kner, 1858. Type by original designation. Gender: masculine.

***Trachelyopterichthys anduzei* Ferraris & Fernandez, 1987**

Trachelyopterichthys anduzei Ferraris & Fernandez, 1987: 257, fig. 1. Type locality: Laguna de Carida at the mouth of Caño Carida, Río Orinoco, Terr. Federal Amazonas, Venezuela. Holo-

type: MBUCV V-14627.
 Maximum length: 14 cm SL
 Distribution: South America: Upper Orinoco River basin.
 Countries: Venezuela

***Trachelyopterichthys taeniatus* (Kner, 1858)**

Trachelyopterus taeniatus Kner, 1858: 434, pl. 8 (fig. 26). Type locality: Rio Guaporé [Brazil]. Holotype: NMW 43346.
 Maximum length: 15 cm TL
 Distribution: South America: Upper Amazon River basin.
 Countries: Brazil, Venezuela

TRACHELYOPTERUS

Trachelyopterus Valenciennes in Cuvier and Valenciennes, 1840: 220 (163 in Strasbourg deluxe ed.). Type species: *Trachelyopterus coriaceus* Valenciennes, 1840. Type by monotypy. Gender: masculine.

Parauchenipterus Bleeker, 1862: 7. Type species: *Silurus galeatus* Bloch [= *Silurus galeatus* Linnaeus, 1766]. Type by original designation. Gender: masculine.

***Trachelyopterus albicrux* (Berg, 1901)**

Trachycorystes albicrux Berg, 1901: 303. Type locality: Río de la Plata, cerca de la embocadura del Río Santiago, Buenos Aires [Argentina]. Holotype: MACN 5161.
 Maximum length: 14 cm TL
 Distribution: South America: La Plata River basin.
 Countries: Argentina

***Trachelyopterus amblops* (Meek & Hildebrand, 1913)**

Felichthys amblops Meek & Hildebrand, 1913: 77. Type locality: Río Tuyra, Marriganti, Panama. Holotype: FMNH 7576.
 Maximum length: 19 cm SL
 Distribution: Central America: Tuira River basin.
 Countries: Panama

***Trachelyopterus ceratophysus* (Kner, 1858)**

Auchenipterus ceratophysus Kner, 1858: 427, pl. 7 (fig. 23). Type locality: Rio Guaporé, Rio Branco, und Rio Negro [Brazil]. Syntypes: NMW 47390-93 (4), 50585 (1).
 Distribution: South America: Guaporé, Branco, and Negro River basins.
 Countries: Brazil

***Trachelyopterus coriaceus* Valenciennes, 1840**

Trachelyopterus coriaceus Valenciennes in Cuvier & Valenciennes, 1840: 221 (164 in Strasbourg deluxe ed.), fig. 438. Type locality: Unknown [= Cayenne, French Guiana]. Holotype: MNHN B.242.

Trachelyopterus coriaceus maculosus Eigenmann & Eigenmann, 1888: 157. Type locality: Rio Xingu at Porto do Moz, Amazon delta, Pará, Brazil. Holotype: MCZ 7337.

Maximum length: 18 cm TL
 Distribution: South America: Coastal rivers of Guianas and Brazil and Amazon River basin.
 Countries: Brazil, French Guiana

***Trachelyopterus fisheri* (Eigenmann, 1916)**

Trachycorystes fisheri Eigenmann, 1916: 82. Type locality: Río Sucio [Colombia]. Holotype: FMNH 57695 [ex CM 6667a].
 Maximum length: 28 cm TL
 Distribution: South America: Sucio River basin.
 Countries: Colombia

***Trachelyopterus galeatus* (Linnaeus, 1766)**

Silurus galeatus Linnaeus, 1766: 503. Type locality: in America australi. No types known.
Auchenipterus maculosus Valenciennes, 1840: 216 (161 in Strasbourg deluxe ed.). Type locality: Cayenne [French Guiana]. Syn-

types: MNHN A.8856; ?RMNH D3007.

Parauchenipterus paseae Regan, 1906: 387, pl. 24 (not 23 as stated in account). Type locality: Caroni River [Trinidad]. Holotype: BMNH 1906.6.23.48.

Maximum length: 22 cm SL
 Distribution: South America: Widespread in northern South America.
 Countries: Brazil, French Guiana, Peru, Suriname, Trinidad and Tobago
 Common names: Jauzinho (Brazil)

***Trachelyopterus insignis* (Steindachner, 1878)**

Auchenipterus Magdalenae Steindachner, 1878: 89. Type locality: Magdalenen-Stromes [Colombia]. Syntypes: NMW 47409-12 (4).

Auchenipterus insignis Steindachner, 1878: 89. Type locality: Magdalenen-Stromes [Colombia]. Syntypes: NMW (several).

Maximum length: 20 cm SL
 Distribution: South America: Lower Magdalena River basin.
 Countries: Colombia
 Remarks and references: The name *insignis* given precedence over *magdalenae* by first reviser action of Miles (1947: 73).
 Common names: Chivo (Colombia), Rengue (Colombia)

***Trachelyopterus lacustris* (Lütken, 1874)**

Auchenipterus lacustris Lütken, 1874b: 30. Type locality: Rio das Velhas et in lacu Lagoa Santa [Minas Gerais, Brazil]. Syntypes: ?NMW 47402; ZMB 9179; ZMUC 91, 97 (Rio das Velhas), ZMUC 92-93 (Lagoa Santa).

Distribution: South America: Das Velhas River and Lagoa Santa basins.
 Countries: Brazil

***Trachelyopterus leopardinus* (Borodin, 1927)**

Trachycorystes leopardinus Borodin, 1927: 3, fig. 2. Type locality: Rio S. Francisco, Minas Geraes [sic] Province, Brazil. Holotype: AMNH 8637.

Maximum length: 18 cm TL
 Distribution: South America: São Francisco River basin.
 Countries: Brazil

***Trachelyopterus lucenai* Bertoletti, da Silva, & Pereira, 1995**

Trachelyopterus lucenai Bertoletti, da Silva & Pereira, 1995: 71, fig. 2-3. Type locality: Rio Jacuí at Saco do Quilombo, Ilha das Flores, Porto Alegre, Rio Grande do Sul, Brazil, approximately 29°58'S, 51°15'W. Holotype: MCP 17174.

Maximum length: 16.5 cm SL
 Distribution: South America: Jacuí River basin in Rio Grande do Sul State.
 Countries: Brazil

***Trachelyopterus peloichthys* (Schultz, 1944)**

Trachycorystes insignis peloichthys Schultz, 1944: 236, pl. 4 (fig. A). Type locality: Río Agua Caliente, 2 to 3 km above Lake Maracaibo, Venezuela. Holotype: USNM 121281.

Maximum length: 20 cm TL
 Distribution: South America: Maracaibo River basin.
 Countries: Venezuela

***Trachelyopterus striatulus* (Steindachner, 1877)**

Auchenipterus (Pseudauchenipterus) striatulus Steindachner, 1877: 656, pl. 5. Type locality: Rio Parahyba, Rio Doce, Rio Mucury [Brazil]. Syntypes: MCZ 25506 (1); NMW 10852 (1), 47445-47 (8).

Distribution: South America: Coastal rivers in southeastern Brazil.
 Countries: Brazil
 Common names: Jauzinho (Brazil)

***Trachelyopterus teaguei* (Devincenzi, 1942)**

Trachycorystes teaguei Devincenzi in Devincenzi & Teague, 1942: 37, pl. 7 (figs. 1-2). Type locality: Río Queguay [Río Uruguay, Paysandú, Uruguay]. Holotype: MHNM CI 350.

Maximum length: 19.6 cm SL

Distribution: South America: Queguay River basin in lower Uruguay River drainage.

Countries: Uruguay

Species inquirendae

Auchenipterus immaculatus Valenciennes, 1840: 218 (161 in Strasbourg deluxe ed.). Type locality: Cayenne. Holotype: RMNH 3008. For information on type locality see Boeseman 1972: 302.

Auchenipterus robustus Günther, 1864: 197. Type locality: Demerara [Guyana]. Holotype: BMNH uncat..

Auchenipterus glaber Steindachner, 1877: 655. Type locality: Demerara [Guyana]. Holotype: NMW (not found).

Auchenipterus isacanthus Cope, 1878: 677. Type locality: Peruvian Amazon. Syntypes: ANSP 21444-45 (2).

Auchenipterus brevibarbis Cope, 1878: 676. Type locality: Peruvian Amazon. Holotype: ANSP 21519.

Trachycorystes analis Eigenmann & Eigenmann, 1888: 156. Type locality: Arary [= Lago Arari, Pará, Brazil]. Holotype: MCZ 7354.

Trachycorystes insignis badeli Dahl, 1955: 13, fig. on p. 14. Type locality: Cereté [Colombia]. Holotype: whereabouts unknown.

Trachycorystes jokeanna Hoedeman, 1961: 138. Type locality: French Guiana, Ile de Cayenne, ruisseaux du Rorota. Holotype: ZMA 102371.

TRACHYCORYSTES

Trachycorystes Bleeker, 1858: 200. Type species: *Auchenipterus trachycorystes* Valenciennes, 1840. Type by absolute tautonymy. Gender: masculine.

Trachycorystes cratensis Miranda Ribeiro, 1937

Trachycorystes cratensis Miranda Ribeiro, 1937: 55. Type locality: Rio Granjeiro, Crato, Ceará [Brazil]. Holotype: MNRJ 947.

Distribution: South America: Granjeiro River basin in Ceará State.

Countries: Brazil

Trachycorystes obscurus (Günther, 1863)

Auchenipterus obscurus Günther, 1863: 442. Type locality: the Essequibo Guiana [= Guyana]. Syntypes: BMNH 1864.1.21.13-14 (2).

Distribution: South America: Essequibo River basin.

Countries: Guyana

Trachycorystes trachycorystes (Valenciennes, 1840)

Auchenipterus trachycorystes Valenciennes in Cuvier & Valenciennes, 1840: 214 (159 in Strasbourg deluxe ed.), pl. 437. Type locality: Bresil [= Brazil]. Holotype: MNHN A.9422.

Trachycorystes typus Bleeker, 1862: 6. Type locality: Bresil [= Brazil]. Holotype: MNHN A.9422. Unneeded replacement for *Auchenipterus trachycorystes* Valenciennes, 1840, therefore taking the same type.

Maximum length: 35 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil

GENUS INQUIRENDUM

Laimumena Sauvage, 1884: 147. Type species: *Laimumena barbonica* Sauvage, 1884. Type by monotypy. Gender: feminine.

SPECIES INQUIRENDAE

Arius obesus Jardine in Schomburgk, 1841: 174. Type locality: Rio Branco. No types known.

Laimumena barbonica Sauvage, 1884: 147. Type locality: Réunion I. No types known. Original stated locality (Réunion I.) probably in error, appears to be a South American species referable to the family Auchenipteridae.

Pimelodus coeruleus La Cepède, 1803: 95, 103. Type locality: Cayenne. No types known. Name spelled *coeruleus* on p. 95; *caeruleus* on 103.

Trachycorystes porosus Eigenmann & Eigenmann, 1888: 154. Type locality: Brazil. Syntypes: MCZ 7351 (2).

References

- Agostinho, A.A., H.F. Julio, M. Petere. 1994. Itaipu reservoir (Brazil): impacts of the impoundment on the fish fauna and fisheries. p. 171-184. In: I.G. Cowx (ed.) Rehabilitation of freshwater fisheries. Fishing News Books, Oxford.
- Agassiz, L. 1846. Nomenclatoris Zoologici. Index universalis, continens nomina systematica classium, ordinum, familiarum et generum animalium omnium, tam viventium quam fossilium. Soliduri. i-viii + 1-393.
- Berg, C. 1901. Comunicaciones ictológicas. IV. Commun. Mus. Nac. Buenos Aires, 1 (9): 293-311.
- Bertoletti, J.J., J.F.P. Silva and E.H.L. Pereira. 1995. A new species of the catfish genus *Trachelyopterus* (Siluriformes, Auchenipteridae) from southern Brazil. Rev. Fr. Aquariol., 22 (3-4): 71-74.
- Bleeker, P. 1858. De visschen van den Indischen Archipel. Beschreven en toegelicht. Siluri. Acta Soc. Sci. Indo-Neerl., 4: i-xii + 1-370.
- Bleeker, P. 1862-63. Atlas ichthyologique des Indes Orientales Néerlandaises, publié sous les auspices du Gouvernement colonial néerlandais. Tome II. Siluroïdes, Chacoïdes et Hétérobranchoïdes. Amsterdam. 112 p., pls. 49-101.
- Bleeker, P. 1863. Systema Silurorum revisum. Neder. Tijdschr. Dierk., 1: 77-122.
- Bleeker, P. 1864. Description des espèces de Silures de Suriname, conservées aux Musées de Leide et d'Amsterdam. Natuurk. Verh. Holland. Maatsch. Wet. Haarlem (Ser. 2), 20: 1-104, pls. 1-16.
- Bloch, M.E. 1794. Naturgeschichte der ausländischen Fische. Vol. 8. Berlin. iv + 174 p., pls. 361-396.
- Boeseman, M. 1953. Scientific results of the Surinam Expedition 1948-1949. Part II. Zoology No. 2. The Fishes (I). Zool. Meded. (Leiden), 32 (1): 1-24.
- Boeseman, M. 1972. Notes on South American catfishes, including remarks on Valenciennes and Bleeker types in the Leiden Museum. Zool. Meded. (Leiden), 47 (23): 293-320, pls. 1-2.
- Böhlke, J.E. 1951. Description of a new auchenipterid catfish of the genus *Pseudepapterus* from the Amazon basin. Stanford Ichthyol. Bull., 4 (1): 38-40.
- Böhlke, J.E. 1980. *Gelanoglanis stroudi*: a new catfish from the Rio Meta system in Colombia (Siluriformes, Doradidae, Auchenipterinae). Proc. Acad. Nat. Sci. Philadelphia, 132: 150-155.
- Borodin, N.A. 1927. Some new catfishes from Brazil. Am. Mus. Novit., No. 266: 1-7.
- Boulenger, G.A. 1895. [Abstract of a report on a large collection of fishes formed by Dr. C. Ternetz in Matto Grosso and Paraguay, with descriptions of new species]. Proc. Zool. Soc. London, 1895 (pt 3): 523-529.
- Britski, H.A. 1969. Lista dos tipos de peixes das coleções do Departamento de Zoologia da Secretaria da Agricultura de São Paulo. Pap. Avulsos Dep. Zool. (São Paulo), 22: 197-215.
- Castelnau, F.L. 1855. Poissons. In: Animaux nouveaux or rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847 ... +. xii + 112 p., 50 pls.
- Castillo, G.O. and O. Brull G. 1989. *Ageneiosus magoi*, una nueva

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- especie de bagre ageneiosido (Teleostei, Siluriformes) para Venezuela y algunas notas sobre su historia natural. *Acta Biol. Venez.*, 12 (3-4): 72-87.
- Cope, E.D. 1867. Supplement on some new species of American and African fishes. *Trans. Am. Philos. Soc.*, 13 (pt 2): 400-407.
- Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. *Proc. Am. Philos. Soc.*, 17 (101): 673-701.
- Cuvier, G. 1829. *Le Règne Animal, distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée*. Edition 2. Paris. xviii + 532 p.
- Cuvier, G. and A. Valenciennes. 1840. *Histoire naturelle des poissons*. Tome quinzième. Suite du livre dix-septième. Siluroïdes. Ch. Pitois & V.^e Levraut, Paris & Strasbourg. xxxi + 540 p., pls. 421-455.
- Dahl, G. 1955. An ichthyological reconnaissance of the Sinu River. *Revista Linneana*, 1 (1): 11-19.
- De Filippi, F. 1853. Nouvelles espèces de poissons. *Rev. Mag. Zool. (Ser. 2)*, 5: 164-171.
- Devincenzi, G.J. 1933. Peces del Uruguay. Notas complementarias, II. *An. Mus. Nac. Hist. Nat. Montevideo (Ser. 2)*, 4 (3): 1-11, pl. 1.
- Devincenzi, G.J. and G.W. Teague. 1942. Ictiofauna del Rio Uruguay medio. *An. Mus. Nac. Hist. Nat. Montevideo (Ser. 2)*, 5 (4): 1-100 + index + i-viii, pls. 1-6.
- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. *Mem. Carnegie Mus.*, 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. 1916. New and rare fishes from South American rivers. *Ann. Carnegie Mus.*, 10 (1-2): 77-86, pls. 13-16.
- Eigenmann, C.H. 1917. New and rare species of South American Siluridae in the Carnegie Museum. *Ann. Carnegie Mus.*, 11 (3-4): 398-404, pls. 39-41.
- Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II.- The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. *Univ. Kentucky*. xv + 494 p., pls. 1-22.
- Eigenmann, C.H. and R.S. Eigenmann. 1888. Preliminary notes on South American Nematognathi. I. *Proc. California Acad. Sci. (Ser. 2)*, 1 (pt 2): 119-172.
- Eigenmann, C.H. and R.S. Eigenmann. 1890. A revision of the South American Nematognathi or cat-fishes. *Occas. Pap. California Acad. Sci.*, (1): 1-508 + errata and map.
- Fernández-Yépez, A. 1973. Contribución al conocimiento de Auchenipteridae. *Evencias*, No. 29: [1-7].
- Ferraris, C.J., Jr. and J. Fernandez. 1987. *Trachelyopterichthys anduzei*, a new species of auchenipterid catfish from the Upper Río Orinoco of Venezuela with notes on *T. taeniatus* (Kner). *Proc. Biol. Soc. Washington*, 100 (2): 257-261.
- Ferraris, C.J., Jr. and R.P. Vari. 1999. The South American catfish genus *Auchenipterus* Valenciennes, 1840 (Ostariophysi: Siluriformes: Auchenipteridae): monophyly and relationships, with a revisionary study. *Zool. J. Linn. Soc.*, 126: 387-450.
- Ferraris, C.J., Jr. and R.P. Vari. 2000. The deep-water South American catfish genus *Pseudepapterus* (Ostariophysi: Auchenipteridae). *Ichthyol. Explor. Freshwaters*, 11(2): 97-112.
- Fisher, H.G. 1917. A list of the Hypophthalmidae, the Diplomystidae and of some unrecorded species of Siluridae in the collections of the Carnegie Museum. *Ann. Carnegie Mus.*, 11 (3-4): 405-427, pl. 42.
- Fowler, H.W. 1911. Some fishes from Venezuela. *Proc. Acad. Nat. Sci. Philadelphia*, 63: 419-437.
- Fowler, H.W. 1914. Fishes from the Rupununi River, British Guiana. *Proc. Acad. Nat. Sci. Philadelphia*, 66: 229-284.
- Fowler, H.W. 1915. Notes on nematognathous fishes. *Proc. Acad. Nat. Sci. Philadelphia*, 67: 203-243.
- Fowler, H.W. 1940. A collection of fishes obtained by Mr. William C. Morrow in the Ucayali River basin, Peru. *Proc. Acad. Nat. Sci. Philadelphia*, 91 (for 1939): 219-289.
- Fowler, H.W. 1941. Los peces del Peru. Catálogo sistemático de los peces que habitan en aguas peruanas (Continuación). *Bol. Mus. Historia Nat. "Javier Prado"*, 5 (19): 466-487.
- Fowler, H.W. 1945. Colombian zoological survey. Pt. I.--The freshwater fishes obtained in 1945. *Proc. Acad. Nat. Sci. Philadelphia*, 97: 93-135.
- Gill, T. N. 1870. On some new species of fishes obtained by Prof. Orton from the Marañon, or Upper Amazon, and Napo Rivers. *Proc. Acad. Nat. Sci. Philadelphia*, 22: 92-96.
- Greenfield, D.W. and G.S. Glodek. 1977. *Trachelyichthys exilis*, a new species of catfish (Pisces: Auchenipteridae) from Peru. *Fieldiana Zool.*, 72 (3): 47-58.
- Günther, A. 1863. On new species of fishes from the Essequibo. *Ann. Mag. Nat. Hist. (Ser. 3)*, 12 (72): 441-443.
- Günther, A. 1864. Catalogue of the fishes in the British Museum. Vol. 5. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiatidae in the collection of the British Museum. Trustees, London. xxii + 455 p.
- Haseman, J.D. 1911. Some new species of fishes from the Rio Iguassú. *Ann. Carnegie Mus.*, 7 (3-4): 374-387, pls. 50, 58, 73-83.
- Hoedeman, J.J. 1961. Notes on the ichthyology of Surinam and other Guianas. 8. Additional records of siluriform fishes (2). *Bull. Aquatic Biol.*, 2 (23): 129-139.
- Ihering, R. von. 1928. *Glanidium cesarpintoi* n. sp. de Peixe de couro (fam. Siluridae sub-fam. Auchenipterinae). *Bol. Biol., Trab. Lab. Parasit. Fac. Med., São Paulo*, 12 (48): 46-49.
- Ihering, R. von. 1930. Notas ecologicas referentes a peixes d'agua doce do Estado de S. Paulo e descrição de 4 especies novas. *Arch. Inst. Biol. São Paulo*, 3: 93-103, pl. 13.
- Jordan, D. S. 1920. The genera of fishes, part IV, from 1881 to 1920, thirty-nine years, with the accepted type of each. A contribution to the stability of scientific nomenclature. Leland Stanford Jr. Univ. Publ., Univ. Ser. No. 43: 411-576 + i-xviii.
- Kner, R. 1858. Ichthyologische Beiträge. II. Abtheilung. *Sitzungsber. Akad. Wiss. Wien*, 26: 373-448, pls. 1-9.
- Koch, W.R. and R.E. Reis. 1996. *Tatia boemia*, a new species of athenipterid catfish (Teleostei: Siluriformes) from the rio Uruguai drainage, southern Brazil. *Ichthyol. Explor. Freshwaters*, 7 (1): 85-90.
- La Cépède, B.G.E. 1803. *Histoire naturelle des poissons*, vol. 5. Chez Plassan, Paris. lxxviii + 803 p. + index, 21 pl.
- Larrañaga, D.A. 1923. *Escritos de Don Dámaso Antonio Larrañaga*. Los Publica el Instituto Histórico y Geográfico del Uruguay. Edición Nacional. 512 p.
- Linnaeus, C. 1766. *Systema naturae sive regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis*. 12th ed., Vol. 1, pt. 1. Laurentii Salvii, Holmiae. 532 p.
- Lütken, C.F. 1874a. Ichthyographiske Bidrag. II. Nye eller mindre vel kjendte Malleformer fra forskjellige Verdensdele. *Vidensk. Medd. Naturh. Foren. København*, for 1874: 190-220.
- Lütken, C.F. 1874b. Siluridae novae Brasiliae centralis a clarissimo J. Reinhardt in provincia Minas-geraës circa oppidulum Lagoa Santa, praecipue in flumine Rio das Velhas et affluentibus collectae, secundum caracteres essentielles, breviter descriptae. *Overs. Danske Vidensk. Selsk. Forhandl. Kjobenhavn*, 1873 (3): 29-36.
- Lütken, C.F. 1875. Velhas-Flodens Fiske. Et Bidrag til Brasiliens Ichthyologi; efter Professor J. Reinhardts Indsamlinger og Optegnelser. *K. Danske Vidensk. Selsk. Skr.*, Raekke 5, 12 (2): 121-253, + 2 unnum., + I-XXI, pls. 1-5.
- Mago-Leccia, F. 1984. *Entomocorus gameroi*, una nueva especie de bagre auquenipterido (Teleostei, Siluriformes) de Venezuela, incluyendo la descripción de su dimorfismo sexual secundario.

Check List of the Freshwater Fishes of South and Central America

- Acta Biol. Venez., 11 (4): 215-236.
- Malabarba, L.R. 1989. Histórico sistemático e lista comentada das espécies de peixes de água doce do sistema da Laguna dos Patos, Rio Grande do Sul, Brasil. Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre, 2 (8): 107-179.
- Meek, S.E. and S.F. Hildebrand. 1913. New species of fishes from Panama. Field Mus. Nat. Hist. Publ. Zool. Ser., 10 (8): 77-91.
- Mees, G.F. 1974. The Auchenipteridae and Pimelodidae of Suriname (Pisces, Nematognathi). Zool. Verh. (Leiden), No. 132: 1-256, pls. 1-15.
- Mees, G.F. 1978. On the identity of *Arius oncinus* R. H. Schomburgk (Pisces, Nematognathi, Auchenipteridae). Zool. Meded. (Leiden), 52 (23): 267-276.
- Mees, G.F. 1988. Notes on the genus *Tatia* (Pisces, Nematognathi, Auchenipteridae). Proc. K. Ned. Akad. Wet. (Ser. C, Biol. Med. Sci.), 91 (4): 405-414.
- Miranda Ribeiro, A. 1911. Fauna brasiliense. Peixes. Tomo IV (A) [Eleutherobranchios Aspirophoros]. Arq. Mus. Nac. Rio de Janeiro, 16: 1-504, Pls. 22-54.
- Miles, C. 1947. Los peces del Río Magdalena. Ministerio de la Economía Nacional; seccion de piscicultura, pesca y caza. Bogotá. 214 p., appendices.
- Miranda Ribeiro, A. 1914. Pimelodidae, Trachycorystidae, Cetopsidae, Bunocephalidae, Auchenipteridae, e Hypophthalmidae. In: Comissão de Linhas Telegraficas Estrategicas de Matto-Grosso ao Amazonas. 1-13, pls. 1-2.
- Miranda Ribeiro, A. 1917. De scleracanthis. Fluvio "Solimões" anno MCMVIII a cl. F. Machado da Silva duce brasiliense inventis et in Museu Urbis "Rio de Janeiro" servatis. Rev. Soc. Sci. Rio de Janeiro, 1: 49-52.
- Miranda Ribeiro, A. 1918. Tres generos e dezeseite especies novas de peixes Brasileiros. Rev. Mus. Paulista, 10: 631-646, 1 pl.
- Miranda Ribeiro, A. 1920. Peixes (excl. Characinidae). In: Comissão de Linhas Telegraficas Estrategicas de Matto-Grosso ao Amazonas. Historia Natural. Zoologia. 1-15, 17 unnum, pls.
- Miranda Ribeiro, A. 1937. Sobre uma colleção de vertebrados do nordeste brasileiro. Primeira parte: Peixes e batrachios. O Campo, Rio de Janeiro, No. 1: 54-56.
- Miranda Ribeiro, P. 1953. Tipos das espécies e subespécies do Prof. Alipio de Miranda Ribeiro depositados no Museu Nacional. Arq. Mus. Nac. Rio de Janeiro, 42: 389-417.
- Miranda Ribeiro, P. 1962. Apontamentos ictiológicos - I. Bol. Mus. Nac. Zool. (N. S.), No. 240: 1-6.
- Müller, J. 1842. Über die Schwimmblase der Fische, mit Bezug auf einige neue Fishgattungen. Khonigl. Akad. Wiss. Berlin 1842: 202-210.
- Müller, J.W. 1842. Beobachtungen über die Schwimmblase der Fische, mit Bezug auf einige neue Fischgattungen. With subtitles I-III. Arch. Anat. (Müller), Jahr 1842: 307-329.
- Müller, J.W. 1843. Beiträge zur Kenntniss der natürlichen Familien der Fische. Arch. Naturgeschichte, 9: 292-330.
- Myers, G.S. 1928. New fresh-water fishes from Peru, Venezuela, and Brazil. Ann. Mag. Nat. Hist. (Ser. 10), 2 (7): 83-90.
- Posada, A. 1909. Los peces. Pp. 285-322. In: Estudios científicos del doctor Andres Posada con algunos otros escritos suyos sobre diversos temas. Medellin, Colombia.
- Regan, C.T. 1906. On the fresh-water fishes of the island of Trinidad, based on the collection, notes, and sketches, made by Mr. Lechmere Guppy. Junr. Proc. Zool. Soc. London, 1906 (pt 2): 378-393, pls. 1-25.
- Risso, F.J.J. and E.N.P. Risso. 1962. *Epapterus chaquensis*, nueva especie de Auchenipteridae (Pisces, Nematognathi). Not. Biol. Fac Cien. Exact., Físic. Natur. Corrientes, Zool., No. 3: 1-8.
- Risso, F.J.J. and E.N.P. Risso. 1964. Los Siluriformes conocidos como "Manduré" y otras especies afines (Pisces: Auchenipteridae, Ageneiosidae, Hypophthalmidae, y Pimelodidae). Not. Mus. Cienc. Nat. Chaco, 1 (1): 1-31.
- Rössel, F. 1962. *Centromochlus schultzi*, ein neues wels aus Brasilien (Pisces, Teleostei, Auchenipteridae). Senckenb. Biol., 43 (1): 31-33.
- Royero, R. 1992. *Tatia musaica*, una neuva especie de bagre achenipterido (Siluriformes -- Auchenipteridae) de la cuenca del Rio Orinoco, Territorio Federal Amazonas, Venezuela. Acta Cient. Venez., 43 (5): 300-306.
- Sauvage, H.E. 1884. Sur un siluroïde de la Réunion. Bull. Soc. Philomath. Paris (Ser. 7), 8: 147.
- Schomburgk, R.H. 1841. The Natural history of fishes of Guiana.-- Part I. In: Jardine, W. (ed.), The Naturalists' Library. Vol. 3. W. H. Lizars, Edinburgh. [1-16], 17-263, pls. 1-30.
- Schultz, L.P. 1944. The catfishes of Venezuela, with descriptions of thirty-eight new forms. Proc. U. S. Natl. Mus., 94 (no. 3172): 173-338, pls. 1-14.
- Soares-Porto, L.M. 1994. *Auchenipterichthys dantei*, a new species of catfish from the Amazon basin (Siluriformes: Auchenipteridae). Ichthyol. Explor. Freshwaters, 5 (3): 281-287.
- Soares-Porto, L.M. 1995. A new species of *Tatia* from the Amazon basin (Siluriformes: Auchenipteridae). Ichthyol. Explor. Freshwaters, 6 (3): 201-206.
- Soares-Porto, L.M. 2000. A new species of *Centromochlus* (Siluriformes: Auchenipteridae) from the rio Negro drainage, Amazon basin, Brazil, with comments on its relationships. Ichthyol. Explor. Freshwaters, 11 (3): 279-287.
- Soares-Porto, L.M., S.J. Walsh, L.G. Nico and J.M. Netto. 1999. A new species of *Gelanoglanis* from the Orinoco and Amazon river basins, with comments on miniaturization within the genus (Siluriformes: Auchenipteridae: Centromochlinae). Ichthyol. Explor. Freshwaters, 10 (1): 63-72.
- Spix, J.B. von and L. Agassiz. 1829-31. Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXXVII-MDCCCXXX jussu et auspiciis Maximiliani Josephi I.... collegit et pingendo curavit Dr J. B. de Spix.... Monachii. Part 1: i-xvi + i-ii + 1-82, Pls. 1-48; part 2: 83-138, pls. 49-101.
- Steindachner, F. 1877. Die Süßwasserfische des südöstlichen Brasilien (III). Sitzungsber. Akad. Wiss. Wien, 74: 559-694, pls. 1-13.
- Steindachner, F. 1878. Zur Fischfauna des Magdalenen-Stromes. Anz. Akad. Wiss. Wien, 15 (12): 88-91.
- Steindachner, F. 1879. Zur Fisch-fauna des Magdalenen-Stromes. Denkschr. Akad. Wiss. Wien, 39: 19-78, pls. 1-15.
- Steindachner, F. 1880. Zur Fisch-Fauna des Cauca und der Flüsse bei Guayaquil. Denkschr. Akad. Wiss. Wien, 42: 55-104, pls. 1-9.
- Steindachner, F. 1881a. Beiträge zur Kenntniss der Flussfische Südamerika's (III) und Ichthyologische Beiträge (XI). Anz. Akad. Wiss. Wien, 18 (11): 97-100.
- Steindachner, F. 1881b. Beiträge zur Kenntniss der Flussfische Südamerika's. III. Denkschr. Akad. Wiss. Wien, 44 (for 1882): 1-18, pls. 1-5.
- Steindachner, F. 1882a. Beiträge zur Kenntniss der Flussfische Südamerika's (IV). Anz. Akad. Wiss. Wien, 19 (19): 175-180.
- Steindachner, F. 1882b. Beiträge zur Kenntniss der Flussfische Südamerikas. IV. Denkschr. Akad. Wiss. Wien, 46 (for 1883): 1-44, pls. 1-7.
- Steindachner, F. 1908. Über drei neue Characinen und drei Siluroiden aus dem Stromgebiete des Amazonas innerhalb Brasilien. Anz. Akad. Wiss. Wien, 45 (6): 61-69.
- Steindachner, F. 1909. Über eine *Ageneiosus* (*Pseudogeneiosus*)-Art im Rio Parnahyba und Rio Puty bei Therezina. Anz. Akad. Wiss. Wien, 46 (20): 341-342.
- Steindachner, F. 1910. Über einige *Ageneiosus*- und *Farlowella*-Arten etc. Ann. Naturh. Hofmus. Wien, 24: 399-408.
- Steindachner, F. 1915a. Beiträge zur Kenntniss der Flussfische Südamerikas. V. Denkschr. Akad. Wiss. Wien, 93: 15-106.
- Steindachner, F. 1915b. Vorläufigen Bericht über einige neue Süßwasserfische aus Südamerika. Anz. Akad. Wiss. Wien, 52 (17): 199-202.
- Steindachner, F. 1917. Beiträge zur Kenntniss der Flussfische Südamerikas V. Denkschr. Akad. Wiss. Wien, 93: 15-106, pls.

Check List of the Freshwater Fishes of South and Central America

- 1-13.
- Valenciennes, A. 1836. Poissons [pl. 4]. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Bertrand et Levrault, Paris.
- Valenciennes, A. 1847. Poissons. Catalogue des principales espèces de poissons, rapportées de l'Amérique méridionale, 1-11. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Vol. 5 (pt. 2). Bertrand et Levrault, Paris.
- Vari, R.P. and C.J. Ferraris, Jr. 1998. The Neotropical catfish genus *Epapterus* Cope (Siluriformes: Auchenipteridae): a reappraisal. Proc. Biol. Soc. Washington, 111 (4): 992-1007.
- Vari, R.P., S.L. Jewett, D.C. Taphorn and C.R. Gilbert. 1984. A new catfish of the genus *Epapterus* (Siluriformes: Auchenipteridae) from the Orinoco River basin. Proc. Biol. Soc. Washington, 97 (2): 462-472.
- Walsh, S.J. 1990. A systematic revision of the Neotropical catfish family Ageneiosidae (Teleostei: Ostariophysi: Siluriformes). Unpublished dissertation, University of Florida, Gainesville. 364 pp.
- Whitley, G. P. 1940. The Nomenclator Zoologicus and some new fish names. Aust. Nat., 10 (7): 241-243.

Family Gymnotidae (Naked-back knifefishes)

Ricardo Campos-da-Paz

For much of the 20th Century, the family Gymnotidae was considered monotypic, only including the genus *Gymnotus* Linnaeus (e.g., Mago-Leccia, 1994). That situation changed, however, when Albert and Campos-da-Paz (1998) presented an extensive re-evaluation of gymnotiform higher-level systematics and taxonomy, and proposed the inclusion of *Electrophorus* Gill in that family, a suggestion recently followed by Albert (2001). In fact, a close relationship between those two genera had been noticed by a number of authors (e.g., Regan, 1911; Ellis, 1913) long before cladistic methods became established as the current paradigm in Comparative Biology.

The Gymnotidae (i.e., the *Gymnotus* plus *Electrophorus* group), according to recent studies by Albert and Campos-da-Paz (1998) and Albert (2001), for instance, should be viewed as the sister-group to all remaining gymnotiforms; alternative phylogenetic schemes, however, are available (e.g., Triques, 1993; Gayet et al., 1994; Alves-Gomes et al., 1995), and the reader is referred to a presentation by Campos-da-Paz and Albert (1998), and Albert (2001), where more detailed historical analyses concerning that subject are offered.

Compared to closely related gymnotiforms, members of both gymnotid genera have a more cylindrical body (sometimes referred to as "sub-cylindrical"; vs. compressed body), depressed head, and considerably shorter tails (i.e., ca. 4-10% of body length to the end of anal fin [LEA] in *Gymnotus* and juveniles of *Electrophorus* [adults in this latter genus have no tail at all] vs. 20-80% of LEA). *Gymnotus* species all present cycloid scales, superior mouth, the lower jaw conspicuously prognathous, and are only weakly electric; *Electrophorus*, on the other hand, has no scales, and terminal mouth. The single species currently assigned to that genus, *E. electricus* (Linnaeus, 1766) (i.e., the notorious "electric eel", or "poraquê") is strongly electric, with larger adults capable of shocks approaching 500-600V. Gymnotids are usually aggressive nocturnal predators, with a number of species exhibiting territorial behavior and building nests. They also can breathe atmospheric air - individuals of *Gymnotus* species are able to use part of their swim-bladder system for doing that in certain occasions, while members of *Electrophorus*, considered obligatory air-breathers, have a vascularized oral respiratory organ.

Gymnotus, although formally established by Linnaeus in 1758, was at that time known from previous contributions (e.g., Artdi, 1738; Linnaeus, 1746, 1749, and 1754). Despite a number of morphological characters have been presented in available literature as diagnostic of *Gymnotus* within the Gymnotiformes (e.g., Mago-Leccia, 1994), monophyly of that genus was only recently discussed in a more objective framework (e.g., Campos-da-Paz and Costa, 1996). As previously noted (e.g., Albert and Miller, 1995), *Gymnotus* stands as the most widespread genus in that order, with its included members being reported in shallow-water habitats from South America (in Argentina, approximately 35°S), to North America (in Mexico, approximately 18°N), with records also in Trinidad, Granada, and Trans-Andean regions of Colombia and Ecuador (e.g., Eigenmann and Ward, 1905; Ellis, 1913; Eigenmann and Fisher, 1914). That genus currently includes eighteen valid species (see below; commonly named in Brazil as "sarapó", or "carapó"), representing one of the most diverse gymnotiform genera (descriptions of additional new species are currently being presented elsewhere; J. S. Albert and W. G. R. Crampton, pers. comm.). Moreover, many undescribed forms are represented in museum collections and await formal descriptions (pers. obs.).

Electrophorus, in turn, has been poorly investigated objectively concerning its taxonomy and, as a result, currently stands as monotypic. A species described more than six decades ago from Peru (*E. multivalvulus* Nakashima, 1941) remains uncertain concerning its taxonomic status. Difficulties for obtaining good series including a number of adult individuals (which can grow to usually 1-2 meters long) are one of the main problems precluding major investigations leading to the establishment of new species in that genus. Populations of *Electrophorus* are widespread in shallow-water habitats throughout northern South America (especially in the Amazon and Orinoco River basins), including small streams ("igrapés"), lakes and muddy-waters systems.

ELECTROPHORUS

Electrophorus Gill, 1864: 152. Type species: *Gymnotus electricus* Linnaeus, 1766. Type by monotypy. Gender: masculine.

***Electrophorus electricus* (Linnaeus, 1766)**

Gymnotus tremulus Houuttyn, 1764: 111. Type locality: Not stated in the original description. No types known. A specimen de-

scribed and figured by Seba (1758, III, pl. 34, fig.6), and possibly currently housed in RMNH, probably deserves a type status; see "Remarks" below.

Gymnotus electricus Linnaeus, 1766: 427. Type locality: in Suriname aliisque Americae meridionalis ostiis fluviorum [= Suriname]. No types known. A specimen described and figured by Seba (1758, III, pl. 34, fig.6), and possibly currently housed in

RMHN, probably deserves a type status; see "Remarks" below.
Gymnotus Regius Chiaje, 1847a: 273. Type locality: South America [apparently indicated (erroneously) as "Rio-Gianeiro" (Chiaje, 1847b: 3)]. No types known.
Electrophorus multivalvulus Nakashima, 1941: 462, fig. on p. 465. Type locality: la cocha Zapote, del rio Pacaya, departamento de Loreto, Peru. No types known. Specific name spelled *multivalvulus* in table on p. 463.
 Maximum length: 250 cm SL
 Distribution: South America: Amazon and Orinoco River basins, and related areas in northern South America.
 Countries: Brazil, French Guiana, Guyana, Peru, Suriname, Venezuela
 Remarks and references: If confirmed as having been actually made available before *Gymnotus electricus* Linnaeus (1766), *Gymnotus tremulus* Houttuyn (1764) should be regarded as the senior synonym. However, following Articles 23.9.1 and 23.9.2 of the Code (ICZN, 1999), *Gymnotus electricus* must be regarded as the valid name, and qualified as a nomen protectum, and *Gymnotus tremulus* as a nomen oblitum. It seems that both Houttuyn's (1764) and Linnaeus' (1766) descriptions were based on previous descriptions by other authors (i.e., primarily, Gronovius and Seba), and that no specimens were actually examined by these authors regarding their proposals of new species. Gronovius' specimen (or specimens) is currently probably lost, but Seba's specimen, which apparently have come from the Essequibo River (Seba, 1758, III, p.108, pl. 34, fig. 6) is probably housed in RMNH. That should, then, be considered the remaining name-bearing type for both names above (ICZN, 1999, Article 72.5.6).

GYMNOTUS

Gymnotus Linnaeus, 1758: 246. Type species: *Gymnotus carapo* Linnaeus, 1758. Type by Linnean tautonymy. Gender: masculine.
Gymnotus Bloch & Schneider (1801: 521) is an unjustified emendation of *Gymnotus* Linnaeus. Until the first years of the 20th Century, most authors dealing with the Gymnotidae established great confusion concerning the names *Gymnotus* Linnaeus, *Carapus* Cuvier, and *Giton* Kaup. While *Carapus* and *Giton* were frequently used to include species referred herein to *Gymnotus*, this latter was used to include only the nominal *Gymnotus electricus* (= *Electrophorus electricus*).
Carapus Cuvier, 1816: 237. Type species: *Gymnotus macrourus* Bloch & Schneider, 1801. Gender: masculine. Type species designation not by monotypy, because additional species are cited along with *Gymnotus macrourus* in original description of the genus; type species, perhaps, *Gymnotus fasciatus* Pallas, 1767, by subsequent designation by Müller (1846: 194). Preoccupied by *Carapus* Rafinesque, 1810 in fishes; replaced by *Giton* Kaup, 1856.
Carapo Oken, 1817: 101. Type species: *Gymnotus fasciatus* Pallas, 1767 (?). Gender: masculine.
Giton Kaup in Duméril, 1856: 201. Type species: *Gymnotus fasciatus* Pallas, 1767. Gender: masculine. Apparently proposed as a replacement name for *Carapus* Cuvier.

***Gymnotus anguillaris* Hoedeman, 1962**

Gymnotus anguillaris Hoedeman, 1962: 55, figs. 1b, 2. Type locality: Surinam, Coropina Creek, sta. 18, pool. Holotype: ZMA 100338.
Gymnotus coropinae Hoedeman, 1962: 55, fig. 1c. Type locality: Surinam, Coropina Creek, sta. 17. Holotype: ZMA 100185.
 Maximum length: 30 cm SL
 Distribution: South America: Amazon and Orinoco River basins, and related areas in northern South America.
 Countries: French Guiana, Suriname

***Gymnotus arapaima* Albert & Crampton, 2001**

Gymnotus arapaima Albert & Crampton, 2001: 250, fig. 6. Type

locality: Brazil: Amazonas: Paraná Apara: 10 km nw of confluence of Juruá and Solimões rivers, Mamirauá Reserve, 3°20'S, 64°51'W. Holotype: INPA 13505.
 Maximum length: 35 cm TL
 Distribution: South America: Juruá and Solimões River basins.
 Countries: Brazil

***Gymnotus bahianus* Campos-da-Paz & Costa, 1996**

Gymnotus bahianus Campos-da-Paz & Costa, 1996: 938, fig. 1. Type locality: fazenda Almada, Ilhéus, approximately 14°49'S, 39°02'W, Rio Almada basin, State of Bahia, Brazil. Holotype: MNRJ 12316.
 Maximum length: 27.6 cm TL
 Distribution: South America: Known only from its type locality and surrounding areas, near Ilhéus, Bahia State.
 Countries: Brazil

***Gymnotus carapo* Linnaeus, 1758**

Gymnotus carapo Linnaeus, 1758: 246. Type locality: America. Syntypes: NRM 8224; UUZM 56. All collected in the 18th Century near paramaribo, Suriname.
Gymnotus albus Pallas, 1767: 36. Type locality: Not stated in original description. No types known.
Gymnotus fasciatus Pallas, 1767: 36. Type locality: Not stated in original description. No types known.
Gymnotus brachiurus Bloch, 1786: 61, pl. 157 (fig. 1). Type locality: Gewässern von Brasilien [p.62]. No types known.
Gymnotus putaol La Cèpède, 1800: 145, 176. Type locality: Brazil. No types known.
 Maximum length: 38 cm TL
 Distribution: North, Central, and South America: Southern Mexico to Paraguay, including Trinidad.
 Countries: Argentina, Bolivia, Brazil, French Guiana, Guatemala, Mexico, Paraguay, Trinidad and Tobago, Uruguay, Venezuela

***Gymnotus cataniapo* Mago-Leccia, 1994**

Gymnotus cataniapo Mago-Leccia, 1994: 90, fig. 100. Type locality: lagoon NE of Airport of San Carlos de Rio Negro, 1°55'N, 67°02'W, Territorio Amazonas, Venezuela. Holotype: MBUCV-V-14736.
 Maximum length: 31.6 cm TL
 Distribution: South America: Amazon and Orinoco River basins, and related areas in northern South America.
 Countries: Brazil, Colombia, Suriname, Venezuela

***Gymnotus coatesi* La Monte, 1935**

Gymnotus coatesi La Monte, 1935: 1, fig. 1. Type locality: rio Moju (State of Pará, Brazil), or some point close to that drainage. Holotype: AMNH 12624.
Rhamphichthys cingulatus Brind, 1935: 5, unnumbered fig. Type locality: one of the side streams which connect with the main stream of the Amazon River on its southern bank, about three hundred miles from Para at the mouth of the river. No types known.
 Maximum length: 30 cm TL
 Distribution: South America: Amazon River basin, and additional areas in northern South America.
 Countries: Brazil

***Gymnotus cylindricus* La Monte, 1935**

Gymnotus cylindricus La Monte, 1935: 2. Type locality: Brook east of Los Amates, Rio Motagua basin, Guatemala. Holotype: AMNH 1358.
 Distribution: Central America: Motagua River basin.
 Countries: Guatemala

***Gymnotus diamantinensis* Campos-da-Paz, 2002**

Gymnotus diamantinensis Campos-da-Paz, 2002: 187, fig. 1. Type locality: Creek (riacho 1) trib. of rio Preto, upper rio Arinos at rio Tapajós system, road to São Francisco, Diamantino municipality,

ca. 14°20'S, 56°30'W, Mato Grosso, Brazil. Holotype: MZUSP 57505

Distribution: South America: Tapajós River basin.

Countries: Brazil

***Gymnotus inaequilabiatus* (Valenciennes, 1839)**

Carapus inaequilabiatus Valenciennes, 1839: pl. 14. Type locality: Not stated in original description. Holotype: MNHN 4615.

Distribution: South America: Paraguay River basin (also probably in lower Paraná basin).

Countries: Argentina

Remarks and references: Sherborn & Griffin (1934) have reported that the plates with the figure of the holotype of the nominal *Carapus inaequilabiatus* was actually published in 1839, while the text description was published some years later (Valenciennes, 1847). In the text description, the generic name appears as *Carapeus* (a misspelling, Valenciennes, 1847: 11). The type locality of *Gymnotus inaequilabiatus* has been sometimes cited elsewhere as "Rio de La Plata" (e.g., Mago-Leccia, 1994: 55).

***Gymnotus jonasi* Albert & Crampton, 2001**

Gymnotus jonasi Albert & Crampton, 2001:253, fig. 8. Type locality: Brazil: Amazonas: Cano do Lago Rato, Mamirauá Reserve, 3°02'48"S, 65°51'22"W. Holotype: INPS 13507.

Maximum length: 13 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

***Gymnotus maculosus* Albert & Miller, 1995**

Gymnotus maculosus Albert & Miller, 1995: 666, fig. 1. Type locality: Diversion of channel from María Linda, 14°04'N, 90°37'W, c. 20 km East of Escuintla, Departamento Santa Rosa, Guatemala. Holotype: UMMZ 230830.

Distribution: Central America: Guatemala.

Countries: Guatemala

***Gymnotus mamiraua* Albert & Crampton, 2001**

Gymnotus mamiraua Albert & Crampton, 2001: 245, fig. 4. Type locality: Brazil: Amazonas: Cano do Lago Rato, Mamirauá Reserve, 3°02'36"S, 64°51'02"W. Holotype: INPA 13503.

Maximum length: 24 cm TL

Distribution: South America: Upper Amazon River basin.

Countries: Brazil

***Gymnotus melanopleura* Albert & Crampton, 2001**

Gymnotus melanopleura Albert & Crampton, 2001: 258, fig. 14. Type locality: Brazil: Amazonas: Cano do Lago Rato, Mamirauá Reserve, 3°02'36"S, 64°51'02"W. Holotype: INPA 9966.

Maximum length: 10 cm TL

Distribution: South America: Upper Amazon River basin.

Countries: Brazil

***Gymnotus onca* Albert & Crampton, 2001**

Gymnotus onca Albert & Crampton, 2001: 256, fig. 12. Type locality: Brazil: Amazonas: Cano do Lago Rato, Mamirauá Reserve, 3°36"S, 64°51'02"W. Holotype: INPA 11512.

Maximum length: 12 cm TL

Distribution: South America: Upper Amazon River basin.

Countries: Brazil

***Gymnotus pantherinus* (Steindachner, 1908)**

Giton fasciatus var. *pantherinus* Steindachner, 1908: 129. Type locality: Gewässern von Santos [Brazil]. Syntypes: NMW 11275, 76443-4.

Distribution: South America: Coastal drainages in southeastern Brazil.

Countries: Brazil

***Gymnotus pedanopterus* Mago-Leccia, 1994**

Gymnotus pedanopterus Mago-Leccia, 1994: 92, fig. 98. Type

locality: Caño Tremblador, where crossed by road from San Carlos de Rio Negro to Solano, upstream portion 01°58'N, 67°00'W, Territorio Amazonas, Venezuela. Holotype: MBUCV-V-14738.

Maximum length: 28.1 cm TL

Distribution: South America: Southern part of Venezuela, including State of Amazonas and south of Apure; also known from tributaries of Negro River in Brazil.

Countries: Brazil, Venezuela

***Gymnotus stenoleucus* Mago-Leccia, 1994**

Gymnotus stenoleucus Mago-Leccia, 1994: 94, fig. 101. Type locality: caño Caripo, tributary of Río Casiquiare, near the bifurcation with Rio Orinoco, Territorio Amazonas, Venezuela. Holotype: MBUCV-V-6218.

Maximum length: 14.2 cm TL

Distribution: South America: Southern Venezuela, including Venezuelan Guiana and State of Amazonas.

Countries: Venezuela

***Gymnotus sylvius* Albert & Fernandes-Matioli, 1999**

Gymnotus sylvius Albert & Fernandes-Matioli in Albert et al., 1999: 412, fig. 1. Type locality: Brazil, São Paulo State, Rio Ribeira de Iguape, near Miracatu, 24°32'50"S, 47°26'13"W. Holotype: LGP 0925.1 (D48/P1990).

Distribution: South America: Ribeira de Iguape, Paraíba do Sul, and Pardo River basins.

Countries: Brazil

References

- Albert, J.S. 2001. Species diversity and phylogenetic systematics of American knifefishes (Gymnotiformes, Teleostei). Misc. Public. Mus. Zool. Univ. Michigan, 190:1-127.
- Albert, J.S. and R. Campos-da-Paz. 1998. Phylogenetic systematics of Gymnotiformes with diagnoses of 58 clades: a review of available data. Pp. 419-446 In: Phylogeny and classification of Neotropical fishes. L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). Edipucrs, Porto Alegre.
- Albert, J.S. and W.G.R. Crampton. 2001. Five new species of *Gymnotus* (Teleostei: Gymnotiformes) from an Upper Amazon floodplain, with descriptions of electric organ discharges and ecology. Ichthyol. Explor. Freshwaters, 12 (3): 241-266.
- Albert, J.S., F.M.C. Fernandes-Matioli and L.F. Almeida-Toledo. 1999. New species of *Gymnotus* (Gymnotiformes, Teleostei) from Southeastern Brazil: toward the deconstruction of *Gymnotus carapo*. Copeia, 1999: 410-421.
- Albert, J.S. and R.R. Miller. 1995. *Gymnotus maculosus*, a new species of electric fish (Chordata: Teleostei: Gymnotoidei) from Middle America, with a key to species of *Gymnotus*. Proc. Biol. Soc. Wash., 108 (4): 662-678.
- Artdi, P. 1738. Ichthyologia sive opera omnia de Piscibus..., (5 parts). Lugduni Batavorum.
- Bloch, M.E. 1786. Naturgeschichte der ausländischen Fische, vol. 2. Berlin. viii+ 160 p., pl. 145-180.
- Bloch, M.E. and J.G. Schneider. 1801. Systema Ichthyologiae iconibus ex illustratum. J. G. Schneider (ed.), Berlin.
- Brind, W.L. 1935. Hunting the "tiger Knife Fish" in the Amazons. Aquar. News, 2 (2): 5, 8-10.
- Campos-da-Paz, R. 1996. Redescription of the Central American electric fish *Gymnotus cylindricus* (Ostariophysi: Gymnotiformes: Gymnotidae), with comments on character ambiguity within the ostariophysan clade. J. Zool. (Lond.), 240 (pt 2): 371-382.
- Campos-da-Paz, R. 2000. Taxonomic status of *Rhamphichthys cingulatus* Brind, with a more precise arrangement of the type locality of *Gymnotus coatesi* LaMonte (Ostariophysi: Gymnotiformes). Copeia, 2000 (4): 1114-1117.

Check List of the Freshwater Fishes of South and Central America

- Campos-da-Paz, R. 2002. *Gymnotus diamantinensis*, a new species of electric knifefish from upper rio Arinos basin, Brazil (Ostariophysi: Gymnotidae). *Ichthyol. Explor. Freshwaters*, 13 (2): 185-192.
- Campos-da-Paz, R. and J.S. Albert. 1998. The gymnotiform "eels" of Tropical America: a history of classification and phylogeny of the South American electric knifefishes (Teleostei: Ostariophysi: Siluriphysi). Pp. 401-418 In: *Phylogeny and classification of Neotropical fishes*. L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). Edipucers, Porto Alegre.
- Campos-da-Paz, R. and W.J.E.M. Costa. 1996. *Gymnotus bahianus* sp. nov., a new gymnotid fish from eastern Brazil (Teleostei: Ostariophysi: Gymnotiformes), with evidence for the monophyly of the genus. *Copeia*, 1996 (4): 937-944.
- Chiaje, S. delle. 1847a. Notizia su due Gimnoti elettrici dall' America recati vivi in Napoli. *Nuov. Ann. Sci. Nat. Bologna* (Ser. 2), 8: 268-273.
- Chiaje, S. delle. 1847b. Notizia su due Gimnoti elettrici dall' America recati vivi in Napoli. *Nuovo Annali delle Scienze Naturali*, Bologna, 2nd series, 8: 1-4.
- Cuvier, G. 1816. *Le règne animal distribue d'après son organisation*. Deterville (ed.), Paris.
- Duméril, A.M.C. 1856. *Ichthyologie analytique ou essai d'une classification naturelle des poissons, à l'aide de tableaux synoptiques*. *Memoires de la Academie des Sciences*, Paris, 27: 1-505.
- Eigenmann, C.H. and H.G. Fisher. 1914. The Gymnotidae of Trans-Andean Colombia and Ecuador. *Indiana Univ. Stud.*, 25: 235-237.
- Eigenmann, C.H. and D.P. Ward. 1905. The Gymnotidae. *Proc. Wash. Acad. Sci.*, 4: 157-186.
- Ellis, M.M. 1913. The gymnotid eels of Tropical America. *Mem. Carnegie Mus.*, 6: 109-195.
- Gayet, M., F.J. Meunier and F. Kirschbaum. 1994. *Ellisella kirschbaumi* Gayet & Meunier, 1991, Gymnotiforme fossile de Bolivie et ses relations phylogénétiques au sein des formes actuelles. *Cybiurn*, 18: 273-306.
- Gill, T.N. 1864. Ichthyological notes. *Proc. Acad. Nat. Sci. Philadelphia*, 151-152.
- Hoedeman, J.J. 1962. Notes on the ichthyology of Surinam and other Guianas. 9. New records of gymnotid fishes. *Bull. Aquatic Biol.*, 3 (26): 53-60.
- Houttuyn, M. 1764. *Natuurlyke historie of uitvoerige beschryving der dieren, planten en mineraalen, volgens het samenstel van den Heer Linnaeus. Met naauwkeurige afbeeldingen*. Amsterdam, p. 111-120.
- ICZN [International Commission on Zoological Nomenclature]. 1999. *International Code of Zoological Nomenclature*. Fourth edition. International Trust for Zoological Nomenclature, London.
- La Monte, F. 1935. Two new species of *Gymnotus*. *Am. Mus. Novit.*, No. 781: 1-3.
- La Cèpède, B.G.E. 1800. *Histoire naturelle des poissons*. Vol. 2. Plassan, Paris. lxiv + 632 p., pls. 1-20.
- Linnaeus, C. 1746. *Museum Adolpho-Fridericianum... propositum a Laurent Balk*. Holmiae.
- Linnaeus, C. 1749. *Museum Adolpho Fridericianum propositum a Laurent Balk*. *Amoenit. Acad. Holmiae*, 1: 277-327.
- Linnaeus, C. 1754. *Museum S:ae R:ae M:tis Adolphi Friderici Regis... Holmiae*.
- Linnaeus, C. 1758. *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis*. Tomus I. Editio decima, reformata: ii + 1-824. Holmiae.
- Linnaeus, C. 1766. *Systema naturae sive regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis*. Tomus 1. (12th edition). Laurentii Salvii, Holmiae.
- Mago-Leccia, F. 1994. Electric fishes of the Continental waters of America. *Bibl. Acad. Cienc. Fis. Mat. Natur.*, 29: 1-225.
- Müller, J. 1846. *Über den Bau und die Grenzen der Ganoiden und über das natürliche System der Fische*. *Abh. Dtsch. Akad. Wiss. Berlin*, 1844: 119-216.
- Nakashima, S. 1941. Una nueva especie de anguila eléctrica del Perú. *Bol. Mus. Hist. Nat. "Javier Prado" Lima*, 5 (19): 461-465.
- Oken, L. 1817. Cuviers und Okens Zoologien neben einander gestellt. *Isis [Oken]*: 8 (144-148): col. 1145-1184 (incl. 1779-1782, sic 1179-1182).
- Pallas, P.S. 1769 [1767 ?]. *Spicilegium Zoologicum quibus novae imprimis et obscurae animalium species iconibus, descriptionibus atque commentariis illustrantur*. Berolini, Gottl. August. Lange. 42 p., pls. 1-6.
- Regan, C.T. 1911. The classification of the teleostean fishes of the order Ostariophysi. A. Cyprinoidea. *Ann. Mag. Nat. Hist.*, ser. 7, 11: 23-26.
- Seba, A. 1758. *Locupletissimi rerum naturalium thesauri accurata descriptio et iconibus artificiosissimis expressio per universam physices historiam*. Locupletissimi. III. Amstelaedami.
- Sherborn, C.D. and F.J. Griffin. 1934. On the dates of publication of the Natural History portions of Alcide d'Orbigny's 'Voyage Amérique Méridionale'. *Annals of the Magazine of Natural History*, 13: 130-134.
- Steindachner, F. 1908. Über eine während der brasilianischen Expedition entdeckte *Brachyplatystoma*-Art aus dem Rio Parahyba und über eine dicht gefleckte und gestrichelte Varietät von *Giton fasciatus* aus den Gewässern von Santos (Staat Sao Paulo). *Anz. Akad. Wiss. Wien*, 45 (9): 126-130.
- Triques, M.L. 1993. Filogenia dos gêneros de Gymnotiformes (Actinopterygii, Ostariophysi), com base em caracteres esqueléticos. *Comun. Mus. Ciênc. PUCRS, sér. zool.*, 6: 85-130.
- Valenciennes, A. 1839. Poissons [pl. 13]. In: A. d'Orbigny. *Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou)*, exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Paris, Bertrand et Levrault.
- Valenciennes, A. 1847. Poissons. Catalogue des principales espèces de poissons, rapportées de l'Amérique méridionale. In: A. d'Orbigny. *Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou)*, exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Paris, Bertrand et Levrault. Vol. 5: 1-11. Paris.

Family Sternopygidae (Glass knifefishes, Rattail knifefishes)

James S. Albert

Species diversity and systematics of the Sternopygidae has been reviewed by Mago-Leccia (1978), Lundberg and Mago-Leccia (1986), Albert and Fink (1996), Albert and Campos-da-Paz (1998), Alves-Gomes (1998), and Albert (2001). Sternopygid species possess the following unique combination of characters among gymnotiforms: multiple rows of small, villiform (brush-like) teeth in both jaws; large eye (diameter equal to or greater than distance between nares); infraorbital bones large and bag-like, with expanded bony arches; anterior nares located outside gape; anal-fin origin at isthmus; no urogenital papilla, caudal fin or dorsal organ. Sternopygids possess a tone-type electric organ discharge, characterized by a monophasic hyperpolarization from negative baseline.

There are currently 40 names available in the literature for sternopygid genera and species. Of these, 6 generic and 30 species names are valid. There are in addition 11 manuscript names for species currently in preparation, bringing the known diversity of Sternopygidae to 41 species. Many more sternopygid species are anticipated, as the rate of description is accelerating.

Sternopygid are relatively conservative in terms of overall external morphology. Like all gymnotiforms the shape is culteriform, with an elongate body and anal fin.

Higher level sternopygid taxonomy emphasizes differences in orbital margin, extent of body compression, and osteological features. Many sternopygid species specialized for life in main river channels. Many species are highly compressed laterally and translucent in life (e.g., some *Eigenmannia*, *Rhabdolichops*). Sternopygids are medium to large-sized gymnotiforms, exhibiting substantial diversity in total adult body size, from 12 cm (*Sternopygus vicentespelaea*) to 140 cm (*Sternopygus macrurus*).

The Sternopygidae is confined to the humid Neotropics, ranging the La Plata River of Argentina (35°S) to the Tuira River of Panama (8°N). Sternopygids are known from the continental waters of all South American countries except Chile (Albert, 2001), and are most diverse -- both taxonomically and ecologically -- in the Amazon basin.

The ecology and natural history of most sternopygid species is very poorly understood. *Sternopygus* is the most widely distributed sternopygid genus, in terms of both geography and habitat, extending the full range of the family. *Sternopygus* species inhabit both floodplain and tierra firme (non-floodplain) streams and rivers. Many sternopygids forage on small aquatic animals (e.g., dipteran larvae) from the benthos or roots of aquatic vegetation; *Rhabdolichops* species are planktivorous, consuming insect and crustacean larvae.

Sternopygid systematics and taxonomy is rapidly changing as new species and previously undocumented phenotypes are discovered. The total expected number of species cannot currently be estimated with confidence. A large number of undescribed sternopygid species are known in museum collections and many more are likely to be captured from continued field studies, particularly in Western Amazonia.

There is little direct commercial exploitation of sternopygid species. Some *Eigenmannia* species are ecologically important in many riverine systems, often constituting a large proportion of the biomass, and are presumed to form an important base of the food web in main Amazonian river channels (Lundberg et al., 1987). Two species, *Sternopygus macrurus* and *Eigenmannia* cf. *virescens* are common in the aquarium trade. Sternopygids are not usually eaten by humans, although some large (40 - 60 cm) specimens of riverine *Sternopygus* spp. are sometimes caught on hook and line.

ARCHOLAEMUS

Archolaemus Korrington, 1970: 267. Type species: *Archolaemus blax* Korrington, 1970. Type by original designation. Gender: masculine.

***Archolaemus blax* Korrington, 1970**

Archolaemus blax Korrington, 1970: 268, figs. 1-2. Type locality: Porto Nacional, Rio Tocantins, Estado de Goiás, Brazil. Holotype: CAS 24743.

Maximum length: 43.5 cm TL

Distribution: South America: Amazon, Tocantins and Branco River basins and Amapa State.

Countries: Brazil, French Guiana

DISTOCYCLUS

Distocyclus Mago-Leccia, 1978: 17, 25. Type species: *Eigenmannia conirostris* Eigenmann & Allen, 1942. Type by original designation. Gender: masculine.

***Distocyclus conirostris* (Eigenmann & Allen, 1942)**

Eigenmannia conirostris Eigenmann & Allen, 1942: 316, pl. 16

(figs. 2, 5). Type locality: Iquitos. Holotype: CAS 41753 (1 of 3). Holotype not clearly distinguished from paratypes in original description.

Maximum length: 50 cm TL

Distribution: South America: Amazon River basin.

Countries: Bolivia, Brazil, Colombia, Ecuador, Peru, Venezuela

***Distocyclus goajira* (Schultz, 1949)**

Eigenmannia goajira Schultz, 1949: 63, pl. 1 (fig. B). Type locality: Río Socuy, 3 km above its mouth [Maracaibo Lake basin, Venezuela]. Holotype: USNM 121596.

Maximum length: 49.6 cm TL

Distribution: South America: Lake Maracaibo basin.

Countries: Colombia, Venezuela

EIGENMANNIA

Cryptops Eigenmann, 1894: 626. Type species: *Sternopygus humboldtii* Steindachner, 1878. Type by original designation. Gender: masculine. Preoccupied by *Cryptops* Leach, 1814, in Myriapoda, *Cryptops* Schoenherr, 1823, and *Cryptops* Solier, 1851, in Coleoptera, replaced by *Eigenmannia* Jordan & Evermann, 1896.

Eigenmannia Jordan & Evermann, 1896: 340, 341. Type species: *Sternopygus humboldtii* Steindachner, 1878. Type by being a replacement name. Gender: feminine. Replacement for *Cryptops* Eigenmann, 1894.

***Eigenmannia humboldtii* (Steindachner, 1878)**

Sternopygus humboldtii Steindachner, 1878: 91. Type locality: Río Magdalena, Colombia. Syntypes: NMW 64988 (2), ? NMW 64989 (1).

Maximum length: 44.6 cm TL

Distribution: South America: Northern portions of South America.

Countries: Brazil, Colombia, Venezuela

***Eigenmannia limbata* (Schreiner & Miranda Ribeiro, 1903)**

Sternopygus limbatus Schreiner & Miranda Ribeiro, 1903: 5, fig. 1. Type locality: Amazonas, Brazil. Holotype: MNRJ 1186.

Maximum length: 48.5 cm TL

Distribution: South America: Guianas and Amazon River basin.

Countries: Brazil, Venezuela

***Eigenmannia macrops* (Boulenger, 1897)**

Sternopygus macrops Boulenger, 1897: 305. Type locality: Higher Potaro R. dist., Guyana. Holotype: BMNH 1897.8.6.1.

Maximum length: 25.2 cm TL

Distribution: South America: Guianas and Amazon River basin.

Countries: Brazil, Guyana

***Eigenmannia microstoma* (Reinhardt, 1852)**

Sternopygus microstomus Reinhardt, 1852: 147. Type locality: Lagoa Santa, Brazil.

Maximum length: 18.7 cm TL

Distribution: South America: Upper São Francisco River basin.

Countries: Brazil

***Eigenmannia nigra* Mago-Leccia, 1994**

Eigenmannia nigra Mago-Leccia, 1994: 77, figs. 86a, 86b. Type locality: Caño Urama, above Santa Lucía, Río Negro system, Amazonas, Venezuela. Holotype: MBUCV-V-14184.

Maximum length: 47.6 cm TL

Distribution: South America: Negro River basin and Casiquiare in Venezuela, Colombian Amazon, and Rupununi River basin.

Countries: Brazil, Colombia, Guyana, Venezuela

***Eigenmannia trilineata* López & Castello, 1966**

Eigenmannia trilineata López & Castello, 1966: 8. Type locality: Río de la Plata, near Nuñez, City of Buenos Aires, Argentina. Holotype: MACN 5470.

Maximum length: 25 cm TL

Distribution: South America: Paraguay-Paraná River basin.

Countries: Argentina, Brazil, Paraguay, Uruguay

***Eigenmannia vicentespelaea* Triques, 1996**

Eigenmannia vicentespelaea Triques, 1996: 3, figs. 4-5. Type locality: 13°35'00"S, 46°22'30"W, Rio São Vicente system, Rio Tocantins basin, at São Domingos, State of Goiás, Brazil. Holotype: MZUSP 42605.

Maximum length: 12 cm TL

Distribution: South America: Caves in São Vicente River, Tocantins River basin.

Countries: Brazil

***Eigenmannia virescens* (Valenciennes, 1842)**

Sternatchus virescens Valenciennes, 1842: pl. 13 (fig. 2). Type locality: South America. No types known.

Sternopygus lineatus Müller & Troschel, 1849: 14. Type locality: Guiana, im See Amucu. Holotype: ZMB 4083.

Sternopygus tumifrons Müller & Troschel, 1849: 14. Type locality: Südamerika. Holotype: ZMB 4084.

Maximum length: 35 cm TL

Distribution: South America: Widely distributed east of Andes from Orinoco to La Plata River basins.

Countries: Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela

RHABDOLICHOPS

Rhabdolichops Eigenmann & Allen, 1942: 316. Type species: *Rhabdolichops longicaudatus* Eigenmann & Allen, 1942. Type by monotypy. Gender: masculine.

Guichthys Fernández-Yépez, 1968: [5]. Type species: *Guichthys caviceps* Fernández-Yépez, 1968. Type by original designation. Gender: masculine.

***Rhabdolichops caviceps* (Fernández-Yépez, 1968)**

Guichthys caviceps Fernández-Yépez, 1968: [4], 3rd unnumbered pl. Type locality: Río Apure Seco, al SW. de San Fernando de Apure, Estado Apure [Venezuela]. Holotype: MACLPI 51101.

Maximum length: 31 cm TL

Distribution: South America: Orinoco and Amazon River basins.

Countries: Bolivia, Brazil, Ecuador, Peru, Venezuela

***Rhabdolichops eastwardi* Lundberg & Mago-Leccia, 1986**

Rhabdolichops eastwardi Lundberg & Mago-Leccia, 1986: 76, figs. 5, 7, 11, 17, 18. Type locality: Río Orinoco, old shipping channel south of Isla Portuguesa, Delta Amacuro Terr., Venezuela, 8°37'N, 61°48'W. Holotype: MBUCV-V-10443.

Maximum length: 27.6 cm TL

Distribution: South America: Orinoco and Amazon River basins.

Countries: Bolivia, Brazil, Ecuador, Venezuela

***Rhabdolichops electrogrammus* Lundberg & Mago-Leccia, 1986**

Rhabdolichops electrogrammus Lundberg & Mago-Leccia, 1986: 70, figs. 6, 8, 9, 13, 14. Type locality: Río Orinoco, near s. shore of Caño Araguaito, Delta Amacuro Terr., 8°40'N, 61°59'W, Venezuela. Holotype: MBUCV-V-10489.

Maximum length: 29.2 cm TL

Distribution: South America: Orinoco, Negro and Branco River basins.

Countries: Brazil, Venezuela

***Rhabdolichops jegui* Keith & Meunier, 2000**

Rhabdolichops jegui Keith & Mannier, 2000: 402, fig. Type locality: French Guiana: Maroni River, Atecume Pata. Holotype: MNHN 1999-1024.

Distribution: South America: Maroni River basin.

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Countries: French Guiana.

***Rhabdolichops stewarti* Lundberg & Mago-Leccia, 1986**

Rhabdolichops stewarti Lundberg & Mago-Leccia, 1986: 79, fig. 19. Type locality: Rio Tapajós, 26 km east of Jacaréacanga, Pará State, Brazil, 6°43'S, 57°40'W. Holotype: ANSP 158687.

Maximum length: 20.7 cm TL

Distribution: South America: Orinoco and Tapajós River basins.

Countries: Brazil, Venezuela

***Rhabdolichops troscheli* (Kaup, 1856)**

Sternopygus troscheli Kaup, 1856: 139. Type locality: British Guiana. Syntypes: MNHN, ZMB 4083 (1), ? ZMB 4085 (1).

Sternopygus axillaris Günther, 1868: 481. Type locality: Pará, Brazil. Holotype: BMNH 1848.11.8.31.

Rhabdolichops longicaudatus Eigenmann & Allen, 1942: 317, pl. 16 (figs. 3-4). Type locality: Iquitos, Amazon system, Peru. Holotype: CAS 41752 [IU 15436].

Maximum length: 49 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru, Venezuela

***Rhabdolichops zareti* Lundberg & Mago-Leccia, 1986**

Rhabdolichops zareti Lundberg & Mago-Leccia, 1986: 74, figs. 6, 10-12, 15, 16. Type locality: North bank of Río Orinoco at Isla Tres Caños, Terr. Delta Amacuro, Venezuela, 8°40'N, 62°0'W. Holotype: MBUCV-V-14242.

Maximum length: 22.5 cm TL

Distribution: South America: Orinoco basin, found only in river channels and lagoons of Orinoco mainstream and Apuré River.

Countries: Venezuela

STERNOPYGUS

Sternopygus Müller & Troschel, 1848: 639. Type species: *Gymnotus macrurus* Bloch & Schneider, 1801. Type by subsequent designation. Gender: masculine.

Gymnotes Gill, 1864: 152. Type species: *Gymnotus aequilabiatus* Humboldt, 1811. Type by monotypy. Gender: masculine.

Hildatia Fernández-Yépez, 1968: [3]. Type species: *Hildatia brasiliensis* Fernández-Yépez, 1968. Type by original designation. Gender: feminine.

***Sternopygus aequilabiatus* (Humboldt, 1805)**

Gymnotus aequilabiatus Humboldt, 1805: 47, pl. 10 (figs. 1-2). Type locality: Río Magdalena, Colombia. No types known.

Maximum length: unknown

Distribution: South America: Magdalena River basin.

Countries: Colombia

***Sternopygus arenatus* (Eydoux & Souleyet, 1850)**

Carapus arenatus Eydoux & Souleyet, 1850: 210, pl. 8 (fig. 2). Type locality: Río Guayaquil, Ecuador.

Maximum length: 54.5 cm TL

Distribution: South America: Guayaquil River basin.

Countries: Ecuador

***Sternopygus astrabes* Mago-Leccia, 1994**

Sternopygus astrabes Mago-Leccia, 1994: 79, fig. 87. Type locality: Caño Pozo Azul, Aqua Linda, approx. 23 km northeast of Puerto Ayacucho, Amazonas, Venezuela, 5°51'N, 67°31'W. Holotype: MBUCV-V-14182.

Maximum length: 19.6 cm TL

Distribution: South America: Orinoco, Casiquiare, and Negro River basins.

Countries: Brazil, Venezuela

***Sternopygus castroi* Triques, 1999**

Sternopygus castroi Triques, 1999: 21, fig. Type locality: Igarape

Jaradá, Rio Cuieiras, 40 km from mouth of Rio Negro, Amazonas. Holotype: MZUSP 48912.

Maximum length: 19.6 cm TL

Distribution: South America: Negro River basin.

Countries: Brazil

***Sternopygus dariensis* Meek & Hildebrand, 1916**

Sternopygus dariensis Meek & Hildebrand, 1916: 309, pl. 26. Type locality: Río Tuyra at Marriganti, Darién, Atlantic slope of Panama. Holotype: FMNH 8949.

Maximum length: 40 cm TL

Distribution: Central America: Panama.

Countries: Panama

***Sternopygus macrurus* (Bloch & Schneider, 1801)**

Gymnotus macrurus Bloch & Schneider, 1801: 522. Type locality: Brazil. Holotype: ZMB 8701 (stuffed).

Sternopygus marcgravii Reinhardt, 1852: 146. Type locality: Rio das Velhas, Rio São Francisco, Brazil.

?*Carapus sanguinolentus* Castelnau, 1855: 85, pl. 46 (fig. 1). Type locality: Río Urubamba or upper Río Ucayali, Peru. Holotype: MNHN 3971.

Hildatia brasiliensis Fernández-Yépez, 1968: [2], 1st unnumbered pl. Type locality: Sarapo, Piauí, Brazil. Holotype: MCZ 9461.

Maximum length: 140.5 cm TL

Distribution: South America: Magdalena River basin; entire extent of the Amazon and Orinoco River basins below c. 500 m elevation including Napo River of western Ecuador and Madre de Dios River of Peru; all drainages of the Guianas Shield; Atlantic drainages of Northeastern Brazil (Tocantins, Parnaíba, Pindaré, Itapicuru, and Salgado rivers); São Francisco River basin; Southeastern Brazil (Rio de Janeiro); Paraguay-Paraná River basin.

Countries: Argentina, Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Paraguay, Peru, Surinam, Venezuela

***Sternopygus obtusirostris* Steindachner, 1881**

Sternopygus obtusirostris Steindachner, 1881: 143, pl. 2 (fig. 3).

Type locality: Amazonen-Strom bei Teffé, Rio Puty, Rio Madeira [Brazil]. Syntypes: MCZ 9413 (1), MCZ 9453 (1), MCZ 9425 (1), NMW 64977 (1).

Maximum length: 56 cm TL

Distribution: South America: Main stem of Amazon River, lower Negro River basin.

Countries: Brazil

***Sternopygus pejeraton* Schultz, 1949**

Sternopygus pejeraton Schultz, 1949: 60, pl. 1 (fig. A). Type locality: Río Apón, about 35 km south of Rosario, in the Maracaibo basin [Venezuela]. Holotype: USNM 121752.

Maximum length: 50 cm TL

Distribution: South America: Lake Maracaibo basin.

Countries: Venezuela

***Sternopygus xingu* Albert & Fink, 1996**

Sternopygus xingu Albert & Fink, 1996: 90, figs. 7-8. Type locality: Tributary of Batovi River, Waura Indian Village, sta. X, Rio Xingú, Mato Grosso do Sul, Brazil. Holotype: MZUSP 48374.

Maximum length: 52.5 cm TL

Distribution: South America: Xingu and lower Tocantins River basins.

Countries: Brazil

SPECIES INQUIRENDAE

Gymnotus macrurus Bloch, 1786: 59, pl. 157 (fig. 2). Type locality: Not known.

Gymnotus aequilabiatus nigriceps Ihering, 1907: 285. Type locality: Maranhao, Brazil.

References

- Albert, J.S. 2001. Species diversity and phylogenetic systematics of American knifefishes (Gymnotiformes, Teleostei). Misc. Publ. Mus. Zool. University of Michigan, 190: 1-129.
- Albert, J.S. and R. Campos-da-Paz. 1998. Phylogenetic systematics of Gymnotiformes with diagnoses of 58 clades: a review of available data. Pp. 419-446 In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M. Lucena and C.A.S. Lucena (eds.). Phylogeny and classification of Neotropical fishes. Edipucrs, Porto Alegre.
- Albert, J.S. and W.L. Fink. 1996. *Sternopygus xingu*, a new species of electric fish from Brazil (Teleostei: Gymnotoidei), with comments on the phylogenetic position of *Sternopygus*. Copeia, 1996 (1): 85-102.
- Albert, J.S., W.L. Fink and S.V. Fink. 2000. Phylogenetic relationships of the fossil gymnotiform, †*Sternopygus kirshbaumi* (Teleostei; Gymnotoidei). J. Vert. Paleontol. in press.
- Bloch, M.E. 1786. Naturgeschichte der ausländischen Fische, vol. 2. Berlin. viii + 160 p., pls. 145-180.
- Bloch, M.E. and J.G. Schneider. 1801. M. E. Blochii, Systema Ichthyologiae iconibus cx illustratum. Post obitum auctoris opus inchoatum absolvit, correctit, interpolavit Jo. Gottlob Schneider, Saxo. Berolini. Sumtibus Auctoris Impressum et Bibliopolio Sanderiano Commissum. lx + 584 p., 110 pl.
- Boulenger, G.A. 1897. Description of a new gymnotine fish of the genus *Sternopygus*. Ann. Mag. Nat. Hist. (Ser. 6), 20 (117): 305.
- Britski, H.A. 1969. Lista dos tipos de peixes das coleções do Departamento de Zoologia da Secretaria da Agricultura de São Paulo. Pap. Avulsos Dep. Zool. (São Paulo), 22 (19): 197-215.
- Castelnau, F.L. 1855. Poissons. In: Animaux nouveaux or rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847 xii + 112 p., pls. 1-50.
- Chardon, M. and E. de la Hoz. 1977. Remarques anatomiques et fonctionnelles a propos du suspensorium et de la seri operculaire chez *Sternopygus macrurus* et *Eigenmannia virescens* (Teleostei Gymnotoidei). Ann. Soc. Roy. Zool. Belgique, 106: 177-191.
- Crampton, W.G.R. 1996. Gymnotiform fish: an important component of Amazonian flood plain communities. J. Fish Biol., 48: 298-301.
- Crampton, W.G.R. 1998a. Electric signal design and habitat preferences in a species rich assemblage of gymnotiform fishes from the Upper Amazon basin. An. Acad. Bras. Ciencias, 70(4): 805-847.
- Crampton, W.G.R. 1998b. Effects of anoxia on the distribution, respiratory strategies and electric signal diversity of gymnotiform fishes. J. Fish Biol., 53: 502-520.
- Cuvier, G. 1816. Le règne animal distribué d'après son organisation pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Les reptiles, les poissons, les mollusques et les annélides. xviii + 532 p.
- de la Hoz, E. and M. Chardon. 1984. Skeleton, muscles, ligaments and swim-bladder of a gymnotiform fish, *Sternopygus macrurus* Bloch and Schneider (Ostariophysi Gymnotoidei). Bull. Soc. Roy. Sci. Liège 53e anné, 1: 9-53.
- Eigenmann, C. H. 1894. Notes on some South American fishes. Ann. N. Y. Acad. Sci., 7 (5): 625-637.
- Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II.- The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. Univ. Kentucky. xv + 494 p., 22 pl.
- Eydoux, J.F.T. and F.A. Souleyet. 1850. Poissons. Pp. 155-216. In: Voyage autour du monde exécuté pendant les années 1836 et 1837 sur la corvette La Bonite, commandée par M. Vaillant. Zoologie, Vol. 1 (pt 2). Paris. iv + xxxix + 334 p., pls. 1-10.
- Fernández-Yépez, A. 1968. Contribución al conocimiento de los peces Gymnotiformes. Evencias, (20): [1-7], 5 pls.
- Ferraris, C.J., Jr. and R.P. Vari. 1992. Catalog of type specimens of Recent fishes in the National Museum of Natural History, Smithsonian Institution, 4: Gonorynchiformes, Gymnotiformes, and Siluriformes (Teleostei: Ostariophysi). Smithson. Contrib. Zool., (535): 1-52.
- Gayet, M., F.J. Meunier and F. Kirschbaum. 1994. *Ellisella kirschbaumi* Gayet & Meunier, 1991, gymnotiform e fossile de Bolivie et ses relations phylogénétiques au sein des formes actuelles. Cybium, 18(3): 273-306.
- Gill, T. N. 1864. [Several points in ichthyology and conchology.]. Proc. Acad. Nat. Sci. Philadelphia, 16: 151-152.
- Günther, A. 1868. Diagnoses of some new freshwater fishes from Surinam and Brazil, in the collection of the British Museum. Ann. Mag. Nat. Hist. (Ser. 4), 1 (6): 475-481.
- Günther, A. 1870. Catalogue of the fishes in the British Museum, vol. 8. Catalogue of the Physostomi, containing the families Gymnotidae, Symbranchidae, Muraenidae, Pegasidae, and of the Lophobranchii, Plectognathi, Dipnoi, ...[thru] ... Leptocardi, in the British Museum. Trustees, London. xxv + 549 p.
- Humboldt, F.H.A. von. 1805. Mémoire sur une nouvelle espèce de gymnote de la rivière de la Madeleine. In: Voyage de Humboldt et Bonpland, Deuxième partie. Observations de Zoologie et d'Anatomie comparée. Paris. 46-48, pl. 10.
- Ihering, R. von. 1907. Os Peixes da agua doce do Brazil. Rev. Mus. Paulista, 7: 258-335, pl.
- Jordan, D. S., and B.W. Evermann. 1896. The fishes of North and Middle America: a descriptive catalogue of the species of fish-like vertebrates found in the waters of North America, north of the Isthmus of Panama. Part I. Bull. U. S. Natl. Mus. No. 47: i-lx + 1-1240.
- Kaup, J.J. 1856. Catalogue of the apodal fish in the collection of the British Museum. London. 163 p., 19 pl.
- Keith, P. and F.J. Meunier. 2000. *Rhabdolichops jegui*, une nouvelle espèce de Sternopygidae (Gymnotiformes) de Guyane française. Cybium, 24 (4): 401-410.
- Korringa, M. 1970. A new gymnotoid fish from the Rio Tocantins, Brazil. Proc. California Acad. Sci. (Ser. 4), 38 (13): 265-271.
- López, R.B. and H.P. Castello. 1966. *Eigenmannia trilineata* (Teleostomi, Sternopyginae) nueva especie hallada en el Rio de la Plata. Comun. Mus. Argent. Cienc. Nat. Bernardino Rivadavia (Zool.), 4 (2): 7-12.
- Lundberg, J.G., W.M. Lewis, J.F. Saunders and F. Mago-Leccia. 1987. A major food web component in the Orinoco River channel: evidence from planktivorous electric fishes. Science, 237: 81-83.
- Lundberg, J.G. and F. Mago-Leccia. 1986. A review of *Rhabdolichops* (Gymnotiformes, Sternopygidae), a genus of South American freshwater fishes, with descriptions of four new species. Proc. Acad. Nat. Sci. Philadelphia, 138: 53-85.
- Lundberg, J.G. and J.C. Stager. 1985. Microgeographic diversity in the Neotropical knife-fish *Eigenmannia macrops* (Gymnotiformes, Sternopygidae). Environ. Biol. Fish., 13(3): 173-181.
- Mago-Leccia, F. 1978. Los peces de la familia Sternopygidae de Venezuela. Acta Cient. Venez., 29 (suppl. 1): 1-89.
- Mago-Leccia, F. 1994. Electric fishes of the continental waters of America. Caracas, Fundacion para el Desarrollo de las Ciencias Fisicas, Matematicas y Naturales. 206 p., 16 unnumbered tables.
- Malabarba, L.R. 1989. Histórico sistemático e lista comentada das espécies de peixes de agua doce do sistema da Laguna dos Patos, Rio Grande do Sul, Brasil. Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre, 2 (8): 107-179.
- Meek, S.E. and S.F. Hildebrand. 1913. New species of fishes from Panama. Field Mus. Nat. Hist. Publ. No. 166, ser. Zool., 10(8): 77-91.
- Meek, S.E. and S.F. Hildebrand. 1916. The fishes of the fresh waters of Panama. Field Mus. Nat. Hist. Publ. Zool. Ser., 10

Check List of the Freshwater Fishes of South and Central America

- (15): 1-374, pls. 6-32.
- Müller, J., and F.H. Troschel. 1848. Fische (pp. 618-644). In: Reisen in Britisch-Guiana in den Jahren 1840-44. Im Auftrag Sr. Majestat des Königs von Preussen ausgeführt von Richard Schomburgk. [Versuch einer Fauna und Flora von Britisch-Guiana.] v. 3. Berlin.
- Müller, J. and F.H. Troschel. 1849. Horae Ichthyologicae. Beschreibung und Abbildung neuer Fische. Berlin. 27 p. (additional p. 24), 5 pl.
- Reinhardt, J.T. 1852. Om svømmeblaeren hos Familien Gymnotini. Vidensk. Medd. Naturh. Foren. København, 1852: 135-149.
- Schreiner, C. and A. Miranda Ribeiro. 1903. A collecção de peixes do Museu Nacional do Rio de Janeiro. Arq. Mus. Nac. Rio de Janeiro, 12 (for 1902): 1-41.
- Schultz, L.P. 1949. A further contribution to the ichthyology of Venezuela. Proc. U. S. Natl. Mus., 99 (3235): 1-211, pls. 1-3.
- Schwassmann, H.O. and M.L. Carvalho. 1985. *Archolaemus blax* Korringa (Pisces, Gymnotiformes, Sternopygidae): a redescription with notes on ecology. Spixiana, 8(3): 231-240.
- Steindachner, F. 1878. Zur Fischfauna des Magdalenen-Stromes. Anz. Akad. Wiss. Wien, 15 (12): 88-91.
- Steindachner, F. 1879. Zur Fisch-fauna des Magdalenen-Stromes. Denkschr. Akad. Wiss. Wien, 39: 19-78, pls. 1-15.
- Steindachner, F. 1881. Beiträge zur Kenntniss der Flussfische Südamerika's. II. Denkschr. Akad. Wiss. Wien, 43: 103-146, pls. 1-7.
- Triques, M.L. 1996. *Eigenmannia vicentespelaea*, a new species of cave dwelling electrogenic Neotropical fish (Ostariophisi: Gymnotiformes: Sternopygidae). Rev. Fr. Aquariol., 23 (1-2): 1-4.
- Triques, M.L. 1999. *Sternopygus castroi*, a new species of Neotropical freshwater electric fish, with new synapmorphies to the genus (Sternopygidae: Gymnotiformes: Teleostei). Stud. Neotrop. Fauna & Environ., 34: 1-8.
- Valenciennes, A. 1842. Poissons (Pl. 13). In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Paris, Bertrand et Levrault.
- Valenciennes, A. 1847. Poissons. Catalogue des principales espèces de poissons, rapportées de l'Amérique méridionale. In: A. d'Orbigny. Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Vol. 5 (pt. 2). Paris, Bertrand et Levrault. 11 p.

Family Rhamphichthyidae (Sand knifefishes)

Carl J. Ferraris, Jr.

The Rhamphichthyidae are a small family of electric knifefishes that can be easily recognized by following combination of characters: body very highly compressed; snout elongated and tubular; mouth small, devoid of jaw teeth; dorsal and caudal fins absent (Planquette et al., 1996). A detailed list of anatomical characters that diagnose rhamphichthyids is presented in Albert (2001).

The family consists of thirteen species, distributed among three genera. Albert (2001) considers the taxonomy of this family to be only tentatively resolved at present. The classification presented here is based primarily on the works of Nijssen et al. (1976), Mago-Leccia (1994) and Triques (1999).

Rhamphichthyids are distributed through the Atlantic and Caribbean draining rivers of South America, from the La Plata basin in the south to the Orinoco River in the North. They occur in coastal rivers of the Guianas and eastern Brazil to the Ucayali basin in Peru. There are no records of rhamphichthyids in any trans-Andean river basins, and they do not occur in Central America. Rhamphichthyids live in tributary streams, marginal lagoons of large rivers and deeper portions of main river channels (Mago-Leccia, 1976). They remain partially buried in sand or mud during the day, and little else is known of their biology.

GYMNORHAMPHICHTHYS

Gymnorhamphichthys Ellis in Eigenmann, 1912: 423, 436. Type species: *Gymnorhamphichthys hypostomus* Ellis, 1912. Type by monotypy. Gender: masculine. Also appeared as new in Ellis (1913:139).

Urumarã Miranda Ribeiro 1920: 6. Type species: *Urumara rondoni* Miranda Ribeiro, 1920. Type by monotypy. Gender: feminine.

***Gymnorhamphichthys hypostomus* Ellis, 1912**

Gymnorhamphichthys hypostomus Ellis in Eigenmann, 1912: 436. Type locality: San Joaquin, Bolivia. Holotype: FMNH 54554. Also appeared in Ellis (1913:139, pl. 23, fig. 2).

Distribution: South America: Upper Mamoré and Orinoco River basins.

Countries: Bolivia, Colombia

***Gymnorhamphichthys petiti* Géry & Vu-Tân-Tuê, 1964**

Gymnorhamphichthys hypostomus petiti Géry & Vu-Tân-Tuê, 1964: 486, pl. 1. Type locality: Ilha do Bananal, haut Rio Araguaia, Brésil. Holotype: Géry coll. M.340.

Distribution: South America: Upper Araguaia River basin.

Countries: Brazil

***Gymnorhamphichthys rondoni* (Miranda Ribeiro, 1920)**

Urumara rondoni Miranda Ribeiro, 1920: 6. Type locality: Rio 17 de Fevereiro, trib. of Alto Cautário, Amazonas, Brazil. Holotype: MNRJ 3631.

Distribution: South America: Amazon, upper Paraná, and Orinoco River basins, and coastal rivers of the Guianas.

Countries: Brazil, Colombia, Guyana, Paraguay, Suriname, Venezuela

***Gymnorhamphichthys rosamariae* Schwassmann, 1989**

Gymnorhamphichthys rosamariae Schwassmann, 1989: 159, figs.

1-3. Type locality: Upper Rio Negro at Rosa Maria, State of Amazonas, Brazil 0.5°S, 64°W. Holotype: MZUSP 30202.

Distribution: South America: Negro River basin.

Countries: Brazil

IRACEMA

Iracema Triques, 1996: 91. Type species: *Iracema caiana* Triques, 1996. Type by original designation. Gender: feminine.

***Iracema caiana* Triques, 1996**

Iracema caiana Triques, 1996: 91, fig. 1. Type locality: Jauaperi R., beach ca. 40-50 km above its mouth on the Rio Negro, ca. 1°05'S, 61°35'W, Amazonas/Roraima border, Brazil. Holotype: MZUSP 8952.

Maximum length: 36 cm TL

Distribution: South America: Jauaperi River basin in Negro River drainage.

Countries: Brazil

RHAMPHICHTHYS

Rhamphichthys Müller & Troschel, 1848: 640. Type species: *Gymnotus rostratus* Linnaeus, 1766. Type by monotypy. Gender: masculine. Apparently appeared first as *Ramphichthys*, without description or species, in Müller (1844).

Altona Kaup in Duméril, 1856: 201. Type species: *Gymnotus rostratus* Linnaeus, 1766. Type by monotypy. Gender: feminine. Recorded in list of genera and species as *Altona rostrata*, presumed to refer to *Gymnotus rostratus* Linnaeus.

***Rhamphichthys apurensis* (Fernández-Yépez, 1968)**

Gymnorhamphichthys apurensis Fernández-Yépez, 1968: [5], 4th unnumbered pl. Type locality: Río Bucaral (Paso Don Pancho), afluyente del Río Apure [Orinoco basin, Venezuela]. Holotype: MBUCV-V-10838 [ex AFY 51169].

Distribution: South America: Orinoco River basin.

Countries: Venezuela

***Rhamphichthys atlanticus* Triques 1999**

Rhamphichthys atlanticus Triques 1999: 3, fig. 4. Type locality: Viana Lake, Pindaré-Mearim river system, MA, Brazil, approximately 3°14'S, 45°01'W. Holotype: MZUSP 43612

Maximum length: 67 cm SL

Distribution: South America: Pindaré-Mearim River basin.

Countries: Brazil

***Rhamphichthys drepanium* Triques 1999**

Rhamphichthys drepanium, Triques 1999: 1, Figs. 1-3. Januári Lake, at confluence of Rio Negro and Rio Solimões, Manaus County, AM, Brazil, approximately. 3°20'S, 60°12'W. Holotype: MZUSP 6893.

Maximum length: 43 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil

***Rhamphichthys hahni* (Meinken, 1937)**

Sternarchorhamphus hahni Meinken, 1937: 79, fig. 3. Type locality: Río Paraná basin, near Corrientes, Argentina. Holotype: ZMB 31367.

Distribution: South America: Paraná River basin.

Countries: Argentina

***Rhamphichthys lineatus* Castelnau, 1855**

Rhamphichthys lineatus Castelnau, 1855: 87, pl. 47 (fig. 1). Type locality: d'un lac de la rivièrè d'Ucayale. Holotype: MNHN 3982.

Maximum length: 54 cm TL

Distribution: South America: Ucayali River basin.

Countries: Peru

***Rhamphichthys longior* Triques, 1999**

Rhamphichthys longior Triques, 1999: 4. Paru Lake (formed in the confluence of the Rios Trombetas and Paru-do-Oeste) at Oriximiná, PA, Brazil, approximately 1°45'S, 55°52'W. Holotype: MZUSP 48507.

Maximum length: 80 cm SL

Distribution: South America: Paru Lake in lower Amazon River basin.

Countries: Brazil

***Rhamphichthys marmoratus* Castelnau, 1855**

Rhamphichthys marmoratus Castelnau, 1855: 86, pl. 46 (fig. 2). Type locality: l'Araguay, Brazil. Holotype: MNHN 3959.

?*Rhamphichthys pantherinus* Castelnau, 1855: 86, pl. 46 (fig. 3). Type locality: d'un lac près de l'Ucayale. Holotype: MNHN 3993

Maximum length: 65 cm TL

Distribution: South America: Amazon, Araguaia and Ucayali River basins.

Countries: Brazil, Peru

***Rhamphichthys rostratus* (Linnaeus, 1766)**

Gymnotus rostratus Linnaeus, 1766: 428. Type locality: America [South America]. No types known.

?*Gymnotus longirostratus* La Cèpède, 1800: 145, 178. Type locality: South America. No types known.

?*Rhamphichthys blochii* Kaup, 1856: 133, fig. 9. Type locality: No locality stated. No types known

?*Rhamphichthys reinhardti* Kaup, 1856: 132, fig. 8. Type locality: No locality. Holotype: MNHN 3956.

?*Rhamphichthys schneideri* Kaup, 1856: 136, fig. 11. Type locality: Cayenne. No types known.

?*Rhamphichthys schomburgki* Kaup, 1856: 135, fig. 10. Type locality: Rivers of Demerara, British Guiana. Holotype: MNHN 3958.

Maximum length: 90 + cm TL

Distribution: South America: Coastal rivers of northeastern South America

Countries: Brazil, French Guyana, Guyana, Suriname

References

- Albert, J.S. 2001. Species diversity and phylogenetic systematics of American knifefishes (Gymnotiformes, Teleostei). Misc. Publ. Mus. Zool. University of Michigan, 190: 1-129.
- Castelnau, F.L. 1855. Poissons. In: Animaux nouveaux or rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847 ... Part 7, Zoology, vol. 2. xii + 112 p., pls. 1-50.
- Duméril, A.M.C. 1856. Ichthyologie analytique ou classification des poissons, suivant la méthode naturelle, à l'aide de tableaux synoptiques. Mém. Acad. Sci., Paris, 27 (1): 1-507.
- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, Pls. 1-103.
- Ellis, M.M. 1913. The gymnotid eels of tropical America. Mem. Carnegie Mus., 6 (3): 109-195, Pls. 15-23.
- Fernández-Yépez, A. 1968. Contribución al conocimiento de los peces Gymnotiformes. Evencias, (20): [1-7], 5 pls.
- Géry, J. and T.-T. Vu, 1964. *Gymnorhamphichthys hypostomus petiti* ssp. nov. un curieux poisson Gymnotoïde Arénicole. Vie Milieu Suppl., (17): 485-498.
- Kaup, J.J. 1856. Catalogue of the apodal fish in the collection of the British Museum. London. 163 p., 19 pl.
- La Cèpède, B.G.E. 1800. Histoire naturelle des poissons. vol. 2. Chez Plassan, Paris lxiv + 632 p., 20 pl.
- Linnaeus, C. 1766. Systema naturae sive regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. 12th ed., vol. 1 (pt 1). Laurentii Salvii, Holmiae. 532 p.
- Mago-Leccia, F. 1994. Electric fishes of the continental waters of America. Fundacion para el Desarrollo de las Ciencias Fisicas, Matematicas y Naturales, Caracas. 206 p., 16 unnumb. tables.
- Meinken, H. 1937. Beiträge zur Fischfauna des mittleren Paraná III. Blätt. Aquar. Terrarienkunde, 48 (4): 73-80.
- Miranda Ribeiro, A. 1920. Peixes (excl. Characnidae). In: Comissão de Linhas Telegraficas Estrategicas de Matto-Grosso ao Amazonas. Historia Natural. Zoologia. Peixes Matto-Grosso, 58 (Annexo 5): 1-15, 17 unnum. pls.
- Müller, J. and F.H. Troschel. 1848. Fische (pp. 618-644). In: Reisen in Britisch-Guiana in den Jahren 1840-44. Im Auftrag Sr. Majestat des Königs von Preussen ausgeführt von Richard Schomburgk. [Versuch einer Fauna und Flora von Britisch-Guiana.] vol. 3. Berlin.
- Nijssen, H., I.J.H. Isbrücker and J. Géry. 1976. On the species of *Gymnorhamphichthys* Ellis, 1912, translucent sand-dwelling gymnotid fishes from South America (Pisces, Cypriniformes, Gymnotoidei). Stud. Neotropical Fauna Environment, 11:37-63.
- Planquette, P., P. Keith and P.-Y. LeBail. 1996. Atlas des poissons d'eau douce de Guyane. Vol. 1. Collection du Patrimoine Naturel, vol. 2. IEGB, MNHN, INRA, CSP, Ministère de l'Environnement. Paris. 329 p.
- Schwassmann, H.O. 1989. *Gymnorhamphichthys rosamariae*, a new species of knifefish (Rhamphichthyidae, Gymnotiformes) from the upper Rio Negro, Brazil. Stud. Neotrop. Fauna Environ., 24 (3): 157-167.
- Triques, M.L. 1996. *Iracema caiana*, a genus and species of electrogenic Neotropical freshwater fish Rhamphichthyidae: Gymnotiformes: Ostariophysi: Actionopterygii). Rev. Fr. Aquariol., 23 (3-4): 91-92.
- Triques, M.L. 1999. Three new species of *Rhamphichthys* Müller et Troschel, 1846 (Ostariophysi: Gymnotiformes: Rhamphichthyidae). Rev. Fr. Aquariol., 26 (1-2): 1-6.

Family Hypopomidae (Bluntnose knifefishes)

James S. Albert & William G. R. Crampton

Species diversity and systematics of the Hypopomidae has been reviewed by Mago-Leccia (1994), Sullivan (1997), Albert and Campos-da-Paz (1998), and Albert (2001). Hypopomid species possess the following unique combination of characters among gymnotiforms: teeth absent from both jaws; snout moderate to short length (preorbital region less than 38% head length); eye small (diameter less than distance between nares); nasal capsule near eye, anterior nares located outside gape; infraorbital bones ossified as slender tubes; operculum trapezoidal; hyomandibula oriented oblique to long axis of head; anal-fin origin ventral or posterior to pectoral fin-base; no urogenital papilla; no caudal fin or dorsal organ. Hypopomids also possess a multiphasic (usually biphasic) electric organ discharge produced as discrete pulses.

There are currently 23 names available in the literature for hypopomid genera and species. Of these, 6 generic and 25 species names are valid. There are in addition 10 manuscript names for species currently in preparation, bringing the known diversity of Hypopomidae to 35 species. Many more hypopomid species are anticipated, as the rate of description is accelerating.

Hypopomids are relatively conservative in terms of overall external morphology. Like all gymnotiforms the shape is typically culteriform, with an elongate body and anal fin.

Higher level hypopomid taxonomy emphasizes differences in: snout length and body profile, ranging from highly compressed laterally (e.g., *Steatogenys*) to cylindrical and worm-like (e.g., *Microsternarchus*). Hypopomids are small to medium sized electric fishes, ranging in total adult body size, from the smallest extant gymnotiform species *Hypopygus lepturus* (80 mm) to *Brachyhypopomus brevirostris* (350 mm).

The Hypopomidae is confined to the Humid Neotropics, ranging the La Plata River of Argentina (35°S) to the Tuira River of Panama (8°N). Hypopomids are known from the continental waters of all South American countries except Chile (Albert, 2001), and are most diverse -- both taxonomically and ecologically -- in the Amazon basin.

The ecology and natural history of most hypopomid species is very poorly understood. *Brachyhypopomus* is perhaps the most well studied group; it is also the most widely distributed hypopomid genus, in terms of both geography and habitat, extending the full range of the family. *Brachyhypopomus* species inhabit seasonal streams in the relative to highly desertified areas of northwest Venezuela (Falcón), Gran Sabana (central Guyana), northeast Brazil, southeast Brazil, and northern Argentina (Chaco) (Costa and Campos-da-Paz, 1992). *Brachyhypopomus* is also highly diverse and abundant in floating meadows of Central Amazonia. *Brachyhypopomus* is able to tolerate protracted periods of hypoxic water conditions, at least in part because they can hold air bubbles in the gill chamber for use in aerial respiration.

Hypopomid systematics and taxonomy is rapidly changing as new species and previously undocumented phenotypes are discovered. The total expected number of species cannot currently be estimated with confidence. A large number of undescribed hypopomid species are known in museum collections and many more are likely to be captured from continued field studies, particularly in Western and Central Amazonia.

There is little direct commercial exploitation of hypopomid species. *Brachyhypopomus* species are ecologically important in floating meadows of white water floodplains, often constituting a significant fraction of the biomass (Crampton, 1996). *Steatogenys elegans* is an important part of the biomass in the main channels of Amazonian channels. Hypopomid species are not common in the aquarium trade and are not usually eaten.

BRACHYHYPOPOMUS

Brachyhypopomus Mago-Leccia, 1994: 47. Type species: *Rhamphichthys brevirostris* Steindachner, 1868. Type by original designation. Gender: masculine.

***Brachyhypopomus beebei* (Schultz, 1944)**

Hypopomus beebei Schultz, 1944: 40, pl. 1 (fig. 4); fig. 1. Type locality: Caripito, Venezuela. Holotype: USNM 120753 (tail missing).

Maximum length: 20.4 cm TL

Distribution: South America: Tropical areas east of Andes.

Countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Venezuela

Remarks and references: Ecology: Associated with floating vegetation.

***Brachyhypopomus brevirostris* (Steindachner, 1868)**

Rhamphichthys brevirostris Steindachner, 1868a: 177. Type locality: Rio Guaporé, Amazonenstrom bei Santarem, Rio Cauca. Syn-types: NMW 65038-40.

Maximum length: 34.7 cm TL

Distribution: South America: Eastern South America from Orinoco to La Plata River.

Countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, Venezuela

Remarks and references: Ecology: Associated with emergent and floating vegetation.

***Brachyhypopomus diazi* (Fernández-Yépez, 1972)**

Hypopomus diazi Fernández-Yépez, 1972: 20, pl. 21. Type locality: Estación 138 de el Análise Ictiológico del Complejo Hidrográfico (04), "Río Yaracuy" [Río Alpargatón, Río Yaracuy drainage, Estado Carabobo, Venezuela]. Holotype: no repository stated, whereabouts unknown.

Maximum length: 17.5 cm TL

Distribution: South America: Northwest Venezuela, from Tocuyo River to Alpargatón River, also northern Llanos of Orinoco basin.

Countries: Venezuela

***Brachyhypopomus janeiroensis* (Costa & Campos-da-Paz, 1992)**

Hypopomus janeiroensis Costa & Campos-da-Paz, 1992: 118, fig. 2-3. Type locality: Corrego Salto-d'água, trib. of Rio Sao Joao, 6 km north of Silva Jardim, 22°39'S, 42°23'W, Rio de Janeiro, Brazil. Holotype: MZUSP 43130.

Maximum length: 18.6 cm TL

Distribution: South America: São João and Paraíba do Sul River basins in Rio de Janeiro State.

Countries: Brazil

***Brachyhypopomus occidentalis* (Regan, 1914)**

Hypopomus occidentalis Regan, 1914: 32. Type locality: Río Condoto [Pacific slope of Colombia]. Syntypes: BMNH 1914.5.18.94-98.

Maximum length: 17.5 cm TL

Distribution: Central and South America: Magdalena, Atrato, Catatumbo and Pacific slope rivers.

Countries: Colombia, Panama

***Brachyhypopomus pinnicaudatus* (Hopkins, 1991)**

Hypopomus pinnicaudatus Hopkins, 1991: 153, fig. 1. Type locality: Coastal swamp if French Guiana called "Grand Pripris," 3.5 km northwest of center of old Kourou, 52°40'00"W and 5°10'45"N, approx. 0.1 km N of old Route Nationale # 1. Holotype: ANSP 163463.

Maximum length: 18.6 cm TL

Distribution: South America: Eastern South America from Catatumbo River basin, Orinoco and Guianas to La Plata River basin; Amazon River basin in Peru.

Countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela

HYPOPOMUS

Hypopomus Gill, 1864: 152. Type species: *Rhamphichthys mulleri* Kaup, 1856. Type by monotypy. Gender: feminine.

Brachyrhamphichthys Günther, 1870: 6. Type species: *Rhamphichthys artedi* Kaup, 1856. Type by subsequent designation. Gender: masculine.

Parupygus Hoedeman, 1962b: 58. Type species: *Parupygus savannensis* Hoedeman, 1962. Type by monotypy. Gender: masculine.

***Hypopomus artedi* (Kaup, 1856)**

Rhamphichthys artedi Kaup, 1856: 128, fig. 3. Type locality: The Mona, a river in French Guiana. Holotype: MNHN 3157.

Rhamphichthys mulleri Kaup, 1856: 129, fig. 4. Type locality: Cayenne [French Guiana]. Syntypes: MNHN 3983.

Parupygus litaniensis Hoedeman, 1962a: 98, fig. 2, 3b. Type locality: French Guiana, Litany, village Aloiké, sta. 29. Holo-

type: ZMA 100248.

Parupygus savannensis Hoedeman, 1962b: 58, fig. 5. Type locality: Surinam, Sipaliwini, Paru savannah, sta. 44a. Holotype: ZMA 102375.

Maximum length: 50 cm SL

Distribution: South America: Guianas.

Countries: Brazil, French Guiana, Guyana, Suriname

HYPOPYGUS

Hypopygus Hoedeman, 1962a: 99. Type species: *Hypopygus lepturus* Hoedeman, 1962. Type by monotypy. Gender: masculine.

***Hypopygus lepturus* Hoedeman, 1962**

Hypopygus lepturus Hoedeman, 1962a: 99, fig. 4. Type locality: Maroni basin, Suriname. Holotype: RMNH 19466.

Maximum length: 10 cm TL

Distribution: South America: Amazon and Orinoco River basins, also coastal rivers of the Guianas.

Countries: Brazil, French Guiana, Suriname, Venezuela

***Hypopygus neblinae* Mago-Leccia, 1994**

Hypopygus neblinae Mago-Leccia, 1994: 86, fig. 96. Type locality: Río Baria, 3 km downriver of Neblina base camp, Amazonas, Venezuela. Holotype: MBUCV-V-14694.

Maximum length: 12.2 cm TL

Distribution: South America: Atabapo and Negro rivers, the Casiquiare Canal and La Neblina National Park; also Meta River basin in Colombia and some localities in Bolivia.

Countries: Bolivia, Colombia, Venezuela

MICROSTERNARCHUS

Microsternarchus Fernández-Yépez, 1968: [4]. Type species: *Microsternarchus bilineatus* Fernández-Yépez, 1968. Type by original designation. Gender: masculine.

***Microsternarchus bilineatus* Fernández-Yépez, 1968**

Microsternarchus bilineatus Fernández-Yépez, 1968: [3], 2nd unnumbered pl. Type locality: Río San José, afluyente del Río Guariquito al SW. de Calabozo [Venezuela]. Holotype: MACLPI 65562-B.

Maximum length: 12 cm TL

Distribution: South America: Upper Orinoco and Negro River basins.

Countries: Brazil, Venezuela

RACENISIA

Racenisia Mago-Leccia, 1994: 51. Type species: *Racenisia fimbriipinna* Mago-Leccia, 1994. Type by original designation. Gender: feminine.

***Racenisia fimbriipinna* Mago-Leccia, 1994**

Racenisia fimbriipinna Mago-Leccia, 1994: 88, fig. 66a, 74c-d, 77, 97a-b. Type locality: El Pozo de Lucas, San Fernando de Atabapo, Amazonas, Venezuela. Holotype: MBUCV-V-7540.

Maximum length: 11.7 cm TL

Distribution: South America: Upper Negro and Orinoco rivers, around San Fernando de Atabapo and San Carlos de Rio Negro.

Countries: Venezuela

STEATOGENYS

Steatogenys Boulenger, 1898: 428. Type species: *Rhamphichthys (Brachyrhamphichthys) elegans* Steindachner, 1880. Type by monotypy. Gender: feminine.

Tateichthys La Monte, 1929: 1. Type species: *Tateichthys duidae* La Monte, 1929. Type by monotypy. Gender: masculine.

***Steatogenys duidae* (La Monte, 1929)**

Tateichthys duidae La Monte, 1929: 1, fig. 1. Type locality:

Burned Mountain Creek, ca. 5 mi. northeast of Caño Pescado, Mt. Duida neighborhood, Venezuela. Holotype: AMNH 9599.
Maximum length: 19 cm TL
Distribution: South America: Venezuela, Brazil.
Countries: Brazil, Venezuela
Remarks and references: Ecology: Small streams.

Steatogenys elegans (Steindachner, 1880)

Rhamphichthys (Brachyrhamphichthys) elegans Steindachner, 1880: 89. Type locality: Mouth of the Rio Negro, Brazil. Syn-types: NMW 76413.
Rhamphichthys (Brachyrhamphichthys) mirabilis Steindachner, 1880: 104, pl. 9 (figs. 1-1a). Type locality: Rio Negro Amazonas, Brazil. Holotype: ?.
Maximum length: 29.4 cm TL
Distribution: South America: Guianas and Amazon River basin.
Countries: Bolivia, Brazil, Colombia, Ecuador, Peru, Venezuela

STEGOSTENOPOS

Stegostenopos Triques, 1997: 32. Type species: *Stegostenopos cryptogenes* Triques, 1997. Type by original designation. Gender: masculine.

Stegostenopos cryptogenes Triques, 1997

Stegostenopos cryptogenes Triques, 1997: 33, fig. 5. Type locality: Igarapé (creek) Sirinau, right margin of Rio Cuieiras, ca. 25 km from its mouth on Rio Negro, ca. 2°70'S, 60°40'W, Brazil. Holotype: MZUSP 47985.
Maximum length: 9.8 cm TL
Distribution: South America: Negro River basin.
Countries: Brazil

References

- Albert, J.S. 2001. Species diversity and phylogenetic systematics of American knifefishes (Gymnotiformes, Teleostei). Misc. Publ. Mus. Zool. University of Michigan, 190: 1-129.
- Albert, J.S. and R. Campos-da-Paz. 1998. Phylogenetic systematics of American knifefishes: a review of available data. Pp. 409-435. In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). Phylogeny and Classification of Neotropical Fishes. Edipucrs, Porto Alegre.
- Birmingham, E. and A. Martin. 1998. Comparative mtDNA phylogeography of Neotropical freshwater fishes: testing shared history to infer the evolutionary landscape of lower Central America. *Molecular Ecology*, 7: 499-517.
- Boulenger, G.A. 1898. On a collection of fishes from the Rio Jurua, Brazil. *Trans. Zool. Soc. London*, 14(2, Pt. 7): 421-428.
- Costa, W.J.E.M. and R. Campos-da-Paz. 1992. Description d'une nouvelle espèce de poisson électrique du genre néotropical *Hypopomus* (Siluriformes: Gymnotoidei: Hypopomidae) du sud-est du Brésil. *Rev. Fr. Aquariol.*, 18 (4) (for 1991): 117-120.
- Crampton, W.G.R. 1996. Gymnotiform fish: an important component of Amazonian floodplain fish communities. *J. Fish Biol.*, 48(2): 298-301.
- Crampton, W.G.R. 1998a. Electric signal design and habitat preferences in a species rich assemblage of gymnotiform fishes from the Upper Amazon basin. *An. Acad. Bras. Cien.*, 70(4): 805-847.
- Crampton, W.G.R. 1998b. Effects of anoxia on the distribution, respiratory strategies and electric signal diversity of gymnotiform fishes. *J. Fish Biol.*, 53: 502-520.
- Fernández-Yépez, A. 1968. Contribución al conocimiento de los peces Gymnotiformes. *Evencias*, (20): [1-7], 5 pls.
- Fernández-Yépez, A. 1972. Análisis ictológico del complejo hidrográfico (04) "Río Yaracuy". Dirección de Obras Hidráulicas, Ministerio de Obras Públicas, República de Venezuela. 25 p., 41 pl.
- Gill, T. N. 1864. [Several points in ichthyology and conchology.]. *Proc. Acad. Nat. Sci. Philadelphia*, 16: 151-152.
- Günther, A. 1870. Catalogue of the fishes in the British Museum, vol. 8. Catalogue of the Physostomi, containing the families Gymnotidae, Symbranchidae, Muraenidae, Pegasidae, and of the Lophobranchii, Plectognathi, Dipnoi, ...[thru] ... Leptocardi, in the British Museum. *Cat. Fishes*, xxv + 549 p.
- Hoedeman, J.J. 1962a. Notes on the ichthyology of Surinam and other Guianas. 11. New gymnotoid fishes from Surinam and French Guiana, with additional records and a key to the groups and species from Guiana. *Bull. Aquatic Biol.*, 3 (30): 97-108.
- Hoedeman, J.J. 1962b. Notes on the ichthyology of Surinam and other Guianas. 9. New records of gymnotid fishes. *Bull. Aquatic Biol.*, 3 (26): 53-60.
- Hopkins, C.D. 1991. *Hypopomus pinnicaudatus* (Hypopomidae), a new species of gymnotiform fish from French Guiana. *Copeia*, 1991 (1): 151-161.
- Kaup, J.J. 1856. Catalogue of the apodal fish in the collection of the British Museum. London. 1-163, pls. 1-19.
- La Monte, F. 1929. Two new fishes from Mt. Duida, Venezuela. *Am. Mus. Novit.*, (373): 1-4.
- Mago-Leccia, F. 1994. Electric fishes of the continental waters of America. Caracas, Fundacion para el Desarrollo de las Ciencias Fisicas, Matematicas y Naturales. 206 p., 16 unnumbered tables.
- Malabarba, L.R. 1989. Histórico sistemático e lista comentada das espécies de peixes de água doce do sistema da Laguna dos Patos, Rio Grande do Sul, Brasil. *Comun. Mus. Ciênc. PUCRS, Sér. Zool.*, Porto Alegre, 2 (8): 107-179.
- Meek, S.E. and S.F. Hildebrand. 1913. New species of fishes from Panama. *Field Mus. Nat. Hist. Publ. Zool.*, 10 (8): 77-91.
- Regan, C.T. 1914. Fishes from the Condoto River, Colombia, collected by Dr. H. G. F. Spurrell. *Ann. Mag. Nat. Hist. (Ser. 8)*, 14 (79): 31-33.
- Schultz, L.P. 1944. Two new species of fishes (Gymnotidae, Loricariidae) from Caripito, Venezuela. *Zoologica (N. Y.)*, 29 (1, no. 5): 39-44, pl. 1.
- Schwassmann, H.O. 1984. Species of *Steatogenys* Boulenger (Pisces, Gymnotiformes, Hypopomidae). *Bol. Mus. Para. Emilio Goeldi Nova Ser. Zool.*, 1 (1): 97-114.
- Steindachner, F. 1868a. Abhandlung über die Gymnotiden des Wiener Museums. *Anz. Akad. Wiss. Wien*, 5 (20): 176-177.
- Steindachner, F. 1868b. Die Gymnotidae des k. k. Hof-Naturalienkabinetes zu Wien. *Sitzungsber. Akad. Wiss. Wien*, 58: 249-264, pls. 1-2.
- Steindachner, F. 1880. Zur Fisch-Fauna des Cauca und der Flüsse bei Guayaquil. *Denkschr. Akad. Wiss. Wien*, 42: 55-104, pls. 1-9.
- Sullivan, J.P. 1997. A phylogenetic study of the Neotropical hypopomid electric fishes (Gymnotiformes: Rhamphichthyoidea). Unpublished Ph.D. Thesis, Duke University.
- Triques, M.L. 1993. Filogenia dos Gêneros de Gymnotiformes (Actinopterygii, Ostariophysi), com base em caracteres esqueléticos. *Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre*, 6: 85-130.
- Triques, M.L. 1997. *Stegostenopos cryptogenes*, new genus and species of Hypopomidae electrogenic Neotropical fish from the Rio Negro system, Brazil (Actinopterygii: Ostariophysi: Gymnotiformes). *Rev. Fr. Aquariol.*, 24 (1-2): 31-36.

Family Apterontidae (Ghost knifefishes)

James S. Albert

Species diversity and systematics of the Apterontidae has been reviewed by Mago-Leccia (1994), Albert and Campos-da-Paz (1998), and Albert (2001). Apterontid species are readily recognized as the only gymnotiform fishes with a caudal fin and a dorsal organ (a longitudinal strip of fleshy tissue firmly attached to posterodorsal midline). Among gymnotiforms, apterontid species also possess the following unique combination of characters: small eye (its diameter less than distance between nares); infraorbital and supraorbital laterosensory lines connected anterior to eye; infraorbital bones ossified as slender tubes; anterior nares located outside gape; no urogenital papilla; 1-2 rows of conical teeth in both jaws; anal-fin origin at, or anterior to, isthmus; no urogenital papilla. Apterontids also possess a high frequency tone-type electric organ discharge (more than 750 Hz at maturity).

There are currently 72 names available in the literature for apterontid genera and species. Of these, 13 generic and 52 species names are valid. There are in addition 12 manuscript names for species currently in preparation, bringing the known diversity of Apterontidae to 64 species. Many more apterontid species are anticipated, as the rate of description is accelerating.

Apterontids are relatively conservative in terms of overall external morphology. Like all other gymnotiforms the shape is typically culteriform, with an elongate body and anal fin. Higher level apterontid taxonomy emphasizes differences in snout length and shape, and shape and position of the mouth. Apterontids exhibit substantial diversity in total adult body size, ranging from an undescribed Amazonian species of *Adontosternarchus*, and *Megadontognathus kaitukaensis* (each growing to about 160 mm) to *Apterontus* (formerly *Ubidia*) *magdalenese* (1.3 M) (Campos-da-Paz, 1999).

The Apterontidae is confined to the humid Neotropics, ranging the La Plata River of Argentina (35°S) to the Tuira River of Panama (8°N). Apterontids are known from the continental waters of all South American countries except Chile (Albert, 2001), and are most diverse -- both taxonomically and ecologically -- in the Amazon basin.

The ecology and natural history of most apterontid species is poorly understood. *Apterontus* species are the most widely distributed, extending the full range of the family. *Apterontus* species inhabit both floodplain and tierra firme (non-floodplain) streams and rivers. Like many apterontids, *Apterontus* are aggressive predators of small aquatic insect larvae and fishes. Apterontids are most diverse in the Amazonian floodplain, where many species are specialized to inhabit deep portions of the river channel. Some main channel apterontids are aggressive piscivores (e.g., *Sternarchella*), whereas other are planktivores (*Adontosternarchus*). *Magosternarchus* spp. predate the tails of other electric fishes. Other species (e.g., *Sternarchorhynchus*, *Sternarchorhamphus*) have tubular snouts and forage on the beds of aquatic insect larvae on the rivers bottoms. At least one species (*Sternarchogiton nattereri*) eats freshwater sponges which grow on submerged trees, stumps, and other woody debris. *Orthosternarchus* is perhaps the most specialized for life at the river bottom, in many ways resembling cave fishes; they are almost entirely blind, with minute, asymmetrically arranged eyes; and they have almost no pigments or scales, appearing bright pink in life due to the underlying blood hemoglobin.

An important aspect of apterontid diversity is sexual dimorphism in snout size and shape. Reproductively mature males of *Parapterontus hasemani* have highly elongate jaws, which are presumed to be involved in male-male competition. Mature males of *Sternarchorhynchus roseni* possess numerous teeth on their lower jaw. Mature male *Sternarchogiton nattereri* grow teeth externally over the snout, giving them an appearance to unusual that for 40 years they have been regarded as representing an entirely different genus (*Oedemognathus*)

Apterontid systematics and taxonomy is rapidly changing as new species and previously undocumented phenotypes are discovered. The total expected number of species cannot currently be estimated with confidence. A large number of undescribed apterontid species are known in museum collections and many more are likely to be captured from continued field studies, particularly in Western and Central Amazonia.

There is little direct commercial exploitation of Apterontid species. Many species are ecologically important in Amazonian floodplains, often constituting a significant fraction of the biomass (Crampton, 1996). Two species (*Apterontus albifrons* and *A. leptorhynchus*) are common in the aquarium trade. Apterontids are not an important food resource.

ADONTOSTERNARCHUS

Adontosternarchus Ellis in Eigenmann, 1912: 424 (in key). Type species: *Sternarchus sachsii* Peters, 1877. Gender: masculine.

***Adontosternarchus balaenops* (Cope, 1878)**

Sternarchus balaenops Cope, 1878: 682. Type locality: Pebás, Amazon system, Peru. Holotype: ANSP 21462.

Maximum length: 25 cm TL

Distribution: South America: Upper Amazon River basin.

Countries: Brazil, Peru

Common names: Macana (Peru)

***Adontosternarchus clarkae* Mago-Leccia, Lundberg & Baskin, 1985**

Adontosternarchus clarkae Mago-Leccia, Lundberg & Baskin, 1985: 14, figs. 1c, 16. Type locality: Raudal (Rapids) de Mavahate, Río Negro near San Carlos de Río Negro, Amazonas Territory, Venezuela. Holotype: MBUCV V-12703.

Maximum length: 18.6 cm TL

Distribution: South America: Negro River basin.

Countries: Brazil, Venezuela

***Adontosternarchus devenanzii* Mago-Leccia, Lundberg & Baskin, 1985**

Adontosternarchus devenanzii Mago-Leccia, Lundberg & Baskin, 1985: 11, figs. 1b, 2-6, 14. Type locality: Caño Cuajarito, trib. of Río Portuguesa, 3 km above La Unión, Estado Guárico, Venezuela. Holotype: MBUCV V-7513.

Maximum length: 18.6 cm TL

Distribution: South America: Portuguesa and Orinoco rivers, and Amazon River basin.

Countries: Brazil, Venezuela

***Adontosternarchus sachsii* (Peters, 1877)**

Sternarchus sachsii Peters, 1877: 473. Unnumbered plate following p. 556. Type locality: San Fernando de Apure, Río Orinoco basin, Venezuela. Holotype: ZMB 10044.

Maximum length: 32.2 cm TL

Distribution: South America: Orinoco River basin.

Countries: Brazil, Venezuela

APTERONOTUS

Apteronotus La Cepède, 1800: 208. Type species: *Apteronotus passan* La Cepède, 1800. Type by monotypy. Gender: masculine.

Sternarchus Bloch & Schneider, 1801: 497. Type species: *Gymnotus albifrons* Linnaeus, 1766. Type by subsequent designation. Gender: masculine.

Memarchus Kaup in Duméril, 1856: 201. Type species: *Gymnotus albifrons* Linnaeus, 1766. Gender: masculine.

Ubidia Miles, 1945: 461. Type species: *Ubidia magdalenensis* Miles, 1945. Type by original designation. Gender: feminine.

***Apteronotus albifrons* (Linnaeus, 1766)**

Gymnotus albifrons Linnaeus, 1766: 428. Type locality: Suriname. No types known.

Apteronotus passan La Cepède, 1800: 209, pl. 6 (fig. 3). Type locality: Suriname. Holotype: MNHN 3808.

Sternarchus maximiliani Castelnau, 1855: 93, pl. 45 (fig. 4). Type locality: Río Urubamba, Peru. No types known.

Sternarchus lacepedii Castelnau, 1855: 93, pl. 45 (fig. 3). Type locality: Suriname. No types known.

Maximum length: 50 cm TL

Distribution: South America: Venezuela to Paraguay and Paraná River basins.

Countries: Brazil, Ecuador, French Guiana, Guyana, Paraguay, Peru, Suriname, Venezuela

Common names: Black ghost (Venezuela), Bloblo (French Guiana), Bobo (French Guiana), Itouí cavalo (Brazil)

***Apteronotus apurensis* Fernández-Yépez, 1968**

Apteronotus apurensis Fernández-Yépez, 1968: [6], 5th unnumb pl.

Type locality: Río Bucaral, Paso Mirabal, Río Apure system, Oronoco basin, Venezuela. Holotype: MBUCV-V-10840.

Maximum length: 30.8 cm TL

Distribution: South America: Apure River basin.

Countries: Venezuela

***Apteronotus bonapartii* (Castelnau, 1855)**

Sternarchus bonapartii Castelnau, 1855: 92, pl. 45 (fig. 2). Type locality: Lake emptying into Río Ucayali, Peru. Holotype: MNHN 3807.

Maximum length: 27 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

Common names: Macana (Peru)

***Apteronotus brasiliensis* (Reinhardt, 1852)**

Sternarchus brasiliensis Reinhardt, 1852: 148. Type locality: Rio das Velhas, Brazil. Syntypes: ?NMW 65015; ZMB 9185 and/or 9195; ZMUC 35-36, 41.

Maximum length: 29 cm TL

Distribution: South America: Das Velhas River basin.

Countries: Brazil

***Apteronotus cuchillejo* (Schultz, 1949)**

Sternarchogiton cuchillejo Schultz, 1949: 72, pl. 3 (fig. B). Type locality: Río Motatán, 8 km below Motatán, Maracaibo basin, Venezuela. Holotype: USNM 121600.

Maximum length: 18.9 cm TL

Distribution: South America: Catatumbo River basin.

Countries: Venezuela

***Apteronotus cuchillo* Schultz, 1949**

Apteronotus cuchillo Schultz, 1949: 69, pl. 3 (fig. A). Type locality: Río Socuy, 3 km above mouth, Maracaibo basin, Venezuela. Holotype: USNM 121591.

Maximum length: 39 cm TL

Distribution: South America: Lake Maracaibo basin.

Countries: Colombia, Venezuela

Common names: Cuchillo (Colombia)

***Apteronotus ellisi* (Arámburu, 1957)**

Porotergus ellisi Arámburu, 1957: 154, fig. 1. Type locality: Lower Río Paraná, San Pedro, Buenos Aires Prov., Argentina. Holotype: MLP 1-V-37-3.

Maximum length: 32.8 cm TL

Distribution: South America: Paraná River basin.

Countries: Argentina

***Apteronotus jurubidae* (Fowler, 1944)**

Sternarchus jurubidae Fowler, 1944: 242, fig. 20. Type locality: Río Jurubidá, Nuquí, Colombia. Holotype: ANSP 71435.

Maximum length: 25.3 cm TL

Distribution: South America: Jurubidá River basin.

Countries: Colombia

***Apteronotus leptorhynchus* (Ellis, 1912)**

Sternarchus leptorhynchus Ellis in Eigenmann, 1912: 439. Type locality: Amatuk, Guyana. Holotype: FMNH 53294.

Maximum length: 26.9 cm TL

Distribution: South America: The Guianas, Brazil and Peru; rivers of Colombia and Venezuela, including the Catatumbo River.

Countries: Brazil, Colombia, French Guiana, Guyana, Peru, Suriname, Venezuela

Common names: Cuchillo (Colombia)

***Apteronotus macrolepis* (Steindachner, 1881)**

Sternarchus macrolepis Steindachner, 1881a: 98. Type locality: Ausstände des Amazonenstromes zunächst der Mündung des Río

negro [Brazil]. Syntypes: (several) NMW 65333 (2).
Maximum length: 18 cm TL
Distribution: South America: Amazon River basin.
Countries: Brazil, Peru

Apteronotus macrostomus (Fowler, 1943)

Sternarchus macrostomus Fowler, 1943: 263, fig. 63. Type locality: Villavicencio, Río Meta basin, Colombia. Holotype: ANSP 70528.

Maximum length: 26 cm TL
Distribution: South America: Meta River basin.
Countries: Colombia

Apteronotus magdalenensis (Miles, 1945)

Ubidia magdalenensis Miles, 1945: 461, figs. 11-12. Type locality: Río Magdalena, Honda, Tolima, Colombia. Holotype: Sec. Caza y Pesca, Min. Nat. Econ. Bogotá.

Maximum length: 129 cm TL
Distribution: South America: Magdalena River basin.
Countries: Colombia

Apteronotus marauna (Triques, 1998)

Tembeassu marauna Triques, 1998: 6, figs. 1-3. Type locality: Ilha Solteira, Rio Paraná, Mato Grosso do Sul State, Brazil, ca. 20°30'S, 51°00'W. Holotype: MZUSP 48510.

Maximum length: 19.6 cm TL
Distribution: South America: Paraná River basin.
Countries: Brazil

Apteronotus mariae (Eigenmann & Fisher, 1914)

Sternarchus mariae Eigenmann & Fisher, 1914: 236. Type locality: Girardot, Colombia. Holotype: FMNH 56774.

Maximum length: 20.4 cm TL
Distribution: South America: Magdalena River basin.
Countries: Colombia

Apteronotus rostratus (Meek & Hildebrand, 1913)

Stenarchus rostratus Meek & Hildebrand, 1913: 85. Type locality: Río Grande near Cana, Panama. Holotype: FMNH 7592.

Maximum length: 27.2 cm TL
Distribution: Central America: Grande River basin.
Countries: Panama

Apteronotus spurrellii (Regan, 1914)

Sternarchus spurrellii Regan, 1914: 32. Type locality: Río Condo-to, Colombia. Syntypes: BMNH 1914.5.18.90-93.

Maximum length: 27 cm TL
Distribution: South America: San Juan River basin.
Countries: Colombia

COMPSARAIA

Compsaraia Albert, 2001: 78. Type species: *Porotergus compsus* Mago-Leccia, 1994. Gender: feminine.

Compsaraia compsus (Mago-Leccia, 1994)

Porotergus compsus Mago-Leccia, 1994: 82, figs. 90, 91. Type locality: Río Orinoco, at Isla Iguana, between km 152 and 153, Delta Amacuro, Venezuela. Holotype: MBUCV-V-11010.

Maximum length: 33.8 cm TL
Distribution: South America: Orinoco, Meta, Apuré and Negro River basins.
Countries: Brazil, Venezuela

MAGOSTERNARCHUS

Magosternarchus Lundberg, Cox Fernandes & Albert in Lundberg et al., 1996: 658. Type species: *Magosternarchus raptor* Lundberg, Cox Fernandes & Albert, 1996. Type by original designation Gender: masculine.

Magosternarchus ducis Lundberg, Cox Fernandes & Albert, 1996

Magosternarchus ducis Lundberg, Cox Fernandes & Albert in Lundberg et al., 1996: 664, fig. 2. Type locality: Rio Branco, 3-11 km upriver from confluence with Rio Negro, 1°17'S, 61°51'W, Roraima State, Brazil, 6-7 m. Holotype: MZUSP 48439.

Maximum length: 22.6 cm TL
Distribution: South America: Amazon basin.
Countries: Brazil

Magosternarchus raptor Lundberg, Cox Fernandes & Albert, 1996

Magosternarchus raptor Lundberg, Cox Fernandes & Albert in Lundberg et al., 1996: 661, fig. 1. Type locality: Rio Solimões, 17 km downriver from confluence or Rio Purus, 3°36'S, 61°21'W, Amazonas State, Brazil. Holotype: MZUSP 48436.

Maximum length: 19.9 cm TL
Distribution: South America: Amazon River basin.
Countries: Brazil

MEGADONTOGNATHUS

Megadontognathus Mago-Leccia, 1994: 38. Type species: *Megadontognathus cuyuniense* Mago-Leccia, 1994. Type by original designation. Gender: masculine.

Megadontognathus cuyuniense Mago-Leccia, 1994

Megadontognathus cuyuniense Mago-Leccia, 1994: 81, figs. 58, 89a, 89b. Type locality: Río Cuyuni at Paruruvaca rapids, Bolívar, Venezuela. Holotype: MBUCV-V-9499.

Maximum length: 23.8 cm TL
Distribution: South America: Cuyuni and Caroní River basins.
Countries: Venezuela

Megadontognathus kaitukaensis Campos-da-Paz, 1999

Megadontognathus kaitukaensis Campos-da-Paz, 1999:1043, fig. 1. Type locality: Cachoeiras de Kaituká, 5°15'S, 52°50'W, Rio Xingú, Pará. Holotype: INPA 14074.

Maximum length: 16 cm TL
Distribution: South America: Xingu River basin.
Countries: Brazil

ORTHOSTERNARCHUS

Orthosternarchus Ellis, 1913: 144. Type species: *Sternarchus tamandua* Boulenger, 1898. Type by original designation. Gender: masculine.

Orthosternarchus tamandua (Boulenger, 1898)

Sternarchus tamandua Boulenger, 1898: 427, pl. 42. Type locality: Rio Juruá, Brazil. Holotype: BMNH 1897.12.1.208.

Maximum length: 44 cm TL
Distribution: South America: Amazon River basin.
Countries: Brazil

PARAPTERONOTUS

Parapteronotus Albert, 2001: 73. Type species: *Sternarchus hasemani* Ellis, 1913. Gender: masculine.

Parapteronotus hasemani (Ellis, 1913)

Sternarchus hasemani Ellis, 1913: 147, pl. 23 (fig. 1). Type locality: Santarém, Pará, Brazil. Holotype: FMNH 54562.

Apteronotus anas Eigenmann & Allen, 1942: 321, pl. 15 (fig. 1). Type locality: Iquitos. Holotype: CAS 56510.

Maximum length: 38.1 cm TL
Distribution: South America: Amazon River basin.
Countries: Brazil, Peru

PLATYUROSTERNARCHUS

Platyurosternarchus Mago-Leccia, 1994: 37. Type species: *Sternarchus macrostoma* Günther, 1870. Type by original designation. Gender: masculine.

***Platyurosternarchus macrostomus* (Günther, 1870)**

Sternarchus macrostoma Günther, 1870: 4. Type locality: Xeberos [Peru]. Holotype: BMNH 1867.6.13.76.

Maximum length: 40 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru, Venezuela

POROTERGUS

Porotergus Ellis in Eigenmann, 1912: 423, 440. Type species: *Porotergus gymnotus* Ellis, 1912. Type by original designation. Gender: masculine.

***Porotergus gimbeli* Ellis, 1912**

Porotergus gimbeli Ellis in Eigenmann, 1912: 441. Type locality: Pará [Brazil]. Holotype: FMNH 54566.

Maximum length: 24 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

***Porotergus gymnotus* Ellis, 1912**

Porotergus gymnotus Ellis in Eigenmann, 1912: 441. Type locality: Amatuk [Guyana]. Holotype: FMNH 53575.

Maximum length: 85 cm TL

Distribution: South America: Guianas; Amazon River basin.

Countries: Brazil, French Guiana, Guyana

Common names: Bloblo (French Guiana), Itoui (Brazil)

STERNARCHELLA

Sternarchella Eigenmann in Eigenmann & Ward, 1905: 163. Type species: *Sternarchus schotti* Steindachner, 1868. Type by original designation. Gender: feminine.

***Sternarchella curvioperculata* Godoy, 1968**

Sternarchella curvioperculata Godoy, 1968: 352, figs. 3-5. Type locality: num riacho, afluente do Rio Mogi Guassu, que fica uns 12 km a montante de Cachoeira de Emas margem esquerda (km 243 do mencionado rio) [São Paulo State, Brazil]. Holotype: EEBP 336.

Maximum length: 25.3 cm TL

Distribution: South America: Paraná River River.

Countries: Brazil

***Sternarchella orthos* Mago-Leccia, 1994**

Sternarchella orthos Mago-Leccia, 1994: 84, fig. 93. Type locality: Río Apure near Río Boquerones mouth, east of San Fernando de Apure, Apure, Venezuela. Holotype: MBUCV-V-14173.

Maximum length: 30 cm TL

Distribution: South America: Orinoco River basin, mostly in the channel of main rivers.

Countries: Venezuela

***Sternarchella schotti* (Steindachner, 1868)**

Sternarchus schotti Steindachner, 1868b: 252, pl. 1 (figs. 1-2). Type locality: Manaus, Brazil. Holotype: NMW 65335.

Maximum length: 40 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

***Sternarchella sima* Starks, 1913**

Sternarchella sima Starks, 1913: 22, pl. 4. Type locality: Pará [Brazil]. Holotype: SU 22220.

Sternarchella orinoco Mago-Leccia, 1994: 97, figs. 94a-b, 95. Type locality: Río Orinoco, at Isla Iguana, between km 152 and 153, Delta Amacuro, Venezuela. Holotype: MBUCV-V-10514.

Maximum length: 40 cm TL

Distribution: South America: Amazon and Orinoco River basins (living in the main channel of large rivers).

Countries: Brazil, Venezuela

***Sternarchella terminalis* (Eigenmann & Allen, 1942)**

Porotergus terminalis Eigenmann & Allen, 1942: 324. Type locality: Iquitos [Peru]. Holotype: CAS 54912.

Maximum length: 22.4 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

STERNARCHOGITON

Sternarchogiton Eigenmann in Eigenmann & Ward, 1905: 164.

Type species: *Sternarchus nattereri* Steindachner, 1868. Type by original designation. Gender: masculine.

***Sternarchogiton nattereri* (Steindachner, 1868)**

Sternarchus nattereri Steindachner, 1868a: 176. Type locality: Manaus, Brazil. Holotype: NMW 65014.

Oedemognathus exodon Myers, 1936: 115. Type locality: Río Ampiyacu, Amazon system, e. Peru. Holotype: USNM 102040.

Maximum length: 25 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru, Venezuela

***Sternarchogiton porcinum* Eigenmann & Allen, 1942**

Sternarchogiton porcinum Eigenmann & Allen, 1942: 325, pl. 16 (fig. 1). Type locality: Río Huallaga, Yurimaguas [Peru]. Holotype: CAS 28810.

Maximum length: 30 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

STERNARCHORHAMPHUS

Sternarchorhamphus Eigenmann in Eigenmann & Ward, 1905:

165. Type species: *Sternarchus (Rhamphosternarchus) muelleri* Steindachner, 1881. Type by original designation. Gender: masculine.

***Sternarchorhamphus muelleri* (Steindachner, 1881)**

Sternarchus (Rhamphosternarchus) muelleri Steindachner, 1881a: 99. Type locality: Amazon River near Pará, Brazil. Syntypes: NMW 65328.

Maximum length: 45.5 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru, Venezuela

Common names: Macana (Peru)

STERNARCHORHYNCHUS

Sternarchorhynchus Castelnau, 1855: 95. Type species: *Sternarchus muelleri* Castelnau, 1855. Type by monotypy. Gender: masculine.

Rhamphosternarchus Günther, 1870: 4. Type species: *Sternarchus oxyrhynchus* Müller & Troschel, 1849. Type by subsequent designation. Gender: masculine.

Sternarchorhynchus britskii Campos-da-Paz, 2000
Sternarchorhynchus britskii Campos-da-Paz, 2000: 528, fig. Type locality: Ilha Solteira, Rio Paraná, Mato Grosso do Sul, Brazil. Holotype: MZUSP 52923.

Maximum length: 26.1 cm TL

Distribution: South America: Paraná River basin.

Countries: Brazil

***Sternarchorhynchus curvirostris* (Boulenger, 1887)**

Sternarchus (Rhamphosternarchus) curvirostris Boulenger, 1887: 282, pl. 24. Type locality: Canelos [Ecuador]. Syntypes: BMNH

1880.12.8.90-91.

Maximum length: 40.6 cm TL

Distribution: South America: Upper Amazon River basin.

Countries: Brazil, Ecuador, Peru

Sternarchorhynchus mesensis Campos-da-Paz, 2000

Sternarchorhynchus mesensis Campos-da-Paz, 2000: 531, fig.

Type locality: Serra da Mesa, Rio Tocantins, Goiás, Brazil. Holotype: MNRJ 17591.

Maximum length: 24.9 cm TL

Distribution: South America: Tocantins River basin.

Countries: Brazil

Sternarchorhynchus mormyrus (Steindachner, 1868)

Sternarchus mormyrus Steindachner, 1868a: 176. Type locality:

Maribitanos [Brazil]. Syntypes: NMW 65336, 65345.

Maximum length: 54 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

Sternarchorhynchus oxyrhynchus (Müller & Troschel, 1849)

Sternarchus oxyrhynchus Müller & Troschel, 1849: 16, pl. 2 (figs. 1-2). Type locality: Essequibo River, Guyana. Holotype: ZMB 4086.

Sternarchorhynchus mulleri Castelnau, 1855: 95. Type locality: Essequibo R., Guyana. No types known.

Maximum length: 47 cm TL

Distribution: South America: Venezuela and the Guianas, Brazilian Amazon.

Countries: Brazil, French Guiana, Guyana, Venezuela

Sternarchorhynchus roseni Mago-Leccia, 1994

Sternarchorhynchus roseni Mago-Leccia, 1994: 99, fig. 92. Type

locality: Río Apure at Jarina, near San Fernando de Apure, Río Orinoco basin, Apure, Venezuela. Holotype: MBUCV-V-20037.

Maximum length: 41 cm TL

Distribution: South America: Orinoco and Amazon River basins.

Countries: Brazil, Venezuela

Common names: Rosen knifefish (Venezuela)

References

Albert, J.S. 2001. Species diversity and phylogenetic systematics of American knifefishes (Gymnotiformes, Teleostei). Misc. Publ. Mus. Zool. University of Michigan, 190: 1-129.

Albert, J.S., and R. Campos-da-Paz. 1998. Phylogenetic systematics of American knifefishes: a review of the available data. Pp. 409-435 In: L.R. Malabarba, R.E. Reis, R.P. Vari, C.A.S. Lucena and Z.M.S. Lucena (eds.). Phylogeny and Classification of Neotropical Fishes. Edipucrs, Porto Alegre.

Arámburu, A.S.A. 1957. *Porotergus ellisi* una nueva especie de gimnotido de la Argentina (Pisces: Gymnotoidei). Notas Mus. La Plata, 19 (177): 153-159.

Bloch, M.E. and J.G. Schneider. 1801. M.E. Blochii, Systema Ichthyologiae iconibus cx illustratum. Post obitum auctoris opus inchoatum absolvit, correxit, interpolavit. Jo. Gottlob Schneider, Saxo. Berolini. Sumtibus Auctoris Impressum et Bibliopolio Sanderiano Commissum: Berlin. 584 p.

Boulenger, G.A. 1887. An account of the fishes collected by Mr. C. Buckley in eastern Ecuador. Proc. Zool. Soc. London, 1887 (pt 2): 274-283, pls. 20-24.

Boulenger, G.A. 1898. On a collection of fishes from the Rio Jurua, Brazil. Trans. Zool. Soc. London, 14 (pt 7, no. 2): 421-428, pls. 39-42.

Campos-da-Paz, R. 1995. Revision of the South American freshwater fish genus *Sternarchorhamphus* Eigenmann, 1905 (Ostariophysi: Gymnotiformes: Aptereronotidae), with notes on its relationships. Proc. Biol. Soc. Washington, 108 (1): 29-44.

Campos-da-Paz, R. 1999. New species of *Megadontognathus* from the Amazon basin, with phylogenetic and taxonomic discussions on the genus (Gymnotiformes: Aptereronotidae). Copeia, 1999: 1041-1049.

Campos-da-Paz, R. 2000. On *Sternarchorhynchus* Castelnau: a South American electric knifefish, with descriptions of two new species (Ostariophysi: Gymnotiformes: Aptereronotidae). Copeia, 2000: 521-535.

Castelnau, F.L. 1855. Poissons. In: Animaux nouveaux or rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847 ... xii + 112 p., pls. 1-50.

Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. Proc. Am. Philos. Soc., 17 (101): 673-701.

Crampton, W.G.R. 1996. Gymnotiform fish: an important component of Amazonian flood plain communities. J. Fish Biol., 48: 298-301.

Duméril, A. M. C. 1856. Ichthyologie analytique ou classification des poissons, suivant la méthode naturelle, à l'aide de tableaux synoptiques. Mém. Acad. Sci., Paris, 27 (1): 1-507.

Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.

Eigenmann, C.H. 1923. The fishes of Northwestern South America. Part I. Gymnotidae. Mem. Carneg. Mus. Vol. IX(1): 1-171-177.

Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II.- The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. Univ. Kentucky. xv + 494 p., pls. 1-22.

Eigenmann, C.H. and H.G. Fisher. 1914. The Gymnotidae of Trans-Andean Colombia and Ecuador. Indiana Univ. Studies, No. 25: 235-237.

Eigenmann, C.H. and D.P. Ward. 1905. The Gymnotidae. Proc. Washington Acad. Sci., 7: 157-186.

Ellis, M.M. 1913. The gymnotid eels of tropical America. Mem. Carnegie Mus., 6 (3): 109-195, pls. 15-23.

Fernández-Yépez, A. 1968. Contribución al conocimiento de los peces Gymnotiformes. Evencias, No. 20: 7 unnum., 5 pls.

Fowler, H.W. 1943. A collection of fresh-water fishes from Colombia, obtained chiefly by Brother Nicéforo Maria. Proc. Acad. Nat. Sci. Philadelphia, 95: 223-266.

Fowler, H.W. 1944. Fresh-water fishes from northwestern Colombia. Proc. Acad. Nat. Sci. Philadelphia, 96: 227-248.

Fowler, H.W. 1951. Os peixes de água doce do Brasil. Arq. Zool. São Paulo, 6: 405-628.

Godoy, M.P. 1968. Nova espécie de "Sternarchella" Eigenmann (Pisces, Gymnonoti, Sternarchidae). Rev. Bras. Biol., 28 (4): 351-355.

Günther, A. 1870. Catalogue of the fishes in the British Museum. Catalogue of the Physostomi, containing the families Gymnotidae, Symbranchidae, Muraenidae, Pegasidae, and of the Lophobranchii, Plectognathi, Dipnoi, ...[thru] ... Leptocardii, in the British Museum. Trustees, London. xxv + 549 p.

La Cepède, B.G.E. 1800. Histoire naturelle des poissons, vol. 2. Chez Plassan, Paris lxiv + 632 p., pls. 1-20.

Linnaeus, C. 1766. Systema naturae sive regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis, 12th ed. Laurentii Salvii, Holmiae. 532 p.

Lundberg, J.G., C. Cox-Fernandes, J.S. Albert and M. Garcia. 1996. *Magosternarchus*, a new genus with two new species of electric fishes (Gymnotiformes: Aptereronotidae) from the Amazon River basin, South America. Copeia, 1996 (3): 657-670.

Mago-Leccia, F. 1994. Electric fishes of the continental waters of

Check List of the Freshwater Fishes of South and Central America

- America. Caracas, Fundacion para el Desarrollo de las Ciencias Fisicas, Matematicas y Naturales. 206 p., 16 unnumbered tables.
- Mago-Leccia, F., J.G. Lundberg and J.N. Baskin. 1985. Systematics of the South American freshwater fish genus *Adontosternarchus* (Gymnotiformes, Apterontidae). Contrib. Sci. (Los Angeles), No. 358: 1-19.
- Meek, S.E. and S.F. Hildebrand. 1913. New species of fishes from Panama. Field Mus. Nat. Hist. Publ. Zool. Ser., 10 (8): 77-91.
- Miles, C. 1945. Some newly recorded fishes from the Magdalena River system. Caldasia, 3 (15): 453-464.
- Müller, J. and F.H. Troschel. 1849. Horae Ichthyologicae. Beschreibung und Abbildung neuer Fische. Berlin. 1-27 + additional p. 24, pls. 1-5.
- Myers, G.S. 1936. A new genus of gymnotid eels from the Peruvian Amazon. Proc. Biol. Soc. Washington, 49: 115-116.
- Peters, W. 1877. Über die von Dr. C. Sachs in Venezuela gesammelten Fische. Monatsb. Akad. Wiss. Berlin, 1877: 469-473.
- Regan, C.T. 1914. Fishes from the Condoto River, Colombia, collected by Dr. H. G. F. Spurrell. Ann. Mag. Nat. Hist. (Ser. 8), 14 (79): 31-33.
- Reinhardt, J.T. 1852. Om svømmeblaeren hos Familien Gymnotini. Vidensk. Medd. Naturh. Foren. København, 1852: 135-149.
- Schultz, L.P. 1949. A further contribution to the ichthyology of Venezuela. Proc. U. S. Natl. Mus., 99 (no. 3235): 1-211, pls. 1-3.
- Starks, E.C. 1913. The fishes of the Stanford expedition to Brazil. Stanford Univ. Publ., Univ. Ser., 77 p., pls. 1-15.
- Steindachner, F. 1868a. Abhandlung über die Gymnotiden des Wiener Museums. Anz. Akad. Wiss. Wien, 5 (20): 176-177.
- Steindachner, F. 1868b. Die Gymnotidae des k. k. Hof-Naturaliencabinetes zu Wien. Sitzungsber. Akad. Wiss. Wien, 58: 249-264, pls. 1-2.
- Steindachner, F. 1881a. Beiträge zur Kenntniss der Flussfische Südamerikas (III) und Ichthyologische Beiträge (XI). Anz. Akad. Wiss. Wien, 18 (11): 97-100.
- Steindachner, F. 1881b. Beiträge zur Kenntniss der Flussfische Südamerikas. III. Denkschr. Akad. Wiss. Wien, 44: 1-18, pls. 1-5.
- Triques, M.L. 1998. *Tembeassu marauna*, new genus and species of electrogenic Neotropical fish (Ostariophysi: Gymnotiformes: Apterontidae). Rev. Fr. Aquariol., Nos. 1-2: 5-10.

Family Galaxiidae (Galaxiids)

Tim M. Berra

The phylogenetic classification of osmeriform fishes was reviewed by Waters et al. (2002) and Johnson and Patterson (1996). The galaxiids are freshwater fishes, some of which are diadromous, that occur in cool temperate waters of the Southern Hemisphere in Australia, Lord Howe Island, New Zealand, the Chatham Islands, Auckland and Campbell Islands, New Caledonia, southern South America, the Falkland Islands/Malvinas, and the southern tip of South Africa (Berra, 2001). There are seven genera (*Aplochiton*, *Brachygalaxias*, *Galaxias* (including *Nesogalaxias* from New Caledonia), *Galaxiella*, *Lovettia*, *Neocharanna*, and *Paragalaxias*) and about 51 species, six of which occur in southern South America. Six species names of *Haplochiton* listed by Philippi in Delfin (1899) for South America are nomina nuda and therefore not available. Five new species of *Galaxias* were described in the last few years when it was discovered that *G. vulgaris* from the South Island of New Zealand was actually a species complex (Wallis et al., 2001), and more sibling species remain to be described.

Galaxiids are elongate, scaleless fishes and all lack an adipose fin except *Aplochiton* and *Lovettia*. Some species are rather stocky and tubular. Most species have seven pelvic and 16 caudal fin rays (McDowall, 1990), however there is wide variation of other elements of the caudal skeleton within and among species (McDowall, 1999). A lateral line is present. Some species may have an accessory lateral line composed of small, widely spaced neuromasts along the dorsolateral trunk from the occiput to the dorsal fin (McDowall, 1997). This accessory lateral line may function in sensing food or predators at the water's surface. The dorsal fin is situated posteriorly and more or less above the anal fin.

Nelson (1994) listed three subfamilies of the Galaxiidae: Lovettiinae, Aplochitoninae, and Galaxiinae. The Lovettiinae is found only in Tasmania. The subfamily Aplochitoninae (previously considered a separate family) is composed of two species of *Aplochiton* from southern South America (McDowall, 1971a).

The dorsal fin of *Aplochiton* is anteriorly positioned over the pelvic fins. An adipose fin is present, and the caudal fin is forked. *Aplochiton* is probably amphidromous with the larvae being carried to sea after hatching in freshwater streams. McDowall (1984b) reported a post-larval *Aplochiton* taken at sea in southern Chile.

The Galaxiinae includes five genera and about 48 species. This subfamily is most diverse in Australia, especially Tasmania, and in New Zealand. However, representatives also occur in South America, and one species inhabits Cape coastal streams at the southern tip of South Africa (Berra, 2001). No members of the family or subfamily occur in the Northern Hemisphere in spite of Day's description of *G. indicus*, which McDowall (1973) regarded as a nomen dubium.

Galaxias maculatus has one of the most widely disjunct distributions of any freshwater fish (Berra et al., 1996). *Galaxias maculatus* occurs in eastern and western Australia, Tasmania, Lord Howe Island, New Zealand, Chatham Island, southern Chile, Argentina, and the Falkland Islands/Malvinas (McDowall, 1970, Berra, 2001). Two hypotheses have been advanced to explain this disjunct distribution: dispersal (movement through the sea) and vicariance (continental drift).

A summary of this debate involving McDowall (1970), Rosen (1974, 1978) and others is given by Berra et al. (1996), who used allozyme electrophoresis of muscle extracts of *G. maculatus* from eastern and western Australia, New Zealand, and Chile to test the hypothesis that populations from the western Pacific and the eastern Pacific do not differ genetically. They found only minor differentiation in allele frequency at some loci and no fixation of alternative alleles. The populations appeared to be part of the same gene pool indicating that gene flow via dispersal through the sea occurs today. Only a small amount of gene flow is necessary to prevent accumulation of genetic differences by random drift. The marine larval stage of *G. maculatus* has a six-month period to traverse the distance between the southern continents (McDowall et al., 1994) and could provide enough gene flow to deter fixation for alternative alleles. A study of mitochondrial DNA sequence divergence by Waters and Burrige (1999) also supported the dispersal argument, but reported greater population differentiation than detected by Berra et al. (1996) with allozymes. Waters et al. (2000a) demonstrated that inter-continental marine dispersal between New Zealand and Tasmania occurs but is insufficient to prevent mitochondrial DNA differentiation among continents.

Other South American galaxiids include two additional species of *Galaxias* and the small, colorful *Brachygalaxias bullocki* (McDowall, 1971b). *Galaxias platei* occurs in Chile, Argentina, and the Falkland Islands/Malvinas, and the very rare, if not extinct, *G. globiceps* is known from only a few specimens taken near Puerto Montt, Chile (Berra and Ruiz, 1994, Berra and Barbour, 1998). *Brachygalaxias bullocki* resembles *Galaxiella* of Australia, but whether this similarity is due to conver-

gence or phylogeny is not yet clear. Waters and Cambray (1997), and Waters et al. (2000b) provided mtDNA data useful for phylogenetic analysis of galaxiids.

APLOCHITON

Aplochiton Jenyns, 1842: 130. Type species: *Aplochiton zebra* Jenyns, 1842. Type by subsequent designation by Eigenmann (1910: 462). Gender: masculine.

Haplochiton Agassiz, 1846:29. Unjustified emendation of *Aplochiton* Jenyns. Gender: masculine.

Farionella Valenciennes, in Cuvier & Valenciennes, 1849: 507. Type species: *Farionella gayi* Valenciennes, 1849. Type by monotypy. Gender: feminine.

Aplochiton taeniatus Jenyns, 1842

Aplochiton taeniatus Jenyns, 1842: 132, pl. 24 (fig. 2). Type locality: Goree Sound, Tierra del Fuego, at stream mouth.

Aplochiton marinus Eigenmann, 1927: 46, pl. 11 (figs. 2, 5). Type locality: Estero Cutipai, near Valdivia, Chile. Holotype: CAS 51274.

Maximum length: 33.4 cm SL

Distribution: South America: On both sides of the Andes, in Chile from Lake Villarrica south and in Argentina from Lake Lacar south; into Tierra del Fuego at the southern tip of South America (McDowall 1971a).

Countries: Argentina, Chile

Remarks and references: Earlier work included *Aplochiton* in the family Aplochitonidae. *Aplochiton taeniatus* is a specialized piscivore with a very large mouth and greatly enlarged teeth (McDowall and Nakaya 1987,1988). *Aplochiton marinus* is considered a synonym of *A. taeniatus*. See McDowall (1971a) for a detailed description.

Common names: Aplochiton (English), Peladilla (Chile)

Aplochiton zebra Jenyns, 1842

Aplochiton zebra Jenyns, 1842: 131, pl. 24 (figs. 1, 1a). Type locality: Falkland Is., in freshwater lake.

Farionella gayi Valenciennes in Cuvier & Valenciennes, 1850: 508, pl. 649. Type locality: Chile.

Farionella fasciata Philippi, 1858: 310. Type locality: Valdivia, Chile. No types known.

Maximum length: 27.8 cm SL

Distribution: South America: Along the Chilean side of the Andes from Callecalle River system south to Tierra del Fuego and the Falkland Islands/Malvinas.

Countries: Chile, Falkland Is. (Malvinas)

Remarks and references: Previously included in Aplochitonidae. See McDowall (1971a) for a detailed description. It is generalized invertebrate predator (McDowall and Nakaya 1987,1988).

Common names: Aplochiton (English), Farionella listada (Chile)

BRACHYGALAXIAS

Brachygalaxias Eigenmann, 1927: 49. Type species: *Galaxias bullocki* Regan, 1908. Type by monotypy. Gender: masculine.

Brachygalaxias bullocki (Regan, 1908)

Galaxias bullocki Regan, 1908: 372. Type locality: Maquehue, Temuco, s. Chile.

Brachygalaxias gothei Busse, 1982: 72, fig. 1. Type locality: Near Talca, Chile. Holotype: ZFMK 11110.

Maximum length: 5.5 cm SL

Distribution: South America: Central Chile from about Talca (35°S) south to Chiloé Island (42°S).

Countries: Chile

Remarks and references: Includes *B. gothei* Busse (1982) which was considered a junior synonym of *G. bullocki* by Berra et al. (1995). See McDowall (1971b) for detailed description. Occasionally kept as an aquarium species.

Common names: Brachygalaxias (English), Puye (Chile)

GALAXIAS

Galaxias Cuvier, 1816: 183. Type species: *Esox truttaceus* Cuvier, 1816. Type by monotypy. Gender: masculine.

Mesites Jenyns, 1842: 118. Type species: *Mesites attenuatus* Jenyns, 1842. Type by subsequent designation by Jordan (1919: 212). Gender: masculine. Preoccupied by *Mesites* Schoenherr, 1838, in Coleoptera; replaced by *Austrocobitis* Ogilby, 1899.

Austrocobitis Ogilby, 1899: 158. Type species: *Mesites attenuatus* Jenyns, 1842. Type by being a replacement name. Gender: feminine. Replacement for *Mesites* Jenyns, 1842.

Lyragalaxias Whitley, 1935: pl. 3, legend. Type species: *Galaxias oconnori* Ogilby, 1912. Gender: masculine.

Agalaxis Scott, 1936: 105. Type species: *Cobitis zebrata* Castelnau, 1861. Type by original designation. Gender: masculine.

Saxilaga Scott, 1936: 105. Type species: *Galaxias cleaveri* Scott, 1934. Type by original designation. Gender: feminine.

Galaxias globiceps Eigenmann, 1927

Galaxias globiceps Eigenmann, 1927: 51, pls. 10 (fig. 2), 13 (fig. 7). Type locality: Abtao, north of Puerto Montt, Chile. Holotype: CAS 49903 (119 mm).

Maximum length: 10.7 cm SL

Distribution: South America: Known only from the type locality at Los Alerces near Puerto Montt, Chile.

Countries: Chile

Remarks and references: There are eight specimens in Eigenmann's type series. Berra and Ruiz (1994) collected 12 juveniles (22-29 mm SL) that matched the diagnostic measurements specified by McDowall (1971b), but when subjected to principal components analysis, the juveniles resemble *Galaxias platei* (Berra and Barbour, 1998). Further collecting is needed to determine if *G. globiceps* is still extant.

Common names: Galaxias (English), Puye (Chile)

Galaxias maculatus (Jenyns, 1842)

Mesites attenuatus Jenyns, 1842: 121, pl. 22 (fig. 5). Type locality: Bay of Islands, New Zealand, in fresh water. Holotype: BMNH 1917.7.14.11.

Mesites alpinus Jenyns, 1842: 121. Type locality: Hardy Peninsula, Tierra del Fuego.

Mesites maculatus Jenyns, 1842: 119, pl. 22 (figs. 4, 4a). Type locality: Fresh water brook on Hardy Peninsula, Tierra del Fuego and Río Santa Cruz, Patagonia.

Galaxias scriba Valenciennes, in Cuvier & Valenciennes, 1846: 347. Type locality: Port Jackson, N. S. W., Australia. Holotype: MNHN A.5217.

Galaxias punctulatus Philippi, 1858: 310. Type locality: Valdivia, Chile.

Galaxias minutus Philippi, 1858: 309. Type locality: Valdivia, Chile.

Mesites gracillimus Canestrini, 1864: 100, pl. 4 (fig. 2). Type locality: Chile.

Galaxias punctatus Günther, 1866: 212. Type locality: Eastern Creek, N. S. W., Australia. Holotype: BMNH 1864.7.22.49.

Galaxias krefftii Günther, 1866: 211. Type locality: Sydney and Murray R., N. S.W., Australia.

Galaxias forsteri Kner, 1867: 320. Type locality: Auckland, New Zealand. Types: whereabouts unknown.

Galaxias pseudoscriba McCoy, 1867: 320. Type locality: Yarra R., Victoria, Australia. Holotype: ?NMV A9853 (old coll., no locality).

Galaxias waterhousi Krefft, 1868: 943. Type locality: Creeks in South Australia. Syntypes: MAS I.11384-88 (5).

Galaxias obtusus Klunzinger, 1872: 41. Type locality: Yarra la-

goon, Victoria, Australia. Lectotype: AMS I.309960-001, designated by McDowall & Frankenberg (1981: 532).

Galaxias versicolor Castelnau, 1872: 176. Type locality: Marsh near St. Kilda, Victoria, Australia. Holotype: No types known.

Galaxias delicatulus Castelnau, 1872: 178. Type locality: Yarra R., Victoria, Australia. No types known.

Galaxias cylindricus Castelnau, 1872: 177. Type locality: Lower Yarra R., Victoria, Australia. No types known.

Galaxias amaenus Castelnau, 1872: 178. Type locality: Yarra R., Victoria, Australia. No types known.

Galaxias nebulosa Macleay, 1881: 234. Type locality: Long Bay near Sydney, N. S. W., Australia.

Galaxias coppingeri Günther, 1881: 21. Type locality: Alert Bay, Patagonia. Holotype: BMNH 1880.7.28.25.

Galaxias variegatus Lahille, 1923: 173. Type locality: Not known.

Galaxias parrishi Stokell, 1964: 47, figured. Type locality: Lake Bullen Merri, Victoria, Australia. Holotype: NMV A242.

Galaxias maculatus ignotus Stokell, 1966: 78. Type locality: Lower Tamar R., Tasmania, Australia. Holotype: whereabouts unknown.

Galaxias usitatus McDowall, 1967: 7, fig. 6. Type locality: Lake Waiparera, North Auckland, New Zealand. Holotype: NMNZ P.5625.

Maximum length: 15.5 cm SL

Distribution: Oceania: Australia (including Tasmania), Lord Howe Island, New Zealand and the Chatham Islands. South America: Ranges from along the Chilean side of the Andes near Valparaíso to the southern extremity of the island chain southeast of Tierra del Fuego. Also on the eastern side of the Andes in Argentina in isolated lakes (Meliquina, Traful, Nahuel Huapi, Gutierrez, and Pellegrini) which drain into the Atlantic Ocean via the Negro River. It occurs on both main islands of the Falkland Islands/Malvinas.

Countries: Argentina, Australia, Chile, Falkland Is. (Malvinas), New Zealand

Remarks and references: *Galaxias maculatus* has the most disjunct distribution of any freshwater species. This distribution is best explained by dispersal of whitebait larval stage throughout the sea (Berra et al., 1996). See McDowall (1971b) for a detailed description.

Common names: Galaxias (English), Puye (Chile)

Galaxias platei Steindachner, 1898

Galaxias delfini Philippi, 1895: 19. Type locality: Lake north of Punta Arenas, Chile. No types known. A forgotten name, the same as *Galaxias platei* Steindachner, 1898 (McDowall 1971: 38).

Galaxias grandis Philippi, 1895: 19. Type locality: Lake north of Punta Arenas, Chile. No types known. Permanently invalid, preoccupied by *Galaxias grandis* Haast, 1873.

Galaxias platei Steindachner, 1898: 329, pl. 20 (fig. 13). Type locality: Río Pescado at Punta Arenas, Strait of Magellan, Chile.

Galaxias titcombi Evermann & Kendall, 1906: 92, fig. 2. Type locality: Río Traful near Lake Trufal, Argentina. Holotype: USNM 55571.

Galaxias smithii Regan, 1906: 372. Type locality: Falkland Is. Holotype: BMNH 1965.7.20.1.

Maximum length: 30.9 cm SL

Distribution: South America: Central and southern Chile from about Valdivia through the Patagonian Andes in Argentina, Tierra del Fuego and the Falkland Islands/Malvinas.

Countries: Argentina, Chile, Falkland Is. (Malvinas)

Remarks and references: This is the second largest member of the Galaxiidae. The only larger species is *G. argenteus* from New Zealand which reaches about 58 cm. See McDowall (1971b) for a detailed description.

Common names: Galaxias (English), Tollo (Chile)

SPECIES INQUIRENDA

Galaxias elongatus Lahille, 1915: 10. Type locality: Near R. Santa Cruz mouth, above El Quemado, Chile.

References

- Agassiz, L. 1846. Nomenclatoris Zoologici. Index universalis, continens nomina systematica classium, ordinum, familiarum et generum animalium omnium, tam viventium quam fossilium, secundum ordinem alphabeticum unicum disposita, ... Soloduri. viii + 393 p.
- Berra, T.M. 2001. Freshwater fish distribution. Academic Press, San Diego, CA.
- Berra, T.M. and C.D. Barbour. 1998. Is the Chilean *Galaxias globiceps* (Teleostei: Galaxiidae) extant or extinct? Ichthyological Exploration of Freshwaters, 9 (3): 273-278.
- Berra, T.M., L.E.L.M. Crowley, W. Ivantsoff and P.A. Fuerst. 1996. *Galaxias maculatus*: an explanation of its biogeography. Mar. Freshwater Res., 47(6): 845-849.
- Berra, T.M., R.M. Feltes and V.H. Ruiz. 1995. *Brachygalaxias gothei* from south-central Chile, a synonym of *B. bullocki* (Osteichthys: Galaxiidae). Ichthyol. Explor. Freshwaters, 6 (3): 227-234.
- Berra, T.M. and V.H. Ruiz. 1994. Rediscovery of *Galaxias globiceps* Eigenmann from southern Chile. Trans. Amer. Fisheries Soc., 123: 595-600.
- Busse, K. 1882. *Brachygalaxias gothei* n. sp. (Pisces: Galaxiidae) aus Chile. Bonner Zoologische Beiträge, 33: 71-74.
- Canestrini, G. 1864. Note ittiologiche. Arch. Zool. Anat. Fisiol. (Genova), 3 (1): 100-112, pl. 4.
- Castelnau, F.L. 1861. Mémoire sur les poissons de l'Afrique australe. Paris. Mem. Poiss. Afr. Australe. vii + 78 p.
- Castelnau, F.L. 1872. Contribution to the ichthyology of Australia. No. 1.--The Melbourne fish market (pp. 29-242). No. II.--Note on some South Australian fishes (pp. 243-247). Proc. Zool. Acclim. Soc. Victoria, 1: 29-247 plus 1 p. Errata.
- Cuvier, G. 1816. Le règne animal distribué d'après son organisation pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Les reptiles, les poissons, les mollusques et les annélids. Edition 1. v. 2. Paris. xvii + 532.
- Cuvier, G. and A. Valenciennes. 1846. Histoire naturelle des poissons. Tome dix-huitième. Suite du livre dix-huitième. Cyprinoides. Livre dix-neuvième. Des Ésoques ou Lucioïdes. Ch. Pitois, & V. Levrault, Paris & Strasbourg. xix + 2 + 505 + 2 p.
- Cuvier, G. and A. Valenciennes. 1850. Histoire naturelle des poissons. Tome vingt-deuxième. Suite du livre vingt-deuxième. Suite de la famille des Salmonoides. Table générale de l'Histoire Naturelle des Poissons (pp. 1-91). Ch. Pitois, & V. Levrault, Paris & Strasbourg. xx + 1 + 532 + 91 p. [Cover date on Volume: 1849.]
- Delfin, F.T. 1899. Catálogo de los peces de Chile. Rev. Chil. Hist. Nat., 3: 15-24, 57-62, 79-85, 95-99, 110-113, 121-124, 131-134, 151-161.
- Eigenmann, C.H. 1910. Catalogue of the fresh-water fishes of tropical and south temperate America, In: Reports of the Princeton University expeditions to Patagonia 1896-1899. Zoology, 3 (pt 4): 375-511.
- Eigenmann, C.H. 1927. The fresh-water fishes of Chile. Mem. Natl. Acad. Sci. Washington, 22 (2): 1-63.
- Evermann, B.W. and W.C. Kendall. 1906. Notes on a collection of fishes from Argentina, South America, with descriptions of three new species. Proc. U. S. Natl. Mus., 31 (1482): 67-108.
- Günther, A. 1866. Catalogue of fishes in the British Museum. Catalogue of the Physostomi, containing the families Salmonidae, Percopsidae, Galaxiidae, Mormyridae, Gymnarchidae, Esoxidae, Umbridae, Scombroxidae, Cyprinodontidae, in the collection of the British Museum. Trustees, London. xv + 368 p.
- Günther, A. 1881. Reptiles, batrachians, and fishes (pp. 18-22), In:

Check List of the Freshwater Fishes of South and Central America

- Account of the zoological collections made during the survey of H. M. S. 'Alert' in the Straits of Magellan and on the coast of Patagonia. Proc. Zool. Soc. Lond., 1881 (pt 1): 2-141, pls. 1-2 (fishes).
- Haast, J.F.J. von. 1873. Notes on some undescribed fishes of New Zealand. Trans. Proc. N.Z. Inst., 5: 272-278.
- Jenyns, L. 1842. Part IV, Fish, In: C. Darwin (ed.). The zoology of the voyage of H. M. S. Beagle, under the command of Captain FitzRoy, R. N., during the years 1832 to 1836. Smith, Elder, and Co., London. xvi + 172 p., pls. 1-29. [Issued in 4 parts, from 1840 to 1842; Galaxiidae in part dated 1842.]
- Johnson, G.D. and C. Patterson. 1996. Relationships of lower euteleostean fishes. Pp. 251-332, In: M. L. J. Stiassny, L. J. Parenti and G. D. Johnson (eds.). Interrelationships of fishes. Academic Press, San Diego.
- Jordan, D.S. 1919. The genera of fishes, part II, from Agassiz to Bleeker, 1833-1858, twenty-six years, with the accepted type of each. A contribution to the stability of scientific nomenclature. Leland Stanford Jr. University Publication., Univ. Ser. No. 36: i-ix + 163-284.
- Klunzinger, C.B. 1872. Zur Fischfauna von Süd-Australien. Arch. Naturgeschichte, 38 (1): 17-47.
- Kner, R. 1867. Fische. Reise der österreichischen Fregatte "Novara" um die Erde in den Jahren 1857-1859, unter den Befehlen des Commodore B. von Wüllerstorff-Urbain. Wien. Zool. Theil. 275-433, pls. 12-16.
- Krefftt, J.L.G. 1868. Descriptions of some new Australian freshwater fishes. Proc. Zool. Soc. Lond., 1867 (pt 3): 942-944.
- Lahille, F. 1915. Apuntes sobre unos Peces Chilenos. Rev. Chil. Hist. Nat., 19: 6-11, pls. 1-2.
- Lahille, F. 1923. Los peces Argentinos del grupo de los Esociformes. Rev. Fac. Agron. Veterin., 4: 161-195.
- Macleay, W. 1881. A descriptive catalogue of Australian fishes. Part IV. Proc. Linn. Soc. N. S. W., 6 (2): 202-387.
- McCoy, F. 1867. On the recent zoology and palaeontology of Victoria. Pp. 309-330, In: Intercolonial Exhibition of Australia, Melbourne, 1866-67.
- McDowall, R.M. 1967. New land-locked fish species of the genus *Galaxias* from North Auckland, New Zealand. Breviora, 265: 1-11.
- McDowall, R.M. 1970. The galaxiid fishes of New Zealand. Bull. Mus. Comp. Zool., 139 (7): 341-432.
- McDowall, R.M. 1971a. Fishes of the family Aplochitonidae. J. Roy. Soc. New Zealand, 1(1): 31-52.
- McDowall, R.M. 1971b. The galaxiid fishes of South America. Zool. J. Linn. Soc., 50 (1): 33-73.
- McDowall, R.M. 1973. *Galaxias indicus* Day, 1888—a *nomen dubium*. J. Royal Soc. New Zealand, 3(2): 191-192.
- McDowall, R.M. 1984. Southern hemisphere freshwater salmoniforms: development and relationships. Pp. 150-153, In: H.G. Moser et al. (eds.). Ontogeny and systematics of fishes. Special Publication No. 1, American Society of Ichthyologists and Herpetologists.
- McDowall, R.M. 1990. New Zealand freshwater fishes. Heineemann Reed, Auckland, N. Z.
- McDowall, R.M. 1997. An accessory lateral line in some New Zealand and Australian galaxiids (Teleostei: Galaxiidae). Ecology of Freshwater Fish, 6: 217-224.
- McDowall, R. M. 1999. Caudal skeleton in *Galaxias* and allied genera (Teleostei: Galaxiidae). Copeia, 1999 (4): 932-939.
- McDowall, R.M. and R.S. Frankenberg. 1981. The galaxiid fishes of Australia. Rec. Aust. Mus., 33 (10): 443-605.
- McDowall, R. M., C. P. Mitchell and E. B. Brothers. 1994. Age at migration from the sea of juvenile *Galaxias* in New Zealand (Pisces: Galaxiidae). Bulletin of Marine Science, 54: 385-402.
- McDowall, R.M. and K. Nakaya. 1987. Identity of the galaxioid fishes of the genus *Aplochiton* Jenyns from southern Chile. Japanese J. Ichthyol., 34 (3): 377-383.
- McDowall, R.M. and K. Nakaya. 1988. Morphological divergence in the two species of *Aplochiton* Jenyns (Salmoniformes: Aplochitonidae): a generalist and a specialist. Copeia, 1988 (1): 233-236.
- Nelson, J.S. 1994. Fishes of the world. Third ed. John Wiley & Sons, New York, NY.
- Ogilby, J.D. 1899. Contributions to Australian ichthyology. Proc. Linn. Soc. New South Wales, 24 (1): 154-186.
- Ogilby, J.D. 1912. On some Queensland fishes. Mem. Queensland Mus., 1: 26-65.
- Philippi, R.A. 1858. Beschreibung neuer Wirbelthiere aus Chile. Arch. Naturgeschichte, 24 (1): 303-311.
- Philippi, R.A. 1895. Die chilenischen Arten von *Galaxias*. Verh. Deust. Wiss. Ver. Sant. Chile, 3: 17-23.
- Regan, C.T. 1906. A revision of the fishes of the family Galaxiidae. Proc. Zool. Soc. London 1905, 2 (2): 363-384, pls. 10-13.
- Regan, C.T. 1908. Description of a new fish of the genus *Galaxias* from Chile. Ann. Mag. Nat. Hist. (Ser. 8), 1 (4): 372.
- Rosen, D.E. 1974. Phylogeny and zoogeography of salmoniform fishes and relationships of *Lepidogalaxias salamandroides*. Bulletin of the American Museum of Natural History, 153(2): 265-326.
- Rosen, D.E. 1978. Vicariant patterns and historical explanation in biogeography. Systematic Zoology, 27(2): 159-188.
- Scott, E.O.G. 1934. Observations on some Tasmanian fishes, with descriptions of new species. Pap. Proc. R. Soc. Tasmania, 1933: 31-53.
- Scott, E.O.G. 1936. Observations on fishes of the family Galaxiidae. Part I. Pap. R. Soc. Tasmania, 1935: 85-112.
- Steindachner, F. 1898. Die Fische der Sammlung Plate, In: Fauna Chilensis. Abhandlungen zur Kenntniss der Zoologie Chiles. Zool. Jahrb., Suppl. (Jena) Suppl., 4: 281-338, pl. 15-21.
- Stokell, G. 1964. A new species of *Galaxias* from Victoria, Australia. Rec. Dom. Mus. (Wellington), 5 (6): 45-48.
- Stokell, G. 1966. A preliminary investigation of the systematics of some Tasmanian Galaxiidae. Pap. Proc. R. Soc. Tasmania, 100: 73-79, pls. 1-4.
- Wallis, G.P., K.F. Judge, J. Bland, J. Waters and T.M. Berra. 2001. Genetic diversity in New Zealand *Galaxias vulgaris* sensu lato (Teleostei: Osmeriformes: Galaxiidae): a test of a biogeographic hypothesis. Journal of Biogeography, 28: 59-67.
- Waters, J.M. and C.P. Burrige. 1999. Extreme intraspecific mitochondrial DNA sequence divergence in *Galaxias maculatus* (Osteichthys: Galaxiidae), one of the world's most widespread freshwater fish. Molecular Phylogenetics and Evolution, 11(1): 1-12.
- Waters, J.M. and J.A. Cambray. 1997. Intraspecific phylogeography of the Cape *Galaxias* from South Africa: evidence from mitochondrial DNA sequences. Journal of Fish Biology, 50: 1329-1338.
- Waters, J.M., L.H. Dijkstra and G.P. Wallis. 2000a. Biogeography of a southern hemisphere freshwater fish: How important is marine dispersal? Molecular Ecology, 49: 1815-1821.
- Waters, J.M., A. López and G.P. Wallis. 2000b. Molecular phylogenetics and biogeography of galaxiid fishes (Osteichthys: Galaxiidae): dispersal, vicariance, and the position of *Lepidogalaxias salamandroides*. Systematic Biology, 49(4): 777-795.
- Waters, J.M., T. Saruwatari, T. Kobayashi, I. Oohara, R.M. McDowall and G.P. Wallis. 2002. Phylogenetic placement of retropinnid fishes: data set incongruence can be reduced by using asymmetric character state transformation costs. Systematic Biology, 51(3): 432-449.
- Whitley, 1935. Whitebait. Victorian Naturalist. Melbourne, 52: 41-51.

Family Bythitidae (Viviparous brotulas)

Jørgen G. Nielsen

The Bythitidae comprises 32 genera and 96 species (Nielsen et al., 1999). They are mostly elongate fishes characterized by the long dorsal and anal fins which are joined to the caudal fin in the subfamily Bythitinae and free from the caudal fin in the subfamily Brommophycinae. Rays in ventral fin 0-2 with 1 the most common. Rarely more than 6 long rakers on anterior gill arch. Anterior nostril placed much closer to upper lip than to posterior nostril, except for *Dinematichthys* where it is placed midway between upper lip and posterior nostril.

Almost all are marine with the majority occurring on reefs but with species down to 5500 m. The few freshwater species occur on Cuba in caves with fresh or slightly saline water, in caves in Yucatán and in brackish and freshwater caves and crevices in the Galapagos Archipelago. Except for 5-6 species from northern Atlantic and southern New Zealand members of the Bythitidae are restricted to tropical and subtropical areas.

LUCIFUGA

Lucifuga Poey, 1858: 95. Type species: *Lucifuga subterraneus* Poey, 1858. Type by monotypy. Gender feminine.

Stygicola Gill, 1863: 252. Type species: *Lucifuga dentatus* Poey, 1858. Type by original designation. Gender: masculine.

***Lucifuga dentatus* Poey, 1858**

Lucifuga dentatus Poey, 1858: pl. 9 (fig. 1). Type locality: Cave of Cajío, Cuba. Possible syntypes: MCZ 12415 (1), 32329 (1); ZMB 5961 (1).

Maximum length: 15.2 cm SL.

Distribution: Caribbean Islands: North and south slopes of west-central Cuba, in caves.

Countries: Cuba

Remarks and references: Name available from figure in Poey (1858); text of description in Poey (1860: 102).

***Lucifuga simile* Nalbant, 1981**

Lucifuga simile Nalbant, 1981: 189, fig. 3. Type locality: Grieta Punta de Guana, ca. 100 m from shore line of Atlantic Ocean, Matanzas Province, Cuba. Holotype: ISER.

Maximum length: 8.5 cm SL.

Distribution: Caribbean Islands: Matanzas Province, Cuba, in caves.

Countries: Cuba

***Lucifuga subterranea* Poey, 1858**

Lucifuga subterraneus Poey, 1858: 96. Type locality: Caves of San Antonio, South Cuba. Possible type: ZMB 6341 (1).

Maximum length: 9.4 cm SL.

Distribution: Caribbean Islands: Southwestern Cuba, in caves, sinkholes and crevices.

Countries: Cuba

***Lucifuga teresinarum* Diaz Pérez, 1988**

Lucifuga teresinarum Diaz Pérez, 1988: 38, fig. 5. Type locality: Cueva de la Lechuza [Havana Province, Cuba]. Holotype: DZUH 2015.

Maximum length: 8.3 cm SL.

Distribution: Caribbean Islands: Western Cuba, in caves.

Countries: Cuba

OGILBIA

Ogilbia Jordan & Evermann, in Evermann & Kendall, 1898: 132.

Type species: *Ogilbia cayorum* Evermann & Kendall, 1898. Type by original designation. Gender feminine.

Typhlias Hubbs, 1938: 287. Type species: *Typhlias pearsei* Hubbs, 1938. Type by original designation. Preoccupied by *Typhlias* Bryce, 1910, in Vermes; replaced by *Typhliasina* Whitley, 1951. Gender: masculine.

Typhliasina Whitley, 1951: 67. Type species: *Typhlias pearsei* Hubbs, 1938. Type by being a replacement name. Replacement for *Typhlias* Hubbs, 1938. Gender feminine.

Caecogilbia Poll & Leleup, 1965: 467. Type species: *Caecogilbia galapagosensis* Poll & Leleup, 1965. Type by monotypy. Gender feminine.

***Ogilbia galapagosensis* (Poll & Leleup, 1965)**

Caecogilbia galapagosensis Poll & Leleup, 1965: 467, fig. 1. Type locality: Santa Cruz I., Galápagos Is. Holotype: MRAC uncat.

Maximum length: 5.8 cm SL.

Distribution: Galapagos Islands: Santa Cruz Island, in fresh and brackish water caves and crevices.

Countries: Ecuador

***Ogilbia pearsei* (Hubbs, 1938)**

Typhlias pearsei Hubbs, 1938: 291, pl. 3. Type locality: Balaam Canche Cave near Chichen Itza, Yucatán, Mexico. Holotype: UMMZ 116094.

Maximum length: 9.7 cm SL

Distribution: North America: Yucatán peninsula, in freshwater caves.

Countries: Mexico

References

- Diaz Pérez, P.A. 1988. *Lucifuga teresinarum* sp. n., nueva especie cubana de peces troglobios (Ophidiiformes, Bythitidae). *Revista de Biología (Havana)*, 2: 37-43
- Hubbs, C.L. 1938. Fishes from the caves of Yucatan. Carnegie Institution of Washington, Publ. no. 491: 261-295.
- Nalbant, T.T. 1981. A study of the subterranean species of *Lucifuga* from Cuba, with the description of *Lucifuga simile* sp. n. (Pisces, Ophidiiformes, Bythitidae). *Résultats des Expédition*

Check List of the Freshwater Fishes of South and Central America

- Biospéologiques Cubano-Roumaines á Cuba, 3: 185-190.
- Nielsen, J.G., D.M. Cohen, D.F. Markle and C.R. Robins. 1999. FAO species catalogue. Volume 18. Ophidiiform fishes of the world (Order Ophidiiformes). An annotated and illustrated catalogue of pearlfishes, cusk-eels, brotulas and other ophidiiform fishes known to date. FAO Fisheries Synopsis, 125: i-xi + 1-178.
- Poey, F. 1858-1861. Memorias sobre la historia natural de la Isla de Cuba, acompañadas de sumarios latinos y extractos en francés. Tomo 2. La Habana, pp. 1-96 (1858), 97-336 (1860), 337-442, (1861), pls. 1-19.
- Poll, M. and N. LeLeup 1965. Un poisson aveugle nouveau de la famille des Brotulidae provenant des îles Galapagos. Académie royale de Belgique. Bulletin de la Classe des Sciences (Ser. 5), 51: 464-474.

Family Batrachoididae (Toadfishes)

Bruce B. Collette

Small to medium-sized fishes (to 57 cm) easily recognized by their characteristic shape. Head broad and flattened, often with barbels and/or fleshy flaps; eyes on top of head, dorsally-directed; mouth wide. Gill openings restricted to sides, just in front of pectoral fin base. Two dorsal fins, the first consisting of 2 or 3 strong, sharp spines; the second consisting of a large number of soft rays; pelvic fins jugular, inserted well in advance of pectoral fins, with 1 spine and 2 or 3 soft rays. One to several lateral lines on head and body. Body naked or covered with small, cycloid scales. Color mostly drab brown with spots or saddles of black, although at least one coral reef species, *Sanopus splendidus*, brightly coloured. One subfamily, the Porichthyinae, characterized by having photophores (light-emitting organs) in rows along lateral lines on head and body.

Toadfishes are bottom-dwellers ranging from shallow inshore areas to deep waters; several species enter rivers, and some migrate regularly between shallow and deep waters. They are rather sluggish in their movements and are ambush predators, feeding mainly on molluscs and crustaceans. They may bite when handled. The subfamily Thalassophryinae, or “venomous toadfishes”, includes species with hollow spines in the first dorsal fin and on the opercles; the spines are connected to venom glands that can force a poison into a wound. Although no catch statistics are reported, larger species of toadfishes are commonly found in local markets. Some species are eaten and may fetch fairly high prices in Venezuela and French Guiana.

The family is divided into three subfamilies (Collette, 1966): Batrachoidinae (about 18 genera, 47 species), Porichthyinae (2 genera, 15 species), and Thalassophryinae (2 genera, 11 species). The more generalized Batrachoidinae is world wide in distribution and contains a few freshwater species, one in Central America and one in South America. The more specialized midshipmen (Porichthyinae) and venomous toadfishes (Thalassophryinae) are restricted to the New World. All Porichthyinae are marine but there are three freshwater species of Thalassophryinae in South America.

BATRACHOIDES

Batrachoides La Cepède, 1800: 451. Type species: *Batrachoides tau* La Cepède, 1800. Type by subsequent designation. Gender: masculine.

Batrachoides goldmani Evermann & Goldsborough, 1902

Batrachoides goldmani Evermann & Goldsborough, 1902: 159, fig. 8. Type locality: Río Usumacinta at Montecristo, ca. 17°45'N, 91°45'W, Tabasco, Mexico. Holotype: USNM 50006.

Maximum length: 21.6 cm SL

Distribution: North and Central America: Usumacinta River drainage in the states of Chiapas and Tabasco, Mexico; El Petén and Alta Verapaz, Guatemala. Recently discovered in a tributary (Mescalpa River) to the next river to the west of the Usumacinta, the Grijalva River.

Countries: Guatemala, Mexico

Remarks and references: Redescribed by Collette & Russo (1981).

DAECTOR

Daector Jordan & Evermann, 1898: 2313, 2325. Type species: *Thalassophryne dowi* Jordan & Gilbert, 1887. Type by original designation. Gender: masculine.

Daector gerringi (Rendahl, 1941)

Thalassophryne gerringi Rendahl, 1941: 1, fig. 1. Type locality: Río San Juan at Cabeceras, Chocó Dist., Colombia. Holotype: NRM 10651.

Maximum length: about 25 cm SL

Distribution: South America: San Juan River and Baudo River

basins.

Countries: Colombia

Common names: Peje sapo (Colombia)

Remarks and references: Redescribed by Silfvergrip (1990).

Daector quadrizonatus (Eigenmann, 1922)

Thalassophryne quadrizonatus Eigenmann, 1922: 217, pl. 29 (fig. 5). Type locality: Río Truandó, Atrato basin, Colombia. Holotype: FMNH (missing).

Maximum length: 18 cm SL

Distribution: South America: Truandó River basin.

Countries: Colombia

Remarks and references: Redescribed by Collette (1973).

POTAMOBATRACHUS

Potamobatrachus Collette, 1995: 334. Type species: *Potamobatrachus trispinosus* Collette, 1995. Type by original designation. Gender: masculine.

Potamobatrachus trispinosus Collette, 1995

Potamobatrachus trispinosus Collette, 1995: 334, figs. 2-3. Type locality: Small rocky pool near town of Jatobal, Rio Tocantins, Pará, Brazil. Holotype: MZUSP 4335.

Maximum length: 5 cm SL

Distribution: South America: Araguaia/Tocantins River basin.

Countries: Brazil

THALASSOPHYRNE

Thalassophryne Günther, 1861: 174. Type species: *Thalassophryne maculosa* Günther, 1861. Type by monotypy. Gender: fe-

minine.

Thalassothia Berg, 1895:66. Type species: *Thalassophryne montevidensis* Berg, 1893. Type by monotypy. Gender: feminine.

***Thalassophryne amazonica* Steindachner, 1876**

Thalassophryne amazonica Steindachner, 1876: 161. Type locality: Mouth of Rio Negro and at Tabatinga and Xingu, Brazil. Syn-types: (at least 3) NMW (not found in 1995).

Maximum length: 9.3 cm SL.

Distribution: South America: Amazon River basin.

Countries: Brazil, Ecuador, Peru

Remarks and references: Redescribed by Collette (1966).

References

Berg, C. 1893. *Geotria macrostoma* (Burm.) Berg y *Thalassophryne montevidensis* Berg, dos peces particulares. Anal. Mus. La Plata, sec. Zool., 1:1-7.

Berg, C. 1895. Enumeración sistemática y sinonímica de los peces de las costas Argentina y Uruguay. Ann. Mus. Nac. Buenos Aires, 4:1-120.

Collette, B.B. 1966. A review of the venomous toadfishes, subfamily Thalassophryninae. Copeia, 1966 (4): 846-864.

Collette, B.B. 1973. *Daector quadrizonatus*, a valid species of freshwater venomous toadfish from the Río Truandó, Colombia with notes on additional material of other species of *Daector*. Copeia, 1973 (2): 355-357.

Collette, B.B. 1995. *Potamobatrachus trispinosus*, a new freshwater toadfish (Batrachoididae) from the Rio Tocantins, Brazil. Ichthyol. Explor. Freshwaters, 6 (4): 333-336.

Collette, B.B. and J.L. Russo. 1981. A revision of the scaly toad-

fishes, genus *Batrachoides*, with descriptions of two new species from the eastern Pacific. Bulletin of Marine Science, 31 (2): 197-233.

Eigenmann, C.H. 1922. The fishes of western South America, Part I. The fresh-water fishes of northwestern South America, including Colombia, Panama, and the Pacific slopes of Ecuador and Peru, together with an appendix upon the fishes of the Rio Meta in Colombia. Memoirs of the Carnegie Museum, 9 (1): 1-346, pls. 1-38.

Evermann, B.W. and E.L. Goldsborough. 1902. A report on fishes collected in Mexico and Central America, with notes and descriptions of five new species. Bulletin of the United States Fish Commission, 21 [for 1901]: 137-159.

Günther, A. 1861. Catalogue of the acanthopterygian fishes in the collection of the British Museum, vol. 3. Trustees, London. 586 p.

Jordan, D.S. and B.W. Evermann. 1898. The fishes of North and Middle America. Bull. U. S. Nat. Mus. 47, part III, 2183-3136.

Jordan, D.S. and C.H. Gilbert. 1887. Description of a new species of *Thalassophryne* (*Thalassophryne dowi*) from Punta Arenas and Panama. Proc. U. S. Nat. Mus., 10: 388.

La Cepède, B.G.E. 1800. Histoire naturelle des poissons. vol. 2. Plassan, Paris. 632 p.

Rendahl, H. 1941. Eine neue Art der Gattung *Thalassophryne* aus Kolumbien. Ark. Zool., 33 B (2): 3 pp.

Silfvergrip, A.M.C. 1990. Additional specimens of the venomous toadfish *Daector gerringi*, hitherto known only from the holotype. Ichthyol. Explor. Freshwaters, 1 (3): 253-256.

Steindachner, F. 1876. Ichthyologische Beiträge (V). Sitzungsber. Akad. Wiss. Wien, 74: 49-240, pls. 1-15.

Family Gobiesocidae (Clingfishes and singleslits)

Carl J. Ferraris, Jr.

Species of the Gobiesocidae are small to medium sized fishes that are usually readily distinguished by the presence of a thoracic sucking disk, with which the fish attaches itself to the substratum (a few species of *Alabes* do not have a disk, and in one or more species the disk is rudimentary). In addition to the disk, gobiesocids can be recognized by the following combination of characters: head depressed, at least anteriorly; body without scales, but covered with dense coat of mucous; single dorsal fin lacking spines, fin often restricted to the posterior half of the body; pelvic fin rays contribute to the structure of the thoracic disk. Gobiesocids are usually less than 7 cm in standard length, but at least two species are known to achieve lengths of 30 cm or more (Nelson, 1984).

Gobiesocids are primarily near-shore marine fishes, ranging throughout the tropical and warm temperate regions of the world. A few species of one genus (*Gobiesox*) are found in freshwater rivers in the Americas, from Mexico to Ecuador, as well as some islands in the Caribbean region. Freshwater clingfishes are found in small, fast water streams and rivers at or near the coasts (Briggs, 1955).

Clingfishes are of minimal economical importance and little is known about the biology of most species of this family.

GOBIESOX

Gobiesox La Cepède, 1800: 595. Type species: *Gobiesox cephalus* La Cepède, 1800. Type by monotypy. Gender: masculine.

Megaphalus Rafinesque, 1815: 86. Type species: *Gobiesox cephalus* La Cepède, 1800. Type by being a replacement name. Gender: masculine. Originally proposes as “*Megaphalus* R. [= Rafinesque] *Gobiesox* Lac. [= La Cepède]”.

Cotylys Müller & Troschel in Müller, 1843: 297. Type species: *Cyclopterus nudus* of Bloch & Schneider, 1801. Type by monotypy. Gender: feminine.

Sicyogaster Brisout de Barneville, 1846: 144. Type species: *Gobiesox marmoratus* Jenyns, 1842. Type by monotypy. Gender: feminine.

Caularchus Gill, 1862: 330. Type species: *Lepadogaster reticulatus* Girard, 1854. Type by monotypy. Gender: masculine.

Bryssetaeres Jordan & Evermann in Jordan, 1896: 230. Type species: *Gobiesox pinniger* Gilbert, 1890. Type by original designation. Gender: masculine.

Caulistius Jordan & Evermann, 1896: 491. Type species: *Gobiesox papillifer* Gilbert, 1890. Type by original designation. Gender: masculine. Originally proposed as a subgenus of *Gobiesox*.

Bryssophilus Jordan & Evermann, 1898: 2329. Type species: *Gobiesox papillifer* Gilbert, 1890. Type by original designation. Gender: masculine. Originally proposed as a subgenus of *Gobiesox*.

Cotylichthys Jordan, 1919: 341. Type species: *Cotylys fimbriata* Müller & Troschel, 1849. Type by original designation. Gender: masculine.

Infratridens Schultz, 1944: 57. Type species: *Gobiesox rhessodon* Smith, 1881. Type by original designation. Gender: masculine.

Genus last reviewed in its entirety by Briggs (1955).

Gobiesox fluviatilis Briggs & Miller, 1960

Gobiesox fluviatilis Briggs & Miller, 1960: 2, pl. 1. Type locality: Barranca de Barranquitas below Barranquitas, Jalisco, 69 mi. by highway 15 southeast of Tepic, Nayarit (Mexico). Holotype: UMMZ 177314.

Maximum length: 5.9 cm SL

Distribution: North America: Pacific versant, Rio Grande de Santiago.

Countries: Mexico

Gobiesox fulvus Meek, 1907

Gobiesox fulvus Meek, 1907: 149. Type locality: Cocos I., e. Pacific. Holotype: FMNH 6035.

Maximum length: 9.1 cm SL

Distribution: Central America: Cocos Island, Costa Rica.

Countries: Costa Rica

Remarks and references: Redescribed in Briggs (1955).

Gobiesox juradoensis Fowler, 1944

Gobiesox juradoensis Fowler, 1944: 247, figs. 24-25. Type locality: Río Juradó, Chocó Prov., Colombia, elev. 600 ft. Holotype: ANSP 71451.

Gobiesox rhyacophilus Briggs, 1951: 72, figs. 7-8. Type locality: Stream entering Watering Bay, Gorgona I., (Pacific) Colombia. Holotype: LACM 21696 (ex AHF 1191).

Maximum length: 11.5 cm SL

Distribution: South America: Pacific versant rivers of Colombia.

Countries: Colombia

Remarks and references: Redescribed in Briggs (1955).

Gobiesox mexicanus Briggs & Miller, 1960

Gobiesox mexicanus Briggs & Miller, 1960: 7, pl. 3. Type locality: Río Coyuquilla, 60 mi. by road southeast of Zihuatenejo, Guerrero (Mexico). Holotype: UMMZ 177318.

Maximum length: 6.9 cm SL

Distribution: North America: Pacific versant rivers north of Gulf of Tehuantepec.

Countries: Mexico

Gobiesox multitentaculus (Briggs, 1951)

Cotylys multitentaculum Briggs, 1951: 80. Type locality: Off coast just north of Paita, Peru. Holotype: USNM 107142.

Maximum length: 6.3 cm SL

Distribution: South America: Pacific versant rivers.

Countries: Ecuador, Peru

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Remarks and references: Redescribed in Briggs (1955).

Common names: Fordero (Ecuador)

***Gobiesox nudus* (Linnaeus, 1758)**

Cyclopterus nudus Linnaeus, 1758: 260. Type locality: "India".
Holotype: NRM 92.

Gobiesox cephalus La Cèpède, 1800: 595, 596, pl. 19 (fig. 1).
Type locality: South America. No types known.

Lepadogaster testar Bloch & Schneider, 1801: 4, pl. 1. Type locality: Not stated [West Indies]. No types known.

Cyclopterus bispinosus Shaw, 1804: 396. Type locality: India (in error). No types known.

Gobiesox tudes Richardson, 1845: pl. 46 (figs. 1-3). Type locality: Not stated. Holotype: whereabouts unknown. Plate published earlier than text (although both published in same year), making the illustrated specimen the holotype. Description in Richardson (1845: 103), with indication that specimens were from China.

Cotylis Stannii Müller & Troschel, 1849: 18, pl. 3 (fig. 3). Type locality: Brazil [probably in error]. No types known.

Gobiesox costaricensis Meek, 1912: 74. Type locality: Zent R., Atlantic drainage, Costa Rica. Holotype: FMNH 7677.

Gobiesox ramsdeni Howell-Rivero, 1936: 73. Type locality: Río Toa, 'El Palenque', Yateras, Guantanamo, Oriente Prov., Cuba. Holotype: MCZ 34152.

Maximum length: 15 cm SL

Distribution: Central and South America: Coastal Caribbean drainage rivers.

Countries: Colombia, Costa Rica, Cuba, Dominica, Honduras, Jamaica, Panama, Trinidad and Tobago, Venezuela

Remarks and references: Synonymy from Briggs (1955), taxonomic comments and ecological notes in Bussing (1998).

Common names: Chupador (Colombia), Chupapiedra (Costa Rica), Ventosa (Colombia)

***Gobiesox potamius* Briggs, 1955**

Gobiesox potamius Briggs, 1955: 93, fig. 99. Type locality: Río Turrubares, Pacific drainage, Costa Rica. Holotype: FMNH 7815.

Maximum length: 8 cm SL

Distribution: Central America: Pacific versant rivers.

Countries: Costa Rica, Panama (?)

Remarks and references: Redescription with ecological notes in Bussing (1998).

Common names: Chupapiedra (Costa Rica)

References

Bloch, M.E. and J.G. Schneider. 1801. M. E. Blochii, Systema Ichthyologiae iconibus cx illustratum. Post obitum auctoris opus inchoatum absolvit, correxit, interpolavit Jo. Gottlob Schneider, Saxo. Berolini. Sumtibus Auctoris Impressum et Bibliopolio Sanderiano Commissum. lx + 584 p., pls. 1-110.

Briggs, J.C. 1951. A review of the clingfishes (Gobiesocidae) of the eastern Pacific with descriptions of new species. Proc. California Zool. Club, 1 (11): 57-108.

Briggs, J.C. 1955. A monograph of the clingfishes (Order Xenopterygii). Stanford Ichthyol. Bull., 6: i-iv + 1-224.

Briggs, J.C. and R.R. Miller. 1960. Two new freshwater clingfishes of the genus *Gobiesox* from southern Mexico. Occas. Pap. Mus. Zool. Univ. Mich., 616: 1-15, pls. 1-4.

Brisout de Barneville, C.N.F. 1846. Note sur le groupe des Gobiesoces. Rev. Zool., 1846: 143-146.

Bussing, W.A. 1998. Peces de las aguas continentales de Costa Rica. [Freshwater Fishes of Costa Rica.]. San Jose, Costa Rica: Universidad de Costa Rica, 468 pp [also published as: Revista de Biología Tropical, 46 (suppl. 2): 1-468.].

Fowler, H.W. 1944. Fresh-water fishes from northwestern Colombia. Proc. Acad. Nat. Sci. Philadelphia, 96: 227-248.

Gill, T.N. 1863. Note on some genera of fishes of western North America. Proc. Acad. Nat. Sci. Philadelphia, 14: 329-332.

Howell-Rivero, L. 1936. Some new, rare and little-known fishes from Cuba. Proc. Boston Soc. Nat. Hist., 41 (4): 41-76, pls. 9-13.

Jordan, D.S. 1896. Notes on fishes little known or new to science. Proc. California Acad. Sci. (Ser. 2), 6: 201-244, pls. 20-43.

Jordan, D.S. 1919. New genera of fishes. Proc. Acad. Nat. Sci. Philadelphia, 70 (for 1918): 341-344.

Jordan, D.S. and B.W. Evermann 1896. A check-list of the fishes and fish-like vertebrates of North and Middle America. Rep. U. S. Fish Comm., 21 [for 1895] (Append. 5): 207-584.

Jordan, D.S. and B.W. Evermann 1898. The fishes of North and Middle America: a descriptive catalogue of the species of fish-like vertebrates found in the waters of North America north of the Isthmus of Panama. Part III. Bull. U. S. Natl. Mus. No. 47: i-xxiv + 2183a-3136.

La Cèpède, B.G.E. 1800. Histoire naturelle des poissons. Vol. 3. Plassan, Paris. lxxiv + 632 p., pls. 1-20.

Linnaeus, C. 1758. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Tomus I. Editio decima, reformata. Holmiae. ii + 824 p.

Meek, S.E. 1907. Notes on fresh-water fishes from Mexico and Central America. Field Columbian Mus. Zool. Ser., 7 (5): 133-157.

Meek, S.E. 1912. New species of fishes from Costa Rica. Field Mus. Nat. Hist. Publ. Zool. Ser., 10 (7): 69-75.

Müller, J. 1843. Beiträge zur Kenntniss der natürlichen Familien der Fische. Arch. Naturgeschichte, 9: 292-330.

Nelson, J.S. 1984. Fishes of the World, second edition. J. Wiley & Sons, New York. 523 p.

Rafinesque, C.S. 1815. Analyse de la nature, ou tableau de l'univers et des corps organisés. Palerme. 224 p.

Richardson, J. 1845. Ichthyology.--Part 2: 71-98, pls. 45-54; In R. B. Hinds (ed.). The zoology of the voyage of H. M. S. Sulphur, under the command of Captain Sir Edward Belcher, R. N., C. B., F. R. G. S., etc., during the years 1836-42, No. 9. London: Smith, Elder & Co.

Shaw, G. 1804. General zoology or systematic natural history. Vol. 5 (in 2 parts). G. Kearsley, London. v + 463 p., pls. 93-182.

Schultz, L.P. 1944. A revision of the American clingfishes, family Gobiesocidae, with descriptions of new genera and forms. Proc. U. S. Natl. Mus., 96 (3187): 47-77, Pl. 1.

Family Atherinidae (Silversides)

Brian S. Dyer

Silversides are distributed from tropical to temperate waters in the western Pacific, Indian, and North Atlantic oceans, and Mediterranean Sea, except for the freshwater species of *Craterocephalus* and *Alepidomus*. The New World representatives of Atherinidae occur in the Caribbean and Gulf of Mexico. All three species are members of the subfamily Atherinomorinae (Dyer & Chernoff, 1996). Two widely separated dorsal fins, the first with flexible spines and the second with one spine followed by soft rays; anal fin with one spine followed by soft rays; pectoral fins high on body; mouth small and terminal, upper without protrusion; presence of a dashed lateral line; broad silvery lateral band (black in preserved specimens); pelvic fins usually abdominal; scales relatively large (usually 31-50 in lateral series); vertebrae 32-60. Reported maximum length 10 cm TL. All species of atherinomorines are marine except for *Alepidomus evermanni*. Feed on zooplankton.

ALEPIDOMUS

Alepidomus Hubbs, 1944: 7. Type species: *Atherina evermanni* Eigenmann, 1903. Type by original designation. Gender: masculine.

Alepidomus evermanni (Eigenmann, 1903)

Atherina evermanni Eigenmann, 1903: 228, fig. 9. Type locality: San Cristobal, Cuba. Holotype: CAS 78949. Maximum length: 3.3 cm SL. Distribution: Caribbean Islands: Western Cuba. Countries: Cuba

ATHERINOMORUS

Atherinomorus Fowler, 1903: 730. Type species: *Atherina laticeps* Poey, 1861. Type by original designation. Gender: masculine.
Pranesus Whitley, 1930: 9. Type species: *Pranesus ogilbyi* Whitley, 1930. Type by original designation. Gender: masculine.
Thoracatherina Fowler, 1941: 249. Type species: *Atherina insularum* Jordan & Evermann, 1903. Type by original designation. Gender: feminine.

Atherinomorus stipes (Müller & Troschel, 1848)

Atherina stipes Müller & Troschel, 1848: 671. Type locality: Barbados, West Indies. Syntypes: ZMB 1889.
Atherina laticeps Poey, 1860: 265. Type locality: Havana, Cuba. Syntypes: MCZ 18227-30; LZM [ex USNM 4764], USNM 4764.
Atherina velieana Goode & Bean, 1880: 342. Type locality: Clearwater Harbor, Florida, U.S.A. Holotype: USNM 23629. Maximum length: 10 cm TL. Distribution: Western Atlantic: Southern Florida (USA), Bahamas, and Yucatan, Mexico to Brazil. Southeast Pacific: known only from Tumaco, Colombia. Countries: Aruba, Bahamas, Brazil, Colombia, Costa Rica, Cuba, Curaçao Island, French Guiana, Guyana, Haiti, Jamaica, Mexico, Saint Lucia, Suriname, Trinidad and Tobago, US Virgin Islands, USA, Venezuela. Common names: Bristle herring (Cuba), Broadheaded silverside (Haiti), Cabezote (Cuba), Catacucho (Cuba), Hardhead silversides (Saint Lucia)

HYPOATHERINA

Hypoatherina Schultz, 1948: 23. Type species: *Atherina uisila* Jordan & Seale, 1905. Type by original designation. Gender: feminine.

Hypoatherina harringtonensis (Goode, 1877)

Atherina harringtonensis Goode, 1877: 297. Type locality: Bermuda. Syntypes: USNM 21945. Maximum length: 10 cm TL. Distribution: Western Atlantic: Bermuda, southern Florida (USA), and Yucatan, Mexico to northern South America. Antilles, western Caribbean. Southeast Pacific: known only from Tumaco, Colombia. Countries: Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Bermuda, Cayman Islands, Colombia, Cuba, Curaçao Island, Dominica, Dominican Republic, Grenada, Guadeloupe, Haiti, Jamaica, Martinique, Mexico, Montserrat, Puerto Rico, Saint Kitts and Nevis, Saint Lucia, Saint Vincent & the Grenadines, Trinidad and Tobago, Turks and Caicos Is., US Virgin Islands, USA, Venezuela, Virgin Islands (UK). Common names: Bullhead fry (US Virgin Islands), Catacucho (Cuba), Slender silverside (Haiti)

References

- Dyer, B.S. and B. Chernoff. 1996. Phylogenetic relationships among atheriniform fishes (Teleostei: Atherinomorpha). *Zool. J. Linn. Soc.*, 177: 1-69.
Eigenmann, C.H. 1903. The fresh-water fishes of western Cuba. *Bull. U. S. Fish Comm.* 22 [for 1902]: 211-236, pls. 19-21.
Fowler, H.W. 1903. Descriptions of new, little known, and typical Atherinidae. *Proc. Acad. Nat. Sci. Philadelphia*, 55: 727-742, pls. 41-44.
Fowler, H.W. 1941. The George Vanderbilt Oahu survey--the fishes. *Proc. Acad. Nat. Sci. Philadelphia*, 93: 247-279.
Goode, G.B. 1877. A preliminary catalogue of the reptiles, fishes, and lepto-cardians of the Bermudas, with descriptions of four species of fishes believed to be new. *Am. J. Sci. Arts*, 14 (82): 289-298.
Goode, G.B. and T.H. Bean. 1880. Catalogue of a collection of fishes obtained in the Gulf of Mexico, by Dr. J. W. Velie, with descriptions of seven new species. *Proc. U. S. Natl. Mus.*, 2 (98): 333-345.
Hubbs, C.L. 1944. Relationships of *Alepidomus*, a new genus of atherinine fishes from the fresh waters of Cuba. *Occas. Pap. Mus. Zool. Univ. Michigan*, no. 488: 1-10.
Jordan, D.S. and B.W. Evermann. 1903. Descriptions of new genera and species of fishes from the Hawaiian Islands. *Bull. U. S. Fish Comm.* 22 [for 1902]: 161-208.
Poey, F. 1858-61. *Memorias sobre la historia natural de la Isla de*

Check List of the Freshwater Fishes of South and Central America

- Cuba, acompañadas de sumarios Latinos y extractos en Francés. Tomo 2. La Habana. 1-96 (1858), 97-336 (1860), 337-442, (1861), pls. 1-19.
- Schultz, L.P. 1948. A revision of six subfamilies of Atherine fishes, with descriptions of new genera and species. Proc. U. S. Natl. Mus., 98 (3220): 1-48, pls. 1-2.
- Whitley, G.P. 1930. Ichthyological miscellanea. Mem. Queensland. Mus., 10 (1): 8-31, Pl. 1.

Family Atherinopsidae (Neotropical Silversides)

Brian S. Dyer

Neotropical silversides are distributed in freshwater and marine temperate waters of North America (Barbour, 1973; Chernoff, 1986a), in freshwater and marine tropical and subtropical waters of Central America (Chernoff, 1986b; Bussing, 1987), and in South America present only in temperate freshwaters yet in all marine (tropical, subtropical, and temperate) waters (White, 1985; Dyer, 1997, 1998).

Most all phylogenetically diagnostic characters are internal and separate as a clade the subfamilies Menidiinae and Atherinopsinae, traditionally considered as atherinids (Saeed et al., 1994; Dyer & Chernoff, 1996). Atherinopsidae is composed of 13 genera and 104 species recognized herein. Neotropical silversides are distinguished by a combination of the following external characters. Two widely separated dorsal fins, the first with flexible spines and the second with one spine followed by soft rays; anal fin with one spine followed by soft rays; pectoral fins high on body; mouth small to medium and terminal or subterminal; upper jaw with or without protrusion, premaxilla expanded distally; two dashed lateral lines, the upper one dorsal to the lateral band ending before the anal-fin origin and the lower one along ventral part of abdominal region and laterally from mid-anal fin to end of caudal peduncle; broad silvery lateral band (black in preserved specimens); pelvic fins abdominal; scales relatively large (usually 31-50 in lateral series) or small (over 100), cycloid (some species crenate); vertebrae 35-60.

Reported maximum length 520 mm SL for *Odontesthes bonariensis* and smallest species is *Menidia colei* (42 mm SL). Most species are marine, however, there are about 50 species confined to freshwater and others that enter estuaries to spawn or as young. All species that either spawn or have a juvenile phase in estuarine waters were included in this checklist. Feed on zooplankton, insects, small fishes and sometimes snails. Some species of *Chirostoma* and *Odontesthes* are of economic importance, either for sport fishing, artisanal fisheries or aquaculture.

ATHERINELLA

Atherinella Steindachner, 1875: 477. Type species: *Atherinella panamensis* Steindachner, 1875. Type by monotypy. Gender: feminine.

Eurystole Jordan & Evermann, in Jordan, 1895: 418. Type species: *Atherinella eriarcha* Jordan & Gilbert, 1882. Type by original designation. Gender: feminine.

Thyrina Jordan & Culver, in Jordan, 1895: 419. Type species: *Thyrina evermanni* Jordan & Culver, 1895. Type by original designation. Gender: feminine.

Melaniris Meek, 1902: 117. Type species: *Melaniris balsana* Meek, 1902. Type by original designation. Gender: feminine.

Xenatherina Regan, 1907: 64. Type species: *Menidia lisa* Meek, 1904. Type by original designation. Gender: feminine.

Thyrinops Hubbs, 1918: 306. Type species: *Atherinichthys pachylepis* Günther, 1864. Type by original designation. Gender: masculine.

Archomenidia Jordan & Hubbs, 1919: 54. Type species: *Atherinichthys sallei* Regan, 1903. Type by original designation. Gender: feminine.

Coleotropis Myers & Wade, 1942: 136. Type species: *Menidia starksi* Meek & Hildebrand, 1923. Type by original designation. Gender: feminine.

Euryarges Myers & Wade, 1942: 128. Type species: *Nectarges nesioties* Myers & Wade, 1942. Gender: masculine.

Nectarges Myers & Wade, 1942: 126. Type species: *Nectarges nepenthe* Myers & Wade, 1942. Type by original designation. Gender: masculine.

Xenomelaniris Schultz, 1948: 13, 33. Type species: *Atherina brasiliensis* Quoy & Gaimard, 1825. Type by original designa-

tion. Gender: feminine.

Atherthyryna Fowler, 1958: 16. Type species: *Thyrina evermanni* Jordan & Culver, 1895. Type by being a replacement name. Gender: feminine.

Allomastax Chernoff, 1986a: 243. Type species: *Melaniris sardina* Meek, 1907. Type by original designation. Gender: feminine. Proposed as a subgenus of *Atherinella*.

Atherinella alvarezii (Diaz-Pardo 1972)

Thyrinops alvarezii Diaz-Pardo, 1972: 146. Type locality: Río Tacotalpa, trib. of Río Grijalva, 40 km south of Villahermosa, Tabasco, Mexico. Holotype: not researched.

Distribution: North America: Mexico.

Countries: Mexico

Atherinella ammophila Chernoff & Miller 1984

Atherinella ammophila Chernoff & Miller, 1984: 4, figs. 2-4. Type locality: Río de la Palma at La Palma, 8 km north-northwest of Sontecomapan, Veracruz, Mexico. Holotype: UMMZ 210808.

Distribution: North America: Mexico.

Countries: Mexico

Atherinella argentea Chernoff, 1986

Atherinella argentea Chernoff, 1986a: 100, figs. 9, 10, 34. Type locality: Lagoon behind hotel Vinar del Mar, Quepos, Puntarenas, Costa Rica. Holotype: FMNH 85223.

Maximum length: 11.1 cm SL

Distribution: Eastern Central Pacific: Madre Vieja River, Guatemala to Chiriquí Gulf, Panama.

Countries: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama

***Atherinella balsana* (Meek 1902)**

Melaniris balsanus Meek, 1902: 117, pl. 28 lower. Type locality: Río Balsas at Balsas, Guerrero, Mexico. Holotype: FMNH 3706. Distribution: North America: Balsas River basin. Countries: Mexico

***Atherinella beani* (Meek & Hildebrand 1923)**

Kirtlandia beani Meek & Hildebrand, 1923: 270, pl. 21. Type locality: Fox Bay, Colón (Atlantic) Panama. Holotype: USNM 79741. Distribution: Western Central Atlantic: Panama. Countries: Panama

***Atherinella blackburni* (Schultz, 1949)**

Coleotropis blackburni Schultz, 1949: 108, fig. 15. Type locality: Jacuque Point, Gulf of Venezuela, Venezuela. Holotype: USNM 123205. Maximum length: 13 cm TL. Distribution: Western Central Atlantic: Southern part of the Caribbean. Coasts of Central and South America. Countries: Aruba, Brazil, Colombia, Costa Rica, Curaçao Island, Venezuela. Common names: Tinícalo playón (Colombia)

***Atherinella brasiliensis* (Quoy & Gaimard, 1825)**

Atherina brasiliensis Quoy & Gaimard, 1825: 332. Type locality: Rio de Janeiro, Brazil. Syntypes: MNHN A.4374. Maximum length: 16 cm TL. Distribution: Western Central Atlantic: Northern to southeastern coast of South America. Countries: Aruba, Brazil, Colombia, Curaçao Island, French Guiana, Guyana, Suriname, Trinidad and Tobago, Uruguay, Venezuela. Common names: Tinícalo comun (Colombia), Mama-rei (Brazil)

***Atherinella callida* Chernoff 1986**

Atherinella callida Chernoff, 1986a: 155, figs. 39-41. Type locality: Refugio, Veracruz, Mexico. Holotype: LACM 9626-1. Distribution: North America: Veracruz. Countries: Mexico

***Atherinella chagresi* (Meek & Hildebrand 1914)**

Menidia chagresi Meek & Hildebrand, in Meek, 1914: 119. Type locality: Río Chagres at Gorgona I., Panama Canal Zone, Panama. Lectotype: USNM 81761. Distribution: Western Central Atlantic: Panama and Costa Rica. Countries: Costa Rica, Panama

***Atherinella colombiensis* (Hubbs, 1920)**

Thyrina colombiensis Hubbs, 1920: 4. Type locality: Río Telembi, a trib. of Río Patia, Pacific slope of s. Colombia. Holotype: IU 13871. Distribution: South America: Colombia. Countries: Colombia

***Atherinella crystallina* (Jordan & Culver 1895)**

Thyrina crystallina Jordan & Culver, in Jordan, 1895: 420. Type locality: Río Presidio, Sinaloa, w. Mexico. Syntypes: BMNH 1895.5.27.160-165, SU 2685, USNM 47440, ZMB 14066, CAS 102685. *Thyrina evermanni* Jordan & Culver in Jordan, 1895: 419, pl. 33. Type locality: Estuary at Mazatlán, Sinaloa, w. Mexico. Lectotype: SU 2688. Distribution: North America: Mexico, from Sinaloa River to Verde River, Jalisco. Countries: Mexico

***Atherinella elegans* Chernoff, 1986**

Atherinella crystallina elegans Chernoff, 1986a: 182, figs. 46, 53-

57. Type locality: Río del Fuerte ca. 1.6 km below San Blas, Sinaloa, Mexico. Holotype: UMMZ 172286. Distribution: North America: Del Fuerte River, Sinaloa. Countries: Mexico

***Atherinella eriarcha* Jordan & Gilbert, 1882**

Atherinella eriarcha Jordan & Gilbert, 1882: 348. Type locality: Mazatlán, Sinaloa, w. Mexico. Holotype: USNM 29243. Maximum length: 8 cm TL. Distribution: Eastern Central Pacific: Baja California, Mexico and the Revillagigedo Is. to Puerto Utria, Colombia, including the Gulf of California. Countries: Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Revillagigedo. Common names: Pejerrey plateado (Mexico)

***Atherinella guatemalensis* (Günther, 1864)**

Atherinichthys guatemalensis Günther, 1864c: 151. Type locality: Lakes of Huamuchal, Retalhuleu, Guatemala. Syntypes: BMNH 1864.1.26.367. Maximum length: 7.5 cm SL. Distribution: Eastern Central Pacific: From Zacatula, Mexico to Salina de Acapán, Guatemala. Countries: Guatemala, Mexico. Common names: Pejerrey guatemalteco (Mexico)

***Atherinella guija* (Hildebrand, 1925)**

Thyrina guija Hildebrand, 1925: 264, fig. 18. Type locality: Lake Guija, Santa Ana, El Salvador. Holotype: USNM 87273. Distribution: North America: Pacific slope of Guatemala, El Salvador and Honduras. Countries: El Salvador, Guatemala, Honduras

***Atherinella hubbsi* (Bussing, 1979)**

Melaniris hubbsi Bussing, 1979: 400, fig. 1D. Type locality: Río Zapote, trib. of Lake Nicaragua, 0.4 km south of Upala, Alajuela Prov., Costa Rica, elev. 50 m. Holotype: LACM 37506-1. Maximum length: 7 cm TL. Distribution: North America: Lake Nicaragua basin. Countries: Nicaragua

***Atherinella jiloensis* (Bussing, 1979)**

Melaniris jiloensis Bussing, 1979: 406, fig. 1F. Type locality: Lake Jiloá on Chiltepe Peninsula, Dept. of Managua, Nicaragua. Holotype: LACM 37350-1. Distribution: North America: Lake Jiloá on Chiltepe Peninsula, Dept. of Managua. Countries: Nicaragua

***Atherinella lisa* (Meek 1904)**

Menidia lisa Meek, 1904: 182, fig. 63. Type locality: Refugio, Veracruz, Río Papaloapan basin, Mexico. Holotype: FMNH 4633. Distribution: North America: Mexico. Countries: Mexico

***Atherinella marvelae* (Chernoff & Miller 1982)**

Archomenidia marvelae Chernoff & Miller, 1982: 430, fig. 2. Type locality: Río Bravo just below barrier falls, Salto de Eyi-pantla, Veracruz, Mexico. Holotype: UMMZ 209012. Distribution: North America: Mexico. Countries: Mexico

***Atherinella meeki* (Miller, 1907)**

Thyrina meeki Miller, 1907: 110, fig. 2. Type locality: Río Motagua, at Gualan e. coast of Guatemala. Holotype: CAS 47404. Distribution: North America: Motagua River, east coast of Guatemala. Countries: Guatemala

***Atherinella milleri* (Bussing, 1979)**

Melaniris milleri Bussing, 1979: 395, fig. 1C. Type locality: Coastal lagoon near mouth of Río Colorado, Barra Colorado, Limón Prov., Costa Rica. Holotype: LACM 37508-1.

Distribution: Western Central Atlantic: Honduras, Costa Rica and Colombia.

Countries: Colombia, Costa Rica, Honduras

***Atherinella nepenthe* (Myers & Wade, 1942)**

Nectarges nepenthe Myers & Wade, 1942: 130, pl. 19. Type locality: Off Arroyo de San Luis, Baja California, 23°10'30"N, 109°27'45"W, at surface over bottom at 5 fms. Holotype: SU 37060.

Maximum length: 10 cm TL

Distribution: Eastern Central Pacific: Baja California to Peru.

Countries: Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru

Common names: Pejerrey nepente (Mexico)

***Atherinella nesiototes* (Myers & Wade, 1942)**

Nectarges nesiototes Myers & Wade, 1942: 128, pl. 18. Type locality: Academy Bay, Indefatigable I. [Santa Cruz], Galápagos Is. Holotype: LACM 21558.

Maximum length: 10 cm SL

Distribution: Eastern Pacific: Mazatlan, Mexico and the Galapagos Islands.

Countries: Ecuador, Mexico

***Atherinella nocturna* (Myers & Wade, 1942)**

Nectarges nocturnus Myers & Wade, 1942: 133. Type locality: Guayaquil, Ecuador. Holotype: USNM 88712.

Distribution: Southeast Pacific: Ecuador, Peru and northern Chile.

Countries: Chile, Ecuador, Peru

***Atherinella pachylepis* (Günther, 1864)**

Atherinichthys pachylepis Günther, 1864b: 25. Type locality: Pacific coast of Panama Bay. Syntypes: BMNH 1863.12.16.39-40 (2).

Maximum length: 16 cm TL

Distribution: Eastern Pacific: Cutuco, El Salvador to Peru. Not recorded from Costa Rica.

Countries: Colombia, Ecuador, El Salvador, Honduras, Nicaragua, Panama, Peru

***Atherinella pallida* (Fowler, 1944)**

Melaniris pallida Fowler, 1944: 242, fig. 130. Type locality: Santelmo Bay, Rey I., Perlas Is. (Pacific) Panama. Holotype: ANSP 70033.

Distribution: Eastern Central Pacific: Santelmo Bay, Rey Island, Perlas Island.

Countries: Panama

***Atherinella panamensis* Steindachner, 1875**

Atherinella panamensis Steindachner, 1875: 477. Type locality: (Pacific) Panama. Holotype: NMW 76439.

Maximum length: 11 cm TL

Distribution: Eastern Pacific: Panama Bay to Colombia.

Countries: Colombia, Panama

***Atherinella pellosemeion* Chernoff, 1986**

Atherinella crystallina pellosemeion Chernoff, 1986a: 180, figs. 45, 53-57. Type locality: Río las Mancuernas 2 km north-northwest of Mecatán on road to San Blas-Tepic hwy, Nayarit, Mexico. Holotype: UMMZ 172020.

Distribution: North America: Nayarit, Mexico.

Countries: Mexico

***Atherinella robbersi* (Fowler, 1950)**

Adenops robbersi Fowler, 1950: 5, figs. 5-9. Type locality: Totu-

mo Lake, Bolívar state, Colombia. Holotype: ANSP 71941.

Distribution: South America: Totumo Lake, Bolívar State.

Countries: Colombia

***Atherinella sallei* (Regan, 1903)**

Atherinichthys sallei Regan, 1903: 60. Type locality: Mexico. Holotype: BMNH 1860.6.17.47.

Archomenidia bolivari Álvarez & Carranza, 1952: 287. Type locality: Near Matías Romero, Río Grande or Río Almoloya, Oaxaca, se. Mexico.

Distribution: North America: Mexico.

Countries: Mexico

***Atherinella sardina* (Meek, 1907)**

Melaniris sardina Meek, 1907: 114. Type locality: Lake Managua at Managua, Nicaragua. Holotype: FMNH 5937.

Maximum length: 5.5 cm TL

Distribution: North America: Nicaragua and Costa Rica.

Countries: Costa Rica, Nicaragua

***Atherinella schultzi* (Álvarez & Carranza, 1952)**

Xenatherina schultzi Álvarez & Carranza, 1952: 286, fig. 3. Type locality: Santa María Chimalapa, Arroyo El Zacatal, Oaxaca, se. Mexico. Holotype: not researched.

Distribution: North America: Oaxaca, southeast Mexico.

Countries: Mexico

***Atherinella serrivomer* Chernoff, 1986**

Atherinella serrivomer Chernoff, 1986a: 120, fig. 20. Type locality: Estero de Puerto Pizarro, opposite Estero Jeli, Tumbes, Peru. Holotype: ANSP 158695.

Distribution: Eastern Pacific: Mouth of Parita Bay, Panama to Tumbes, Peru.

Countries: Colombia, Ecuador, Panama, Peru

***Atherinella venezuelae* (Eigenmann, 1920)**

Menidia venezuelae Eigenmann, 1920: 12. Type locality: Río Tapa Tapa, Venezuela. Syntypes: CAS 78952.

Distribution: South America: Tapa Tapa River basin.

Countries: Trinidad and Tobago, Venezuela

BASILICHTHYS

Basilichthys Girard, 1855: 198. Type species: *Atherina microlepidota* Jenyns, 1841. Type by subsequent designation. Gender: masculine.

Protistius Cope, 1874: 66. Type species: *Protistius semotilus* Cope, 1874. Type by monotypy. Gender: masculine.

Gastropterus Cope, 1878: 700. Type species: *Gastropterus archaeus* Cope, 1878. Type by monotypy. Gender: masculine.

Pisciregia Abbott, 1899: 342. Type species: *Pisciregia beardsleei* Abbott, 1899. Type by monotypy. Gender: feminine.

***Basilichthys archaeus* (Cope, 1878)**

Gastropterus archaeus Cope, 1878: 700. Type locality: At Arequipa, Pacific slope, Peru, elev. 7500 ft. Lectotype: ANSP 22002, designated by Fowler (1903: 738).

Distribution: South America: Pacific versant of Peruvian Andes.

Countries: Peru

***Basilichthys australis* Eigenmann, 1927**

Basilichthys australis Eigenmann, 1927: 59, pls. 12 (fig. 3), 14 (fig. 5). Type locality: Santiago and southward to Osorno [Maipo River to Rahue River], Chile. Syntypes: CAS 11678, 44699, 44703, 45179-80, 45182-84, 45188-90, 45192.

Distribution: South America: Maipo River south to Chiloé Island.

Countries: Chile

***Basilichthys microlepidotus* (Jenyns, 1841)**

Atherina microlepidota Jenyns, 1841: 78, pl. 16 (figs. 1, 1a, 1b).

Type locality: Valparaíso, Chile, in fresh water. Syntypes: BMIII 403.

Distribution: South America: From Huasco River to Valparaíso, Chile. Not present in freshwater east of the Andes.

Countries: Chile

***Basilichthys semotilus* (Cope, 1874)**

Protistius semotilus Cope, 1874: 66. Type locality: Andes, Peru, elev. 12000 ft. Holotype: ANSP 14404.

Pisciregia beardsleei Abbott, 1899: 342. Type locality: Callao, Peru. Holotype: CAS 111961.

Distribution: South America: Rivers on Pacific versant of Peruvian Andes, from Reque River, Lambayeque to Sama River, Tacna, Peru.

Countries: Peru

CHIROSTOMA

Chirostoma Swainson, 1839: 243. Type species: *Atherina humboldtiana* Valenciennes, 1835. Type by monotypy. Gender: neuter.

Atherinichthys Bleeker, 1853: 40. Type species: *Atherina humboldtiana* Valenciennes, 1835. Type by subsequent designation. Gender: masculine.

Atherinoides Bleeker, 1853: 40. Type species: *Atherina vomerina* Valenciennes, 1835. Type by monotypy. Gender: masculine.

Heterognathus Girard, 1855: 198. Type species: *Atherina humboldtiana* Valenciennes, 1835. Type by subsequent designation. Gender: masculine.

Eslopsarum Jordan & Evermann, 1896: 330. Type species: *Chirostoma jordani* Woolman, 1895. Type by original designation. Gender: neuter.

Lethostole Jordan & Evermann, 1896: 789, 792. Type species: *Chirostoma estor* Jordan, 1880. Type by original designation. Gender: feminine.

Charalia de Buen, 1945: 505. Type species: *Chirostoma bartoni* Jordan & Evermann, 1896. Type by original designation. Gender: feminine.

Ocotlanichthys de Buen, 1945: 526. Type species: *Chirostoma sphyraena* Boulenger, 1900. Type by original designation. Gender: masculine.

Otalia de Buen, 1945: 528. Type species: *Chirostoma promelas* Jordan & Snyder, 1899. Type by original designation. Gender: feminine.

Palmichthys de Buen, 1945: 527. Type species: *Chirostoma diazi* Jordan & Snyder, 1899. Type by original designation. Gender: masculine.

***Chirostoma aculeatum* Barbour, 1973**

Chirostoma aculeatum Barbour, 1973: 130, fig. 18a. Type locality: South shore of Lake Yuriria, ca. 1.5 mi. east of Yuriria, Guanajuato, Mexico. Holotype: TU 40889.

Distribution: North America: Lerma River basin in Mexico.

Countries: Mexico

***Chirostoma arge* (Jordan & Snyder, 1899)**

Eslopsarum arge Jordan & Snyder, 1899: 133, fig. 12. Type locality: Río Verde near Aguascalientes, Mexico. Holotype: SU 6154.

Distribution: North America: Lerma River basin in Mexico.

Countries: Mexico

***Chirostoma attenuatum* Meek, 1902**

Chirostoma attenuatum Meek, 1902: 112, pl. 27 upper. Type locality: Patzcuaro Lake at Patzcuaro, Michoacan, Mexico. Holotype: FMNH 3631.

Chirostoma samani Cuesta-Terron, 1931: 241, figs. 2-4. Type locality: Mexico. Holotype: MNHNM (not researched).

Chirostoma bartoni janitzio de Buen, 1940: 22, fig. 4. Type locality: Lake Pátzcuaro, Mexico.

Distribution: Central America: Lerma River basin in Mexico.

Countries: Mexico

Common names: Charal (Mexico)

***Chirostoma bartoni* Jordan & Evermann, 1896**

Chirostoma bartoni Jordan & Evermann, 1896: 793. Type locality: Trib. of Río Lerma near Guanajuato, Mexico. 'La Alberca', volcanic caldera w. Valle de Santiago, Guanajuato. Holotype: USNM 23136.

Maximum length: 7.1 cm SL

Distribution: North America: Lerma River basin in Mexico.

Countries: Mexico

Common names: Charal de la Caldera (Mexico)

***Chirostoma chapalae* Jordan & Snyder, 1899**

Chirostoma chapalae Jordan & Snyder, 1899: 135, fig. 13. Type locality: Lake Chapala, near Ocotlan, Jalisco, Mexico. Holotype: CAS 106155.

Maximum length: 14 cm TL

Distribution: North America: Lerma River basin in Mexico.

Countries: Mexico

Common names: Charal (Mexico), Silverside (Mexico)

***Chirostoma charari* (de Buen, 1945)**

Eslopsarum bartoni charari de Buen, 1945: 509. Type locality: Río Grande de Morelia and Lake Cuitzeo valley, Mexico. No types known.

Distribution: North America: Lerma River basin in Mexico.

Countries: Mexico

***Chirostoma compressum* de Buen, 1940**

Chirostoma grandocule compressum de Buen, 1940b: 306. Type locality: Lake Cuitzeo, Michoacán, Mexico. Holotype: UMMZ 143300 [ex Estación Limnol. Pátzcuaro].

Distribution: North America: Lerma River basin in Mexico.

Countries: Mexico

Common names: Pescado blanco (Mexico)

***Chirostoma consocium* Jordan & Hubbs, 1919**

Chirostoma consocium Jordan & Hubbs, 1919: 76. Type locality: Lake Chapala at La Palma, Michoacán, Mexico. Holotype: FMNH 3672.

Distribution: North America: Mexico.

Countries: Mexico

***Chirostoma copandaro* de Buen, 1945**

Chirostoma estor copandaro de Buen, 1945: 524. Type locality: Zirahuén Lake, Michoacán, Mexico. No types known.

Distribution: North America: Mexico.

Countries: Mexico

Common names: Blanco de Zirahuén (Mexico), Pescado blanco (Mexico)

***Chirostoma estor* Jordan, 1880**

Chirostoma estor Jordan, 1880: 298. Type locality: Lake Chapala, Mexico. Holotype: USNM 23124.

Atherinichthys albus Steindachner, 1894: 148. Type locality: Lake Patzcuaro, Michoacan, Mexico. Syntypes: (5) NMW.

Chirostoma michoacanae de Buen, 1940a: 14, fig. 2. Type locality: Lake Pátzcuaro, Mexico. Holotype: Estación Limnológica Pátzcuaro.

Chirostoma estor tecuena de Buen, 1940a: 13. Type locality: Lake Pátzcuaro, Mexico. Holotype: whereabouts unknown.

Chirostoma estor pacanda de Buen, 1940a: 12. Type locality: Lake Pátzcuaro, Mexico. Holotype: not researched.

Maximum length: 42 cm TL

Distribution: North America: Lerma River basin in Mexico.

Countries: Mexico

Common names: Pescado blanco (Mexico), Silverside (Mexico),

Whitefish (Mexico)

Chirostoma grandocule (Steindachner, 1894)

Atherinichthys grandoculis Steindachner, 1894: 149. Type locality: Lake Pátzcuaro, Michoacán, Mexico. Holotype: NMW.

Maximum length: 12.3 cm SL

Distribution: North America: Lerma River basin in Mexico.

Countries: Mexico

Common names: Charal (Mexico)

Chirostoma humboldtianum (Valenciennes, 1835)

Atherina humboldtiana Valenciennes, in Cuvier & Valenciennes, 1835: 479, pl. 306. Type locality: Mexico. Holotype: ZMB 1885.

Atherina vomerina Valenciennes, in Cuvier & Valenciennes, 1835: 481. Type locality: Lake near Mexico City, Mexico. Holotype: ZMB 1888.

Chirostoma regani Jordan & Hubbs, 1919: 74. Type locality: Xochimilco, Valley of Mexico, Mexico. Holotype: FMNH 3687.

Chirostoma ocampoi Álvarez, 1963a: 197, fig. 1. Type locality: Lake Zacapu, Zacapu, Michoacán, Mexico. Holotype: not researched.

Distribution: North America: Mexico.

Countries: Mexico

Common names: Pescado blanco (Mexico)

Chirostoma jordani Woolman, 1895

?*Atherinichthys brevis* Steindachner, 1894: 149. Type locality: Lake Cuitzco, Mexico. Syntypes: (2) NMW ?.

Chirostoma jordani Woolman, 1895: 62, pl. 2. Type locality: Canals and Río Lerma at Salamanca, Guanajuato, and City of Mexico. Lectotype: USNM 125441, designated by Barbour (1973: 103).

Chirostoma mezquital Meek, 1904: 170, fig. 53. Type locality: Río Mezquital at Durango, Mexico. Holotype: FMNH 4389.

Poblana hidalgoi Álvarez, 1953: 25. Type locality: Endó Dam, near Tula, Hidalgo, Mexico. Holotype: Álvarez coll.

Distribution: North America: Central Mexico.

Countries: Mexico

Common names: Charal (Mexico)

Chirostoma labarcae Meek, 1902

Chirostoma labarcae Meek, 1902: 112, pl. 27 middle. Type locality: Río Lerma at La Barca, Jalisco, Mexico. Holotype: FMNH 3640.

Distribution: North America: Lerma River basin in Mexico.

Countries: Mexico

Common names: Charal (Mexico)

Chirostoma lucius Boulenger, 1900

?*Chirostoma crystallinum* Jordan & Snyder, 1899: 139, fig. 16. Type locality: Laguna de Chapala, near Ocotlán, Jalisco, Mexico. Holotype: CAS 106158.

?*Chirostoma ocotlanae* Jordan & Snyder, 1899: 140, fig. 18. Type locality: Lake Chapala near Ocotlán, Jalisco, Mexico. Holotype: CAS 106160.

Chirostoma lucius Boulenger, 1900: 54. Type locality: Lake Chapala, Mexico. Holotype: BMNH 1892.2.8.75.

Distribution: North America: Lerma River basin in Mexico.

Countries: Mexico

Common names: Pescado blanco (Mexico)

Chirostoma melanococcus Álvarez, 1963

Chirostoma melanococcus Álvarez, 1963b: 127. Type locality: San Juanico Dam, near Cotija, Michoacán, Mexico. Holotype: P731.

Distribution: North America: Mexico.

Countries: Mexico

Chirostoma patzcuaro Meek, 1902

Chirostoma patzcuaro Meek, 1902: 112, pl. 27 lower. Type locality:

ty: Pátzcuaro Lake at Pátzcuaro, Michoacán, Mexico. Holotype: FMNH 3628.

Distribution: North America: Lerma River basin in Mexico.

Countries: Mexico

Chirostoma promelas Jordan & Snyder, 1899

Chirostoma promelas Jordan & Snyder, 1899: 136, fig. 14. Type locality: Market at Guadalajara, Jalisco, Mexico (said to come from Laguna de Chapala). Holotype: CAS 106156.

Distribution: North America: Lerma River basin in Mexico.

Countries: Mexico

Chirostoma reseratum Álvarez, 1963

Chirostoma reseratum Álvarez, 1963b: 130. Type locality: San Juanico dam, near Cotija, Michoacán, Mexico. Syntypes: P 732 (10).

Distribution: Central America: Mexico.

Countries: Mexico

Chirostoma riojai Solórzano & López, 1966

Chirostoma riojai Solórzano & López, 1966: 145, fig. 1. Type locality: Laguna de Santiago Tilapa, Mexico. Holotype: LB 1820.

Distribution: North America: Lerma River basin in Mexico.

Countries: Mexico

Chirostoma sphyraena Boulenger, 1900

?*Chirostoma diazi* Jordan & Snyder, 1899: 137, fig. 15. Type locality: Market at Guadalajara, Jalisco, Mexico (said to come from Laguna de Chapala). Holotype: CAS 106157.

?*Chirostoma lermiae* Jordan & Snyder, 1899: 142, fig. 19. Type locality: Said to have come from Laguna de Chapala, obtained in market at Guadalajara, Jalisco, Mexico. Holotype: SU 6159.

Chirostoma sphyraena Boulenger, 1900: 54. Type locality: Lake Chapala, Mexico. Holotype: BMNH 1892.2.8.77.

Distribution: North America: Lerma River basin in Mexico.

Countries: Mexico

Common names: Pescado blanco (Mexico), Silverside (Mexico), Whitefish (Mexico)

Chirostoma zirahuen Meek, 1902

Chirostoma zirahuen Meek, 1902: 114, pl. 28 top. Type locality: Zirahuén Lake at Zirahuén, Michoacán, Mexico. Holotype: FMNH 3609.

Distribution: North America: Mexico.

Countries: Mexico

COLPICHTHYS

Colpichthys Hubbs, 1918: 305. Type species: *Atherinops regis* Jenkins & Evermann, 1888. Type by original designation. Gender: masculine.

Colpichthys hubbsi Crabtree, 1989

Colpichthys hubbsi Crabtree, 1989: 560, figs. 6, 7, 8A, 10, 11B. Type locality: Gulf of Santa Clara, Sonora, Mexico, 31°42'N, 114°30'W. Holotype: LACM 44221-1.

Maximum length: 15 cm SL

Distribution: Eastern Central Pacific: endemic to the Gulf of California, from the delta of the Colorado River to 31°N.

Countries: Mexico

Common names: Pejerrey delta (Mexico)

Colpichthys regis (Jenkins & Evermann, 1889)

Atherinops regis Jenkins & Evermann, 1889: 138. Type locality: Guaymas Bay, Sonora, w. Mexico. Syntypes USNM 39632.

Distribution: Eastern Central Pacific: endemic to the northern Gulf of California, north of 28° N.

Countries: Mexico

Common names: Charal del Valle de Mexico (Mexico), Pejerrey

charal (Mexico)

MELANORHINUS

Melanorhinus Metzelaar, 1919: 38. Type species: *Melanorhinus boekei* Metzelaar, 1919. Type by monotypy. Gender: masculine.
Mugilops Meek & Hildebrand, 1923: 271. Type species: *Mugilops cyanellus* Meek & Hildebrand, 1923. Type by original designation. Gender: masculine.

Melanorhinus boekei Metzelaar, 1919

Melanorhinus boekei Metzelaar, 1919: 38, fig. 14. Type locality: Oyster pond on St. Martin, West Indies. Syntypes: (12) SU 23304 (1), ZMA 100179 (6).

Mugilops marinus Meek & Hildebrand, 1923: 272, pl. 22 (fig. 2). Type locality: Porto Bello (Atlantic) Panama. Holotype: USNM 81742.

Distribution: Western Central Atlantic: Oyster pond on St. Martin, West Indies.

Countries: Panama, West Indies

Melanorhinus cyanellus (Meek & Hildebrand, 1923)

Mugilops cyanellus Meek & Hildebrand, 1923: 271, pl. 22 (fig. 1). Type locality: Balboa and Taboga Is., Panama Bay, Panama (Pacific). Holotype: USNM 81748.

Maximum length: 10 cm TL

Distribution: Eastern Central Pacific: Costa Rica and Panama.

Countries: Costa Rica, Panama

Melanorhinus microps (Poey, 1860)

Atherina microps Poey, 1860: 266. Type locality: presumed Havana, Cuba. No types known.

Maximum length: 7.5 cm TL

Distribution: Western Atlantic: Bahamas, Cuba, St. Martin, and Panama. Antilles.

Countries: Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Cayman Islands, Cuba, Curaçao Island, Dominica, Dominican Republic, Grenada, Guadeloupe, Haiti, Jamaica, Martinique, Montserrat, Panama, Puerto Rico, Saint Kitts and Nevis, Saint Lucia, Saint Vincent & the Grenadines, Trinidad and Tobago, Turks and Caicos Is., US Virgin Islands, Virgin Islands (UK)

Common names: Cabezote rey (Cuba)

MEMBRAS

Membras Bonaparte, 1836: puntata 91. Type species: *Atherina martinica* Valenciennes, 1835. Type by subsequent designation. Gender: feminine.

Kirtlandia Jordan & Evermann, 1896: 789, 794. Type species: *Chiostoma vagrans* Goode & Bean, 1879. Type by original designation. Gender: feminine.

Hubbesia Jordan, 1919: 310. Type species: *Menidia gilberti* Jordan & Bollman, 1890. Type by monotypy. Gender: feminine.

Adenops Schultz, 1948: (14) 34. Type species: *Adenops analis* Schultz, 1948. Type by original designation. Gender: masculine.

Membras analis (Schultz, 1948)

Adenops analis Schultz, 1948: 34, fig. 6. Type locality: Lake Maracaibo, 1 km off Pueblo Viejo, Venezuela. Holotype: USNM 121824.

Maximum length: 12 cm TL

Distribution: Western Central Atlantic: Colombia and Venezuela.

Countries: Aruba, Colombia, Curaçao Island, Venezuela

Common names: Tinícalo lagunar (Colombia)

Membras argentea (Schultz, 1948)

Adenops argenteus Schultz, 1948: 36, fig. 7. Type locality: Sabanilla, Bolivar, Colombia. Holotype: USNM 121848.

Distribution: South America: Colombia.

Countries: Colombia

Membras gilberti (Jordan & Bollman, 1890)

Menidia gilberti Jordan & Bollman, 1890: 155. Type locality: Panama, Panama Bay? Syntypes: SU 111 (13); USNM 41165 (2), 41210 (2), 41240 (9), 41480 (6); ZMB 15883 (1), 16262 (1).

Maximum length: 14 cm TL

Distribution: Eastern Central Pacific: El Salvador to Colombia.

Countries: Colombia, Costa Rica, Ecuador, El Salvador, Honduras, Nicaragua, Panama

Membras martinica (Valenciennes, 1835)

Atherina martinica Valenciennes, in Cuvier & Valenciennes, 1835: 459. Type locality: Martinique I., West Indies. Syntypes: MNHN A.4378 (3).

Maximum length: 12.5 cm TL

Distribution: Western Atlantic: New York and northern Gulf of Mexico to Florida in USA and northern Mexico.

Countries: Martinique, Mexico, USA

MENIDIA

Menidia Bonaparte, 1836: puntata 91. Type species: *Atherina menidia* Linnaeus, 1766. Gender: feminine.

Argyrea DeKay, 1842: 141. Type species: *Atherina notata* Mitchell, 1815. Type apparently by subsequent designation. Gender: feminine.

Ischnomembras Fowler, 1903: 730. Type species: *Ischnomembras gabunensis* Fowler, 1903. Type by original designation. Gender: feminine.

Phoxargyrea Fowler, 1903: 732. Type species: *Phoxargyrea dayi* Fowler, 1903. Type by original designation. Gender: feminine.

Menidiella Schultz, 1948: (13) 33. Type species: *Menidia colei* Hubbs, 1936. Type by original designation. Gender: feminine.

Menidia colei Hubbs, 1936

Menidia colei Hubbs, 1936: 248, pl. 10 (fig. 1). Type locality: Southwest of Progreso, Yucatán, Mexico. Holotype: UMMZ 102173.

Distribution: North America: Southwest of Progreso, Yucatán.

Countries: Mexico

ODONTESTHES

Odontesthes Evermann & Kendall, 1906: 94. Type species: *Odontesthes perugiae* Evermann & Kendall, 1906. Type by original designation. Gender: feminine.

Kronia Miranda Ribeiro, 1915: Trematolepides: 9. Type species: *Kronia iguapensis* Miranda Ribeiro, 1915. Type by monotypy. Gender: feminine.

Pseudothyryna Miranda Ribeiro, 1915: Trematolepides 11. Type species: *Pseudothyryna iheringi* Miranda Ribeiro, 1915. Type by monotypy. Gender: feminine.

Austromenidia Hubbs, 1918: 307. Type species: *Basilichthys regillus* Abbott, 1899. Type by original designation. Gender: feminine.

Cauque Eigenmann, 1927: 56. Type species: *Chiostoma mauleanum* Steindachner, 1896. Type by original designation. Gender: neuter.

Patagonina Eigenmann, 1927: 56. Type species: *Menidia hatcheri* Eigenmann, 1909. Type by monotypy. Gender: feminine.

Austroatherina Marrero, 1950: 113. Type species: *Atherina incisa* Jenyns, 1841. Type by subsequent designation. Gender: feminine.

Bachmannia Nani, in Szidat & Nani, 1951: 336. Type species: *Basilichthys smitti* Lahille, 1929. Type by original designation. Gender: feminine.

Sorgentinia Pianta de Risso & Risso, 1953: 13. Type species: *Atherina incisa* Jenyns, 1841. Type by original designation and monotypy. Gender: feminine.

Tupa de Buen, 1953: 48. Type species: *Atherinichthys platensis*

- Berg, 1895. Type by monotypy. Gender: feminine.
Yaci de Buen, 1953: 51. Type species: *Yaci retropinnis* de Buen, 1953. Type by monotypy. Gender: feminine.
- Odontesthes argentinensis* (Valenciennes, 1835)**
Atherina argentinensis Valenciennes, 1835: 472. Type locality: Montevideo, Uruguay. Syntypes: MNHN A.4362, A.4363.
?Atherina lessonii Valenciennes in Cuvier & Valenciennes, 1835: 471. Type locality: Santa Catarina, Brazil. No types known. Originally spelled as *Atherina lessoni*.
Pseudothyridina iheringi Miranda Ribeiro, 1915: Trematolepides p. 11. Type locality: Rio Grande do Sul, Brazil. Lectotype: MNRJ 2369A.
Kronia iguapensis Miranda Ribeiro, 1915: Trematolepides p. 10. Type locality: Iguape, São Paulo, Brazil. Holotype: MNRJ 1351.
Basilichthys bonariensis charruanus Lahille, 1929: 319, fig. 11. Type locality: Coast of Patagonia, Mar del Plata, Buenos Aires Prov., Argentina. Holotype: MACN 5178 ?
Basilichthys bonariensis propinquus Lahille, 1929: 320, fig. 12. Type locality: Mar del Plata, Buenos Aires, Argentina. No types known.
Menidia thomasii Meinken, 1931: 377, fig. 1. Type locality: Uruguay. Syntypes: (2) ?KHMM.
Kronia rex de Buen, 1953: 64, figs. 38-41. Type locality: La Paloma, Depto. de Rocha, Uruguay. Holotype: MHNM CI 1803 [ex VT 1050].
Kronia alba de Buen, 1953: 59, figs. 34-37. Type locality: Laguna de Rocha, Depto. de Rocha, Uruguay. Holotype: MHNM CI 1801 [ex VT 1068].
 Distribution: South America: Southwestern Atlantic, in southern Brazil, Argentina and Uruguay.
 Countries: Argentina, Brazil, Uruguay
 Common names: Baboso (Argentina), Pejerrey de mar (Argentina)
- Odontesthes bicudo* Malabarba & Dyer, 2002**
Odontesthes bicudo Malabarba & Dyer, 2002: 264, fig. 3. Type locality: Brazil: Rio Grande do Sul: lagoa Emboaba, Osório (29°57'57"S 50°13'45"W). Holotype: MCP 26153.
 Maximum length: 20.5 cm SL
 Distribution: South America: Isolated lagoons Emboaba, Caconde, Horácio and Lessa in Tramandaí River basin.
 Countries: Brazil
 Common names: Peixe-rei (Brazil)
- Odontesthes bonariensis* (Valenciennes, 1835)**
Atherina lichtensteini Valenciennes, in Cuvier & Valenciennes, 1835: 476. Type locality: Montevideo, Uruguay. Holotype: ZMB 1883.
Atherina bonariensis Valenciennes, in Cuvier & Valenciennes, 1835: 469. Type locality: Río de la Plata, Buenos Aires, Argentina. Holotype: MNHN A.4407.
Basilichthys bonariensis chascomunensis Lahille, 1929: 305, fig. 3. Type locality: Prov. de Buenos Aires (Chascomús Lake), Argentina. No types known.
Basilichthys bonariensis puntanus Lahille, 1929: 305, fig. 2. Type locality: Zallape, San Luis, Argentina. No types known.
 Maximum length: 23.4 cm SL
 Distribution: South America: Southern Argentina and La Plata River. Introduced into Europe and Asia.
 Countries: Argentina, Bolivia (introduced), Brazil, Chile (introduced), Peru (introduced), Uruguay.
 Common names: Baboso (Argentina), Peixe-rei (Brazil), Pejerrey (Argentina)
- Odontesthes brevianalis* (Günther, 1880)**
Atherinichthys brevianalis Günther, 1880: 25. Type locality: Valparaíso, Chile. Holotype: MNHN 1890-119 [ex BMNH].
Odontesthes (Cauque) debueni Fischer, 1962: 199, fig. 1. Type locality: Estero Lengua, Concepción, VIII Región, Chile, 37°S, 73°W. Holotype: ZMH H1698.
 Distribution: South America: Estuaries from La Serena to Chiloé, Chile.
 Countries: Chile
- Odontesthes gracilis* (Steindachner, 1898)**
Chirostoma gracile Steindachner, 1898: 314. Type locality: Cumberland Bay, Más a Tierra [Robinson Crusoe I.], Juan Fernández Is. Syntypes: ZMB 15675.
 Distribution: South America: Southeastern Pacific, Juan Fernandez Islands, Chile.
 Countries: Chile, Juan Fernández Islands
- Odontesthes hatcheri* (Eigenmann, 1909)**
?Basilichthys cuyanus Burmeister, 1861: . Type locality: Lag. Huanacache? Mendoza?, Argentina. No types known.
Menidia hatcheri Eigenmann, 1909: 281. p. 37 (fig. 4). Type locality: Lake Pueyrredón, Santa Cruz, Argentina. Holotype: whereabouts unknown.
Basilichthys hatcheri andinus Lahille, 1929: 324, fig. 18. Type locality: Lago Traful, Argentina. No types known.
Basilichthys patagonicus Marrero, 1950: 67. Type locality: freshwaters of Patagonia south of Chile and Cuyo Region, Argentina. No types known.
 Distribution: South America: Patagonian lakes and rivers of Argentina and Chile.
 Countries: Argentina, Chile
- Odontesthes humensis* de Buen, 1953**
Odontesthes guazu de Buen, 1953: 40, figs. 27-28. Type locality: Río Uruguay, 200 m downstream Arroyo Espinillar, Depto. Salto, Uruguay. Holotype: MHNM CI 1805 [ex VT 1049].
Odontesthes humensis de Buen, 1953: 34, figs. 24-26. Type locality: Río Negro, Uruguay. Holotype: MHNM CI 1806 [ex VT 1053].
 Distribution: South America: Negro, Uruguay and La Plata River basins; Lagoa Mirim and Laguna dos Patos basins.
 Countries: Argentina, Brazil, Uruguay
- Odontesthes incisa* (Jenyns, 1841)**
Atherina incisa Jenyns, 1841: 79, pl. 16 (figs. 2, 2a, 2b). Type locality: "39°S, 61°W, several mi. from land" [= opposite Punta Sauce, Buenos Aires], Argentina. Syntypes: BMIII 405.
Menidia uruguayensis Devincenzi, 1924: 205, pl. 14 (lowest fig.). Type locality: Río de la Plata, Montevideo, Uruguay. Holotype: MHNM CI 1804.
 Distribution: Southwestern Atlantic: Argentina, Uruguay and southern Brazil.
 Countries: Argentina, Brazil, Uruguay
 Common names: Cornal (Argentina), Cornalito (Argentina), Late-rino de ojos negros (Argentina), Pejerrey de ojos negros (Argentina)
- Odontesthes ledae* Malabarba & Dyer, 2002**
Odontesthes ledae Malabarba & Dyer, 2002: 266, fig. 4. Type locality: Brazil: Rio Grande do Sul: lagoa Fortaleza, Cidreira (30°09'33"S 50°13'44"W). Holotype: MCP 26151.
 Maximum length: 19 cm SL
 Distribution: South America: Small coastal lagoons in northeastern Rio Grande do Sul State, south of the Tramandaí Lagoon.
 Countries: Brazil
 Common names: Peixe-rei (Brazil)
- Odontesthes mauleanum* (Steindachner, 1896)**
Chirostoma mauleanum Steindachner, 1896: 231. Type locality: Maule R., Chile. Syntypes: NMW 16979 (1), 62506-07 (2, 1).
Chirostoma itatanum Steindachner, 1896: 232. Type locality: Río Itata, VIII Región, Chile. Syntypes: NMW 62608 (4).
Cauque molinae Fowler, 1940: 183, fig. 16. Type locality: Angol,

Malleco River, Chile. Holotype: ANSP 69147.
Distribution: South America: Rivers and lakes of central and south Chile.
Countries: Chile

***Odontesthes mirinensis* Bemvenuti, 1996**

Odontesthes mirinensis Bemvenuti, 1996: 885, figs. 2-10. Type locality: Lagoa Mirim, junto a sede da Estação Ecológica do Taím, lagoon system of Rio Grande do Sul, Brazil. Holotype: MCP 17696.
Distribution: South America: Lagoa Mirim and Laguna dos Patos basins, Rio Grande do Sul State.
Countries: Brazil

***Odontesthes nigricans* (Richardson, 1848)**

Atherina nigricans Richardson, 1848: 77, pl. 42 (figs. 13-18). Type locality: Falkland Is. Holotype: BMNH 1848.3.10.29.
Atherinichthys alburnus Günther, 1861: 404. Type locality: Straits of Magellan, Chile. Syntypes: BMNH 1859.10.12.30-33.
?*Basilichthys nigricans macropterus* Lahille, 1929: 346, fig. 19. Type locality: Malvinas, Río Gallegos, Magellan Straits, Argentina.
Basilichthys malvinensis Marrero, 1950: 124. Type locality: Southwestern Atlantic, from Peninsula Valdés to Isla de los Estados and Islas Malvinas or Falklands.
Distribution: Southwestern Atlantic: Falkland Islands, straits of Magellan and Tierra del Fuego.
Countries: Chile, Falkland Is. (Malvinas)

***Odontesthes orientalis* de Buen, 1950**

Odontesthes orientalis de Buen, 1950: 149, fig. 1. Type locality: Río Negro, Uruguay. Holotype: MHNM CI 1808 [ex VT 1054].
Distribution: South America: La Plata and Uruguay River basins.
Countries: Argentina, Brazil, Uruguay

***Odontesthes perugiae* Evermann & Kendall, 1906**

Odontesthes perugiae Evermann & Kendall, 1906: 94, fig. 3. Type locality: Probably from freshwater, Argentina. Holotype: USNM 55572.
Basilichthys microather Marrero, 1950: 75. Type locality: Río de La Plata and Paraná River delta. No types known.
Distribution: South America: Freshwater drainages of La Plata River.
Countries: Argentina, Brazil, Uruguay

***Odontesthes piquava* Malabarba & Dyer, 2002**

Odontesthes piquava Malabarba & Dyer, 2002: 261, fig. 2. Type locality: Brazil: Rio Grande do Sul: lagoa da Pinguela, Tramandaí (29°49'0"S 50°10'14"W). Holotype: MCP 26152.
Maximum length: 18.7 cm SL
Distribution: South America: Coastal lagoons in northeastern Rio Grande do Sul State, north of the Tramandaí Lagoon.
Countries: Brazil
Common names: Peixe-rei (Brazil)

***Odontesthes platensis* (Berg, 1895)**

Atherinichthys platensis Berg, 1895: 27. Type locality: Mar del Plata, Buenos Aires Prov., Argentina. Syntypes: MACN 5162 (1), 5195 (1).
Distribution: Southwestern Atlantic: From La Plata River mouth to Golfo Nuevo, 32°S.
Countries: Argentina

***Odontesthes regia* (Humboldt, 1821)**

Atherina regia Humboldt, in Humboldt & Valenciennes, 1821: 187. Type locality: Near Lima, Peru. Types missing.
Atherina laticlavia Valenciennes, in Cuvier & Valenciennes, 1835: 473. Type locality: Valparaíso, Chile. Syntypes: MNHN 2980 (4, poor condition).

Chirostoma affine Steindachner, 1898: 313. Type locality: Iquique, Chile. Holotype: ZMB 15674.
Basilichthys jordani Abbott, 1899: 341. Type locality: Callao, Peru. Holotype: SU 6070.
Basilichthys octavius Abbott, 1899: 340. Type locality: Callao, Peru. Holotype: SU 6069.
Basilichthys regillus Abbott, 1899: 339. Type locality: Callao, Peru. Holotype: SU 6071.
Distribution: South America: Southeastern Pacific, from Paíta, Peru to Aysén, Chile.
Countries: Chile, Peru
Common names: Pejerrey (Peru, Chile)

***Odontesthes retropinnis* (de Buen, 1953)**

Yaci retropinnis de Buen, 1953: 52, figs. 31-33. Type locality: Río Negro, Uruguay. Holotype: MHNM CI 1809 [ex VT 1048].
Distribution: South America: La Plata and Uruguay River basins and Lagoa Mirim basin.
Countries: Argentina, Brazil, Uruguay

***Odontesthes smitti* (Lahille, 1929)**

Atherina jacksoniana Quoy & Gaimard, 1825: 333. Type locality: Sydney Harbor, N. S. W., Australia. Syntypes: MNHN 3096 (1), A.2895 (4).
Basilichthys smitti australis Lahille, 1929: 84. Type locality: Última Esperanza, Chile, Río Gallegos, Argentina. No types known.
Basilichthys madrynensis Lahille, 1929: 326, fig. 16. Type locality: Port Madryn, Argentina. No types known.
Basilichthys smitti Lahille, 1929: 84. Type locality: "Fin de Barrancas", Gulf of San Matías, Argentina. No types known.
Distribution: South America: Southwestern Atlantic from Mar del Plata (38°S, 57°33'W) to Beagle Channel and Falkland/Malvinas Islands, and Seno Última Esperanza, southeastern Pacific, Chile.
Countries: Argentina, Chile

***Odontesthes wiebrichi* (Eigenmann, 1927)**

Cauque wiebrichi Eigenmann, 1927: 58, pl. 14 (fig. 3). Type locality: Valdivia market, X Región, Chile. Holotype: CAS 49902 [ex IU 15198, not 15202].
Distribution: South America: Valdivia.
Countries: Chile
Remarks and references: Possible hybrid between *O. brevianalis* and *O. regia*.

POBLANA

Poblana de Buen, 1945: 495. Type species: *Poblana alchichica* de Buen, 1945. Type by original designation. Gender: feminine.

***Poblana alchichica* de Buen, 1945**

Poblana alchichica de Buen, 1945: 495. Type locality: Lake Alchichica, Mexico. Holotype: UMMZ 143301.
Distribution: North America: Mexico.
Countries: Mexico
Common names: Charal de Alchichica (Mexico)

***Poblana ferdebueni* Solórzano & López, 1965**

Poblana ferdebueni Solórzano & López, 1965: 209, fig. 1. Type locality: Laguna de Almoloya, Chignahuapan Lake, Puebla State, Mexico. Holotype: ENCB.
Distribution: North America: Mexico.
Countries: Mexico

***Poblana letholepis* Álvarez, 1950**

Poblana letholepis Álvarez, 1950: 98. Type locality: Crater-lake of La Preciosa, 4 km southeast of Alchichica, Puebla, Mexico, elev. 2365 m. Holotype: not researched.
Distribution: North America: Mexico.
Countries: Mexico
Common names: Charal de la Preciosa (Mexico)

***Poblana squamata* Álvarez, 1950**

Poblana alchichica squamata Álvarez, 1950: 96. Type locality: Crater-lake of Quechulac, about 6.5 km southeast of Alchichica, Puebla, Mexico, elev. 2365 m. Holotype: not researched.

Distribution: North America: Mexico.

Countries: Mexico

Common names: Charal de Quechulac (Mexico)

References

- Abbott, J.F. 1899. The marine fishes of Peru. Proc. Acad. Nat. Sci. Philadelphia, 51: 324-364.
- Álvarez, J. 1950. Contribución al conocimiento de los peces de la región de los Llanos, estado de Puebla (México). An. Esc. Nac. Cienc. Biol. Mexico, 6 (1-4): 81-107.
- Álvarez, J. 1953. Aterínido nuevo del río Tula (Hidalgo, México) (Pisc., Atherinidae). Ciencia (Mexico City), 13 (1-3): 25-27.
- Álvarez, J. 1963a. Ictiología mexicana. II. El pez blanco de Zacapu, nueva especie para la ciencia. Ciencia (Mexico City), 22 (6): 197-200.
- Álvarez, J. 1963b. Ictiología Michoacana. III.--Los peces des San Juanico y de Tocumbo, Mich. An. Esc. Nac. Cienc. Biol. Mexico, 12 (1-4): 111-138.
- Álvarez, J. and J. Carranza. 1952. Cuatro especies nuevas de peces dulceacuicolas del sureste de México. Ciencia (Mexico City), 11 (10-12) 1951: 281-289.
- Ayres, W.O. 1854. [Description of new fishes from California.] The Pacific, v. 3 and 4 (thru no. 6).
- Ayres, W.O. 1860. [Descriptions of fishes.] Proc. California Acad. Sci. (Ser. 1), 2: 73-77.
- Barbour, C.D. 1973. The systematics and evolution of the genus *Chirostoma* Swainson (Pisces, Atherinidae). Tulane Stud. Zool. Bot., 18 (3): 97-141.
- Bean, B.A. and E.D. Reid. 1930. On a new species of brook silver-side, *Lebistes vanhyningi*, from Florida. Proc. Biol. Soc. Washington, 43: 193-194.
- Bemvenuti, M.A. 1996. *Odontesthes mirinensis*, sp. n. um novo peixe-rei (Pisces, Atherinidae, Atherinopsinae) para o extremo sul do Brasil. Rev. Bras. Zool., 12 (4, for 1995): 881-903.
- Berg, C. 1895. Enumeración sistemática y sinonímica de los peces de las costas Argentina y Uruguay. An. Mus. Nac. Hist. Nat. Buenos Aires, 4: 1-120, 1 pl.
- Bleeker, P. 1853. Nalezingen op de ichthyologie van Japan. Verh. Batav. Genootsch. Kunst. Wet., 25: 1-56, 1 pl.
- Breder, C.M., Jr. 1936. Scientific results of the second oceanographic expedition of the "Pawnee" 1926. Heterosomata to Pediculati from Panama to Lower California. Bull. Bingham Oceanogr. Collect. Yale Univ., 2 (3): 1-56.
- Bonaparte, C.L. 1836. Iconografia della fauna itálica per le quattro classi degli animali vertebrati. Tomo III. Pesci. Roma. Fasc. 15-18, puntate 80-93, 10 pls.
- Boulenger, G.A. 1900. Descriptions of two new atherinoid fishes from Mexico. Ann. Mag. Nat. Hist. (Ser. 7), 5 (25): 54-55.
- de Buen, F. 1940a. Pescado blanco, chacuami y charari del Lago de Patzcuaro. Trab. Estac. Limnol. Patzcuaro Mich., no. 1: 1-24, 3 unnum, pls.
- de Buen, F. 1940b. Sobre una coleccion de peces de los Lagos de Patzcuaro y Cuitzeo. Ciencia (Mexico City), no. 7: 306-308.
- de Buen, F. 1945. Investigaciones sobre ictiología mexicana. I. Atherinidae de aguas continentales de México. An. Inst. Biol. Mexico, 16 (2): 475-532.
- de Buen, F. 1950. Contribuciones a la Ictiología. I. Una nueva especie de Atherinidae (*Odontesthes orientalis* de Buen). Publ. Cient., Serv. Oceanogr. Pesca, Minist. Ind. Montevideo, no. 3: 145-152.
- de Buen, F. 1953. Los pejerreyes (familia Atherinidae) en la fauna Uruguay, con descripción de nuevas especies. Bol. Inst. Oceanogr. São Paulo, 4 (1-2): 3-80.
- Bussing, W.A. 1979. Taxonomic status of the atherinid fish genus *Melaniris* in lower Central America, with the description of three new species. Rev. Biol. Trop., 26 (2): 391-413.
- Bussing, W.A. 1987. Peces de las aguas continentales de Costa Rica. Editorial de la Universidad de Costa Rica, San José. 271 p.
- Chernoff, B. 1986a. Systematics of American atherinid fishes of the genus *Atherinella*. I. The subgenus *Atherinella*. Proc. Acad. Nat. Sci. Philadelphia, 138 (1): 86-188.
- Chernoff, B. 1986b. Phylogenetic relationships and reclassification of menidiine silverside fishes with emphasis on the tribe Membradini. Proc. Acad. Nat. Sci., Philadelphia, 138(1): 189-249.
- Chernoff, B. and R.R. Miller. 1982. Mexican freshwater silver-sides (Pisces: Atherinidae) of the genus *Archomenidia*, with the description of a new species. Proc. Biol. Soc. Washington, 95 (3): 428-439.
- Chernoff, B. and R.R. Miller. 1984. *Atherinella ammophila*, a new atherinid fish from eastern Mexico. Not. Nat. (Phila.), no. 462: 1-12.
- Cope, E.D. 1865. Partial catalogue of the cold-blooded Vertebrata of Michigan. Part II. Proc. Acad. Nat. Sci. Philadelphia, 17: 78-88.
- Cope, E.D. 1867. Supplement on some new species of American and African fishes. Trans. Am. Philos. Soc., 13 (2): 400-407.
- Cope, E. D. 1870. Partial synopsis of the fishes of the fresh waters of North Carolina. Proc. Am. Philos. Soc., 11: 448-495.
- Cope, E.D. 1874. Description of some species of reptiles obtained by Dr. John F. Bransford, Assistant Surgeon United States Navy, while attached to the Nicaraguan surveying expedition in 1873. Proc. Acad. Nat. Sci. Philadelphia, 26: 64-72.
- Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. Proc. Am. Philos. Soc., 17 (101): 673-701.
- Crabtree, C.B. 1989. A new silverside of the genus *Colpichthys* (Atheriniformes: Atherinidae) from the Gulf of California, Mexico. Copeia, 1989 (3): 558-568.
- Cuesta-Terron, C. 1931. *Chirostoma samani* sp. nov. An. Inst. Biol. Mexico, 2 (3): 235-241.
- Cuvier, G. and A. Valenciennes. 1835. Histoire naturelle des poissons. Tome dixième. Suite du livre neuvième. Scombroïdes. Livre dixième. De la famille des Teuthys. Livre onzième. De la famille des Taenioïdes. Livre douzième. Des Athérines. Ch. Pitois & V^c. Levrault, Paris & Strasbourg. xxiv + 482 + 2 p., pls. 280-306.
- DeKay, J.E. 1842. Zoology of New-York; or the New-York fauna; comprising detailed descriptions of all the animals hitherto observed within the state of New-York, with brief notices of those occasionally found near its borders... In: Natural History of New York. Part 4. Fishes: 1-415, Fishes Pls. 1-79.
- Devincenzi, G.J. 1924. Peces del Uruguay. II. Nuestra fauna ictológica según nuestra colecciones (continuación). An. Mus. Nac. Hist. Nat. Montevideo (Ser. 2), 1 (5): 139-290, pls. 13-24.
- Díaz-Pardo, E. 1972. Descripción de un nuevo aterínido de Villahermosa, Tabasco, México. (Pisces Atherinidae). An. Esc. Nac. Cienc. Biol. Mexico, 19 (1/4): 145-153.
- Dyer, B.S. 1997. Phylogenetic revision of Atherinopsinae (Teleostei, Atherinopsidae), with comments on the systematics of the South American freshwater fish genus *Basilichthys* Girard. Misc. Publ. Mus. Zool. Univ. Michigan, 185: 1-64, 46 figs.
- Dyer, B.S. 1998. Phylogenetic systematics and historical biogeography of the Neotropical silverside family Atherinopsidae (Teleostei, Atheriniformes). Pp. 519-536, In: Phylogeny and classification of Neotropical fishes. LR. Malabarba, RE. Reis, RP. Vari, ZM. Lucena and CAS. Lucena (eds.). Edipucrs, Porto Alegre. 603p.
- Dyer, B.S. 2000. Revisión sistemática de los pejerreyes de Chile (Teleostei, Atheriniformes). Estudios Oceanológicos, 19: 99-

Check List of the Freshwater Fishes of South and Central America

- 127.
- Dyer, B.S. and B. Chernoff. 1996. Phylogenetic relationships among atheriniform fishes (Teleostei: Atherinomorpha). *Zool. J. Linn. Soc., London*, 117:1-69, 25 figs.
- Echelle, A.A. and D.T. Mosier. 1982. *Menidia clarkhubbsi*, n. sp. (Pisces: Atherinidae), an all-female species. *Copeia*, 1982 (3): 533-540.
- Eigenmann, C.H. 1909. The fresh-water fishes of Patagonia and an examination of the Archiplata-Archhelenis theory, In: Reports of the Princeton University expeditions to Patagonia 1896-1899. *Zoology*. 225-374, pls. 30-37.
- Eigenmann, C.H. 1920. The fishes of Lake Valencia, Caracas, and of the Rio Tuy at El Concejo, Venezuela. *Indiana Univ. Studies*, 7 (44): 1-13.
- Eigenmann, C.H. 1927. The fresh-water fishes of Chile. *Mem. Natl. Acad. Sci. Washington*, 22 (2): 1-63, pls. 1-16.
- Evermann, B.W. and O.P. Jenkins. 1891. Report upon a collection of fishes made at Guaymas, Sonora, Mexico, with descriptions of new species. *Proc. U. S. Natl. Mus.*, 14 (846): 121-165, pls. 1-2.
- Evermann, B.W. and W.C. Kendall. 1906. Notes on a collection of fishes from Argentina, South America, with descriptions of three new species. *Proc. U. S. Natl. Mus.*, 31 (1482): 67-108.
- Fischer, W. 1962. *Odontesthes (Cauque) debueni*, spec. nov., ein Atherinide aus dem mittelchilenischen Brackwassergebiet. *Mitt. Hamb. Zool. Mus. Inst.*, 60: 199-204.
- Fowler, H.W. 1903. Descriptions of new, little known, and typical Atherinidae. *Proc. Acad. Nat. Sci. Philadelphia*, 55: 727-742, pls. 41-44.
- Fowler, H.W. 1940. Fishes obtained in Chile by Mr. D. S. Bullock. *Proc. Acad. Nat. Sci. Philadelphia*, 92: 171-190.
- Fowler, H.W. 1944. Results of the fifth George Vanderbilt expedition (1941) (Bahamas, Caribbean Sea, Panama, Galápagos Archipelago and Mexican Pacific islands). *The Fishes. Monogr. Acad. Nat. Sci. Philadelphia*, no. 6: 57-529, pls. 1-20.
- Fowler, H.W. 1950. Colombian Zoological Survey, Pt. VI.-- Fishes obtained at Totumo, Colombia, with descriptions of two new species. *Not. Nat. (Phila.)*, no. 222: 1-8.
- Fowler, H.W. 1958. Some new taxonomic names of fishlike vertebrates. *Not. Nat. (Phila.)*, no. 310: 1-16.
- Gilbert, C.H. 1892. Descriptions of thirty-four new species of fishes collected in 1888 and 1889, principally among the Santa Barbara Islands and in the Gulf of California, In: Scientific results of explorations by the U. S. Fish Commission steamer Albatross. *Proc. U. S. Natl. Mus.*, 14 (880): 539-566.
- Girard, C.F. 1854. Descriptions of new fishes, collected by Dr. A. L. Heermann, naturalist attached to the survey of the Pacific railroad route, under Lieut. R. S. Williamson, U. S. A. *Proc. Acad. Nat. Sci. Philadelphia*, 7: 129-140.
- Girard, C.F. 1855. Abstract of a report to Lieut. Jas. M. Gilliss, U. S. N., upon the fishes collected during the U. S. N. Astronomical Expedition to Chili. *Proc. Acad. Nat. Sci. Philadelphia*, 7: 197-199.
- Goode, G.B. and T.H. Bean. 1879. Catalogue of a collection of fishes sent from Pensacola, Florida, and vicinity, by Mr. Silas Stearns, with descriptions of six new species. *Proc. U. S. Natl. Mus.*, 2 (74): 121-156.
- Goode, G.B. and T.H. Bean. 1882. Descriptions of twenty-five new species of fish from the southern United States, and three new genera, *Letharcus*, *Joglossus*, and *Chriodorus*. *Proc. U. S. Natl. Mus.*, 5 (297): 412-437.
- Günther, A. 1861. Catalogue of the fishes in the British Museum. Catalogue of the acanthopterygian fishes in the collection of the British Museum. Gobiidae ...[thru]... Notacanthi. Trustees, London. xxv + 586 + x p.
- Günther, A. 1864a. On some new species of Central-American fishes. *Ann. Mag. Nat. Hist. (Ser. 3)*, 14 (81): 227-232.
- Günther, A. 1864b. On some new species of Central-American fishes. *Proc. Zool. Soc. London*, 1864 (1): 23-27, pls. 3-4.
- Günther, A. 1864c. Report of a collection of fishes made by Messrs. Dow, Godman, and Salvin in Guatemala. *Proc. Zool. Soc. London*, 1864 (1): 144-154.
- Günther, A. 1880. Report on the shore fishes procured during the voyage of H. M. S. Challenger in the years 1873-1876, In: Report on the scientific results of the voyage of H. M. S. Challenger during the years 1873-76. *Zoology*. 1-82, pls. 1-32.
- Hay, O.P. 1882. On a collection of fishes from the lower Mississippi Valley. *Bull. U. S. Fish Comm.*, 2: 57-75.
- Hildebrand, S.F. 1925. Fishes of the Republic of El Salvador, Central America. *Bull. Bur. Fish.*, 41 (985): 237-287.
- Hildebrand, S.F. and I. Ginsburg. 1927. Descriptions of two new species of fishes from Key West, Fla., with notes on nine other species collected in the same locality. *Bull. Bur. Fish.*, 42: 207-215, 2 pls.
- Hubbs, C.L. 1918. The fishes of the genus *Atherinops*, their variation, distribution, relationships and history. *Bull. Am. Mus. Nat. Hist.* v. 38 (art. 13): 409-440.
- Hubbs, C.L. 1920. Notes on the Atherine fishes of Colombia. *Occas. Pap. Mus. Zool. Univ. Mich.*, no. 88: 1-6.
- Hubbs, C.L. 1936. XVII. Fishes of the Yucatan Peninsula. *Carnegie Inst. Wash. Publ.*, no. 457: 157-287, pls. 1-15.
- Hubbs, C.L. and E.C. Raney. 1946. Endemic fish faunas of Lake Waccamaw, North Carolina. *Misc. Publ. Mus. Zool. Univ. Mich.*, no. 65: 5-30.
- Humboldt, F.H.A. von and A. Valenciennes. 1821. Recherches sur les poissons fluviatiles de l'Amérique Équinoxiale. Pp. 145-216, pls. 45-52, In: Voyage de Humboldt et Bonpland, Deuxième partie. Observations de Zoologie et d'Anatomie comparée. Paris.
- Jenkins, O.P. and B.W. Evermann. 1889. Description of eighteen new species of fishes from the Gulf of California. *Proc. U. S. Natl. Mus.*, 11 (698): 137-158.
- Jenyns, L. 1840-42. Fish, In: The zoology of the voyage of H. M. S. Beagle, under the command of Captain Fitzroy, R. N., during the years 1832 to 1836. London: Smith, Elder, and Co. Issued in 4 parts. i-xvi + 1-172, pls. 1-29.
- Jordan, D.S. 1880. Notes on a collection of fishes obtained in the streams of Guanajuato and in Chapala Lake, Mexico, by Prof. A. Dugès. *Proc. U. S. Natl. Mus.*, 2 (94): 298-301.
- Jordan, D.S. 1895. The fishes of Sinaloa. *Proc. California Acad. Sci. (Ser. 2)*, 5: 377-514, pls. 26-55.
- Jordan, D.S. 1919. On certain genera of atherine fishes. *Proc. U. S. Natl. Mus.*, 55 (2273): 309-311.
- Jordan, D.S. and C.H. Bollman. 1890. Descriptions of new species of fishes collected at the Galapagos Islands and along the coast of the United States of Colombia, 1887-'88, In: Scientific results of explorations by the U. S. Fish Commission steamer Albatross. *Proc. U. S. Natl. Mus.*, 12 (770): 149-183.
- Jordan, D.S. and B.W. Evermann. 1896. The fishes of North and Middle America: a descriptive catalogue of the species of fishlike vertebrates found in the waters of North America, north of the Isthmus of Panama. Part I. *Bull. U. S. Natl. Mus.*, no. 47: i-lx + 1-1240.
- Jordan, D.S. and C.H. Gilbert. 1880. Notes on a collection of fishes from San Diego, California. *Proc. U. S. Natl. Mus.*, 3 (106): 23-34.
- Jordan, D.S. and C.H. Gilbert. 1882. Descriptions of thirty-three new species of fishes from Mazatlan, Mexico. *Proc. U. S. Natl. Mus.*, 4 (237): 338-365.
- Jordan, D.S. and C.H. Gilbert. 1883. Synopsis of the fishes of North America. *Bull. U. S. Natl. Mus.*, no. 16: i-liv + 1-1018.
- Jordan, D.S. and C.L. Hubbs. 1919. Studies in ichthyology. A monographic review of the family of Atherinidae or silversides. Leland Stanford Jr. Univ. Publ., Univ. Ser. 87 p., pls. 1-12.
- Jordan, D.S. and J.O. Snyder. 1899. Notes on a collection of fishes from the rivers of Mexico, with description of twenty new spe-

Check List of the Freshwater Fishes of South and Central America

- cies. Bull. U. S. Fish Comm., 19 [for 1899]: 115-147.
- Jordan, D.S. and J.O. Snyder. 1913. Description of the Yachats "smelt," a new species of Atherinoid fish from Oregon. Proc. U. S. Natl. Mus., 45 (1999): 575-576, pl. 46.
- Kendall, W.C. 1902. Silversides of the genus *Menidia* of the East Coast of the United States, with descriptions of two new subspecies. Rep. U. S. Comm. Fish., [1901]: 241-267.
- Lahille, F. 1929a. El Pejerrey. Bol. Ministerio Agric. Nación (Argentina), 28 (3): 261-395.
- Lahille, F. 1929b. Las formas chileno-peruanas de pejerreyes y la evolución de la aleta caudal. Rev. Chil. Hist. Nat., 33: 81-93, pl. 4.
- Linnaeus, C. 1766. Systema naturae sive regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis, 12th ed. Laurentii Salvii, Holmiae. 532 p.
- Malabarba, L.R. and B.S. Dyer. 2002. Description of three new species of the genus *Odontesthes* from the rio Tramandaí drainage, Brazil (Atheriniformes: Atherinopsidae). Ichthyol. Explor. Freshwaters, 13 (3): 257-272.
- Marrero, A.G. 1950. Flechas de Plata, Atherínidos argentinos. Pejerreyes y Laterinos. Historia-biología-sistemática-zoografía. Buenos Aires. 157 p.
- Meek, S.E. 1902. A contribution to the ichthyology of Mexico. Field Columbian Mus. Zool. Ser., 3 (6): 63-128, pls. 14-31.
- Meek, S.E. 1904. The fresh-water fishes of Mexico north of the isthmus of Tehuantepec. Field Columbian Mus. Zool. Ser., 5: i-lxiii + 1-252, pls. 1-17.
- Meek, S.E. 1907. Synopsis of the fishes of the great lakes of Nicaragua. Field Columbian Mus. Zool. Ser., 7 (4): 97-132.
- Meek, S.E. 1914. An annotated list of fishes known to occur in the fresh-waters of Costa Rica. Field Mus. Nat. Hist. Publ. Zool. Ser., 10 (10): 101-134.
- Meek, S.E. and S.F. Hildebrand. 1923. The marine fishes of Panama. Part I. Field Mus. Nat. Hist. Publ. Zool. Ser., 15 (215): i-xi + 1-330, pls. 1-24.
- Meinken, H. 1931. *Menidia thomasi* n. sp. Blätt. Aquar. Terrarienkunde, 42: 377-379.
- Metzelaar, J. 1919. Report on the fishes, collected by Dr. J. Boeke in the Dutch West Indies 1904-1905, with comparative notes on marine fishes of tropical West Africa. F. J. Belanfante, 's-Gravenhage. 1-314.
- Miller, N. 1907. The fishes of the Montagua River, Guatemala. Bull. Am. Mus. Nat. Hist., 23 (2): 95-123.
- Miranda Ribeiro, A. 1913-1915. Fauna brasiliense. Peixes. Tomo V. [*Eleutherobranchios aspirophoros*]. Physoclisti. Arq. Mus. Nac. Rio de Janeiro, 17: [1-679], pls.
- Miranda Ribeiro, A. 1918. Fauna brasiliense. Peixes. Tomo V. [*Eleutherobranchios aspirophoras*]. Physoclisti. Summario do Tomo V. Arq. Mus. Nac. Rio de Janeiro, 21: 1-227.
- Mitchill, S.L. 1815. The fishes of New York described and arranged. Trans. Lit. Phil. Soc. N. Y., 1: 355-492, pls. 1-6.
- Myers, G.S. and C.B. Wade. 1942. The Pacific American atherinid fishes of the genera *Eurystole*, *Nectarges*, *Coleotropis* and *Melanorhinus*. Allan Hancock Pac. Exped. 1932-40 Los Angeles, 9 (5): 113-149, pls. 17-19.
- Osburn, R.C. and J.T. Nichols. 1916. Shore fishes collected by the "Albatross" expedition in Lower California, with descriptions of new species. Bull. Am. Mus. Nat. Hist., 35 (16): 139-181.
- Pianta de Risso, E.N. and F.J.J. Risso. 1953. El "Cornalito" [*Sorgentinia incisa* (Jenyns) n. g.] y su ubicación sistemática (Atherinidae, Sorgentininae nueva subfamilia). Trabajo Museo Tres Arroyos, Caso Scouts "Santa Coloma," 1 (1): 5-25, pls. 1-3.
- Poey, F. 1858-61. Memorias sobre la historia natural de la Isla de Cuba, acompañadas de sumarios Latinos y extractos en Francés. Tomo 2. La Habana. 1-96 (1858), 97-336 (1860), 337-442, (1861), pls. 1-19.
- Quoy, J.R.C. and J.P. Gaimard. 1824-25. Description des Poissons. Chapter IX, In: Freycinet, L. de, Voyage autour du Monde...exécuté sur les corvettes de L. M. "L'Uranie" et "La Physicienne," pendant les années 1817, 1818, 1819 et 1820. Paris. 192-401 [1-328 in 1824; 329-616 in 1825], Atlas pls. 43-65.
- Regan, C.T. 1903. On a collection of fishes made by Dr. Goeldi at Rio Janeiro. Proc. Zool. Soc. London, 2 (1): 59-68, pls. 7-8.
- Regan, C.T. 1907. Pisces. Part 193 [1906-08]: 1-203, 25 pls, In: F.D. Godman and O. Salvin (eds.). Biologia Central-Americana. London. [Individual signatures dated to month and year; Atherinidae accounts date to 1907].
- Richardson, J. 1844-48. Ichthyology of the voyage of H. M. S. Erebus & Terror... In: J. Richardson and J. E. Gray. The zoology of the voyage of H. H. S. "Erebus & Terror," under the command of Captain Sir J. C. Ross ... during ... 1839-43. London. viii + 139 p., pls. 1-60.
- Saeed, B., W. Ivantsoff and L.E.L.M. Crowley. 1994. Systematic relationships of atheriniform families within Division I of the Series Atherinomorpha (Acanthopterygii) with relevant historical perspectives. Journal of Ichthyology, 34(9): 27-72.
- Schultz, L.P. 1948. A revision of six subfamilies of Atherine fishes, with descriptions of new genera and species. Proc. U. S. Natl. Mus., 98 (3220): 1-48, pls. 1-2.
- Schultz, L.P. 1949. A further contribution to the ichthyology of Venezuela. Proc. U. S. Natl. Mus., 99 (3235): 1-211, pls. 1-3.
- Solórzano, A. and Y. López. 1965. Nueva especie de *Poblana* capturada en la Laguna de Almoloya o Chignahuapan, estado de Puebla (Mexico). Ciencia (Mexico City), 23 (5): 209-213.
- Solórzano, A. and Y. López. 1966. Nueva especie de *Chirostoma* capturada en la laguna de Victoria o de Santiago Tilapa, Estado de Mexico (Pisc., Atherin.). Ciencia (Mexico City), 24 (3-4): 145-150.
- Steindachner, F. 1875. Ichthyologische Beiträge (II). I. Die Fische von Juan Fernandez in den Sammlungen des Wiener Museums. II. Über einige neue Fischarten von der Ost- und Westküste Süd-Amerikas. Sitzungsber. Akad. Wiss. Wien, 71: 443-480, pl. 1.
- Steindachner, F. 1894. Vorläufige Mittheilung über einige neue Fischarten aus den Seen von Mexico. Anz. Akad. Wiss. Wien, 31 (15): 147-149.
- Steindachner, F. 1896. Ueber zwei neue *Chirostoma*-Arten aus Chile. Ann. Naturh. Hofmus. Wien, 11: 231-232.
- Steindachner, F. 1898. Die Fische der Sammlung Plate, In: Fauna Chilensis. Abhandlungen zur Kenntniss der Zoologie Chiles. Zool. Jahrb., Suppl. (Jena) Suppl., 4: 281-338, pl. 15-21.
- Swainson, W. 1839. The natural history and classification of fishes, amphibians, & reptiles, or monocardian animals, vol. 2. London. vi + 448 p.
- Szidat, L. and A. Nani 1951. Diplostomiasis cerebrales del pejerrey. Rev. Inst. Nac. Invest. Ciencias Nat. "Bernardino Riggi," 1 (8): 324-384, Pls. 1-10.
- White, B.N. 1985. Evolutionary relationships of the Atherinopsinae (Pisces: Atherinidae). Contributions in Science, Natural History Museum, Los Angeles County, 368: 1-20.
- Woolman, A.J. 1895. Report on a collection of fishes from the rivers of central and northern Mexico. Bull. U. S. Fish Comm., 14 [for 1894]: 55-66, pl. 2.

Family Rivulidae (South American Annual Fishes)

Wilson J. E. M. Costa

Rivulids are easily recognized among other cyprinodontiforms by the continuous branchiostegal and opercular membranes, the reduced laterosensory system of head, and a number of synapomorphies related to the bony structures of head and fins (Costa, 1998a). However, the gaudy and diversified color patterns exhibited by males are the most conspicuous features to identify rivulids among members of the Neotropical ichthyofauna, although beautiful male color patterns also occurring in African and Asian cyprinodontiform aplocheilids. As a consequence, species of rivulids are popular aquarium fishes throughout the world.

Species of Rivulidae occur in approximately all river basins in Cis-Andean South America north of Mar del Plata (Argentina), in Trans-Andean region of Venezuela and Colombia, and both in Caribbean and Pacific slopes of Central America. A few species are endemic to Caribbean islands and eastern river drainages of Mexico, and one species is widespread along Caribbean and Florida coastal plains. Although primarily freshwater fishes, some rivulids of the genus *Rivulus* are restricted to estuarine areas. However, many rivulids are annual fishes, uniquely living in seasonal freshwater pools formed during the rainy season. During dry periods, all adults die, but eggs survive in diapause, hatching in the next rainy season. Rivulids may be found in all continental habitats, since rain forests to semi-arid regions, and since coastal plains at the sea level to altitudes about 1,000 m above sea level. Species diversity may be high both in tropical forests and in subtropical opened areas.

Rivulids are small fishes, usually between 50-80 mm of total length, but some species of *Megalebias* and *Cynolebias* may reach 150-200 mm, and some species of *Leptolebias*, *Plesiolebias*, and *Simpsonichthys* do not surpass 30 mm of total length. In basal lineages the body is slender, subcylindrical, but in some species of *Simpsonichthys* and *Austrolebias* the body may be rather compressed and deep. Members of the Rivulidae are typically oviparous fishes with external fertilization. However, species of the genera *Cynopoeilus* and *Campellolebias* are internal inseminating fishes with complex modifications of anal-fin and urogenital structures (Costa, 1995c, e). Among species of the non-annual genus *Rivulus*, at least two species are the only hermaphroditic vertebrates with self-fertilization (Harrington, 1961). Elaborate reproductive behavior patterns have been recently documented in most rivulids lineages (Belote and Costa, in press a, b).

At present, the Rivulidae comprises 27 genera and 235 valid species as presented below. However, the great majority of rivulid taxa were described in recent years, and about 35 species are known to be still undescribed. This quick advance is reflected by a series of papers on systematics in the last 15 years (see references below). Most recent general revisionary studies include a new classification proposal for the Rivulidae based on phylogenetic relationships (Costa, 1998a), and phylogenetic hypotheses at the species level of some cynolebiatine clades (Costa, 2001a, 2002d).

APHYOLEBIAS

Aphyolebias Costa, 1998a: 78. Type species: *Pterolebias peruensis* Myers, 1954. Type by original designation. Gender: masculine.

***Aphyolebias obliquus* (Costa, Sarmiento & Barrera, 1996)**

Pterolebias obliquus Costa, Sarmiento & Barrera, 1996: 92, fig. 1. Type locality: Bolivia: Departamento del Bení, Río Mamoré basin, temporary swamp associated with Arroyo Curiraba, in Estación Biológica Beni. Holotype: CBF 2328.

Maximum length: 6 cm TL.

Distribution: South America: Mamore River basin.

Countries: Bolivia

***Aphyolebias peruensis* (Myers, 1954)**

Pterolebias peruensis Myers, 1954: 176, fig. 1. Type locality: Eastern part of Ilo Province, Peru. Holotype: SU 47658.

Maximum length: 10 cm TL

Distribution: South America: Amazon River basin.

Countries: Peru

***Aphyolebias rubrocaudatus* (Seegers, 1984)**

Pterolebias rubrocaudatus Seegers, 1984: 243, fig. 1. Type locality: Río Tambopata-Gebiet, etwa 7 km von Puerto Maldonado, einzug des Río Madre de Dios, Südost-Peru. Holotype: ZFMK 13413.

Maximum length: 6 cm TL

Distribution: South America: Amazon River basin.

Countries: Peru

***Aphyolebias wischmanni* (Seegers, 1983)**

Pterolebias wischmanni Seegers, 1983: 68, fig. 3. Type locality: Ucayali-Einzug, Peru, ca. 120 km südlich von Pucallpa, in einem kleinen Bach zwischen den Flüssen Rio Chipira und Amaquiria. Holotype: ZFMK 11534.

Maximum length: 13 cm TL

Distribution: South America: Amazon River basin.

Countries: Peru

AUSTROFUNDULUS

Austrofundulus Myers, 1932: 159. Type species: *Austrofundulus transilis* Myers, 1932. Type by original designation. Gender: masculine.

Austrofundulus limnaeus Schultz, 1949

Austrofundulus transilis limnaeus Schultz, 1949: 85, fig. 10. Type locality: 15 km west of San Félix, which is at western border of Estado de Falcón, Venezuela. Holotype: UMMZ 141916.

Austrofundulus stagnalis Schultz, 1949: 88, fig. 11. Type locality: About 6 km north of the Río Misoa and 20 km south of Lagunillas, Maracaibo basin (Venezuela). Holotype: UMMZ 141918.

Austrofundulus myersi Dahl, 1958: 42. Type locality: Small semi-permanent pond at Sincelajo, within the boundary or the town (Colombia). Holotype: unknown.

Maximum length: 8 cm TL

Distribution: South America: Maracaibo Lake and Amazon River basin.

Countries: Colombia, Venezuela, Guyana

Remarks and references: Redescribed by Taphorn and Thomerson (1978: 413).

Austrofundulus transilis Myers, 1932

Austrofundulus transilis Myers, 1932: 160. Type locality: Pond in the State of Guarico, in the Orinoco drainage of Venezuela. Holotype: USNM 92191.

Maximum length: 10 cm TL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Remarks and references: Redescribed by Taphorn and Thomerson (1978: 410).

AUSTROLEBIAS

Austrolebias Costa, 1998a: 75. Type species: *Cynolebias bellottii* Steindachner, 1881. Type by original designation. Gender: masculine.

Austrolebias adloffii (Ahl, 1922)

Cynolebias adloffii Ahl, 1922: 224, fig. 5. Type locality: Porto Alegre. Lectotype: ZMB 20651.

Maximum length: 4.6 cm SL.

Distribution: South America: Jacuí River basin.

Countries: Brazil

Remarks and references: Redescribed by Costa and Cheffe (2001: 190).

Austrolebias affinis (Amato, 1986)

Cynolebias affinis Amato, 1986: 6, pl. 3. Type locality: Uruguay, Tacuarembó, bañados del Arroyo Tres cruces, ruta 5 km 399.5. Holotype: MHNM 2468.

Cynolebias duraznensis García, Scvortzoff & Hernández, 1995: 106, fig. 3b. Type locality: Durazno, Uruguay. No type.

Maximum length: 5 cm TL

Distribution: South America: Uruguay River basin.

Countries: Brazil, Uruguay

Austrolebias alexandri (Castello & Lopez, 1974)

Cynolebias alexandri Castello & Lopez, 1974: 35, fig. 1. Type locality: Parque Unzue, Gualaguaychu, Provincia de Entre Rios (Argentina). Holotype: MACN 6438.

Maximum length: 9 cm TL

Distribution: South America: Uruguay River basin.

Countries: Argentina, Brazil, Uruguay

Austrolebias bellottii (Steindachner, 1881)

Cynolebias bellottii Steindachner, 1881: 98. Type locality: La Plata (Argentina). Holotype: NMW 75105.

Cynolebias maculatus Steindachner, 1881: 98. Type locality: La

Plata (Argentina). Holotype: NMW 59613.

Cynolebias gibberosus Berg, 1897: 294. Type locality: Cacharí, Partido de Azul, Provincia de Buenos Aires (Argentina). Holotype: MACN 5172.

Cynolebias irregularis Ahl, 1938: 57. Type locality: Probably Argentina. Holotype: ZMB 21145.

Maximum length: 7 cm TL

Distribution: South America: Lower Paraná and Uruguay River basins.

Countries: Argentina, Uruguay

Common names: Pavito (Argentina)

Austrolebias carvalhoi (Myers, 1947)

Cynolebias carvalhoi Myers, 1947: 19. Type locality: Rio Iguassú (in a temporary pool) near Porto União, Santa Catarina, Brazil.

Lectotype: MNRJ 5759, designated by Costa (1998e: 308).

Maximum length: 5 cm TL

Distribution: South America: Paraná River basin.

Countries: Brazil

Remarks and references: Redescribed by Costa (1998e: 308).

Austrolebias charrua Costa & Cheffe, 2001

Austrolebias charrua Costa and Cheffe, 2001: 182. Type locality: Brazil. Rio Grande do Sul. Temporary pool close to arroio Chuí, road to Barra do Chuí. Holotype: MZUSP 60070.

Maximum length: 6 cm TL.

Distribution: South America: Laguna dos Patos basin.

Countries: Brazil

Austrolebias cinereus (Amato, 1986)

Cynolebias cinereus Amato, 1986: 9, pl. 6. Type locality: Uruguay, Colonia, bañado en ruta 21 a 2 km al NW del Arroyo de las Víboras. Holotype: MHNM 2542.

Maximum length: 6 cm TL.

Distribution: South America: La Plata River basin.

Countries: Uruguay

Austrolebias cyaneus (Amato, 1987)

Cynolebias cyaneus Amato, 1987: 2, pl. 1. Type locality: Brasil, Rio Grande do Sul, Município de Rio Pardo, bañados del Arroyo Dom Marcos, al costado de la carretera BR 290. Holotype: MCP 10441.

Maximum length: 5 cm TL.

Distribution: South America: Jacuí River basin.

Countries: Brazil

Austrolebias gymnoventris (Amato, 1986)

Cynolebias gymnoventris Amato, 1986: 2, pl. 1. Type locality: Uruguay, Rocha, bañados del Arroyo India Muerta, a 150 m del puente sobre la ruta 13 y a 50 m de ésta en dirección sureste, en las cercanías de Velázquez. Holotype: MHNM 2460.

Maximum length: 5 cm TL.

Distribution: South America: Laguna dos Patos basin.

Countries: Uruguay

Austrolebias ibicuiensis (Costa, 1999)

Cynolebias ibicuiensis Costa, 1999a: 93, fig. 1. Type locality: Brazil: Estado do Rio Grande do Sul, rio Ibicuí-Mirim, rio Ibicuí drainage, rio Uruguai basin, road BR-287 between São Pedro do Sul and Santa Maria. Holotype: MCP 10201.

Maximum length: 5 cm TL.

Distribution: South America: Uruguay River basin.

Countries: Brazil

Austrolebias jaegeri Costa & Cheffe, 2002

Cynolebias jaegeri Costa & Cheffe, 2002: 84, fig. 1. Type locality: Brazil: Rio Grande do Sul: Pelotas: swamp at Banhado do Timba, Corredor das Tropas, approximately 31°30'S 52°20'W. Holotype: MCP 28574.

Maximum length: 3.04 cm SL.

Distribution: South America: Do Timba Swamp (banhado do Timba), Pelotas, Rio Grande do Sul State.

Countries: Brazil

***Austrolebias luteoflammulatus* (Vaz-Ferreira, Sierra & Scaglia, 1964)**

Cynolebias luteoflammulatus Vaz-Ferreira, Sierra & Scaglia, 1964: 25, pl. 5. Type locality: Depto. de Rocha, Uruguay, en un charco temporal próximo al Arroyo Valizas (Lat. 34°26'S, Long. 53°46' O). Holotype: ZVC P.527.

Maximum length: 4.5 cm TL.

Distribution: South America: Laguna dos Patos basin and adjacent southern coastal plains.

Countries: Uruguay, Brazil

***Austrolebias melanoorus* (Amato, 1986)**

Cynolebias melanoorus Amato, 1986: 4, pl. 2. Type locality: Uruguay, Tacuarembó, bañados del Arroyo Tres Cruces, ruta 5 km 399,5. Holotype: MHNM 2545.

Maximum length: 6 cm TL

Distribution: South America: Uruguay River basin.

Countries: Uruguay

***Austrolebias minuano* Costa & Cheffe, 2001**

Austrolebias minuano Costa and Cheffe, 2001: 185. Type locality: Brazil. Rio Grande do Sul. Temporary lagoon about 4.5 km N of Quinta. Holotype: MCP 28028.

Maximum length: 6 cm TL

Distribution: South America: Laguna dos Patos basin.

Countries: Brazil

***Austrolebias nigripinnis* (Regan, 1912)**

Cynolebias nigripinnis Regan, 1912a: 508. Type locality: La Plata (Argentina). Holotype: BMNH 1909.4.2.29.

Maximum length: 6 cm TL

Distribution: South America: Lower Paraná and Uruguay River basins.

Countries: Argentina, Paraguay, Uruguay

***Austrolebias nigrofasciatus* Costa & Cheffe, 2001**

Austrolebias charrua Costa and Cheffe, 2001: 187. Type locality: Brazil. Rio Grande do Sul. Temporary pool in Pontal da Barra, praia de Laranjal, Pelotas. Holotype: MCP 21172.

Maximum length: 6 cm TL

Distribution: South America: Laguna dos Patos basin.

Countries: Brazil

***Austrolebias nioni* (Berkenkamp, Reichert & Prieto, 1997)**

Cynolebias nioni Berkenkamp, Reichert & Prieto, 1997: 31, fig. 3. Type locality: Departamento Tacuarembó in Nordost-Uruguay, an der Ruta (= Autobahn/Landstrasse) 26, km 331, in temporären Überschwemmungsgebieten des Cañada (= Baches) "Los Cinco Sauces", die zum Rio-Negro-System gehören, 32°10'S, 55°15' Ost. Holotype: SMF 18457.

Maximum length: 8 cm TL.

Distribution: South America: Uruguay River basin.

Countries: Uruguay

***Austrolebias nonoiuliensis* (Taberner, Fernandez-Santos & Castelli, 1974)**

Cynolebias nonoiuliensis Taberner, Fernandez-Santos and Castelli, 1974: 187, fig. 1. Type locality: Nueve de Julio, Provincia de Buenos Aires (Argentina). Holotype: MACN 6754-5.

Maximum length: 8 cm TL.

Distribution: South America: La Plata River basin.

Countries: Argentina

***Austrolebias patriciae* (Huber, 1995)**

Cynolebias patriciae Huber, 1995: 104, fig. 2. Type locality: Paraguay, Province du Presidente Hayes, fossé le long de la route, à environ 500 m au Sud du Rio Negro, 25.25S, 57.67W. Holotype: ANSP 170424.

Maximum length: 4 cm TL.

Distribution: South America: Paraguay River basin.

Countries: Paraguay.

***Austrolebias periodicus* (Costa, 1999)**

Cynolebias periodicus Costa, 1999b: 299, fig. 1. Type locality: Brazil: Estado do Rio Grande do Sul: temporary floodplains of the rio Santa Maria, rio Ibicuí drainage, rio Uruguai basin, road BR-293, 4 km west from Dom Pedrito. Holotype: MCP 20819.

Maximum length: 5 cm TL.

Distribution: South America: Uruguay River basin.

Countries: Brazil

***Austrolebias robustus* (Günther, 1883)**

Cynolebias robustus Günther, 1883: 140. Type locality: ten miles of San Antonio, Buenos Ayres (Argentina). Holotype: BMNH 1879.6.28.12.

Maximum length: 9.5 cm TL.

Distribution: South America: La Plata River basin.

Countries: Argentina

***Austrolebias vandenbergi* (Huber, 1995)**

Cynolebias vandenbergi Huber, 1995: 7, fig. 3. Type locality: Paraguay, Province du Presidente Hayes, près de fortin Toledo, 22.27S, 60.54W. Holotype: ZMA 121270.

Maximum length: 9 cm TL

Distribution: South America: Paraguay River basin.

Countries: Paraguay, Argentina

***Austrolebias vazferreirai* (Berkenkamp, Etzel, Reichert & Salvia, 1994)**

Cynolebias vazferreirai Berkenkamp, Etzel, Reichert & Salvia, 1994: 11, fig. 1. Type locality: Departamento Cerro-Largo in osturuguay and der Stasse (Ruta) 44 bei Kilometer 44, Verbindungsstrasse von melo (= km 0) nach Riveira, 32°15'S, 54°30'E. Holotype: SMF 18453.

Maximum length: 10 cm TL

Distribution: South America: Uruguay River basin.

Countries: Uruguay

***Austrolebias viarius* (Vaz-Ferreira, Sierra & Scaglia, 1964)**

Cynolebias viarius Vaz-Ferreira, Sierra & Scaglia, 1964: 1, pl. 1. Type locality: Departamento de Rocha, Uruguay, en un charco temporal al borde de la Ruta 15, entre el Arroyo Valizas y el Balneario Aguas Dulces (Lat. 34°22'S, Long. 53°43' O). Holotype: ZVC P.798.

Maximum length: 8 cm TL.

Distribution: South America: Atlantic coastal river basins of Uruguay.

Countries: Uruguay

CAMPELLOLEBIAS

Campellolebias Vaz-Ferreira & Sierra, 1974: 1. Type species: *Campellolebias brucei* Vaz-Ferreira & Sierra, 1974. Type by original designation. Gender: masculine.

***Campellolebias brucei* Vaz-Ferreira & Sierra, 1974**

Campellolebias brucei Vaz-Ferreira & Sierra, 1974: 1, pl. 1. Type locality: Charco temporal, entre las localidades de Crisciuma y Tubarão, Estado de Santa Catarina, Brasil. Holotype: ZVC P.2116.

Maximum length: 4.5 cm TL

Distribution: South America: Atlantic coastal river basins.
 Countries: Brazil
 Remarks and references: Redescribed by Costa (1995c: 357).

***Campellolebias chrysolineatus* Costa, Lacerda & Brasil, 1989**

Campellolebias chrysolineatus Costa, Lacerda & Brasil, 1989: 69, fig. 5. Type locality: Brésil, Etat de Santa Catarina, Município d'Araquari, dans une mare en lisière de forêt, 26°25'S, 48°38'W. Holotype: MZUSP 38817.

Maximum length: 5 cm TL.
 Distribution: South America: Atlantic coastal basins.
 Countries: Brazil
 Remarks and references: Redescribed by Costa (1995c: 360).

***Campellolebias dorsimaculatus* Costa, Lacerda & Brasil, 1989**

Campellolebias dorsimaculatus Costa, Lacerda & Brasil, 1989: 66, fig. 2. Type locality: Brésil, Etat de São Paulo, Município d'Iguape, dans une mare en lisière de forêt, 24°37'S, 47°30'W. Holotype: MZUSP 38813.

Maximum length: 4 cm TL.
 Distribution: South America: Ribeira de Iguape River basin.
 Countries: Brazil
 Remarks and references: Redescribed by Costa (1995c: 363).

CYNOLEBIAS

Cynolebias Steindachner, 1876: 124. Type species: *Cynolebias porosus* Steindachner, 1876. Type by monotypy. Gender: masculine.

***Cynolebias albipunctatus* Costa & Brasil, 1991**

Cynolebias albipunctatus Costa & Brasil, 1991b: 58, fig. 3. Type locality: Brazil, Bahia, County of Juazeiro, 70 km S (correctly, 70 km NW) from the City of Uauá Holotype: MZUSP 41378.

Maximum length: 12 cm TL
 Distribution: South America: Middle São Francisco River basin.
 Countries: Brazil
 Remarks and references: Redescribed by Costa (2001a: 355).

***Cynolebias altus* Costa, 2001**

Cynolebias altus Costa, 2001: 370, fig. 25. Type locality: Brazil: Bahia: 25 km S of Ibotirama, rio São Francisco basin, about 12°30'S 43°10'W. Holotype: MZUSP 62564.

Maximum length: 15 cm TL.
 Distribution: South America: Middle São Francisco River basin.
 Countries: Brazil

***Cynolebias attenuatus* Costa, 2001**

Cynolebias attenuatus Costa, 2001: 375, fig. 28. Type locality: Brazil: Bahia: temporary pool 12 km W of Bom Jesus da Lapa, about 13°15'S 43°40'W. Holotype: MZUSP 62566.

Maximum length: 12 cm TL.
 Distribution: South America: Middle São Francisco River basin.
 Countries: Brazil

***Cynolebias gibbus* Costa, 2001**

Cynolebias gibbus Costa, 2001: 378, fig. 31. Type locality: Brazil: Bahia: temporary pool 9.5 km N of Sítio do Mato, about 13°00'S 43°25'W. Holotype: MZUSP 62568.

Maximum length: 12 cm TL.
 Distribution: South America: Middle São Francisco River basin.
 Countries: Brazil

***Cynolebias gilbertoi* Costa, 1998**

Cynolebias gilbertoi Costa, 1998c: 238, fig. 1. Type locality: Brazil: Estado da Bahia, temporary pond about 30 km South of Bom Jesus da Lapa, near rio São Francisco. Holotype: MZUSP 52304.

Maximum length: 7 cm TL
 Distribution: South America: Middle São Francisco River basin.
 Countries: Brazil
 Remarks and references: Redescribed by Costa (2001a: 364).

***Cynolebias griseus* Costa, Lacerda & Brasil, 1990**

Cynolebias griseus Costa, Lacerda & Brasil, 1990: 11, fig. 9. Type locality: Brésil, etat de Goiás, Município de Nova Roma, pris dans une lagune temporaire, 14°03'S, 44°57'W. Holotype: MZUSP 40119.

Maximum length: 10 cm TL.
 Distribution: South America: Upper Tocantins River basin.
 Countries: Brazil
 Remarks and references: Redescribed by Costa (2001a: 351).

***Cynolebias itapicuruiensis* Costa, 2001**

Cynolebias itapicuruiensis Costa, 2001: 362, fig. 20. Type locality: Brazil: Bahia: temporary pool in Capim Grosso, rio Itapicurú basin, about 11°20'S 40°00'W. Holotype: MZUSP 62562.

Maximum length: 10 cm TL.
 Distribution: South America: Itapicurú River basin.
 Countries: Brazil
 Common names: Peixe-sabão.

***Cynolebias leptocephalus* Costa & Brasil, 1993**

Cynolebias leptocephalus Costa & Brasil, 1993: 196, fig. 4. Type locality: Brazil: Estado da Bahia: Swamp near Guanambi, 14°20'S, 42°51'W. Holotype: MZUSP 43676.

Maximum length: 15 cm TL.
 Distribution: South America: Middle São Francisco River basin.
 Countries: Brazil
 Remarks and references: Redescribed by Costa (2001a: 372).

***Cynolebias microphthalmus* Costa & Brasil, 1995**

Cynolebias regani Myers, 1952: 139. Type locality: temporary ponds near Russas, rio Jaguaribe basin, state of Ceará, Brazil. Nomen nudum.

Cynolebias microphthalmus Costa & Brasil in Costa, 1995a: 81. Type locality: Brazil: Rio Grande do Norte: Mossoró—Holotype: MZUSP 42312.

Maximum length: 12 cm TL
 Distribution: South America: Jaguaribe and Mossoró River basins.
 Countries: Brazil
 Common names: Peixe-de-nuvem.
 Remarks and references: Redescribed by Costa (2001a: 354).

***Cynolebias perforatus* Costa & Brasil, 1991**

Cynolebias perforatus Costa & Brasil, 1991b: 56, fig. 1. Type locality: Brazil, Minas Gerais, County of Januária, near the City of Januária. Holotype: MZUSP 41376.

Maximum length: 12 cm TL
 Distribution: South America: Middle São Francisco River basin.
 Countries: Brazil
 Remarks and references: Redescribed by Costa (2001a: 367).

***Cynolebias porosus* Steindachner, 1876**

Cynolebias porosus Steindachner, 1876: 125. pl. 10 (fig. 3). Type locality: Pernambuco (Recife). Holotype: NMW 15096.

Maximum length: 8 cm TL.
 Distribution: South America: Atlantic coastal plains.
 Countries: Brazil
 Remarks and references: Redescribed by Costa (2001a: 358).

***Cynolebias vazabarrisensis* Costa, 2001**

Cynolebias vazabarrisensis Costa, 2001: 359, fig. 19. Type locality: Brazil: Bahia: temporary pool 33 km S of Bendegó, road BR-116, rio Vaza-Barris basin, about 10°15'S 39°05'W. Holotype: MZUSP 62560.

Maximum length: 9 cm TL.

Distribution: South America: Vaza-Barris River basin.
Countries: Brazil
Common names: Peixe-sabão.

CYNOPOECILUS

Cynopoecilus Regan, 1912b: 545. Type species: *Cynolebias melanotaenia* Regan, 1912a. Type by original designation. Gender: masculine.

***Cynopoecilus fulgens* Costa, 2002**

Cynopoecilus fulgens Costa, 2002a: 16, fig. 3. Type locality: Brazil: Rio Grande do Sul: temporary pool, road BR-101, 5 km N of São José do Norte (about 32°00'S 52°00'W). Holotype: MCP 26929.

Maximum length: 5 cm TL.

Distribution: South America: Atlantic coastal plains adjacent to the eastern margin of Laguna dos Patos.

Countries: Brazil

***Cynopoecilus intimus* Costa, 2002**

Cynopoecilus intimus Costa, 2002a: 18, fig. 4. Type locality: Brazil: Rio Grande do Sul: temporary swamp close to a stream tributary to rio Vacacaí, rio Jacuí basin, road BR-392, 6 km NW of Vila Block (about 29°55'S 53°50'W). Holotype: MCP 20816.

Maximum length: 4 cm TL.

Distribution: South America: Atlantic coastal plains adjacent to the eastern margin of Laguna dos Patos.

Countries: Brazil

***Cynopoecilus melanotaenia* (Regan, 1912)**

Cynolebias melanotaenia Regan, 1912a: 506. Type locality: Paranaíba, southeastern Brazil [correctly, Quinta, Estado do Rio Grande do Sul, Brazil]. Syntypes: BMNH 1909.9.5.15-22

Maximum length: 5 cm TL

Distribution: South America: Atlantic coast of Brazil and Uruguay, in floodplain streams along western margin of Laguna dos Patos and coastal floodplains on the eastern margin of Lagoa Mirim.

Countries: Brazil, Uruguay

Remarks and references: Redescribed by Costa (2002a: 13).

***Cynopoecilus multipapillatus* Costa, 2002**

Cynopoecilus multipapillatus Costa, 2002a: 22, fig. 6. Type locality: Brazil: Rio Grande do Sul: temporary pool between road RS-787 and lagoa da Fortaleza (about 30°10'S 50°15'W). Holotype: MCP 26933.

Maximum length: 5 cm TL.

Distribution: South America: Atlantic coastal plains of northern Rio Grande do Sul and southern Santa Catarina States.

Countries: Brazil

***Cynopoecilus nigrovittatus* Costa, 2002**

Cynopoecilus nigrovittatus Costa, 2002a: 20, fig. 5. Type locality: Brazil: Rio Grande do Sul: Montenegro, rio Caí floodplains (about 29°45'S 51°30'W). Holotype: MCP 26931.

Maximum length: 6 cm TL.

Distribution: South America: Lower Jacuí River basin.

Countries: Brazil

GNATHOLEBIAS

Gnatholebias Costa, 1998a: 77. Type species: *Pterolebias zonatus* Myers, 1935. Type by original designation. Gender: masculine.

***Gnatholebias hoignei* (Thomerson, 1974)**

Pterolebias hoignei Thomerson, 1974: 31, fig. 1. Type locality: Temporary pond about 1 km N of Caño Benito (9°16'N, 68°09'W) along the road between Es Pao and El Baul, Estado Cojedes, Venezuela. Holotype: USNM 207402.

Maximum length: 10 cm TL

Distribution: South America: Orinoco River basin.
Countries: Venezuela

***Gnatholebias zonatus* (Myers, 1935)**

Pterolebias zonatus Myers 1935: 7. Type locality: Orinoco basin, Venezuela. Holotype: USNM 92190.

Maximum length: 10 cm TL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

LEPTOLEBIAS

Leptolebias Myers, 1952: 140. Type species: *Cynopoecilus marmoratus* Ladiges, 1934. Type by original designation. Gender: masculine.

***Leptolebias aureoguttatus* (Cruz, 1974)**

Cynolebias paranaguensis Myers, 1952: 131. Type locality: Paranaíba, Paraná, Brazil. Nomen nudum.

Cynolebias aureoguttatus Myers, 1952: 131. unnum, fig. on p. 134. Type locality: Paranaíba, Paraná, Brazil. Nomen nudum

Cynolebias aureoguttatus Cruz, 1974: 20, fig. 1. Type locality: Paranaíba, Paraná, Brazil. Syntypes: CAGC 105.3, CAGC 105.2.

Maximum length: 4 cm TL

Distribution: South America: Atlantic coastal plain basins.

Countries: Brazil

***Leptolebias citrinipinnis* (Costa, Lacerda & Tanizaki, 1988)**

Cynolebias citrinipinnis Costa, Lacerda & Tanizaki, 1988b: 22, fig. 1. Type locality: Brésil, Etat de Rio de Janeiro, Município de Maricá, pris dans un marais d'une restinga, 22°S, 43°W. Holotype: MZUSP 37199.

Maximum length: 5 cm TL.

Distribution: South America: Atlantic coastal river basins.

Countries: Brazil

***Leptolebias cruzi* (Costa, 1988)**

Cynolebias cruzi Costa, 1988b: 563, fig. 3. Type locality: Brejo próximo a Barra de São João, Município de Casimiro de Abreu, RJ. Holotype: MZUSP 36297.

Maximum length: 3 cm TL.

Distribution: South America: Atlantic coastal river basins.

Countries: Brazil

***Leptolebias fractifasciatus* (Costa, 1988)**

Cynolebias fractifasciatus Costa, 1988b: 562, fig. 2. Type locality: Brejo próximo a Inoã, Município de Maricá, RJ. Holotype: MZUSP 36423.

Maximum length: 4 cm TL.

Distribution: South America: Atlantic coastal river basins.

Countries: Brazil

***Leptolebias leitaoi* (Cruz & Peixoto, 1992)**

Cynolebias leitaoi Cruz & Peixoto, 1992: 638. Type locality: Mucuri, Estado da Bahia. Holotype: MNRJ 11646.

Maximum length: 3 cm TL

Distribution: South America: Mucuri River basin.

Countries: Brazil

***Leptolebias marmoratus* (Ladiges, 1934)**

Cynopoecilus marmoratus Ladiges, 1934: 74. Type locality: Rio de Janeiro, Brazil. Neotype: MCP 28604, designated by Costa (2002c).

Cynopoecilus sicheleri Miranda Ribeiro, 1939: 363. Type locality: Rios de água pouco rápida, dos contrafortes da Serra de Petrópolis, E. do Rio. Syntypes: MNRJ 4739

Cynolebias zingiberinus Myers, 1942: 108. Type locality: Isolated depression filled with water only during the rainy season, along

the base of the Serra do Petrópolis, State of Rio de Janeiro, Brazil. Holotype: SU 36523.

Maximum length: 3 cm TL

Distribution: South America: Atlantic coastal river basins.

Countries: Brazil

***Leptolebias minimus* (Myers, 1942)**

Cynolebias minimus Myers, 1942: 109. Type locality: Standing water in a cane-brake along the road to Rio, one mile east of Itaquahy [Itaguaí] (apparently a little west of the boundary of the District Federal), State of Rio de Janeiro, Brazil. Holotype: SU 36525.

Cynolebias ladigesi Foersch, 1958: 257. Type locality: Pools, 80 km northwest from Rio de Janeiro, Brazil. Types not designated.

Maximum length: 4 cm TL

Distribution: South America: Atlantic coastal river basins.

Countries: Brazil

Remarks and references: Redescribed by Costa (1988b: 558).

***Leptolebias opalescens* (Myers, 1942)**

Cynopoecilus fluminensis Faria & Muller, 1937: 99. Type locality: Rio de Janeiro [Brazil]. No type. Suppressed for purposes of priority and placed on Official Index, Opinion 1762.

Cynolebias opalescens Myers, 1942: 107. Type locality: water holes or ponds along base of the Serra do Petrópolis, State of Rio de Janeiro, Brazil. Holotype: SU 36521.

Cynolebias nanus Cruz & Peixoto, 1983: 90, fig. 1. Type locality: Margem direita da estrada que liga os vilarejos de Cava e Tinguá, 22°38'S 43°25'W, a aproximadamente 8 km do primeiro, no município de Nova Iguaçu, Estado do rio de Janeiro [Brazil]. Holotype: MNRJ 10621.

Maximum length: 4 cm TL

Distribution: South America: Atlantic coastal river basins.

Countries: Brazil

Remarks and references: Redescribed by Costa and Lacerda (1988b: 132).

***Leptolebias splendens* (Myers, 1942)**

Cynopoecilus sandrii Faria & Muller, 1937: 98, fig. 1. Type locality: Estado do Rio de Janeiro, em pequenas poças que se encontram em logares sombrios, nas visinhanças de pequenos rios. No types. Suppressed for purposes of priority and placed on Official Index, Opinion 1762.

Cynolebias splendens Myers, 1942: 110. Type locality: Water holes or ponds along base of Serra do Petrópolis, State of Rio de Janeiro, Brazil. Holotype: SU 36527.

Maximum length: 3 cm TL

Distribution: South America: Atlantic coastal river basins.

Countries: Brazil

Remarks and references: Redescribed by Costa and Lacerda (1988b: 129).

MARATECOARA

Maratecoara Costa, 1995d: 68. Type species: *Cynolebias lacortei* Lazara, 1991. Type by original designation. Gender: feminine.

***Maratecoara formosa* Costa & Brasil, 1995**

Maratecoara formosa Costa & Brasil, in Costa, 1995d: 69, fig. 5. Type locality: Brazil: Estado do Tocantins, temporary pool in Brejinho de Nazaré, 10°59'S, 48°38' O. Holotype: MNRJ 12621.

Maximum length: 5 cm TL

Distribution: South America: Middle Tocantins River basin.

Countries: Brazil

***Maratecoara lacortei* (Lazara, 1991)**

Cynolebias lacortei Lazara, 1991: 141, fig. 2. Type locality: Brazil, Goiás, Aruana, temporary pool. Holotype: MZUSP 38805.

Maximum length: 5 cm TL

Distribution: South America: Araguaia River basin.

Countries: Brazil

MEGALEBIAS

Megalebias Costa, 1998a: 76. Type species: *Cynolebias wolterstorffi* Ahl, 1924. Type by original designation. Gender: masculine.

***Megalebias cheradophilus* (Vaz-Ferreira, Sierra & Scaglia, 1964)**

Cynolebias cheradophilus Vaz-Ferreira, Sierra & Scaglia, 1964: 14. pl. 3. Type locality: Depto. de Rocha, Uruguay, en un charco estacional próximo al Arroyo Valizas (Lat. 34°26'S., Long. 53°46' O.). Holotype: ZVC P.522.

Maximum length: 6.5 cm TL 5.3 cm SL.

Distribution: South America: Atlantic coastal river basins.

Countries: Uruguay

***Megalebias elongatus* (Steindachner, 1881)**

Cynolebias elongatus Steindachner, 1881: 98. Type locality: La Plata, Argentina. Holotype: NMW 76518.

Cynolebias holmbergi Berg, 1897: 296. Type locality: Provincia de Buenos Aires (Argentina). Lectotype: MACN 5169.

Cynolebias spinifer Ahl, 1934: 310. Type locality: La Plata, Buenos Aires, Argentina. Lectotype: ZMH H64.

Maximum length: 18 cm TL

Distribution: South America: Lower Paraná-La Plata River basin.

Countries: Argentina

***Megalebias monstrosus* (Huber, 1995)**

Cynolebias monstrosus Huber, 1995: 9, fig. 4. Type locality: Paraguay, Province de Boqueron, près de la Serena, bassin du haut Chaco, 21.94S 56.97W. Holotype: MNHN 1994-1110.

Maximum length: 15 cm TL

Distribution: South America: Paraguay River basin.

Countries: Paraguay, Argentina

***Megalebias prognathus* (Amato, 1986)**

Cynolebias prognathus Amato, 1986: 7. pl. 4. Type locality: Uruguay, Rocha, bañados de las Maravillas, a 13 km de la ruta 9, La Coronilla. Holotype: MHNM 2609.

Maximum length: 12 cm TL

Distribution: South America: Lagoa Mirim basin.

Countries: Uruguay

***Megalebias wolterstorffi* (Ahl, 1924)**

Cynolebias wolterstorffi Ahl, 1924: 359. Type locality: Porto Alegre [Brazil]. Lectotype: ZMH H65.

Maximum length: 10 cm TL

Distribution: South America: Laguna dos Patos basin.

Countries: Brazil, Uruguay

MICROMOEMA

Micromoema Costa, 1998a: 78. Type species: *Pterolebias xiphophorus* Thomerson & Taphorn, 1992. Type by original designation. Gender: feminine.

***Micromoema xiphophora* (Thomerson & Taphorn, 1992)**

Pterolebias xiphophorus Thomerson & Taphorn, 1992: 378, fig. 1.

Type locality: Small forest pools about 500 m from right bank of Río Ventuari, about 5.5 km upstream of Río Yureba, 4°16'N, 66°23'W, Orinoco drainage, Amazonas Federal Territory, Venezuela. Holotype: MCNG 23888.

Maximum length: 6 cm TL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

MILLERICHTHYS

Millerichthys Costa, 1995a: 18. Type species: *Rivulus robustus* Miller & Hubbs, 1974. Type by original designation. Gender: masculine.

***Millerichthys robustus* (Miller & Hubbs, 1974)**

Rivulus robustus Miller and Hubbs, 1974: 865, fig. 2. Type locality: Pool (formerly part of a lagoon) N of Arroyo Zacatispán, about 5 km S of Papaloapan (now called El Hule), Oaxaca, in the basin of the Río Papaloapan (México). Holotype: UMMZ 124278.

Maximum length: 4 cm TL

Distribution: North America: Papaloapan and Coatzacoalcos river basins.

Countries: Mexico

MOEMA

Moema Costa, 1989c: 223. Type species: *Moema piriana* Costa, 1989. Type by original designation. Gender: feminine.

***Moema pepotei* Costa, 1992**

Moema pepotei Costa, 1992b: 621, fig. 6. Type locality: Brasil, Rondônia, Forte Príncipe da Beira, bacia do rio Guaporé. Holotype: SU 63604.

Maximum length: 12 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru, Bolivia

***Moema piriana* Costa, 1989**

Moema piriana Costa, 1989c: 223, fig. 1. Type locality: Primavera, Pará, Brasil. Holotype: MZUSP 38517.

Maximum length: 12 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

***Moema portugali* Costa, 1989**

Moema portugali Costa, 1989: 224, fig. 2. Type locality: Furo do Firmino, Ilha de Maracá, Roraima, Brasil. Holotype: INPA 1334.

Maximum length: 12 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

***Moema staecki* (Seegers, 1987)**

Pterolebias staecki Seegers, 1987: 202, fig. 1. Type locality: Einer sumpfigen Lagune des Lago Janauacá, etwa 3°25'S, 60°16'W, südlich des Amazonas, kurz oberhalb der Einmündung des Rio Negro, südsüdwestlich von Manaus, Brasilien. Holotype: ZFMK 14597.

Maximum length: 8 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

NEMATOLEBIAS

Nematolebias Costa, 1998a: 75. Type species: *Cynolebias whitei* Myers, 1942. Type by original designation. Gender: masculine.

***Nematolebias papilliferus* Costa, 2002**

Nematolebias papilliferus Costa, 2002b: 47, fig. 5. Type locality: Brazil: Estado do Rio de Janeiro: Inoã, temporary pool close to a small stream of laguna de Maricá system, road RJ-106, 22°55'14.5"S 42°55'41.4"W. Holotype: MZUSP 52964.

Maximum length: 7 cm SL

Distribution: South America: Laguna de Maricá and Laguna de Saquarema basins.

Countries: Brazil

***Nematolebias whitei* (Myers, 1942)**

Cynolebias whitei Myers, 1942: 106. Type locality: drying swamp

10 or 12 mi. north of Cabo Frio, State of Rio de Janeiro, Brazil. Holotype: SU 36516.

Pterolebias elegans Ladiges, 1958: 76, fig. 1. Type locality: Cabo Frio near Rio de Janeiro, Brazil. Holotype: ZMH H324.

Maximum length: 8 cm TL.

Distribution: South America: Laguna de Araruama basin, Das Ostras River basin, coastal plains adjacent to the mouth of São João River.

Countries: Brazil

Remarks and references: Redescribed by Costa (2002b: 45)

NEOFUNDULUS

Neofundulus Myers, 1924: 9. Type species: *Fundulus paraguayensis* Eigenmann & Kennedy, 1903. Type by original designation. Gender: masculine.

***Neofundulus acutirostratus* Costa, 1992**

Neofundulus acutirostratus Costa, 1992a: 616, fig. 1. Type locality: Brasil: Minas Gerais: Lagoa Santa. Holotype: SU 68326.

Maximum length: 6 cm TL.

Distribution: South America: Das Velhas River basin.

Countries: Brazil

***Neofundulus guaporensis* Costa, 1988**

Neofundulus guaporensis Costa 1988c: 110, fig. 6. Type locality: Forte Príncipe da Beira, Rondônia, Brasil.

Holotype: MZUSP 36621.

Maximum length: 3 cm TL

Distribution: South America: Guaporé River basin.

Countries: Brazil

***Neofundulus ornatipinnis* Myers, 1935**

Neofundulus ornatipinnis Myers, 1935: 8. Type locality: Swamp at Makhlawaiya, Paraguayan Chaco, 23°25'S, 58°19'W, about 60 miles West of the Rio Paraguay. Holotype: USNM 94401.

Maximum length: 7 cm TL.

Distribution: South America: Paraguay River basin.

Countries: Paraguay, Argentina, Bolivia.

Remarks and references: Redescribed by Costa (1988c: 107).

***Neofundulus paraguayensis* (Eigenmann & Kennedy, 1903)**

Fundulus paraguayensis Eigenmann & Kennedy, 1903: 530. Type locality: Laguna near Arroyo Trementina (Paraguay). Holotype: CAS 42533.

Maximum length: 7 cm TL

Distribution: South America: Paraguay River basin.

Countries: Brazil, Paraguay

Remarks and references: Redescribed by Costa (1988c: 106).

***Neofundulus parvipinnis* Costa, 1988**

Neofundulus parvipinnis Costa, 1988c: 109, fig. 4. Type locality: Lagoa na margem direita da BR 364, 36 km leste de Cuiabá, Mato Grosso, Brasil. Holotype: MZUSP 36618.

Maximum length: 6 cm TL

Distribution: South America: Paraguay River basin.

Countries: Brazil

PAPILIOLEBIAS

Papiliolebias Costa 1998b: 319. Type species: *Plesiolebias bitteri* Costa, 1989. Type by original designation. Gender: masculine.

***Papiliolebias bitteri* (Costa, 1989)**

Plesiolebias bitteri Costa, 1989b: 195, fig. 1. Type locality: Paraguai. Holotype: MNRJ 11554.

Maximum length: 5 cm TL.

Distribution: South America: Paraguay River basin.

Countries: Paraguay, Argentina, Bolivia

Remarks and references: Redescribed by Costa (1998b: 320).

PITUNA

Pituna Costa, 1989: 225. Type species: *Pituna poranga* Costa, 1989. Type by original designation. Gender: feminine.

***Pituna compacta* (Myers, 1927)**

Rivulus compactus Myers, 1927: 120. Type locality: Porto Nacional, Rio Tocantins, Goyas (now Estado do Tocantins), Brazil, Dona Francisquinha, shallow lake. Lectotype: CAS 40707, designated by Huber (1992: 157).

Pituna poranga Costa, 1989: 226, fig. 3. Type locality: Aruanã, Goiás, Brasil. Holotype: MZUSP 38511.

Maximum length: 5 cm TL

Distribution: South America: Araguaia-Tocantins, Xingu, and Parnaíba River basins.

Countries: Brazil

Remarks and references: Redescribed by Costa (1998d: 141)

PLESIOLEBIAS

Plesiolebias Costa 1989b: 193. Type species: *Cynolebias xavantei* Costa, Lacerda & Tanizaki, 1988. Type by original designation. Gender: masculine.

***Plesiolebias aruana* (Lazara, 1991)**

Cynolebias aruana Lazara, 1991: 147, fig. 4. Type locality: Brazil, State of Goiás, temporary pool. Holotype: MZUSP 38794.

Maximum length: 3 cm TL

Distribution: South America: Araguaia-Tocantins River basin.

Countries: Brazil

Remarks and references: Redescribed by Costa (1998b: 325).

***Plesiolebias glaucopterus* (Costa & Lacerda, 1988)**

Cynolebias glaucopterus Costa & Lacerda, 1988a: 16, fig.1. Type locality: Brasil, Estado de Mato Grosso, município de Cáceres, lagoa próxima ao rio Paraguai. Holotype: MZUSP 38533.

Cynolebias pantanalensis Seegers, 1988a: 31, fig. 1. Type locality: Restgewässer an der Transpantaneira zwischen Poconé und Corumbá (Mato Grosso), rund 45 Kilometer südlich von Poconé (etwa 56°50'W, 16°43'S) im Einzugsbereich des Rio Sararé bzw. Rio Paraguai. Holotype: ZFMK 15534.

Maximum length: 3 cm TL

Distribution: South America: Paraguay River basin.

Countries: Brazil

Remarks and references: Redescribed by Costa (1998b: 322).

***Plesiolebias lacerdai* Costa, 1989**

Plesiolebias lacerdai Costa, 1989b: 196, fig. 2. Type locality: proximidades do rio das Mortes, na altura da estrada para Cocalinhos, MT, Brasil. Holotype: MNRJ 11556.

Maximum length: 2.5 cm TL

Distribution: South America: Araguaia River basin.

Countries: Brazil

Remarks and references: Redescribed by Costa (1998b: 328).

***Plesiolebias xavantei* (Costa, Lacerda & Tanizaki, 1988)**

Cynolebias xavantei Costa, Lacerda & Tanizaki, 1988a: 123, fig. 1. Type locality: Brésil, Etat de Goiás (now Tocantins), Mun. Porto Nacional, dans un marais près de Porto Nacional, 10°43'S, 48°24'W. Holotype: MZUSP 35418.

Maximum length: 5 cm TL.

Distribution: South America: Middle Tocantins River basin.

Countries: Brazil

Remarks and references: Redescribed by Costa (1998b: 330).

PTEROLEBIAS

Pterolebias Garman, 1895: 141. Type species: *Pterolebias longipinnis* Garman, 1895. Type by monotypy. Gender: masculine.

***Pterolebias bokermanni* Travassos, 1955**

Pterolebias bokermanni Travassos, 1955: 35, fig. 1. Type locality: Rio Guajará-Mirim, Território de Guaporé, Brasil. Holotype: MNRJ 8672.

Rivulichthys luelingi Meinken, 1969: 423, fig. 4. Type locality: Nähe des Rio Chapare, ungefähr 4 km unterhalb der Ortschaft Todos Santos in Ost-bolivien. Holotype: Uncat. in original description.

Maximum length: 10 cm TL.

Distribution: South America: Amazon and Paraguay River basins.

Countries: Brazil, Bolivia, Paraguay, Argentina

***Pterolebias longipinnis* Garman, 1895**

Pterolebias longipinnis Garman, 1895: 142. Type locality: Santarém, rio Amazonas, Pará, Brazil. Lectotype: USNM 120429, designated by Thomerson (1984:528).

Maximum length: 12 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

***Pterolebias phasianus* Costa, 1988**

Pterolebias phasianus Costa, 1988a: 658, fig. 1. Type locality: Lagoon at Cáceres, Rio Cuiabá, State of Mato Grosso, Brazil. Holotype: MZUSP 38109.

Maximum length: 7 cm TL.

Distribution: South America: Paraguay River basin.

Countries: Brazil, Bolivia

RACHOVIA

Rachovia Myers, 1927: 119. Type species: *Rivulus brevis* Regan, 1912. Type by original designation. Gender: feminine.

***Rachovia brevis* (Regan, 1912)**

Rivulus brevis Regan, 1912a: 504. Type locality: Colombia. Holotype: BMNH 1908.5.14.8.

Rachovia splendens Dahl, 1958: 43. Type locality: Small semi-permanent pond at Sincelejo, within the boundary or the town (Colombia). Holotype: unknown.

Maximum length: 6 cm TL

Distribution: South America: Magdalena River and Maracaibo Lake basins.

Countries: Colombia, Venezuela

Remarks and references: Redescribed by Taphorn and Thomerson (1978: 389).

***Rachovia hummelincki* Beaufort, 1940**

Rachovia hummelincki Beaufort, 1940: 4. pl. 10b. Type locality: Poza de San Antonio, east of Carirubana, Paraguaná, Venezuela. Lectotype: ZMA 100401, designated by Taphorn & Thomerson (1978:399).

Maximum length: 5 cm TL

Distribution: South America: Magdalena River and Maracaibo Lake basins.

Countries: Colombia, Venezuela

Remarks and references: Redescribed by Taphorn and Thomerson (1978: 399).

***Rachovia maculipinnis* (Radda, 1964)**

Pterolebias maculipinnis Radda, 1964: 41, fig. 3. Type locality: Cojedes, Río Pao drainage, Venezuela. Neotype: FMNH 85267, designated by Taphorn & Thomerson (1978: 395).

Maximum length: 6 cm TL

Distribution: South America: Orinoco River basin.

Countries: Colombia, Venezuela

Remarks and references: Redescribed by Taphorn and Thomerson (1978: 394).

Rachovia pyropunctata Taphorn & Thomerson, 1978
Rachovia pyropunctata Taphorn & Thomerson, 1978: 403, fig. 9c.
 Type locality: Roadside pool (préstamo) west of Lake Maracaibo, between the towns of San Felipe and Jaguasito, near the Hacienda Berlin, on the road To Guamo (a small town on the western shore of Lake Maracaibo), Zulia. Holotype: FMNH 85713.
 Maximum length: 5 cm TL
 Distribution: South America: Maracaibo Lake basin.
 Countries: Venezuela

Rachovia stellifer (Thomerson & Turner, 1973)
Rivulus stellifer Thomerson & Turner, 1973: 783, fig. 1. Type locality: Temporary pond about 1 km north of Caño Benito, (9°16'N, 68°09'W) on road between El Pao and El baul, Estado Cojedes, Venezuela. Holotype: USNM 209254.
 Maximum length: 7.5 cm TL
 Distribution: South America: Orinoco River basin.
 Countries: Venezuela

RENOVA

Renova Thomerson & Taphorn, 1995: 186. Type species: *Renova oscari* Thomerson & Taphorn, 1995. Type by original designation. Gender: feminine.

Renova oscari Thomerson & Taphorn, 1995
Renova oscari Thomerson & Taphorn, 1995: 187, fig. 1. Type locality: Southwest edge of Isla Raton near the village of Sabanita, downstream from the mouth of a small stream emerging from the island, upper Río Orinoco, 5°05'N, 67°48'W, Amazonas, Venezuela. Holotype: MCNG 27070.
 Maximum length: 4.7 cm SL
 Distribution: South America: Orinoco River basin.
 Countries: Venezuela

RIVULUS

Rivulus Poey, 1860: 299. Type species: *Rivulus cylindraceus* Poey, 1860. Type by monotypy. Gender: masculine.
Cynodonichthys Meek 1904: 510. Type species: *Cynodonichthys tenuis* Meek, 1904. Type by original designation. Gender: masculine.
Vomerivulus Fowler, 1944: 244. Type species: *Rivulus leucurus* Fowler, 1944. Type by original designation. Gender: masculine.
Anablepsoides Huber, 1992: 43. Type species: *Rivulus atratus* Garman, 1895. Type by monotypy. Gender: masculine.
Oditichthys Huber, 1999: 49. Type species: *Rivulus igneus* Huber, 1991. Type by original designation. Gender: masculine.
Laimosemion Huber, 1999: 49. Type species: *Rivulus geayi* Vailant, 1899. Type by original designation. Gender: masculine.

Rivulus agilae Hoedeman, 1954
Rivulus agilae Hoedeman, 1954: 203, fig. 1. Type locality: Agila, rivulet between Agila and Berlijn at Para River (Suriname). Holotype: ZMA 100448a.
Rivulus manaensis Hoedeman, 1961: 61. Type locality: Mana River, Creek to saut Patawa, interior of French Guiana, about 85 km from coast. Holotype: ZMA 102252a.
 Maximum length: 5 cm TL
 Distribution: South America: Atlantic coastal river basins.
 Countries: French Guiana, Guyana, Suriname
 Common names: Toumblouc (French Guiana)

Rivulus altivelis Huber, 1992
Rivulus altivelis Huber, 1992: 93, fig. 29a. Type locality: Raudal Alto, approximately 90 km NE mouth of Río Papunava, Río Inirida basin, Guainia Departament, Colombia. Holotype: NRM 16548.
 Maximum length: 8.5 cm TL
 Distribution: South America: Orinoco River basin.

Countries: Colombia

Rivulus amphoreus Huber, 1979
Rivulus amphoreus Huber, 1979: 68, fig. 4. Type locality: À proximité du Tafelberg, zone de hautes collines culminant à plus de 1000 mètres d'altitude à 120 km au Sud-Sud-Ouest de Paramaribo. Holotype: MNHN 1979-286.
 Maximum length: 6 cm TL
 Distribution: South America: Atlantic river basins.
 Countries: Suriname

Rivulus apiamici Costa, 1989
Rivulus apiamici Costa, 1989a: 527, fig. 3. Type locality: Bata-guaçu, próximo a ponte de divisa do estado, Mato grosso do Sul, Brasil. Holotype: MZUSP 39976.
Rivulus vittatus Costa, 1989: 530, fig. 5. Type locality: Estrada São Simão-Jataí, 192 km ao S de Jataí, Goiás, Brasil. Holotype: MZUSP 39980.
 Maximum length: 3 cm SL
 Distribution: South America: Paraná River basin.
 Countries: Brazil

Rivulus atratus Garman, 1895
Rivulus atratus Garman, 1895: 140. Type locality: Rio Jutahy, Amazonas, Brazil. Lectotype: MCZ 6318, designated by Huber (1992:102).
 Maximum length: 4 cm TL
 Distribution: South America: Amazon River basin.
 Countries: Brazil, Colombia, Peru

Rivulus auratus Schreitmüller, 1928
Rivulus urophthalmus aurata Schreitmüller, 1928: 88. Type locality: Maharankao [Maranhão] (Brasilien). No types known.
 Maximum length: 5 cm TL
 Distribution: South America: Atlantic coastal river basins.
 Countries: Brazil

Rivulus bahianus Huber, 1990
Rivulus bahianus Huber, 1990: 14, fig. 1. Type locality: Près d'Itapoa (Itapoã), à quelques de mètres de l'entrée de l'aéroport international de Salvador do Bahia. Holotype: MNHN 1988-1172.
 Maximum length: 5.5 cm TL
 Distribution: South America: Atlantic coastal river basins.
 Countries: Brazil

Rivulus beniensis Myers, 1927
Rivulus beniensis beniensis Myers, 1927: 133. Type locality: Ivon, Río Beni, Bolivia. Lectotype: USNM 120432, designated by Fels & Huber (1985:35).
Rivulus beniensis lacustris Myers, 1927: 133. Type locality: Lagoons along shores of Lake Rogoagua. Bolivia. Lectotype: UMMZ 66396, designated in Fels & Huber (1985).
Rivulus bolivianus Seegers, 1988: 172, fig. 1. Type locality: Lagune Suarez, ca. 4 km SO Trinidad, Einzug des Río Mamore, 14°55'S, 64°55'W, Bolivien. Holotype: ZFMK 14602.
 Maximum length: 4 cm TL
 Distribution: South America: Mamoré-Guaporé River basin.
 Countries: Bolivia, Brazil

Rivulus birkhahni Berkenkamp & Etzel, 1992
Rivulus birkhahni Berkenkamp & Etzel, 1992: 102, fig. 1. Type locality: Bei Chiriqui Grande in der Provinz Bocas del Toro an der Karibikseite Panamas, 8°90'N, 82°10'W. Holotype: SMF 18436.
 Maximum length: 6 cm TL
 Distribution: South America: Caribbean river basins.
 Countries: Panama

Rivulus boehlkei Huber & Fels, 1985

- Rivulus boehlkei* Huber & Fels, 1985: 316, fig. 1. Type locality: Ruisseau temporaire affluent de la rivière La Miel du bassin de la Magdalena dans la Province de Caldas, Colombie centrale. Holotype: ANSP 139467.
Maximum length: 4.5 cm TL
Distribution: South America: Magdalena River basin.
Countries: Colombia
- Rivulus brasiliensis* (Valenciennes, 1821)**
Fundulus brasiliensis Valenciennes, in Humboldt & Valenciennes, 1821: 163. pl. 52 (fig. 3). Type locality: Brazil. Neotype: MNHN 2726, designated by Huber (1992:131).
Rivulus dorni Myers, 1924: 588. Type locality: Rio de Janeiro (Brazil). Holotype: BMNH 1924.4.28.1.
Maximum length: 6 cm TL
Distribution: South America: Atlantic coastal river basins.
Countries: Brazil
- Rivulus breviceps* Eigenmann, 1909**
Rivulus breviceps Eigenmann, 1909: 49. Type locality: Shrimp Creek (Guyana). Holotype: FMNH 52710.
Maximum length: 3.5 cm TL
Distribution: South America: Amazon River basin.
Countries: Guyana
- Rivulus brunneus* Meek & Hildebrand, 1913**
Rivulus brunneus Meek & Hildebrand, 1913: 86. Type locality: Toro Point, Canal Zone, Panama. Holotype: FMNH 7593.
Maximum length: 6 cm TL
Distribution: Central America: Atlantic river basins.
Countries: Panama
- Rivulus campelloi* Costa, 1990**
Rivulus campelloi Costa, 1990a: 42, fig. 1. Type locality: Brésil, Para, marais près de Primavera. Holotype: ZVC uncat.
Maximum length: 4.8 cm SL.
Distribution: South America: Lower Amazonas floodplains.
Countries: Brazil
- Rivulus caudomarginatus* Seegers, 1984**
Rivulus caudomarginatus Seegers, 1984: 307, fig. 10. Type locality: Greta [Grotta] Funda, in der Nähe eines technischen Zentrums der Armee, südlich von Rio de Janeiro [Brazil]. Holotype: ZFMK 12848.
Maximum length: 6 cm TL
Distribution: South America: Atlantic coastal river basins.
Countries: Brazil
- Rivulus christinae* Huber, 1992**
Rivulus christinae Huber, 1992: 147, fig. 36, pl. 39c. Type locality: tributary to Lago Tupac Amaru, near Puerto Maldonado, Río Madre de Dios basin, Madre de Dios department, southern Peru. Holotype: NRM 16547.
Maximum length: 6.5 cm TL
Distribution: South America: Amazon River basin.
Countries: Peru
- Rivulus chucunaque* Breder, 1925**
Rivulus chucunaque Breder, 1925: 7, fig. 6. Type locality: Río Chucunaque, in a small side stream near Yavisa, Provincia Darien, Panama. Holotype: AMNH 8406.
Rivulus chucunaque sucubti Breder, 1925: 8, fig. 7. Type locality: Río Sucubti, in a small side stream, Provincia Darien, Panama. Holotype: AMNH 8407.
Maximum length: 6 cm TL
Distribution: Central America: Pacific river basins of Panama.
Countries: Panama
- Rivulus cladophorus* Huber, 1991**
Rivulus cladophorus Huber, 1991: 71, fig. 6. Type locality: Station de la piste de Saint Elie, en bordure de la parcelle dite "Mosaïque" en Guyane intérieure, 4°85'N, 53°30'W. Holotype: MNHN 1991-364.
Maximum length: 5 cm TL
Distribution: South America: Atlantic coastal river basins.
Countries: French Guiana
- Rivulus compressus* Henn, 1916**
Rivulus compressus Henn, 1916: 111. pl. 18 (fig. 1). Type locality: Manáos (Manaus, Brazil). Holotype: FMNH 57003.
Maximum length: 7 cm TL
Distribution: South America: Middle Amazon River basin.
Countries: Brazil
- Rivulus corpulentus* Thomerson & Taphorn, 1993**
Rivulus corpulentus Thomerson & Taphorn, 1993: 58, fig. 1. Type locality: Small stream on Cordillera de La Macarena flowing west, Departamento de Meta, Colombia, 2°25'N, 73°52'W. Holotype: SU 69692.
Maximum length: 5.5 cm TL
Distribution: South America: Orinoco River basin.
Countries: Colombia
- Rivulus cryptocallus* Seegers & Huber, 1981**
Rivulus cryptocallus Seegers and Huber, 1981: 170. Type locality: Ravine Vilaine, Insel Martinique, Antillen. Holotype: MNHN 1979-666.
Distribution: Caribbean Islands: River basins of Martinique.
Countries: Martinique
- Rivulus cylindraceus* Poey, 1860**
Rivulus cylindraceus Poey, 1860: 308, 383. Type locality: Près de La Havane, dans un ruisseau qui se rend à Mordazo (Cuba). Lectotype: MCZ 6423.
Maximum length: 5.5 cm TL.
Distribution: Caribbean Islands: Coastal river basins of Cuba.
Countries: Cuba.
- Rivulus decoratus* Costa, 1989**
Rivulus decoratus Costa, 1989a: 530, fig. 6. Type locality: Proximidades da foz do rio Icatú, Ibiraba, Bahia, Brasil. Holotype: MZUSP 39982.
Maximum length: 5 cm TL
Distribution: South America: São Francisco River basin.
Countries: Brazil
- Rivulus deltaphilus* Seegers, 1983**
Rivulus deltaphilus Seegers, 1983: 39, fig. 1. Type locality: Orinoco-Delta, Ostvenezuela, zwischen den Städten Tucupita (9°05'N, 62°03'W) und Barancas (8°42'N, 62°11'W). Holotype: SMF 16394.
Maximum length: 6 cm TL
Distribution: South America: Orinoco River basin.
Countries: Venezuela
- Rivulus depressus* Costa, 1991**
Rivulus depressus Costa, 1991a: 585, fig. 2. Type locality: Brazil: Bahia, stream into Estação Ecológica Pau-Brasil, Rio João de Tiba basin, near Porto Seguro. Holotype: UFPB 2213.
Maximum length: 3.3 cm SL.
Distribution: South America: Atlantic coastal river basins.
Countries: Brazil
- Rivulus derhami* Fels & Huber, 1985**
Rivulus derhami Fels & Huber, 1985: 33, fig. 1. Type locality: L'enceinte de l'Université d'Agronomie (Universidad Agraria) à Tingo Maria dans le Pérou central, environ 9°S, 75°55'W. Holotype: MNHN 1985-577.
Maximum length: 5 cm TL
Distribution: South America: Amazon River basin.

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Countries: Peru

***Rivulus dibaphus* Myers, 1927**

Rivulus dibaphus Myers, 1927: 121. Type locality: Igarapé do Ajamuri, Lower Amazon (Brazil). Lectotype: CAS 44214, designated in Huber (1992:184).

Maximum length: 4 cm TL.

Distribution: South America: Amazon River basin.

Countries: Brazil

***Rivulus elegans* Steindachner, 1880**

Rivulus elegans Steindachner, 1880: 33, pl. 6 (fig. 6). Type locality: Río Cauca, Colombia. Lectotype: NMW 60544:1, designated by Huber (1992:190).

Maximum length: 6.5 cm TL

Distribution: South America: Pacific coastal river basins.

Countries: Colombia

***Rivulus elongatus* Fels & de Rham, 1981**

Rivulus elongatus Fels & de Rham, 1981: 66, fig. 5. Type locality: "Bosque Nacional Alexander von Humboldt", 8°42'S, 75°12'W, 86 km de Pucallpa sur la route Pucallpa-Tingo Maria (Peru). Holotype: MHNG 207963.

Maximum length: 5 cm TL

Distribution: South America: Amazon River basin.

Countries: Peru

***Rivulus erberi* Berkenkamp, 1989**

Rivulus erberi Berkenkamp, 1989: 211, fig. 9. Type locality: Sieben Kilometer östlich von Coca (= Puerto Francisco de Orellana), nahe dem Rio Napo, Ost-Ecuador (Oriente), 4°30'S, 76°54'W. Holotype: SMF 18432.

Maximum length: 6 cm TL

Distribution: South America: Amazon River basin.

Countries: Ecuador

***Rivulus frenatus* Eigenmann, 1912**

Rivulus frenatus Eigenmann, 1912: 453. Type locality: Gluck Island (Guyana). Holotype: FMNH 53538.

Maximum length: 5 cm TL

Distribution: South America: Essequibo River basin.

Countries: Guyana, Suriname

***Rivulus frommi* Berkenkamp & Etzel, 1993**

Rivulus frommi Berkenkamp & Etzel, 1993: 81, fig. 1. Type locality: Provinz Coclé nördlich von El Valle, Zentral-Panama, 8°58'N, 80°22'W. Holotype: SMF 18441.

Maximum length: 6 cm TL

Distribution: Central America: Pacific river basins.

Countries: Panama

***Rivulus fuscolineatus* Bussing, 1980**

Rivulus fuscolineatus Bussing, 1980: 336, fig. 1a. Type locality: Costa Rica, Guanacaste Province, Atlantic versant, Quebrada Santa Fe, 6.1 km north of Tilaran on road to Aguacate, 640 m elevation. Holotype: LACM 38276-1.

Maximum length: 7.5 cm TL

Distribution: Central America: Atlantic river basins of Costa Rica.

Countries: Costa Rica

***Rivulus garciai* Cruz & Dubitsky, 1976**

Rivulus garciai Cruz & Dubitsky, 1976: 4. Type locality: Charcos en el diente de perro, Varadero, Matanzas (Cuba). Lectotype: IZAC uncat.

Maximum length: 2.7 cm SL

Distribution: Caribbean Islands: Coastal drainages of Isla de Cuba.

Countries: Cuba

***Rivulus geayi* Vaillant, 1899**

Rivulus geayi Vaillant, 1899: 156. Type locality: Au delà des

sources de la Rivière Carnot, passant la ligne de faite qui sépare le bassin du Carsevenne de celui du Cachipour, aux origines de ce dernier. Lectotype: MNHN 1899-101, designated by Huber (1992:211).

Maximum length: 5 cm TL

Distribution: South America: Atlantic coastal rivers and Amazon River basin.

Countries: Brazil, French Guiana

Common names: Toumblouc (French Guiana)

***Rivulus glaucus* Bussing, 1980**

Rivulus glaucus Bussing, 1980: 342, fig. 2D. Type locality: Costa Rica, San José Province, tributary of Río Pedregoso at south edge of San Isidro de El General, 680 m elevation. Holotype: LACM 38277-1.

Maximum length: 5.5 cm TL

Distribution: Central America: Pacific coastal river basins.

Countries: Costa Rica

***Rivulus gransabanae* Lasso, Taphorn & Thomerson, 1992**

Rivulus gransabanae Lasso, Taphorn & Thomerson, 1992: 298, fig. 2. Type locality: Quebrada Pacheco, a small creek between Tuperere River II and San Ignacio Yuruaní, on the road from Kamá to San Ignacio Yuruaní, Gran Sabana, Bolivar State. Holotype: SCN 3883.

Maximum length: 5 cm TL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

***Rivulus haraldsiolii* Berkenkamp, 1984**

Rivulus haraldsiolii Berkenkamp, 1984: 430, fig. 1. Type locality: Unteren Itapocú in Staat Santa. Catarina, Südost-Brasilien, 27°16'30"S, 48°43'00"W. Holotype: ZMH 6530.

Maximum length: 5 cm TL

Distribution: South America: Atlantic coastal river basins.

Countries: Brazil

***Rivulus hartii* (Boulenger, 1890)**

Haplochilus hartii Boulenger, 1890: 170. Type locality: Trinidad. Lectotype: BMNH 1890.4.28.11, designated by Huber (1992:227).

Rivulus bondi Schultz, 1949: 92, fig. 12. Type locality: Tributary to Río Guaire, La Florida, Caracas, Venezuela. Holotype: UMMZ 141914.

Maximum length: 10 cm TL

Distribution: South America: Caribbean coastal river basins.

Countries: Netherlands Antilles, Trinidad and Tobago, Venezuela

Common names: Jumping guabine (Trinidad and Tobago), Leaping guabine (Trinidad and Tobago)

***Rivulus hildebrandi* Myers, 1927**

Rivulus hildebrandi Myers, 1927: 123. Type locality: Boquete, Chiriquí, Panama. Holotype: UMMZ 56876.

Rivulus volcanus Hildebrand, 1938: 316, fig. 8. Type locality: Laguna Grande (Davis) near Volcán, Chiriquí [Río Chiriquí Viejo basin], Panama. Holotype: USNM 106509.

Maximum length: 9 cm TL

Distribution: Central America: Pacific river basins.

Countries: Costa Rica, Panama

***Rivulus holmiae* Eigenmann, 1909**

Rivulus holmiae Eigenmann, 1909: 50. Type locality: Creeks about Holmia (Guyana). Holotype: FMNH 53535.

Maximum length: 8 cm TL

Distribution: South America: Amazon River basin.

Countries: Guyana

***Rivulus igneus* Huber, 1991**

Rivulus igneus Huber, 1991: 68, fig. 3a. Type locality: Montagne des Singes, 5°10'N, 52°70'W. Holotype: MNHN 1989-1643.
Maximum length: 15 cm TL
Distribution: South America: Oyapock River basin and adjacent coastal basins.
Countries: Brazil, French Guiana
Common names: Toumblouc (French Guiana)

***Rivulus immaculatus* Thomerson, Nico & Taphorn, 1991**

Rivulus immaculatus Thomerson, Nico & Taphorn, 1991: 323. Type locality: La Mejicana, km 105, road between El Dorado and Sta. Elena de Uairen, Bolivar State, Venezuela, 06°03'N, 61°23'W. Holotype: MBUCV 19092.
Maximum length: 9.5 cm TL
Distribution: South America: Amazon River basin.
Countries: Venezuela

***Rivulus insulaepinorum* Cruz & Dubitsky, 1976**

Rivulus insulaepinorum Cruz & Dubitsky, 1976: 2. Type locality: Canales y charcos de una arrocera, 3 km al Norte de Cayo Piedras, La Fe, Isla de Pinos (Cuba). Holotype: IZAC uncat.
Maximum length: 3.8 cm TL.
Distribution: Caribbean Islands: Coastal drainages of Isle of Pines.
Countries: Cuba

***Rivulus intermittens* Fels & de Rham, 1981**

Rivulus intermittens Fels & de Rham, 1981: 66, fig. 1. Type locality: Type locality: "Vivero Forestal El Varillal", 4°04'S, 73°27'W, 34 km d'Iquitos sur la route Iquitos-Nauta (Peru). Holotype: MHNG 207933.
Maximum length: 7.5 cm TL
Distribution: South America: Amazon River basin.
Countries: Peru

***Rivulus iridescens* Fels & de Rham, 1981**

Rivulus iridescens Fels & de Rham, 1981: 66, fig. 4. Type locality: "Arboretum", 3 km de Jenaro Herrera, sur la route en construction, vers Colonia Angamos, 4°53'S, 73°47'W (Peru). Holotype: MHNG 207957.
Maximum length: 7.5 cm TL
Distribution: South America: Amazon River basin.
Countries: Peru

***Rivulus isthmensis* Garman, 1895**

Rivulus isthmensis Garman, 1895: 140. Type locality: Río San José, Costa Rica. Holotype: MCZ 27475.
Rivulus flabellicauda Regan, 1907: 64. Type locality: Juan Veñas, Costa Rica, elev. 1100 m. Holotype: BMNH 1907.6.28.37.
Maximum length: 7 cm TL
Distribution: Central America: Costa Rica and Nicaragua.
Countries: Costa Rica, Nicaragua

***Rivulus janeiroensis* Costa, 1991**

Rivulus janeiroensis Costa, 1991a: 583, fig. 1. Type locality: Brazil: Estado do Rio de Janeiro: stream into forest, Rio São João basin, near Silva jardim. Holotype: MZUSP 41383.
Maximum length: 3.7 cm SL.
Distribution: South America: Atlantic coastal river basins.
Countries: Brazil

***Rivulus jucundus* Huber, 1992**

Rivulus jucundus Huber, 1992: 273. pl. 37 (fig. b). Type locality: Near Puyo (on Rio Pastaza), alt. 900-1000 m, Pastaza department, Ecuador Marañon-Amazon basin. Holotype: MHNG 2532.90.
Maximum length: 5 cm TL
Distribution: South America: Amazon River basin.
Countries: Ecuador

***Rivulus kuelpmanni* Berkenkamp & Etzel, 1993**

Rivulus kuelpmanni Berkenkamp & Etzel, 1993: 17. Type locality: Provinz Bocas del Toro, in 200 m Höhe am Fusse der Cordillera Central 20 km von Punta Peña entfernt, 8°70'N, 88°15'W (Panama). Holotype: SMF 18439.
Maximum length: 6 cm TL
Distribution: Central America: Caribbean river drainages.
Countries: Panama

***Rivulus lanceolatus* Eigenmann, 1909**

Rivulus lanceolatus Eigenmann, 1909: 51. Type locality: Rockstone (Guyana). Holotype: FMNH 53537.
Maximum length: 5.5 cm TL
Distribution: South America: Atlantic coastal river basins.
Countries: Guyana

***Rivulus leucurus* Fowler, 1944**

Rivulus leucurus Fowler, 1944: 244, fig. 21. Type locality: Río Juradó (Colombia), at 600 ft elevation. Holotype: ANSP 71436.
Maximum length: 7 cm TL
Distribution: South America: Pacific coastal basins.
Countries: Colombia

***Rivulus limoncochae* Hoedeman, 1962**

Rivulus limoncochae Hoedeman 1962: 146, fig. 2. Type locality: Ecuador, Limoncocha, Río Napo trib., rivulet emptying into lagoon. Holotype: ZMA 100339a.
Maximum length: 7.5 cm TL
Distribution: South America: Amazon River basin.
Countries: Ecuador

***Rivulus luelingi* Seegers, 1984**

Rivulus luelingi Seegers, 1984: 273, fig. 1. Type locality: Nahe beim Rio Pirai bei Joinville, Südost-Brasilien. Holotype: ZFMK 11671.
Maximum length: 5 cm TL
Distribution: South America: Atlantic coastal river basins.
Countries: Brazil

***Rivulus lungi* Berkenkamp, 1984**

Rivulus lungi Berkenkamp, 1984: 14, fig. 1. Type locality: Südwestl. von Matoury, 4°54'N, 52°19'W. Holotype: SMF 18426.
Maximum length: 6.5 cm TL
Distribution: South America: Atlantic coastal drainages.
Countries: French Guiana
Common names: Toumblouc (French Guiana)

***Rivulus lyricauda* Thomerson, Berkenkamp & Taphorn, 1991**

Rivulus lyricauda Thomerson, Berkenkamp & Taphorn, 1991: 290, figs. 1-3. Type locality: Small stream draining morichal swamp below guest houses at Campamiento Canaima, tributary to Río Carrao, Río Caroni basin, Bolivar State, Venezuela, 6°15'N, 62°48'W. Holotype: MCNG 21715.
Maximum length: 5.5 cm TL
Distribution: South America: Amazon River basin.
Countries: Venezuela

***Rivulus magdalenae* Eigenmann & Henn, 1916**

Rivulus magdalenae Eigenmann & Henn in Henn, 1916: 109. Type locality: Ibagué (Colombia), elev. 4250 ft. Holotype: FMNH 56997.
Rivulus milesi Fowler, 1941: 9, fig. 10. Type locality: Honda, Colombia. Holotype: ANSP 69337.
Maximum length: 7 cm TL
Distribution: South America: Magdalena and Cauca River basins.
Countries: Colombia

***Rivulus marmoratus* Poey, 1880**

Rivulus marmoratus Poey, 1880: 248. Type locality: Cuba, si nin existen en los Estados Unidos. Lectotype: USNM 37429 8346.

Rivulus marmoratus bonairensis Hoedeman, 1958: 117, fig. 19. Type locality: Pos di Pepe, Bonaire. Holotype: ZMA 100436.

Rivulus heyei Nichols, 1914: 143. Type locality: Saona Island at the eastern extremity of Haiti. Holotype: AMNH 5069.

Maximum length: 7.5 cm TL

Distribution: North, Central, and South America and Caribbean Islands: Estuarine areas at the Caribbean coast.

Countries: Cuba, USA, Mexico, Caribbean Islands, Caribbean coast of South and Central America

***Rivulus mazaruni* Myers, 1924**

Rivulus mazaruni Myers, 1924: 1. Type locality: Mutusi hole, about 30 miles up the Mazaruni River from Kartabo, after high water had subsided (Guyana). Holotype: AMNH 8346.

Maximum length: 6 cm TL

Distribution: South America: Essequibo River basin.

Countries: Guyana

***Rivulus micropus* (Steindachner, 1863)**

Fundulus micropus Steindachner, 1863: 184. Type locality: Rio Negro in Brazilien. Holotype: NMW 77672.

Maximum length: 6 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

***Rivulus modestus* Costa, 1991**

Rivulus modestus Costa, 1991b: 329, fig. 1. Type locality: Rio Mutum, bacia do Rio Tapajós, Mun. (Município) Comodoro, MT, Brasil. Holotype: MNRJ 11670.

Maximum length: 2.4 cm SL.

Distribution: South America: Tapajós River basin.

Countries: Brazil

Remarks and references: Redescribed by Costa (1995b: 209).

***Rivulus monikae* Berkenkamp & Etzel, 1995**

Rivulus monikae Berkenkamp & Etzel, 1995: 1, fig. 1. Type locality: Provinz Coclé, 15 km nördlich von La Pintada, Zentral-Panama, 8°40'N, 80°40'W. Holotype: SMF 18451.

Maximum length: 8 cm TL

Distribution: Central America: Caribbean river drainages.

Countries: Panama

***Rivulus monticola* Staeck & Schindler, 1997**

Rivulus monticola Staeck & Schindler, 1997: 372, figs. 1-3. Type locality: Small brook beside road from Tayuza to Chinimpini, eastern slopes of the Cordillera de Allcuquiro, 2°39'N, 78°13'W, Upano-Santiago drainage, provincia de Moreno-Santiago, Ecuador. Holotype: ZMB 32681.

Maximum length: 5 cm TL.

Distribution: South America: Amazon River basin.

Countries: Ecuador

***Rivulus montium* Hildebrand, 1938**

Rivulus montium Hildebrand, 1938: 319, fig. 9. Type locality: Hillside trickle between Río Boquerón and Río Pequeni, Chagres basin, Panama. Holotype: MCZ 34880.

Maximum length: 8 cm TL

Distribution: Central America: Atlantic river basins.

Countries: Panama

***Rivulus nicoi* Thomerson & Taphorn, 1992**

Rivulus nicoi Thomerson & Taphorn, 1992: 380, fig. 4. Type locality: Small forest pools ca 500 m from right bank of Río Ventuari, 4°16'N, about 5.5 km upstream of confluence with Río Yureba, 66°23'W, Orinoco drainage, Amazonas Federal Territory, Venezuela. Holotype: MCNG 23891.

Maximum length: 3 cm TL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

***Rivulus nudiventris* Costa & Brasil, 1991**

Rivulus nudiventris Costa & Brasil, 1991a: 380, fig. 3. Type locality: Brazil, Espírito Santo, County of Itapemerim, swamp on right bank of Rio Itapemerim, ca. 2 km from the sea. Holotype: MZUSP 40283.

Maximum length: 3.6 cm SL.

Distribution: South America: Itapemerim River floodplains.

Countries: Brazil

***Rivulus ocellatus* Hensel, 1868**

Rivulus ocellatus Hensel, 1868: 365. Type locality: Rio de Janeiro (Brazil). Holotype: ZMB 7448.

Maximum length: 6 cm TL.

Distribution: South America: Estuarine areas of Atlantic coast.

Countries: Brazil

***Rivulus ophiomimus* Huber, 1992**

Rivulus ophiomimus Huber, 1992: 344. pl. 3 (fig. d). Type locality: Río Putumayo basin, El Estrecho,

Fundo Alvarez, Quebradita, northern Peru. Holotype: NRM 16550.

Maximum length: 8.5 cm TL

Distribution: South America: Amazon River basin.

Countries: Peru

***Rivulus ornatus* Garman, 1895**

Rivulus ornatus Garman, 1895: 139. Type locality: Lago Saracá at Silves, Amazonas, Brazil. Lectotype: MCZ 6266, designated by Huber (1992: 347).

Rivulus obscurus Garman, 1895: 140. Type locality: Lago Hyanuary, Amazonas, Brazil. Lectotype: MCZ 6853, designated by Huber (1992: 336).

Maximum length: 3.5 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

***Rivulus pacificus* Huber, 1992**

Rivulus pacificus Huber 1992: 351, fig. 67. Type locality: Condoto, quebrada in forest along road Condoto-Soledad, 5 minutes from Airport road, western Pacific Colombia, Río San Juan basin. Holotype: NRM 16551.

Maximum length: 7.5 cm TL

Distribution: South America: Pacific coastal river basins.

Countries: Colombia

***Rivulus peruanus* (Regan, 1903)**

Haplochilus peruanus Regan, 1903: 626. Type locality: Perim, Peru, 800 metres. Lectotype: BMNH 1903.11.5.2, designated by Huber (1992: 355).

Maximum length: 5.5 cm TL

Distribution: South America: Amazon River basin.

Countries: Peru

***Rivulus pictus* Costa, 1989**

Rivulus pictus Costa, 1989a: 525, fig. 2. Type locality: Córrego Fumal no cruzamento com a rodovia Brasília-Distrito Federal, Brasil. Holotype: MNRJ 11550.

Maximum length: 2.6 cm SL.

Distribution: South America: Paraná River basin.

Countries: Brazil

***Rivulus pinima* Costa, 1989**

Rivulus pinima Costa, 1989a: 528, fig. 4. Type locality: Município de Rio Verde, 37 km a leste de Jataí, BR 364, Goiás, Brail. Holotype: MZUSP 39978.

Maximum length: 3 cm SL

Distribution: South America: Paraná River basin.

Countries: Brazil

Rivulus punctatus Boulenger, 1895

Rivulus punctatus Boulenger, 1895: 3. Type locality: Colonia Riso (Paraguay). Holotype: BMNH 1895.1.30.

Maximum length: 3.5 cm TL

Distribution: South America: Paraguay, lower Paraná and Uruguay River basins.

Countries: Argentina, Bolivia, Brazil, Paraguay

Remarks and references: Redescribed by Costa (1995b: 210).

Rivulus rectocaudatus Fels & de Rham, 1981

Rivulus rectocaudatus Fels & de Rham, 1981: 66, fig. 1. Type locality: "Vivero Forestal El Varillal", 4°04'S, 73°27'W, 34 km d'Iquitos sur la route Iquitos-Nauta (Peru). Holotype: MHNG 207910.

Maximum length: 6 cm TL

Distribution: South America: Amazon River basin.

Countries: Peru

Rivulus roloffi Roloff, 1938

Rivulus roloffi Roloff, 1938: 597, fig. 2. Type locality: Ciudad Trujillo and Puerto Plata, San Domingo.

Lectotype: BMNH 1947.11.27:1-3.

Maximum length: 5.5 cm TL

Distribution: Caribbean Islands: River basins of Hispanola Island.

Countries: Dominican Republic

Rivulus rubripunctatus Bussing, 1980

Rivulus isthmensis rubripunctatus Bussing, 1980: 334, fig. 1. Type locality: Limón Province, pond 1/2 km southwest of Puerto Vargas, Punta Cahuita (Costa Rica), 2 m elevation. Holotype: LACM 38278-1.

Maximum length: 7 cm TL

Distribution: Central America: Atlantic river basins.

Countries: Costa Rica

Rivulus rubrolineatus Fels & de Rham, 1981

Rivulus rubrolineatus Fels & de Rham, 1981: 66, fig. 3. Type locality: 14 km de Jenaro Herrera, sur la route en construction, vers Colonia Angamos 4°53'S, 73°41'W (Peru). Holotype: MHNG 207946.

Maximum length: 6.5 cm TL

Distribution: South America: Amazon River basin.

Countries: Peru

Rivulus santensis Köhler, 1906

Rivulus elegans santensis Köhler, 1906: 408, fig. 1. Type locality: West of Santos, near Pedro Taques, Brazil. Neotype: MNHN 1991-6856.

Rivulus rachovii Ahl, 1923: 109. Type locality: Pará [incorrect, probably Santos]. Lectotype: ZMB 31316.

Maximum length: 6.5 cm TL

Distribution: South America: Atlantic coastal river basins.

Countries: Brazil

Rivulus siegfriedi Bussing, 1980

Rivulus uroflammeus siegfriedi Bussing, 1980: 340, fig. 2C. Type locality: Costa Rica, Puntarenas Province, stream tributary to Río Térraba, 3.6 km south of Palmar Norte, 20 m elevation. Holotype: LACM 38274-1.

Maximum length: 4.5 cm TL

Distribution: Central America: Pacific river basins.

Countries: Costa Rica

Rivulus speciosus Fels & de Rham, 1981

Rivulus speciosus Fels & de Rham, 1981: 66, fig. 6. Type locality: Quisto Cocha, 3°56'S, 72°24'W, 18 km d'Iquitos sur la route Iquitos-Nauta (Peru). Holotype: MHNG 207968.

Maximum length: 3.5 cm TL

Distribution: South America: Amazon River basin.

Countries: Peru

Rivulus stagnatus Eigenmann, 1909

Rivulus stagnatus Eigenmann, 1909: 50. Type locality: Christianburg (Guyana). Holotype: FMNH 52715.

Maximum length: 6 cm TL

Distribution: South America: Atlantic coastal river basins.

Countries: Guyana, Suriname

Rivulus strigatus Regan, 1912

Rivulus strigatus Regan, 1912a: 502. Type locality: Amazon. Holotype: BMNH 1912.8.30.5.

Maximum length: 6 cm TL

Distribution: South America: Lower Amazon River basin.

Countries: Brazil

Rivulus taeniatus Fowler, 1945

Rivulus taeniatus Fowler, 1945: 129, fig. 44. Type locality: Morelia, Río Caquetá drainage, Colombia. Holotype: ANSP 71720.

Maximum length: 6 cm TL

Distribution: South America: Amazon River basin.

Countries: Colombia

Rivulus tecminae Thomerson, Nico & Taphorn, 1992

Rivulus tecminae Thomerson, Nico & Taphorn, 1992: 290, fig. 1. Type locality: About 500 m from the left bank, Rio Guayapo, about 83 km above confluence with Rio Sipapo, Orinoco basin, Amazonas Federal Territory, Venezuela, 4°16'N, 67°20'W. Holotype: MCNB 23886.

Maximum length: 5.5 cm TL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

Rivulus tenuis (Meek, 1904)

Cynodonichthys tenuis Meek, 1904: 101, fig. 27. Type locality: El Hule, Oaxaca (Mexico). Holotype: FMNH 4643.

Rivulus godmani Regan, 1907: 65. Type locality: Guatemala. Lectotype: BMNH 1885.5.24.39, designated by Huber (1992: 218).

Rivulus myersi Hubbs, 1936: 210, pl. 2 (fig. 1). Type locality: Slightly brackish pool 3 km south of Progreso, Yucatán (Mexico). Holotype: UMMZ 102140.

Rivulus hendrichsi Alvarez & Carranza, 1952: 281, fig. 1. Type locality: Salto de Agua, Chiapas, Manantial a 2 km al suroeste de la Ciudad (Mexico). Holotype: unknown.

Maximum length: 6.5 cm TL

Distribution: North and Central America: Atlantic river basins.

Countries: Belize, Guatemala, Honduras, Mexico

Common names: Dogtooth rivulus (Belize)

Rivulus tessellatus Huber, 1992

Rivulus tessellatus Huber, 1992: 433, fig. 82a. Type locality: Hacienda Mozambique, western tip of Lake Mozambique, east side Hacienda Humacita, Meta department, Colombia. Holotype: ANSP 139468.

Maximum length: 4.5 cm TL

Distribution: South America: Orinoco River basin.

Countries: Colombia

Rivulus torrenticola Vermeulen & Isbrücker, 2000

Rivulus torrenticola Vermeulen and Isbrücker, 2000: 186, fig. 1. Type locality: Guyana, upper Mazaruni Reserve, near Kamarang village, little creek at right bank of the Kamarang River, half a mile up from the landing of the general store of Paul James, 05°50'20"N 60°30'58"W. Holotype: ZMA 123.467.

Maximum length: 3.2 cm TL

Distribution: South America: Kamarang River basin in Guyana.

Countries: Guyana

***Rivulus uroflammeus* Bussing, 1980**

Rivulus uroflammeus uroflammeus Bussing, 1980: 338, fig. 2B.
Type locality: Pond at San Vito landing field, tributary to Río Coto Brus, 990 m elevation, Puntarenas Province, Costa Rica.
Holotype: LACM 38275-1.
Maximum length: 4.5 cm TL
Distribution: Central America: Pacific river basins.
Countries: Costa Rica, Panama

***Rivulus urophthalmus* Günther, 1866**

Rivulus urophthalmus Günther, 1866: 327. Type locality: Para [Belém, Pará, Brazil]. Lectotype: BMNH 1851.12.26.16, designated by Huber (1991: 67).
Rivulus poeyi Steindachner, 1876: 165. Type locality: Kanälen der Stadt Para. Type unknown.
Maximum length: 7 cm TL
Distribution: South America: Amazon River basin.
Countries: Brazil

***Rivulus violaceus* Costa, 1991**

Rivulus violaceus Costa, 1991b: 331, fig. 2C. Type locality: Rio das Mortes, bacia do rio Araguaia-Tocantins, MT, Brasil. Holotype: MNRJ 11672.
Maximum length: 3 cm SL.
Distribution: South America: Araguaia River basin.
Countries: Brazil
Remarks and references: Redescribed by Costa (1995b: 219).

***Rivulus waimacui* Eigenmann, 1909**

Rivulus waimacui Eigenmann, 1909: 50. Type locality: Shrimp Creek (Guyana). Holotype: FMNH 53536.
Maximum length: 8.5 cm TL
Distribution: South America: Amazon River basin.
Countries: Guyana

***Rivulus wassmanni* Berkenkamp & Etzel, 1999**

Rivulus wassmanni Berkenkamp and Etzel, 1999: 62. fig. 1. Type locality: Panamá; Provinz Bocas del Toro, vier Kilometer westlich Changuinola an der Karibik- bzw. Atlantikseite von Panamá, 09°28' Nord und 82°34' West. Holotype: SMF 18462.
Maximum length: 5.8 cm TL
Distribution: South America: Atlantic coastal drainages.
Countries: Panama

***Rivulus weberi* Huber, 1992**

Rivulus weberi Huber, 1992: 455. pl. 16 (fig. a). Type locality: Culvert on El Llano-Carti road, about 12 km from IAH crossing, Pacific Panama, Lago Bayano basin. Holotype: ANSP 151287.
Maximum length: 9 cm TL
Distribution: Central America: Pacific river basins.
Countries: Panama

***Rivulus xanthonotus* Ahl, 1926**

Rivulus xanthonotus Ahl, 1926: 315. Type locality: Amazon Strom. Amazonas. Lectotype: ZMB 21168, designated by Seegers in Paepke & Seegers (1986: 169).
Maximum length: 7.5 cm TL
Distribution: South America: Amazon River basin.
Countries: Brazil

***Rivulus xiphidius* Huber, 1979**

Rivulus xiphidius Huber, 1979: 66, fig. 3. Type locality: En amont de Saint-Georges, en retrait du Saut Maripa à quelques centaines de mètres de l'Oyapock, Guyane Française. Holotype: MNHN 1979-284.
Maximum length: 4.5 cm TL
Distribution: South America: Oyapock River basin and adjacent coastal drainages.
Countries: French Guiana, Brazil

Common names: Toumblouc (French Guiana)

***Rivulus zygonectes* Myers, 1927**

Rivulus zygonectes Myers, 1927: 127. Type locality: Vereda Extrema into Cannabrava, Goyas, Brazil. Lectotype: CAS 76314, designated by Huber (1992: 464).
Maximum length: 4 cm TL
Distribution: South America: Araguaia, Tocantins, Xingu and Tapajós River basins.
Countries: Brazil
Remarks and references: Redescribed by Costa (1995b: 216).

SIMPSONICHTHYS

Simpsonichthys Carvalho, 1959: 2. Type species: *Simpsonichthys boitonei* Carvalho, 1959. Type by original designation. Gender: masculine.

***Simpsonichthys adornatus* Costa, 2000**

Simpsonichthys adornatus Costa, 2000: 9, fig. 1. Type locality: Brasil: Estado da Bahia, poça temporária perto de Sítio do Mato, bacia do rio São Francisco. Holotype: MZUSP 54563.
Maximum length: 6 cm TL.
Distribution: South America: São Francisco River basin.
Countries: Brazil

***Simpsonichthys alternatus* (Costa & Brasil, 1994)**

Cynolebias alternatus Costa & Brasil, 1994a: 7, fig. 4. Type locality: Brésil: Estado de Minas Gerais, João Pinheiro, près du rio Paracatú, bassin du rio São Francisco. Holotype: MNRJ 12523.
Maximum length: 2.8 cm SL.
Distribution: South America: São Francisco River basin.
Countries: Brazil

***Simpsonichthys antenori* (Tulipano, 1973)**

Cynolebias antenori Tulipano, 1973: 23, fig. 1. Type locality: Ceará Brazil. Neotype: MZUSP 56256. Appeared first in Myers 1952:139 (nomen nudum). Type locality: temporary ponds near Russas, rio Jaguaribe basin, state of Ceará, Brazil.
Cynolebias heloplites Huber, 1981: 1, fig. 1. Type locality: Lagoa du km 76 de la route Fortaleza-Russas, (Ceará, Sertão, Brésil). Holotype: MNHN 1981-1211.
Maximum length: 7 cm TL
Distribution: South America: Jaguaribe and Mossoró River basins, and adjacent coastal plains.
Countries: Brazil

***Simpsonichthys auratus* Costa & Nielsen, 2000**

Simpsonichthys auratus Costa & Nielsen, 2000: 8, fig. 1. Type locality: Lagoa Grande, temporary pool close to rio Taboca, a tributary of rio Paracatú, rio São Francisco basin, Minas Gerais, Brazil. Holotype: MZUSP 52912.
Maximum length: 5 cm TL.
Distribution: South America: São Francisco River basin.
Countries: Brazil

***Simpsonichthys boitonei* Carvalho, 1959**

Simpsonichthys boitonei Carvalho, 1959: 5, fig. 1. Type locality: Poça d'água temporária, na área reservada ao Jardim Zoológico de Brasília, futura Capital, situada no planalto central do Estado de Goiás, a 1000 metros de altitude. Holotype: MNRJ 9012.
Maximum length: 5.5 cm TL
Distribution: South America: Upper Paraná River basin.
Countries: Brazil
Common names: Pira (Brazil)

***Simpsonichthys bokermanni* (Carvalho & Cruz, 1987)**

Cynolebias bokermanni Carvalho & Cruz, 1987: 12, fig. 1. Type locality: Área da CEPLAC, município de Ilhéus, Estado da Ba-

hia. Holotype: MNRJ 11167.
Maximum length: 6.5 cm TL
Distribution: South America: Cachoeira River basin in Bahia State.
Countries: Brazil

***Simpsonichthys chacoensis* (Amato, 1986)**

Cynolebias chacoensis Amato, 1986: 10. pl. 5. Type locality: Paraguay, Nueva Asunción, Charca Topógrafo Acevedo, a 14 km del comando de transmisiones "Tte. 2° Américo Pico", a 624 km de Asunción hacia el NW, por la ruta que une Mariscal Estigarribia con Lagerenza. Holotype: MHNM 2577.
Maximum length: 6 cm TL
Distribution: South America: Paraguay River basin.
Countries: Paraguay

***Simpsonichthys constanciae* (Myers, 1942)**

Cynolebias constanciae Myers, 1942: 105. Type locality: Water hole for cattle, 10 miles north of Cabo frio, State of Rio de Janeiro, Brazil. Holotype: SU 36514.
Maximum length: 6 cm TL
Distribution: South America: Atlantic coastal river basins.
Countries: Brazil

***Simpsonichthys costai* (Lazara, 1991)**

Cynolebias costai Lazara, 1991: 144, fig. 3. Type locality: Brazil, State of Goias, Aruana, temporary pool. Holotype: MZUSP 38790.
Maximum length: 3 cm TL.
Distribution: South America: Araguaia-Tocantins River basin.
Countries: Brazil

***Simpsonichthys filamentosus* Costa, Barrera & Sarmiento, 1997**

Simpsonichthys filamentosus Costa, Barrera & Sarmiento, 1997: 84, fig. 1. Type locality: Bolivia: Departamento de Santa Cruz, route Santa Cruz-Trinidad, environ 60 km au N d'Ascencion de Guarayos, dans un marécage proche du rio San Pablo, bassin du rio Mamoré, ca. 15°37'S, 63°35'W. Holotype: CBF 3002.
Maximum length: 5 cm TL.
Distribution: South America: Mamoré River basin.
Countries: Bolivia

***Simpsonichthys flammeus* (Costa, 1989)**

Cynolebias flammeus Costa, 1989d: 185. Type locality: Brejo na confluência dos rios Bezerra e Paraná (Paraná), Município de Arraias, TO (Estado do Tocantins), Brasil. Holotype: MNRJ 11552.
Maximum length: 6 cm TL.
Distribution: South America: Tocantins River basin.
Countries: Brazil

***Simpsonichthys flavicaudatus* (Costa & Brasil, 1990)**

Cynolebias flavicaudatus Costa & Brasil, 1990: 18, fig. 4. Type locality: Brazil, Pernambuco, Vicinities of Lagoa Grande, county of Santa Maria da Boa Vista. Holotype: MZUSP 40129.
Maximum length: 8 cm TL.
Distribution: South America: São Francisco River basin.
Countries: Brazil

***Simpsonichthys fulminantis* (Costa & Brasil, 1993)**

Cynolebias fulminantis Costa & Brasil, 1993: 194, fig. 1. Type locality: Brazil: Estado da Bahia: Swamp near Guanambi, 14°20'S, 42°51'W. Holotype: MZUSP 43674.
Maximum length: 6 cm TL.
Distribution: South America: Middle São Francisco River basin.
Countries: Brazil

***Simpsonichthys ghisolfii* Costa, Cyrino & Nielsen, 1996**

Simpsonichthys ghisolfii Costa, Cyrino & Nielsen, 1996: 18, fig. 1.
Type locality: Brésil: Estado da Bahia, Guanambi. Holotype: MZUSP 49403.
Maximum length: 9 cm TL.
Distribution: South America: São Francisco River basin.
Countries: Brazil

***Simpsonichthys hellneri* (Berkenkamp, 1993)**

Cynolebias hellneri Berkenkamp, 1993: 8, fig. 3. Type locality: Teich an der Strasse Manga nach Itacarambi in Richtung Januária, ca. 10,5 km vor itacarambi im Municipio (Bezirk) Manga, Estado (Bundesstaat) Minas Gerais, Brasilien. Holotype: MZUSP uncat.
Maximum length: 6 cm TL
Distribution: South America: São Francisco River basin.
Countries: Brazil

***Simpsonichthys igneus* Costa, 2000**

Simpsonichthys igneus Costa, 2000: 10, fig. 3. Type locality: Brasil: Estado da Bahia, poça temporária perto de Igarité, bacia do rio São Francisco. Holotype: MZUSP 56254.
Maximum length: 7 cm TL.
Distribution: South America: São Francisco River basin.
Countries: Brazil

***Simpsonichthys izecksohni* (Cruz, 1983)**

Cynolebias izecksohni Cruz, 1983: 74, fig. 1. Type locality: Reserva Florestal da Companhia Vale do Rio Doce, Município de Linhares, Estado do Espírito Santo [Brazil]. Holotype: MNRJ 10613.
Maximum length: 6 cm TL
Distribution: South America: Atlantic coastal river basins.
Countries: Brazil

***Simpsonichthys magnificus* (Costa & Brasil, 1991)**

Cynolebias magnificus Costa & Brasil, 1991b: 59, fig. 5. Type locality: Brazil, Minas Gerais, County of Manga, Right bank plain of the Rio São Francisco, about 1 km from the river channel. Holotype: MZUSP 41374.
Maximum length: 5 cm TL
Distribution: South America: Middle São Francisco River basin.
Countries: Brazil

***Simpsonichthys marginatus* Costa & Brasil, 1996**

Simpsonichthys marginatus Costa & Brasil, 1996: 94, fig. 1. Type locality: Brésil: Estado de Goiás, Barro Alto, mare temporaire près du rio dos Patos, un affluent du rio Maranhão, bassin du rio Tocantins. Holotype: MNRJ 12440.
Maximum length: 6 cm TL.
Distribution: South America: São Francisco River basin.
Countries: Brazil

***Simpsonichthys multiradiatus* (Costa & Brasil, 1994)**

Cynolebias multiradiatus Costa & Brasil, 1994b: 1, fig. 1. Type locality: Brésil: Estado do Tocantins, mare temporaire à Brejinho de Nazare, 10°59'S, 48°38' O. Holotype: MNRJ 12519.
Maximum length: 6 cm TL.
Distribution: South America: Middle Tocantins River basin.
Countries: Brazil

***Simpsonichthys myersi* (Carvalho, 1971)**

Cynolebias myersi Carvalho, 1971: 401, fig. 1. Type locality: Poça d'água temporária às margens da rodovia que liga Conceição da Barra à Itaunas, a 18 km daquela cidade, E. do Espírito Santo [Brazil]. Holotype: MNRJ 9849.
Maximum length: 6 cm TL
Distribution: South America: Atlantic coastal river basins.
Countries: Brazil

***Simpsonichthys notatus* (Costa, Lacerda & Brasil,**

1990)

Cynolebias notatus Costa, Lacerda & Brasil, 1990: 10, fig. 1. Type locality: Brésil, Etat de Goiás, Municipio de Alvorada do Norte, lagune temporaire, 14°30'S, 46°42' O. Holotype: MZUSP 39985.

Maximum length: 5 cm TL

Distribution: South America: Upper Tocantins River basin.

Countries: Brazil

Simpsonichthys ocellatus Costa, Nielsen & de Luca, 2001

Simpsonichthys ocellatus Costa, Nielsen and de Luca, 2001: 25, fig. 1. Type locality: Brasil: Estado de Minas Gerais, poça temporária próxima ao rio Jequitinhonha, perto de Itaobim, estrada BR-367. Holotype: MZUSP 61232.

Maximum length: 5 cm TL.

Distribution: South America: Jequitinhonha River basin.

Countries: Brazil

Simpsonichthys parallelus Costa, 2000

Simpsonichthys parallelus Costa, 2000: 13, fig. 7. Type locality: Brasil: Estado de Goiás, alagado sazonal na várzea do rio Formoso, um tributário do rio Correntes, drenagem do rio Paranaíba, bacia do rio Paraná, Parque Nacional das Emas. Holotype: MZUSP 57537.

Maximum length: 3 cm TL.

Distribution: South America: Paraná River basin.

Countries: Brazil

Simpsonichthys perpendicularis Costa, Nielsen & de Luca, 2001

Simpsonichthys perpendicularis Costa, Nielsen and de Luca, 2001: 26, fig. 3. Type locality: Brasil: Estado da Bahia, poça temporária perto do ribeirão do Salto, estrada entre Itarantim e Jordânia, cerca de 6 km de Jordânia, bacia do rio Jequitinhonha. Holotype: MZUSP 62570.

Maximum length: 6 cm TL.

Distribution: South America: Jequitinhonha River basin.

Countries: Brazil

Simpsonichthys picturatus Costa, 2000

Simpsonichthys picturatus Costa, 2000: 12, fig. 5. Type locality: Brasil: Estado da Bahia, poça temporária perto de Volta das Pedras, bacia do rio São Francisco. Holotype: MZUSP 56254.

Maximum length: 6 cm TL.

Distribution: South America: São Francisco River basin.

Countries: Brazil

Simpsonichthys rosaceus Costa, Nielsen & de Luca, 2001

Simpsonichthys rosaceus Costa, Nielsen and de Luca, 2001: 28, fig. 5. Type locality: Brasil: Estado da Bahia, poça temporária perto do rio Pardo, estrada entre Potiguará e Itapetinga. Holotype: MZUSP 62572.

Maximum length: 5 cm TL.

Distribution: South America: Pardo River basin in Bahia State.

Countries: Brazil

Simpsonichthys rufus Costa, Nielsen & de Luca, 2001

Simpsonichthys rufus Costa, Nielsen and de Luca, 2001: 29, fig. 7. Type locality: Brasil: Estado de Minas Gerais, poça temporária perto do riacho do Barro, Ibiaí, perto do rio São Francisco. Holotype: MZUSP 61234.

Maximum length: 5 cm TL.

Distribution: South America: São Francisco River basin.

Countries: Brazil

Simpsonichthys santanae (Shibatta & Garavello,

1992)

Cynolebias santanae Shibatta & Garavello, 1992: 182, fig. 5. Type locality: Margem direita do ribeirão Sant'ana, a 750 m da divisa do Distrito Federal com Goiás, DF (Brazil). Holotype: MZUSP 43777.

Maximum length: 3 cm TL

Distribution: South America: Paraná River basin.

Countries: Brazil

Simpsonichthys similis Costa & Hellner, 1999

Simpsonichthys similis Costa and Hellner, 1999: 90, fig. 1. Type locality: Brésil: Estado de Minas Gerais, mare temporaire près de Urucuia, route vers São Romano (Romão), bassin du rio Urucuia. Holotype: MZUSP 51834.

Maximum length: 6 cm TL.

Distribution: South America: São Francisco River basin.

Countries: Brazil

Simpsonichthys stellatus (Costa & Brasil, 1994)

Cynolebias stellatus Costa & Brasil, 1994a: 5, fig. 1. Type locality: Brésil: Estado de Minas Gerais, mare temporaire, 1 km N de la ville de São Francisco. Holotype: MNRJ 12446.

Maximum length: 6 cm TL

Distribution: South America: Middle São Francisco River basin.

Countries: Brazil

Simpsonichthys trilineatus (Costa & Brasil, 1994)

Cynolebias trilineatus Costa & Brasil, 1994a: 8, fig. 5. Type locality: Brésil: Estado de Minas Gerais, João Pinheiro, près du rio Paracatú, bassin du rio São Francisco. Holotype: MNRJ 12525.

Maximum length: 6 cm TL.

Distribution: South America: São Francisco River basin.

Countries: Brazil

Simpsonichthys zonatus (Costa & Brasil, 1990)

Cynolebias zonatus Costa & Brasil, 1990: 16, fig. 1. Type locality: Brazil, Minas Gerais, Garapuava district, County of Unaí. Holotype: MZUSP 40131.

Maximum length: 5 cm TL.

Distribution: South America: São Francisco River basin.

Countries: Brazil

SPECTROLEBIAS

Spectrolebias Costa & Nielsen, 1997: 258. Type species: *Spectrolebias semiocellatus* Costa & Nielsen, 1997. Type by original designation. Gender: masculine.

Spectrolebias semiocellatus Costa & Nielsen, 1997

Spectrolebias semiocellatus Costa & Nielsen, 1997: 259, fig. 1. Type locality: Brazil: Estado do Tocantins, Formoso do Araguaia, temporary pool close to rio Formoso, rio Araguaia basin.

Holotype: MZUSP 50654.

Maximum length: 4 cm TL.

Distribution: South America: Araguaia River basin.

Countries: Brazil

STENOLEBIAS

Stenolebias Costa, 1995d: 70. Type species: *Plesiolebias damascenoi* Costa, 1991. Type by original designation. Gender: masculine.

Stenolebias bellus Costa, 1995

Stenolebias bellus Costa, 1995d: 71, fig. 11. Type locality: Brazil: Estado de Mato Grosso do Sul, temporary floodplains of rio Miranda, about 5 km S of Miranda, 20°17'S, 56°17'W. Holotype: MZUSP 42310.

Maximum length: 3 cm TL

Distribution: South America: Paraguay River basin.

Countries: Brazil

***Stenolebias damascenoi* (Costa, 1991)**

Plesiolebias damascenoi Costa, 1991c: 375, fig. 14. Type locality: Brazil: Mato Grosso: Temporary pool, Poconé-Porto Cercado road. Holotype: MZUSP 41391.

Maximum length: 4 cm TL.

Distribution: South America: Paraguay River basin.

Countries: Brazil

TERRANATOS

Terranatos Taphorn & Thomerson, 1978: 384. Type species: *Austrofundulus dolichopterus* Weitzman & Wourms, 1967. Type by original designation. Gender: masculine.

***Terranatos dolichopterus* (Weitzman & Wourms, 1967)**

Austrofundulus dolichopterus Weitzman & Wourms 1967: 95, fig. 1. Type locality: 40 km directly south of El Pao, state of Cojedes, Venezuela, temporary pond immediately south of Caño Benito, long 68°9' W, lat 9°19' N. Holotype: USNM 200784.

Maximum length: 4 cm TL

Distribution: South America: Orinoco River basin.

Countries: Venezuela

TRIGONECTES

Trigonectes Myers, 1925: 371. Type species: *Trigonectes strigabundus* Myers, 1925. Type by monotypy. Gender: masculine.

Rivulichthys Myers, 1927: 118. Type species: *Rivulus rondoni* Miranda Ribeiro, 1920. Type by original designation. Gender: masculine.

***Trigonectes aplocheiloides* Huber, 1995**

Trigonectes aplocheiloides Huber, 1995: 17, fig. 8. Type locality: Paraguay, Province de Boqueron, à 74 km de Mariscal vers Americo Picco, 21.30S 60.51W. Holotype: MNHN 1994-1104.

Maximum length: 10 cm TL

Distribution: South America: Paraguay River basin.

Countries: Paraguay, Argentina

***Trigonectes balzanii* (Perugia, 1891)**

Haplochilus balzanii Perugia, 1891: 653. Type locality: Villa Maria (Matto Grosso), Rio Paraguay [Brazil]. Syntypes: MCSNG 9242

Rivulus rondoni Miranda Ribeiro 1920: 7, pl. 1. Type locality: Cáceres, antiga Villa-Maria, Matto-Grosso, Lagoa da Imbaúva [Brazil]. Holotype: MNRJ uncat., now lost.

Maximum length: 12 cm TL.

Distribution: South America: Paraguay River basin.

Countries: Brazil, Paraguay, Argentina.

Remarks and references: Redescribed by Costa (1990b: 140).

***Trigonectes macrophthalmus* Costa, 1990**

Trigonectes macrophthalmus Costa, 1990b: 141, fig. 11. Type locality: Brazil: Rondônia: Forte Príncipe da Beira. Holotype: MNRJ 11308.

Maximum length: 8 cm TL.

Distribution: South America: Guaporé River basin.

Countries: Brazil

***Trigonectes rogoaguae* (Pearson & Myers, 1924)**

Rivulus rogoaguae Pearson & Myers in Pearson, 1924: 51. Type locality: Lake Rogoagua (Bolivia). Holotype: CAS 42531.

Maximum length: 10 cm TL

Distribution: South America: Mamoré River basin.

Countries: Bolivia

Remarks and references: Redescribed by Costa (1990b: 144).

***Trigonectes rubromarginatus* Costa, 1990**

Trigonectes rubromarginatus Costa, 1990b: 145, fig. 13. Type locality: Brazil, Goiás, Aruana (Aruaná). Holotype: MZUSP 37194.

Maximum length: 12 cm TL

Distribution: South America: Araguaia River basin.

Countries: Brazil

***Trigonectes strigabundus* Myers, 1925**

Trigonectes strigabundus Myers, 1925: 371. Type locality: Tocantins [correctly, Porto Nacional, Tocantins, Brazil]. Holotype: CAS 40701.

Maximum length: 12 cm TL.

Distribution: South America: Tocantins River basin.

Countries: Brazil

Remarks and references: Redescribed by Costa (1990b: 148).

References

- Ahl, E. 1922. Die Gattung *Cynolebias* Steindachner. Blätt. Aquar. Terrarienkunde, 33 (14): 221-225.
- Ahl, E. 1923. Neue südamerikanische Fische aus dem Zool. Museum Berlin. Sitzungsber. Ges. Naturf. Freunde Berlin: 106-109.
- Ahl, E. 1924. Über einige neue Fische aus Südamerika. Zool. Anz., 58: 358-361.
- Ahl, E. 1926. Neue oder selten importierte Fische, II. Blätt. Aquar. Terrarienkunde, 37 (13): 313-315.
- Ahl, E. 1934. Eine Revision der Zahnkarpfengattung *Cynolebias*. Zool. Anz., 108: 304-310.
- Ahl, E. 1938. Beschreibung neuer Zahnkarpfen aus dem Zoologischen Museum Berlin. Zool. Anz., 124: 53-58.
- Alvarez, J. and J. Carranza. 1952. Cuatro especies nuevas de peces dulceacuácolos del sureste de México. Ciencia (Mexico City), 11 (10-12) 1951: 281-289.
- Amato, L.H. 1986. Seis especies nuevas del genero *Cynolebias* Steindachner, 1876, de Uruguay y Paraguay (Cyprinodontiformes, Rivulidae). Comun. Zool. Mus. Hist. Nat. Montevideo, 11 (162): 1-27.
- Amato, L.H. 1987. Descripcion de *Cynolebias cyaneus* n. sp., nuevo pez anual del estado de Rio Grande do Sul, Brasil (Cyprinodontiformes, Rivulidae). Comun. Zool. Mus. Hist. Nat. Montevideo, 11 (163): 1-11, pls. 1-2.
- Beaufort, L.F. 1940. Freshwater fishes from the Leeward Group, Venezuela and eastern Colombia, pp. 109-114, pl. 10. In: P. W. Hummelinck (ed.). Studies on the fauna of Curaçao, Aruba, Bonaire and the Venezuelan Islands. The Hague.
- Belote, D.F. and W.J.E.M. Costa. in press a. Reproductive behavior patterns in the Neotropical annual fish genus *Simpsonichthys* Carvalho, 1959 (Cyprinodontiformes, Rivulidae): description and phylogenetic implications. Boletim do Museu Nacional.
- Belote, D.F. and W.J.E.M. Costa. in press b. Reproductive behavior of the Brazilian annual fish *Cynolebias albipunctatus* Costa & Brasil (Teleostei: Cyprinodontiformes: Rivulidae): a new report of sound production in fishes. Boletim do Museu Nacional.
- Berg, C. 1897. Contribuciones al conocimiento de los peces Sudamericanos, especialmente de los de la República Argentina. An. Mus. Nac. Hist. Nat. Buenos Aires, 5: 263-302.
- Berkenkamp, H.O. 1984. Eine neue Bachlingsart aus dem Staat Sta. Catarina/Brasilien, *Rivulus haraldsiolii* spec. nov. (Pisces - Rivulidae). Amazoniana, 8 (4): 429-439.
- Berkenkamp, H.O. 1984. Kurzfassung der Beschreibung von *Rivulus lungi* spec. nov., einer neuen Bachlingsart aus Französisch Guayana (Pisces - Rivulidae). Sondermitteilung Aquarienfreunde, Wilhelmshaven: 14-15.
- Berkenkamp, H.O. 1989. *Rivulus erberi* spec. nov. ein neuer Bachling aus Ecuador und *Rivulus limoncochae* Hoedeman, 1962 (Rivulidae). Das Aquarium, no. 238: 211-218.

Check List of the Freshwater Fishes of South and Central America

- Berkenkamp, H.O. 1993. Ein neuer Fächerfisch aus dem Bundesstaat Minas Gerais, Brasilien. *Cynolebias hellneri* sp. n. *Aquarium* (Bornheim), 27 (290): 8-15.
- Berkenkamp, H.O. and V. Etzel. 1992. Die Rivulus-Arten von Panama. 2. Wiederbeschreibung von *Rivulus brunneus* Meek & Hildebrand, 1913 und Beschreibung von *Rivulus birkhahni* spec. nov. von Chiquiri Grande/West-Panama. *Deutsche Killifisch Gem. J.*, 24 (7): 97-104.
- Berkenkamp, H.O. and V. Etzel. 1993. Die *Rivulus*-Arten von Panama. 3. *Rivulus kuelpmanni* spec. nov., eine neue Bachlingsart von Punta Peña, West-Panama. *Deutsche Killifisch Gem. J.*, 25 (2): 17-24.
- Berkenkamp, H.O. and V. Etzel. 1993. Die *Rivulus*-Arten von Panama. 4. *Rivulus frommi* spec. nov., eine neue Bachlingsart von El Valle, Zentral-Panama. *Deutsche Killifisch Gem. J.*, 25 (6): 81-89.
- Berkenkamp, H.O. and V. Etzel. 1995. Die *Rivulus*-Arten von Panama. 5. *Rivulus monikae* spec. nov., eine weitere neue Bachlingsart aus den bewaldeten und bergigen Teilen der Provinz Cocle, Zentral-Panama. *Deutsche Killifisch Gem. J.*, 27 (1): 1-7.
- Berkenkamp, H.O., V. Etzel J.J. Reichert and H. Salvia. 1994. Ein neuer Fächerfisch aus Uruguay. *Das Aquarium*, no. 306: 11-19.
- Berkenkamp, H.O., J.J. Reichert and F. Prieto. 1997. Ein Neuer Fächerfisch aus dem Bezirk Tacuarembó, Nordost-Uruguay, *Cynolebias nioni* spec. nov. (Cyprinodontiformes - Rivulidae). *Aquaristik Aktuell*, 1997 (3): 30-33.
- Bertin, L. and R. Estève. 1950. Catalogue des types de poissons du Muséum National d'Histoire Naturelle. 6e partie. Haplomes, Hétéromes, Catostéomes. Imp. Nationale, Paris. 60 p.
- Böhlke, E.B. 1984. Catalog of type specimens in the ichthyological collection of the Academy of Natural Sciences of Philadelphia. *Acad. Nat. Sci. Philadelphia, Spec. Publ.*, 14: i-viii + 1-246.
- Böhlke, J.E. 1953. A catalogue of the type specimens of Recent fishes in the Natural History Museum of Stanford University. *Stanford Ichthyol. Bull.*, 5: 1-168.
- Boulenger, G.A. 1890. Description of two new cyprinodontoid fishes. *Ann. Mag. Nat. Hist. (Ser. 6)*, 6 (32): 169-170.
- Boulenger, G.A. 1895. Viaggio del dottor Alfredo Borelli nella Repubblica Argentina e nel Paraguay. XII. Poissons. *Boll. Mus. Zool. Anat. Comp. Torino*, 10 (196): 1-3.
- Breder, C.M., Jr. 1925. New loricate, characin and poeciliid fishes from the Rio Chucunaque, Panama. *Am. Mus. Novit.*, no. 180: 1-9.
- Buckup, P.A. and L.R. Malabarba. 1990. Sobre as localidades-tipo de *Characidium rachovii* e *Corydoras macropterus* (Teleostei: Ostariophysi). *Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre*, 3 (4): 103-109.
- Bussing, W.A. 1980. Status of the cyprinodontid fish genus *Rivulus* in Costa Rica, with descriptions of new endemic species. *Brenesia*, no. 17: 327-364.
- Bussing, W.A. 1987. Peces de las aguas continentales de Costa Rica. Editorial de la Universidad de Costa Rica. 271 p.
- Carvalho, A.L. and C.A.G. Cruz. 1987. Um novo *Cynolebias* do sudeste baiano (Pisces, Cyprinodontidae, Rivulinae). *Arq. Univ. Fed. Rur. Rio de Janeiro*, 8 (2, for 1985): 11-15.
- Carvalho, A.L. 1959. Novo gênero e nova espécie de peixe anual de Brasília, com uma nota sobre os peixes anuais da Baixada Fluminense, Brasil (Pisces - Cyprinodontidae-Fundulinae.). *Bol. Mus. Nac. Rio de Janeiro, Zool. (N. S.)*, no. 201: 1-10.
- Carvalho, A.L. 1971. Um novo peixe anual do estado do Espírito Santo (Pisces, Cyprinodontidae, Rivulinae). *Rev. Bras. Biol.*, 31 (3): 401-404.
- Castello, H.P. and R.B. López. 1974. *Cynolebias alexandri*, a new species of annual killifish from Argentina, with notes on *C. bellottii*. *Trop. Fish Hobby.*, 23 (1): 34-42.
- Costa, W.J.E.M. 1988a. A new species of the Neotropical annual fish genus *Pterolebias* (Cyprinodontiformes, Rivulidae), from central Brazil. *J. Zool. (London)*, 215 (4): 657-662.
- Costa, W.J.E.M. 1988b. Sistemática e distribuição do complexo de espécies *Cynolebias minimus* (Cyprinodontiformes, Rivulidae), com a descrição de duas espécies novas. *Rev. Bras. Zool.*, 5 (4): 557-570.
- Costa, W.J.E.M. 1988c. Sistemática e distribuição do gênero *Neofundulus* (Cyprinodontiformes, Rivulidae). *Rev. Bras. Biol.*, 48 (2): 103-111.
- Costa, W.J.E.M. 1989a. Descrição de cinco novas espécies de *Rivulus* das bacias dos rios Paraná e São Francisco (Cyprinodontiformes, Rivulidae). *Rev. Bras. Zool.*, 6 (3): 523-533.
- Costa, W.J.E.M. 1989b. Descrição de um gênero e duas espécies novas de peixes anuais do centro da América do sul (Cyprinodontiformes, Rivulinae). *Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre*, 2 (10): 191-202.
- Costa, W.J.E.M. 1989c. Descrição e relações filogenéticas de dois gêneros novos e três espécies novas de peixes anuais neotropicais (Cyprinodontiformes, Rivulidae). *Rev. Bras. Biol.*, 49 (1): 221-230.
- Costa, W.J.E.M. 1989d. Redescricao do gênero *Cynolebias* (Cyprinodontiformes, Rivulinae), com a descrição de uma nova espécie da Bacia do Rio Tocantins. *Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre*, 2 (9): 181-190.
- Costa, W.J.E.M. 1990a. Description d'une nouvelle espèce du genre *Rivulus* (Cyprinodontiformes, Rivulidae) de l'Amazonie orientale. *Rev. Fr. Aquariol.*, 17 (2): 41-44.
- Costa, W.J.E.M. 1990b. Systematics and distribution of the Neotropical annual fish genus *Trigonectes* (Cyprinodontiformes, Rivulidae), with description of two new species. *Ichthyological Exploration of Freshwaters*, 1 (2): 135-150.
- Costa, W.J.E.M. 1991a. Description of two new species of the genus *Rivulus* (Cyprinodontiformes: Rivulidae) from eastern South American coastal plains. *Rev. Suisse Zool.*, 98 (3): 581-587.
- Costa, W.J.E.M. 1991b. Redescricao do gênero *Rivulus* (Cyprinodontiformes, Rivulidae), com notas sobre *R. stellifer* e *R. compactus* e a descrição de duas novas espécies do Brasil central. *Rev. Bras. Biol.*, 51 (2): 327-333.
- Costa, W.J.E.M. 1991c. Systematics and distribution of the Neotropical annual fish genus *Plesiolebias* (Cyprinodontiformes: Rivulidae), with description of a new species. *Ichthyological Exploration of Freshwaters*, 1 (4): 369-378.
- Costa, W.J.E.M. 1992a. Descrição de uma nova espécie do gênero *Neofundulus* (Cyprinodontiformes: Rivulidae), da bacia do rio São Francisco, Brasil. *Rev. Bras. Biol.*, 52 (4): 615-618.
- Costa, W.J.E.M. 1992b. Sistemática e distribuição do gênero *Moema* (Cyprinodontiformes: Rivulidae), com a descrição de uma nova espécie. *Rev. Bras. Biol.*, 52 (4): 619-625.
- Costa, W.J.E.M. 1995a. Pearl killifishes. The *Cynolebiatinae*. Systematics and biogeography of the Neotropical annual fish subfamily (Cyprinodontiformes: Rivulidae). Neptune City: TFH, 128 pp.
- Costa, W.J.E.M. 1995b. Revision of the *Rivulus punctatus* species-complex (Cyprinodontiformes: Rivulidae). *Ichthyological Exploration of Freshwaters*, 6 (3): 207-226.
- Costa, W.J.E.M. 1995c. Revision of the Neotropical annual fish genus *Campellolebias* (Cyprinodontiformes: Rivulidae), with notes on phylogeny and biogeography of the *Cynopoecilina*. *Cybium*, 19 (4): 349-369.
- Costa, W.J.E.M. 1995d. Two new genera and two new species of the Neotropical annual fishes *Plesiolebiathini* (Cyprinodontiformes: Rivulidae), with studies on the relationships of the tribe. *Rev. Fr. Aquariol.*, 21 (3-4, for 1994): 65-74.
- Costa, W.J.E.M. 1995e. Revision of the Neotropical annual fish genus *Cynopoecilus* (Cyprinodontiformes: Rivulidae). *Copeia*, 1995: 456-465.
- Costa, W.J.E.M. 1998a. Phylogeny and classification of Rivulidae

- revisited: origin and evolution of annualism and miniaturization in rivulid fishes. *Journal of Comparative Biology*, 3 (1): 33-92.
- Costa, W.J.E.M. 1998b. Revision of the Neotropical annual fish genus *Plesiolebias* (Cyprinodontiformes: Rivulidae). *Ichthyological Exploration of Freshwaters*, 8 (4): 313-334.
- Costa, W.J.E.M. 1998c. *Cynolebias gilbertoi*, a new species of annual fish (Cyprinodontiformes: Rivulidae) from the rio São Francisco basin, northeastern Brazil. *Cybiurn*, 22 (3): 237-243.
- Costa, W.J.E.M. 1998d. Revision of the Neotropical annual fish genus *Pituna* Costa 1989 (Cyprinodontiformes Rivulidae). *Tropical Zoology*, 11: 139-148.
- Costa, W.J.E.M. 1998e. Rediscovery and redescription of *Cynolebias carvalhoi* (Cyprinodontiformes: Rivulidae). *Ichthyological Exploration of Freshwaters*, 9 (3): 305-310.
- Costa, W.J.E.M. 2000. Descrições de quatro novas espécies de peixes anuais do Gênero *Simpsonichthys* (Cyprinodontiformes: Rivulidae) das bacias dos rios São Francisco e Paraná, nordeste e centro do Brasil. *Aquarium*, Rio de Janeiro, 25: 8-15.
- Costa, W.J.E.M. 2001a. The Neotropical annual fish genus *Cynolebias* (Cyprinodontiformes: Rivulidae): phylogenetic relationships, taxonomic revision and biogeography. *Ichthyological Exploration of Freshwaters*, 12: 333-383.
- Costa, W.J.E.M. 2002a. The annual fish genus *Cynopoeilus* (Cyprinodontiformes: Rivulidae): taxonomic revision, with descriptions of four new species. *Ichthyological Exploration of Freshwaters*, 13: 11-24.
- Costa, W.J.E.M. 2002b. The Neotropical seasonal fish genus *Nematolebias* (Cyprinodontiformes: Rivulidae: Cynolebiatinae): taxonomic revision, with description of a new species. *Ichthyological Exploration of Freshwaters*, 13: 41-52.
- Costa, W.J.E.M. 2002c. *Leptolebias marmoratus* (Cyprinodontiformes: Rivulidae: Cynolebiatinae): rediscovery and redescription of a rare, miniaturized forest dwelling seasonal fish from southeastern Brazil. *Ichthyol. Explor. Freshwaters*, 13 (4): 379-384.
- Costa, W.J.E.M. 2002d. Monophyly and phylogenetic relationships of the Neotropical annual fish genera *Austrolebias* and *Megalebias*. *Copeia*, 2002 (4): 916-927.
- Costa, W.J.E.M., S. Barrera and J. Sarmiento. 1997. *Simpsonichthys filamentosus*, une nouvelle espèce des Llanuras Benianas, bassin du Rio Mamoré, Bolivie. *Revue Française d'Aquariologie*, 24 (3-4): 83-86.
- Costa, W.J.E.M. and G.C. Brasil. 1990. Description of two new annual fishes of the genus *Cynolebias* (Cyprinodontiformes: Rivulidae) from the Sao Francisco basin, Brazil. *Ichthyol. Explor. Freshwaters*, 1 (1): 15-22.
- Costa, W.J.E.M. and G.C. Brasil. 1991a. Description of a new species of *Rivulus* (Cyprinodontiformes: Rivulidae) from the coastal plains of eastern Brazil. *Ichthyological Exploration of Freshwaters*, 1 (4): 379-383.
- Costa, W.J.E.M. and G.C. Brasil. 1991b. Three new species of *Cynolebias* (Cyprinodontiformes: Rivulidae) from the São Francisco basin, Brazil. *Ichthyological Exploration of Freshwaters*, 2 (1): 55-62.
- Costa, W.J.E.M. and G.C. Brasil. 1993. Two new species of *Cynolebias* (Cyprinodontiformes: Rivulidae) from the São Francisco basin, Brazil, with notes on phylogeny and biogeography of annual fishes. *Ichthyological Exploration of Freshwaters*, 4 (3): 193-200.
- Costa, W.J.E.M. and G.C. Brasil. 1994a. Trois nouveaux poissons annuels du genre *Cynolebias* (Cyprinodontiformes: Rivulidae) du bassin du rio São Francisco, Brésil. *Rev. Fr. Aquariol.*, 21 (1-2): 5-10.
- Costa, W.J.E.M. and G.C. Brasil. 1994b. Un nouveau poisson annuel du genre *Cynolebias* (Cyprinodontiformes: Rivulidae) du bassin du rio Tocantins, Brésil. *Rev. Fr. Aquariol.*, 21 (1-2): 1-4.
- Costa, W.J.E.M. and G.C. Brasil. 1996. Description d'une nouvelle espèce de poisson annuel du genre *Simpsonichthys* (Cyprinodontiformes: Rivulidae) du bassin du rio Tocantins, Brésil. *Rev. Fr. Aquariol.*, 23 (3-4): 93-96.
- Costa, W.J.E.M. and M.M. Cheffe. 2001. Three annual fishes of the genus *Austrolebias* from the laguna dos Patos system, southern Brazil, and a redescription of *A. adloffii* (Ahl) (Cyprinodontiformes: Rivulidae). *Comunicações do Museu de Ciências e Tecnologia da PUCRS, série Zoologia*, 14(2): 179-200.
- Coasta, W.J.E.M. and M.M. Cheffe. 2002. *Austrolebias jaegeri* (Cyprinodontiformes: Rivulidae: Cynolebiatinae): a new annual fish from the Laguna dos Patos system, southern Brazil, with a redescription of *A. gymnoventris* (Amato). *Aqua, Journal of Ichthyology and Aquatic Biology*, 6(2): 83-88.
- Costa, W.J.E.M., A.L.F. Cyrino and D.T.B. Nielsen. 1996. Description d'une nouvelle espèce de poisson annuel du genre *Simpsonichthys* (Cyprinodontiformes: Rivulidae) du bassin du rio São Francisco, Brésil. *Rev. Fr. Aquariol.*, 23 (1-2): 17-20.
- Costa, W.J.E.M. and S. Hellner. 1999. *Simpsonichthys similis* (Cyprinodontiformes: Rivulidae), une nouvelle espèce de Poisson annuel du bassin su Rio São Francisco, Brésil. *Revue française d'Aquariologie*, 25 (3-4): 89-91.
- Costa, W.J.E.M. and M.T.C. Lacerda. 1988a. Descrição de uma nova espécie de peixe anual do gênero *Cynolebias* do Brasil Central (Cyprinodontiformes, Rivulidae). *Rev. Aquariol.*, 5: 16-19.
- Costa, W.J.E.M. and M.T.C. Lacerda. 1988b. Identité et redescription de *Cynolebias sandrii* et de *Cynolebias fluminensis* (Cyprinodontiformes, Rivulidae). *Rev. Fr. Aquariol.*, 14 (4): 127-132.
- Costa, W.J.E.M., M.T.C. Lacerda and G.C. Brasil. 1989. Systématique et distribution du genre néotropical *Campellolebias* (Cyprinodontiformes, Rivulidae), avec description de deux nouvelles espèces. *Rev. Fr. Aquariol.*, 15 (3, for 1988): 65-72.
- Costa, W.J.E.M., M.T.C. Lacerda and G.C. Brasil. 1990. description de deux nouvelles espèces du genre *Cynolebias* du bassin du Rio Tocantins (Cyprinodontiformes, Rivulidae). *Revue Française d'Aquariologie*, 17 (1): 9-14.
- Costa, W.J.E.M., M.T.C. Lacerda and K. Tanizaki. 1988a. Description d'une nouvelle espèce de *Cynolebias* du Brésil central (Cyprinodontiformes, Rivulinae). *Rev. Fr. Aquariol.*, 14 (4, for 1987): 123-126.
- Costa, W.J.E.M., M.T.C. Lacerda and K. Tanizaki. 1988b. Description d'une nouvelle espèce de *Cynolebias* des plaines côtières du Brésil sud-oriental (Cyprinodontiformes, Rivulidae). *Rev. Fr. Aquariol.*, 15 (1): 21-24.
- Costa, W.J.E.M. and D.T.B. Nielsen. 1997. A new genus and species of annual fish (Cyprinodontiformes: Rivulidae) from the Araguaia basin, central Brazil. *Ichthyological Exploration of Freshwaters*, 7 (3): 257-265.
- Costa, W.J.E.M., D.T.B. Nielsen and A.C. de Luca. 2001. Quatro novos rivulídeos anuais do gênero *Simpsonichthys* (Cyprinodontiformes) das bacias dos rios São Francisco e Pardo, Brasil. *Aquarium*, Rio de Janeiro, 26: 24-31.
- Costa, W.J.E.M., J. Sarmiento and S. Barrera. 1996. A new species of the annual fish genus *Pterolebias* (Cyprinodontiformes: Rivulidae) from the Rio Mamoré basin, bolivian Amazon. *Ichthyological Exploration of Freshwaters*, 7 (1): 91-95.
- Cruz, C.A.G. 1974. Sobre *Cynolebias aureoguttatus* Myers, 1952 (Osteichthyes, Cyprinodontidae, Rivulinae). *Arq. Univ. Fed. Rur. Rio de Janeiro*, 2 (4): 19-21.
- Cruz, C.A.G. 1983. Uma nova espécie de *Cynolebias* do estado do Espírito Santo, Brazil (Pisces, Cyprinodontidae). *Pap. Avulsos Dep. Zool. (São Paulo)*, 35 (6): 73-77.
- Cruz, C.A.G. and O.L. Peixoto. 1983. Novo peixe anual do estado do Rio de Janeiro, Brasil (Pisces, Cyprinodontidae). *Arq. Univ. Fed. Rur. Rio de Janeiro*, 6 (1): 89-93.
- Cruz, C.A.G. and O.L. Peixoto. 1992. Descrição de uma nova espécie de peixe anual do Estado da Bahia, Brasil (Cyprinodon-

Check List of the Freshwater Fishes of South and Central America

- tiformes, Rivulidae). Rev. Bras. Zool., 7 (4): 637-641.
- Cruz, J. and A.M. Dubitsky. 1976. Dos nuevas especies de peces dulceacuícolas del género *Rivulus* Poey (Cyprinodontidae) de Cuba e Isla de Pinos. Poeyana (Ser. A), no. 155: 1-6.
- Dahl, G. 1958. Los Peces del Rio Sinu. Informe Preliminar. Secretaría de Agricultura y Ganadería de Córdoba.: 9-47.
- Dahl, G. 1958. Two new annual cyprinodont fishes from northern Colombia. Stanford Ichthyol. Bull., 7 (3): 42-46.
- Eigenmann, C.H. 1909. Reports on the expedition to British Guiana of the Indiana University and the Carnegie Museum, 1908. Report no. 1. Some new genera and species of fishes from British Guiana. Ann. Carnegie Mus., 6 (1): 4-54.
- Eigenmann, C.H. 1910. Catalogue of the fresh-water fishes of tropical and south temperate America, pp. 375-511, In: Reports of the Princeton University expeditions to Patagonia 1896-1899; Zoology.
- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578, pls. 1-103.
- Eigenmann, C.H. and C.H. Kennedy. 1903. On a collection of fishes from Paraguay, with a synopsis of the American genera of cichlids. Proc. Acad. Nat. Sci. Philadelphia, 55: 497-537.
- Espinosa Pérez, H., M.T. Gaspar Dillanes and P. Fuentes Mata. 1993. Listados faunísticos de México. III. Los peces dulceacuícolas Mexicanos. Univ. Nacional Autónoma de México. 98 p. + map.
- Faria, A. and H. Muller. 1937. Espécie da familia Cyprinodontidae, Género *Cynopoecilus*, constatadas em aguas do Brasil. Revista Naval, no. 3: 98-99, 1 pl.
- Fels, J.F. and J.H. Huber. 1985. Description d'une espèce nouvelle de *Rivulus* du Pérou, *R. derhami* n. sp. et nouvelle description de *R. beniensis* Myers, 1927 (Pisces: Cyprinodontidae). Rev. Fr. Aquariol., 12 (2): 33-38.
- Fels, J.F. and P. de Rham. 1981. Récentes collectes de *Rivulus* (cyprinodontidés) au Pérou, avec description de six nouvelles espèces. Première partie. Rev. Fr. Aquariol., 8 (3): 65-66.
- Fernández, L.A. and C. Butí. 1996. Nuevas localidades para peces de agua dulce de la República Argentina. Acta Zool. Lilloana, 43 (2): 251-272.
- Foersch, W. 1958. Beobachtungen und Erfahrungen bei der Pflege und Zucht von *Cynolebias ladigesi* Myers. Aquar. Terrar. Z., 11 (9): 257-260.
- Fowler, H.W. 1941. Notes on Colombian fresh-water fishes with descriptions of four new species. Not. Nat. (Philadelphia), no. 73: 1-10.
- Fowler, H.W. 1944. Fresh-water fishes from northwestern Colombia. Proc. Acad. Nat. Sci. Philadelphia, 96:
- Fowler, H.W. 1945. Colombian zoological survey. Pt. I.--The freshwater fishes obtained in 1945. Proc. Acad. Nat. Sci. Philadelphia, 97: 93-135.
- Garman, S. 1895. The cyprinodonts. Mem. Mus. Comp. Zool., 19 (1): 1-179, pls. 1-12.
- Greenfield, D.W. and J.E. Thomerson. 1997. Fishes of the continental waters of Belize. Univ. Press of Florida, Gainesville. xxii + 311 p.
- Günther, A. 1866. Catalogue of fishes in the British Museum. Vol. 6. Catalogue of the Physostomi, containing the families Salmonidae, Percopsidae, Galaxidae, Mormyridae, Gymnarchidae, Esocidae, Umbridae, Scombresocidae, Cyprinodontidae, in the collection of the British Museum. Trustees, London. xv + 368 p.
- Günther, A. 1883. On a new species of *Cynolebias* from the Argentine Republic. Ann. Mag. Nat. Hist. (Ser. 5), 11 (62): 140.
- Harrington, R.W. 1961. Oviparous hermaphroditic fish with internal self-fertilization. Science, 134: 1749-1750.
- Henn, A.W. 1916. On various South American poeciliid fishes. Ann. Carnegie Mus., 10 (1-2): 93-142, pls. 18-21.
- Henn, A.W. 1928. List of types of fishes in the collection of the Carnegie Museum on September 1, 1928. Ann. Carnegie Mus., 19 (4): 51-99.
- Hensel, R. 1868. Beiträge zur Kenntniss der Wirbelthiere Südbrasilens. Arch. Naturgeschichte, 34 (1): 323-375.
- Hildebrand, S.F. 1938. A new catalogue of the fresh-water fishes of Panama. Field Mus. Nat. Hist. Publ. Zool. Ser., 22 (4): 219-359.
- Hoedeman, J.J. 1954. *Rivulus agilae*, een nieuwe soort van Suriname. Het Aquar., 24 (9): 202-204.
- Hoedeman, J.J. 1961. Additional records of Cyprinodontiform fishes (1). Bull. Aquatic Biol., 2 (17): 61-64.
- Hoedeman, J.J. 1962. Studies on cyprinodontiform fishes. II. A new species of the genus *Rivulus* from Ecuador with additional records of *Rivulus* from the upper Amazon and Ucayali rivers. Beaufortia, 9 (103): 145-150.
- Howell Rivero, L. 1938. List of the fishes, types of Poey, in the Museum of Comparative Zoölogy. Bull. Mus. Comp. Zool., 82 (3): 169-227.
- Hubbs, C.L. 1936. XVII. Fishes of the Yucatan Peninsula. Carnegie Inst. Wash. Publ., no. 457: 157-287, pls.
- Huber, J.H. 1979. A propos de quatre nouvelles collections de *Rivulus* des Guyanes, avec description de *Rivulus xiphidius* n. sp. et *Rivulus amphoreus* n. sp. Rev. Fr. Aquariol., 6 (3): 65-72.
- Huber, J.H. 1981. *Cynolebias heloplites* n. sp. Killi Revue, 8 (5, Suppl.): 1-15.
- Huber, J.H. 1990. Description de *Rivulus bahianus* n. sp., de la plaine côtière du Brésil (Cyprinodontidae Rivulinae). Rev. Fr. Aquariol., 17 (1): 15-16.
- Huber, J.H. 1991. Revue des espèces de *Rivulus* de Guyane française, avec descriptions de *Rivulus cladophorus* n. sp. et de *R. igneus* n. sp., et nouvelles descriptions de *R. urophthalmus* Günther et de *R. micropus* Steindachner. Rev. Fr. Aquariol., 18 (3): 65-74.
- Huber, J.H. 1992. Review of *Rivulus*: Ecobiogeography -- Relationships. The most widespread Neotropical cyprinodont genus. Paris, Société Française d'Ichtyologie. 572 p., 40 pl. + 12 unnumbered maps.
- Huber, J.H. 1995. Synthetic description of four new annual rivulin cyprinodonts from Paraguay. Freshwater Mar. Aquar., 18 (11): 104-124.
- Huber, J.H. 1999. Updates to the phylogeny and systematics of the Neotropical cyprinodont genus *Rivulus* and its allied (Cyprinodontiformes: Rivulidae). Cybium, 23 (1): 29-52.
- Huber, J.H. and J.F. Fels. 1985. Un nouveau *Rivulus* de Colombie, *Rivulus boehlkei* n. sp. (Pisces, Cyprinodontidae). Cybium, 9 (3): 315-319.
- Humboldt, F.H.A. von and A. Valenciennes. 1821. Recherches sur les poissons fluviatiles de l'Amérique Équinoxiale. Pp. 145-216, pls. 45-52, In: Voyage de Humboldt et Bonpland, Deuxième partie. Observations de Zoologie et d'Anatomie comparée. Paris.
- Ibarra, M. and D.J. Stewart. 1987. Catalogue of type specimens of Recent fishes in Field Museum of Natural History. Fieldiana Zool. (N. S.), no. 35: 1-112.
- Köhler, W. 1906. 3. Neu importierte *Rivulus*-Arten (p. 408), In: Diesjährige Neuheiten in Wort und Bild. Blätt. Aquar. Terrarienkunde, 17 (41): 404-408.
- Ladiges, W. 1934. *Cynopoecilus marmoratus* Ladiges. Das Aquarium, 1934: 73-74.
- Ladiges, W. 1958. Eine vierte, neue Art der Gattung *Pterolebias* von Cabo Frio, Rio de Janeiro. (Vorläufige Mitteilung). Aquar. Terrar. Z., 11 (3): 76-77.
- Ladiges, W., G. von Wahlert and E. Mohr. 1958. Die Typen und Typoide der Fichsammlung des Hamburgischen Zoologischen Staatsinstituts und Zoologischen Museums. Mitt. Hamburg. Zool. Inst., 56: 155-167.
- Lasso, C.A., D.C. Taphorn and J.E. Thomerson. 1992. *Rivulus*

- gransabanae*, a new species of killifish from Venezuela (Cyprinodontiformes: Rivulidae). Ichthyological Exploration of Freshwaters, 2 (4): 297-303.
- Lazara, K.J. 1991. *Cynolebias lacortei*, *Cynolebias costai*, and *Cynolebias aruana*. Three new species of cloud fish from Brazil (Teleostei, Cyprinodontiformes, Rivulidae). J. Am. Killifish Assoc., 23 (5): 139-152.
- Lee, D.S., S.P. Platania and G.H. Burgess. 1983. Atlas of North American freshwater fishes; 1983 supplement. Publication 1983-6, North Carolina Biological Survey. 67 p.
- Malabarba, L.R. 1989. Histórico sistemático e lista comentada das espécies de peixes de água doce do sistema da Laguna dos Patos, Rio Grande do Sul, Brasil. Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre, 2 (8): 107-179.
- Meek, S.E. 1904. The fresh-water fishes of Mexico north of the isthmus of Tehuantepec. Field Columbian Mus. Zool. Ser., 5: i-lxiii + 1-252, pls. 1-17.
- Meek, S.E. and S.F. Hildebrand. 1913. New species of fishes from Panama. Field Mus. Nat. Hist. Publ. Zool. Ser., 10 (8): 77-91.
- Meinken, H. 1969. *Rivulichthys luelingi* nov. spec., eine Zahnkarpfen-Neuheit aus Ostbolivien (Pisces, Teleostei, Rivulinae). Bonner Zool. Beitr., 20 (4): 423-428.
- Miranda Ribeiro, A. 1920. Peixes (excl. Characinidae), In: Comissão de Linhas Telegraficas Estrategicas de Matto-Grosso ao Amazonas. Historia Natural. Zoologia. 15 p., 17 unnum. pls.
- Miranda Ribeiro, A. 1939. Alguns novos dados ictiológicos da nossa fauna. Bol. Biol. São Paulo (N. S.), 4 (3): 358-363.
- Miranda Ribeiro, P. 1953. Tipos das espécies e subespécies do Prof. Alipio de Miranda Ribeiro depositados no Museu Nacional. Arq. Mus. Nac. Rio de Janeiro, 42: 389-417.
- Myers, G.S. 1924. A new *Rivulus* from Rio de Janeiro. Ann. Mag. Nat. Hist. (Ser. 9), 13 (78): 588-590.
- Myers, G.S. 1924. A new poeciliid fish of the genus *Rivulus*, from British Guiana. Am. Mus. Novit., no. 129: 1-2.
- Myers, G.S. 1925. Results of some recent studies on the American killifishes. Fish Culturist, 4 (8): 370-371.
- Myers, G.S. 1927. An analysis of the genera of Neotropical killifishes allied to *Rivulus*. Ann. Mag. Nat. Hist. (Ser. 9), 19 (109): 115-129.
- Myers, G.S. 1927. Descriptions of new South American freshwater fishes collected by Dr. Carl Ternetz. Bull. Mus. Comp. Zool., 68 (3): 107-135.
- Myers, G.S. 1932. A new genus of funduline cyprinodont fishes from the Orinoco Basin, Venezuela. Proc. Biol. Soc. Washington, 45: 159-162.
- Myers, G.S. 1935. Four new fresh-water fishes from Brazil, Venezuela and Paraguay. Proc. Biol. Soc. Washington, 48: 7-14.
- Myers, G.S. 1942. Studies on South American fresh-water fishes. I. Stanford Ichthyol. Bull., 2 (4): 89-114.
- Myers, G.S. 1947. The Amazon and its fishes. Part 4. The fish in its environment. Aquarium J., 18 (7): 8-19.
- Myers, G.S. 1952. Annual fishes. Aquarium J., 23 (7): 125-141.
- Myers, G.S. 1954. A new cyprinodont fish from the Peruvian Amazon. Aquarium J., 25: 175-177.
- Nijssen, H., L. van Tuijl and I.J.H. Isbrücker. 1982. A catalogue of the type-specimens of recent fishes in the Institute of Taxonomic Zoology (Zoologisch Museum), University of Amsterdam, The Netherlands. Versl. Tech. Gegevens No. 33: 1-173.
- Ortega, H. and R.P. Vari. 1986. Annotated checklist of the freshwater fishes of Peru. Smithson. Contrib. Zool., no. 437: i-iii + 1-25.
- Paepke, H.-J. 1995. Über das Leben und Werk von Ernst Ahl. Mitt. Zool. Mus. Berlin, 71 (1): 79-101.
- Paepke, H.-J. and L. Seegers. 1986. Kritischer Katalog der Typen und Typoide der Fischeammlung des Zoologischen Museums Berlin. Mitt. Zool. Mus. Berlin, 62 (1): 135-186.
- Pearson, N.E. 1924. The fishes of the eastern slope of the Andes. I. The fishes of the Rio Beni basin, Bolivia, collected by the Mulford expedition. Indiana Univ. Studies, 11 (64): 1-83, pls. 1-12.
- Perugia, A. 1891. Appunti sopra alcuni pesci sud-americani conservati nel Museo Civico di Storia Naturale di Genova. Ann. Mus. Civ. Stor. Nat. Genova (Ser. 2a), 10: 605-657.
- Poey, F. 1858-61. Memorias sobre la historia natural de la Isla de Cuba, acompañadas de sumarios Latinos y extractos en Francés. Tomo 2. La Habana. 1-96 (1858), 97-336 (1860), 337-442, (1861), pls. 1-19.
- Radda, A.C. 1964. Die Gattung *Pterolebias* Garman 1895. Aquar. Terrar. Z., 17 (2): 39-41.
- Regan, C.T. 1903. Descriptions of new South-American fishes in the collection of the British Museum. Ann. Mag. Nat. Hist. (Ser. 7), 12 (72): 621-630.
- Regan, C.T. 1907. Diagnoses of new Central-American freshwater fishes of the families Cyprinodontidae and Mugilidae. Ann. Mag. Nat. Hist. (Ser. 7), 19 (109): 64-66.
- Regan, C.T. 1907. Pisces. Part 193 [1906-08]: 1-203, 25 pls, In: F.D. Godman and O. Salvin (eds.). Biologia Central-Americana. London. [Individual signatures dated to month and year; Rivulidae accounts all date to 1907].
- Regan, C.T. 1912. A revision of the poeciliid fishes of the genera *Rivulus*, *Pterolebias* and *Cynolebias*. Ann. Mag. Nat. Hist. (Ser. 8), 10 (59): 494-508.
- Reichert, J.J. 1992. Ein neuer *Cynolebias*-Fundort in Uruguay. Deutsche Killifisch Gem. J., 24 (4): 58-60.
- Roloff, E. 1938. *Rivulus roloffi* Trewavas 1938. Wochenschrift Aquar.-Terrar., 35: 597-598.
- Schreitmüller, W. 1928. Leitfaden zur Pflege und Zucht von einheimischen und exotischen Zierfishchen. Frankfurt am Main, Georg Müller.
- Schultz, L.P. 1949. A further contribution to the ichthyology of Venezuela. Proc. U. S. Natl. Mus., 99 (3235): 1-211, pls. 1-3.
- Seegers, L. 1980. Killifische. Eierlegende Zahnkarpfen im Aquarium. Verlag Eugen Ulmer, Stuttgart.
- Seegers, L. 1983. *Pterolebias wischmanni* nov. spec. aus dem Ucayali-Einzug in Paru (Pisces: Atheriniformes: Rivulinae). Deutsche Killifisch Gem. J., 15 (5): 67-74.
- Seegers, L. 1983. *Rivulus deltaphilus* n. sp. aus Venezuela (Pisces: Atheriniformes: Rivulinae). Senckenb. Biol., 63 (1/2): 39-44.
- Seegers, L. 1984. Ein neuer Rivuline aus Peru: *Pterolebias rubrocaudatus* (Pisces: Atheriniformes: Cyprinodontidae). Bonner Zool. Beitr., 35 (1-3): 243-250.
- Seegers, L. 1984. Zur Revision der *Rivulus*-Arten Südost-Brasiliens, mit einer Neubeschreibung von *Rivulus luelingi* n. sp. und *Rivulus caudomarginatus* n. sp. (Pisces: Cyprinodontidae: Rivulinae). Zool. Beitr., 28 (2): 271-320.
- Seegers, L. 1987. Die Gattung *Pterolebias* Garman, 1895 mit der Beschreibung von *Pterolebias staecki* nov. spec. Aquar. Terrar. Z., 40 (5): 199-204.
- Seegers, L. 1988a. Ein neuer Fächerkärppling aus dem Brasilienischen Pantanal *Cynolebias pantanalensis* n. sp. (Cyprinodontiformes: Rivulidae). Aquar. Terrar. Z., 41 (4): 30-33.
- Seegers, L. 1988b. Ein neuer Rivulide aus Bolivien: *Rivulus bolivianus* n. sp. (Pisces: Cyprinodontiformes: Rivulidae). Bonner Zool. Beitr., 39 (2-3): 171-177.
- Seegers, L. and J.H. Huber. 1981. *Rivulus cryptocallus* n. sp. von der Insel Martinique (Pisces: Atheriniformes: Cyprinodontidae). Senckenb. Biol., 61 (3/4): 169-177.
- Shibatta, O.A. and J.C. Garavello. 1992. Descrição de uma nova espécie do gênero *Cynolebias* Steindachner do Brasil central (Pisces: Cyprinodontiformes). Comun. Mus. Ciênc. PUCRS, Sér. Zool. Porto Alegre, 5 (11): 179-195.
- Staeck, W. and I. Schindler. 1997. *Rivulus monticola*, a new killifish (Cyprinodontiformes: Rivulidae) from the eastern slopes of the Cordillera de Allcuquiro, Ecuador. Ichthyological Exploration of Freshwaters, 7 (3): 369-376.
- Steindachner, F. 1863. Beiträge zur Kenntniss der Sciaenoiden Brasiliens und der Cyprinodonten Mejicos. Sitzungsber. Math.-

Check List of the Freshwater Fishes of South and Central America

- Naturwiss. Classe K. Akad. Wiss. Wien, 48: 162-185, pls. 1-4.
- Steindachner, F. 1876. Ichthyologische Beiträge (V). Sitzungsber. Akad. Wiss. Wien, 74: 49-240, pls. 1-15.
- Steindachner, F. 1880. Zur Fisch-Fauna des Cauca und der Flüsse bei Guayaquil. Denkschr. Akad. Wiss. Wien, 42: 55-104, pls. 1-9.
- Steindachner, F. 1881. Beiträge zur Kenntniss der Flussfische Südamerika's (III) und Ichthyologische Beiträge (XI). Anz. Akad. Wiss. Wien, 18 (11): 97-100.
- Steindachner, F. 1881. Beiträge zur Kenntniss der Flussfische Südamerika's. III. Denkschr. Akad. Wiss. Wien, 44 (in 1882): 1-18, pls. 1-5.
- Taberner, R., J.O. Fernandez Santos and J.O. Castelli. 1974. Datos para el conocimiento de *Cynolebias nonoiliensis* sp. nov. (Pisces, Cyprinodontidae). Physis Secc. B Aguas Cont. Org., 33 (87): 187-193.
- Taphorn, D.C. and J.E. Thomerson. 1978. A revision of the South American cyprinodont fishes of the genera *Rachovia* and *Austrofundulus*, with the description of a new genus. Acta Biol. Venez., 9 (4): 377-452.
- Thomerson, J.E. 1974. *Pterolebias hoignei*, a new annual cyprinodontid fish from Venezuela, with a redescription of *Pterolebias zonatus*. Copeia, 1974 (1): 30-38.
- Thomerson, J.E. 1984. *Rivulichthys luelingi*, a junior synonym of *Pterolebias longispinnis* (Pisces: Rivulidae). Copeia, 1984 (2): 528-529.
- Thomerson, J.E., H.K. Berkenkamp and D.C. Taphorn. 1991. *Rivulus lyricauda*, a new species from the Guyana Shield in eastern Venezuela (Cyprinodontiformes: Rivulidae). Ichthyological Exploration of Freshwaters, 1 (4): 289-294.
- Thomerson, J.E., L.G. Nico and D.C. Taphorn. 1991. *Rivulus immaculatus*, a new killifish from Venezuela (Cyprinodontiformes, Rivulidae). Copeia, 1991 (2): 323-328.
- Thomerson, J.E., L.G. Nico and D.C. Taphorn. 1992. *Rivulus tecminae*, a new killifish from Amazonas Territory, Venezuela (Cyprinodontiformes: Rivulidae). Ichthyological Exploration of Freshwaters, 2 (4): 289-296.
- Thomerson, J.E. and D.C. Taphorn. 1992. Two new annual killifishes from Amazonas Territory, Venezuela (Cyprinodontiformes: Rivulidae). Ichthyological Exploration of Freshwaters, 3 (4): 377-384.
- Thomerson, J.E. and D.C. Taphorn. 1993. *Rivulus corpulentus*, a new killifish from Cordillera de La Macarena, Colombia (Cyprinodontiformes: Rivulidae). Ichthyological Exploration of Freshwaters, 4 (1): 57-60.
- Thomerson, J.E. and D.C. Taphorn. 1995. *Renova oscar*, a new genus and species of annual killifish from Venezuela (Cyprinodontiformes: Rivulidae). Ichthyological Exploration of Freshwaters, 6 (2): 185-192.
- Thomerson, J.E. and B.J. Turner. 1973. *Rivulus stellifer*, a new species of annual killifish from the Orinoco Basin of Venezuela. Copeia, 1973 (4): 783-787.
- Tortonese, E. 1940. Elenco dei tipi esistenti nella collezione ittiologica del R. Museo di Torino. Boll. Mus. Zool. Anat. Comp. Torino (Ser. 3), 48 (111): 133-144.
- Tortonese, E. 1963. Catalogo dei tipi di pesci del Museo Civico di Storia Naturale di Genova. (Parte II). Ann. Mus. Civ. Stor. Nat. 'Giacomo Doria,' 73: 306-316.
- Travassos, H. 1955. Notas ictológicas. VII. Uma nova espécie do gênero "*Pterolebias*" Garman, 1895 (Actinopterygii, Cyprinodontiformes). Rev. Bras. Biol., 15 (1): 33-39.
- Trewavas, E. 1948. Cyprinodont fishes of San Domingo, Island of Haiti. Proc. Zool. Soc. London, 118 (2): 408-415, pl. 1.
- Tulipano, J. 1973. *Cynolebias antenori*. Killie Notes Amer. Killifish Assn., 6 (11): 23-24.
- Vaillant, L.L. 1899. Note préliminaire sur les collections ichthyologiques recueillies par M. Geay en 1897 et 1898 dans la Guyane Française et le contesté Franco-Brésilien. Bull. Mus. Hist. Nat. Paris, 5 (4): 154-156.
- Vaz-Ferreira, R. and B. Sierra. 1974. *Campellolebias brucei* n. gen. n. sp., cyprinodontido con especialización de la papila genital y de los primeros radios de la aleta anal. Comun. Zool. Mus. Hist. Nat. Montevideo, 10 (138): 1-17, pls. 1-2.
- Vaz-Ferreira, R., B. Sierra de Soriano and S. Scaglia de Paulete. 1964. Tres especies nuevas del genero *Cynolebias* Steindachner, 1876 (Teleostomi, Cyprinodontidae). Comun. Zool. Mus. Hist. Nat. Montevideo, 8 (102): 1-36, pls. 1-6.
- Vermeulen, F.B.M. and I.J.H. Isbrücker. 2000. *Rivulus torrenticola* n. sp. (Actinopterygii: Cyprinodontiformes: Rivulidae), a new killifish from highlands in the Guyana Shield. Beaufortia, 50 (10): 185-190.
- Weitzman, S.H. and J.P. Wourms. 1967. South American cyprinodont fishes allied to *Cynolebias* with the description of a new species of *Austrofundulus* from Venezuela. Copeia, 1967 (1): 89-100.
- Wilkins, H. 1977. Die Typen der Ichthyologischen Sammlung des Zoologischen Instituts und Zoologischen Museums der Universität Hamburg (ZMH). Mitt. Hamb. Zool. Mus. Inst., 74: 155-163.
- Wilkins, H. and R. Dohse. 1993. Die Typen der Ichthyologischen Sammlung des Zoologischen Instituts und Zoologischen Museums der Universität Hamburg (ZMH) Teil IV. Mitt. Hamb. Zool. Mus. Inst., 90: 401-426.

Family Cyprinodontidae (Pupfishes)

Wilson J. E. M. Costa

The Cyprinodontidae are currently defined by a series of morphological features of the maxilla, neurocranium, fins support and vertebrae (Parenti, 1981; Costa, 1997, 1998). It comprises four main lineages, which exhibit distinct distribution patterns: the Cubanichthyinae, with a single genus and two species endemic to Caribbean islands; the Orestiini, with a single genus and 42 species endemic to the Andes; the Lebiatina, with a single genus and about 15 species from Old World areas around Mediterranean and Black seas and Persian Gulf; and the Cyprinodontina, with six genera and about 40 species from southern North America, Central America and northern South America (Costa, 1997). The present checklist includes all species of the Cubanichthyinae and Orestiini, which are completely inserted in the study area, and species of the Cyprinodontina occurring in Central America, Caribbean islands and South America.

The cubanichthyine genus *Cubanichthys* comprises two small species living in freshwater biotopes of the islands of Cuba, Pinos, and Jamaica. Both species are known as aquarium fishes, with beautiful color patterns. They may also be recognized among other cyprinodontids by the conical jaw teeth arranged in multiple rows.

The orestiin genus *Orestias* constitutes a diversified assemblage of fishes endemic to rivers and lakes of Andean Altiplanos. The greater diversity is concentrated in the Lake Titicaca basin, where distinct lineages developed a variety of diet preferences. In Lake Titicaca, *Orestias* represents an important food source for local people, usually found in street markets. Among other features, *Orestias* may be diagnosed by the absence of pelvic fin and reduced body squamation.

Three cyprinodontin genera occur in the study area: *Cyprinodon*, *Floridichthys*, and *Garmanella*. Species of this lineage may be found both in typical freshwater biotopes, but also in coastal habitats, both in brackish and salt waters. The Cyprinodontina differs from other New World cyprinodontids by possessing tricuspidate teeth.

CUBANICHTHYS

Cubanichthys Hubbs, 1926: 222. Type species: *Fundulus cubensis* Eigenmann, 1903. Type by original designation. Gender: masculine.

Chriopeoides Fowler, 1939: 4. Type species: *Chriopeoides pengelleyi* Fowler, 1939. Type by original designation. Gender: masculine.

Cubanichthys cubensis (Eigenmann, 1903)

Fundulus cubensis Eigenmann, 1903: 222. Fig. 1 Type locality: Pinar del Rio, Cuba. Holotype: CAS [ex IU 9667] missing.

Maximum length: 4 cm TL

Distribution: Caribbean Islands: River basins of western Island of Cuba, and Island of Pines.

Countries: Cuba

Cubanichthys pengelleyi (Fowler, 1939)

Chriopeoides pengelleyi Fowler, 1939: 5, figs. 3-4 Type locality: Jamaica. Holotype: ANSP 68632.

Maximum length: 6 cm TL

Distribution: Caribbean Islands: River basins of western Island of Jamaica.

Countries: Jamaica

CYPRINODON

Cyprinodon La Cèpède, 1803: 68. Type species: *Cyprinodon variegatus* La Cèpède, 1803. Type by monotypy. Gender: masculine.

Prinodon Rafinesque, 1815: 90. Type species: *Cyprinodon variegatus* La Cèpède, 1803. Type by being a replacement name. Gender: masculine.

Lebia Oken, 1817: 1183. Type species: *Lebia ellipsoidea* Lesueur, 1821. Type by subsequent monotypy. Gender: feminine. Preoccupied by *Lebia* Latreille, 1802, in Coleoptera.

Encrates Gistel, 1848: 236. Type species: *Cyprinodon variegatus* La Cèpède, 1803. Type by being a replacement name for *Lebia* Oken. Gender: feminine.

Trifarcus Poey, 1860: 299. Type species: *Trifarcus riverendi* Poey, 1860. Type by monotypy. Gender: masculine.

Cyprinodon artifrons Hubbs, 1936

Cyprinodon variegatus artifrons Hubbs, 1936: 223. Pl. 6 (figs. 1-5) Type locality: Small streams surrounding Progreso, Yucatán, Mexico. Holotype: UMMZ 102082.

Maximum length: 6 cm TL

Distribution: North and Central America: Coastal habitats in Yucatan Peninsula.

Countries: Mexico, Belize

Cyprinodon beltrani Alvarez, 1949

Cyprinodon beltrani Alvarez, 1949: 236, fig. 1. Type locality: Laguna Chichankanab, Quintana Roo, Mexico. Holotype: not located.

Distribution: North America: Atlantic slope, Laguna Chichankanab.

Countries: Mexico

Cyprinodon bondi Myers, 1935

Cyprinodon bondi Myers, 1935: 303. Type locality: Étang Saumâtre, Haiti, West Indies. Holotype: USNM 100960 [ex NYZS].

Maximum length: 7 cm TL

Distribution: Caribbean Islands: River basins of the Hispaniola

Island.

Countries: Haiti, Dominican Republic

***Cyprinodon dearborni* Meek, 1909**

Cyprinodon dearborni Meek, 1909: 208. Type locality: Willemstad, Curaçao, Dutch West Indies. Holotype: FMNH 6484.

Cyprinodon cyaneostriaga Ahl, 1938: 58. Type locality: Curaçao, Netherlands Antilles. Holotype: ZMB 21152.

Maximum length: 4 cm TL

Distribution: South America: Coastal habitats of northern South America.

Countries: Colombia, Netherlands Antilles, Venezuela

***Cyprinodon esconditus* Strecker, 2002**

Cyprinodon esconditus Strecker, 2002: 302, fig. 3. Type locality: Yucatan Peninsula, Quintana Roo, Mexico; southern end of Laguna Chichancanab at its broadest part, 19°51'10"N 88°45'58"W. Holotype: IBUNAM 9488.

Maximum length: 3.9 cm SL

Distribution: North America: Atlantic slope, Laguna Chichancanab.

Countries: Mexico

***Cyprinodon higuey* Rodriguez & Smith, 1990**

Cyprinodon higuey Rodriguez & Smith, in Smith, Rodriguez & Lydeard, 1990: 3, f igs. 2-4 Type locality: Laguna de Bávaro at village of Cabeza de Toro, Altagracia Prov., Dominican Republic. Holotype: AMNH 58623.

Maximum length: 3.5 cm TL

Distribution: Caribbean Islands: Coastal habitats in eastern Hispaniola Island.

Countries: Dominican Republic

***Cyprinodon labiosus* Humphries & Miller, 1981**

Cyprinodon labiosus Humphries & Miller, 1981: 55, fig. 3C. Type locality: Laguna Chichancanab, in lagoon at s. end on n. side of hwy 184, Yucatán, Mexico. Holotype: UMMZ 203907.

Distribution: North America: Atlantic slope, Laguna Chichancanab.

Countries: Mexico

***Cyprinodon maya* Humphries & Miller, 1981**

Cyprinodon maya Humphries & Miller, 1981: 55, fig. 2B. Type locality: Laguna Chichancanab, in lagoon at s. end on n. side of hwy 184, Yucatán, Mexico. Holotype: UMMZ 203903.

Distribution: North America: Atlantic slope, Laguna Chichancanab.

Countries: Mexico

***Cyprinodon nichollsi* Smith, 1989**

Cyprinodon nichollsi Smith, 1989: 3, fig. 1 Type locality: Sandy beach at Laguna de Oviedo, 4 km east of Oviedo on hwy 44, Jaragua Natl. Park, Dominican Republic. Holotype: AMNH 58278.

Maximum length: 8.5 cm TL

Distribution: Caribbean Islands: Coastal habitats in southern Hispaniola Island.

Countries: Dominican Republic

***Cyprinodon artifrons* Hubbs, 1936**

Cyprinodon variegatus artifrons Hubbs, 1936: 223, pl. 6 (figs. 1-5) Type locality: Small streams surrounding Progreso, Yucatán, Mexico. Holotype: UMMZ 102082.

Maximum length: 6 cm TL

Distribution: North and Central America: Coastal habitats in Yucatan Peninsula.

Countries: Mexico, Belize

***Cyprinodon riverendi* (Poey, 1860)**

Trifarcus riverendi Poey, 1860: 306. Type locality: Havana,

Cuba. No types known.

Trifarcus felicianus Poey, 1868: 412. Type locality: Havana, Cuba.

Cyprinodon jamaicensis Fowler, 1939: 1, figs. 1-2. Type locality: Jamaica. Holotype: ANSP 68630.

Maximum length: 7 cm TL

Distribution: Caribbean Islands: Coastal habitats of the islands of Cuba and Hispaniola and adjacent smaller islands, Great Cayman and Florida Keys.

Countries: Cuba, Cayman Is., Jamaica, USA.

***Cyprinodon simus* Humphries & Miller, 1981**

Cyprinodon simus Humphries & Miller, 1981: 60, fig. 3D. Type locality: Chichancanab Lagoon, in lagoon at s. end on n. side of hwy 184, Yucatán, Mexico. Holotype: UMMZ 203905.

Distribution: North America: Atlantic slope, Laguna Chichancanab.

Countries: Mexico

***Cyprinodon verecundus* Humphries, 1984**

Cyprinodon verecundus Humphries, 1984: 62, fig. 2. Type locality: Chichancanab Lagoon, main body of water, ca. 3.6 km from n. end of basin, Yucatán, Mexico. Holotype: UMMZ 207694.

Distribution: North America: Atlantic slope, Laguna Chichancanab.

Countries: Mexico

FLORIDICHTHYS

Floridichthys Hubbs, 1926: 16. Type species: *Cyprinodon carpio* Günther, 1866. Type by original designation. Gender: masculine.

***Floridichthys polyommus* Hubbs, 1936**

Floridichthys carpio barbouri Hubbs, 1936: 216, pl. 4 (fig. 1). Type locality: Cienaga, 2 km southwest of Progreso, Yucatán, Mexico. Holotype: UMMZ 102167.

Floridichthys carpio polyommus Hubbs, 1936: 214, pl. 3 (fig. 1). Type locality: Ocean beach near Champoton, Campeche, Yucatán, Mexico. Holotype: UMMZ 102186.

Maximum length: 11 cm TL

Distribution: North and Central America: Coastal habitats of Yucatan Peninsula.

Countries: Belize, Mexico

Common names: Ocellated killifish (Belize)

GARMANELLA

Garmanella Hubbs, 1936: 218. Type species: *Garmanella pulchra* Hubbs, 1936. Type by original designation. Gender: feminine.

***Garmanella pulchra* Hubbs, 1936**

Garmanella pulchra Hubbs, 1936: 219, pl. 5 (fig. 1). Type locality: 5 km east of Progreso, Yucatán, Mexico. Holotype: UMMZ 102148.

Maximum length: 4 cm TL

Distribution: North and Central America: Coastal habitats of Yucatan Peninsula.

Countries: Belize, Mexico

Common names: Orange flagfish (Belize)

ORESTIAS

Orestias Valenciennes, 1839: 228. Type species: *Orestias cuvieri* Valenciennes, 1846. Type by subsequent designation. Gender: masculine.

***Orestias agassizii* Valenciennes, 1846**

Orestias agassizii Valenciennes, in Cuvier & Valenciennes, 1846: 238. Type locality: Río Corocoro, Peru; San Antonio, Peru. Spelled *agassizii* (p. xv, list of plates); *agassizii*, (pl. 536); *agas-*

- sii*, (p. 238). *O. agassizii* selected by first reviser, Eschmeyer (1998: 54), but possibly *O. agassii* in prevailing usage. Syntypes: MNHN A.9601.
- Orestias ortonii* Cope, 1876: 186. Type locality: Lake Titicaca, Bolivia. Holotype: ANSP 21557.
- Orestias agassizii affinis* Garman, 1895: 152. Type locality: Lake Umayo, Peru. Syntypes: MCZ 27698.
- Orestias tirapatae* Boulenger, 1902: 153. Type locality: Tirapata, e. Peru, elev. 13000 ft. Syntypes: BMNH 1902.7.29.129-133.
- Orestias agassizii typica* Pellegrin, 1904: 93. Type locality: South America. Syntypes: MNHN 05.171-173.
- Orestias agassizii senechali* Pellegrin, 1904: 94. Type locality: Lake Titicaca. Syntypes: MNHN 05.179-180.
- Orestias agassizii crequii* Pellegrin, 1904: 94. Type locality: Lake Titicaca. Syntypes: MNHN 05.181-183.
- Orestias agassizii inornata* Pellegrin, 1904: 93. Type locality: South America. Syntypes: MNHN 05.166-168.
- Orestias uyunius* Fowler, 1940: 63, fig. 18. Type locality: Llica, Potosi Dept., Bolivia, elev. 12000 ft. Holotype: ANSP 68866.
- Orestias rospigliosii* Eigenmann & Allen, 1942: 381. Type locality: Río Langui, Peru, above elev. of 12000 ft. Holotype: CAS 12290.
- Orestias langui* Tchernavin, 1944: 192, figs. 13a-c. Type locality: Vila de Langui, Río Urubamba streams, Peru. Holotype: BMNH 1944.6.6.152.
- Maximum length: 7 cm TL
Distribution: South America: Andean lakes of southeastern Peru, eastern Bolivia and northern Chile, including Lake Titicaca and upper Amazon River basins.
Countries: Bolivia, Chile, Peru
- Orestias albus* Valenciennes, 1846**
Orestias albus Valenciennes, in Cuvier & Valenciennes, 1846: 242. Type locality: Tributaries of Lake Titicaca. Syntypes: MNHN A.9607. Appeared first in Valenciennes (1839: 118; nomen nudum).
- Orestias neveui* Pellegrin, 1904: 95. Type locality: Lake Titicaca. Holotype: MNHN 1905-189.
- Maximum length: 18 cm TL
Distribution: South America: Lake Titicaca.
Countries: Bolivia, Peru
- Orestias ascotanensis* Parenti, 1984**
Orestias ascotanensis Parenti, 1984: 196, fig. 58. Type locality: Lago Ascotán, Chile. Holotype: USNM 236790.
- Maximum length: 7.5 cm TL
Distribution: South America: Ascotán lake.
Countries: Chile
- Orestias chungarensis* Vila & Pinto, 1987**
Orestias chungarensis Vila & Pinto, 1987: 234, fig. 3. Type locality: Western littoral region of Lake Chungará, Chile. Holotype: MNHNC 11210.
- Maximum length: 7 cm TL
Distribution: South America: Chungará lake.
Countries: Chile
- Orestias crawfordi* Tchernavin, 1944**
Orestias crawfordi Tchernavin, 1944: 226, fig. 25. Type locality: Taman Bay, ne. side of Capachica Peninsula, Lake Titicaca, 36-38 m. Syntypes: BMNH 1944.6.6.154-158.
- Maximum length: 8 cm TL
Distribution: South America: Lake Titicaca.
Countries: Peru
Common names: Carache
- Orestias ctenolepis* Parenti, 1984**
Orestias ctenolepis Parenti, 1984: 194, fig. 57. Type locality: Headwaters of the Río Zapatilla, Río Camellaque, Provincia Chucuito, Peru. Holotype: AMNH 52179.
- Maximum length: 8 cm TL
Distribution: South America: Lake Titicaca basin.
Countries: Peru
- Orestias cuvieri* Valenciennes, 1846**
Orestias Cuvieri Valenciennes, in Cuvier & Valenciennes, 1846: 225, pl. 532 (as *Orestias Cuvierii*). Type locality: Lake Titicaca, Peru. Holotype: MNHN A.9593. Appeared first in Valenciennes (1839: 118, nomen nudum).
- Orestias Humboldti* Valenciennes, in Cuvier & Valenciennes, 1846: 233, pl. 534. Type locality: Lake Titicaca. Syntypes: MNHN 2670. Appeared first as *humboldtii* in Valenciennes (1839: 118, nomen nudum).
- Maximum length: 27 cm TL
Distribution: South America: Lake Titicaca.
Countries: Bolivia, Peru
Common names: Boga (Peru)
- Orestias elegans* Garman, 1895**
Orestias elegans Garman, 1895: 149. Type locality: Small lakes among headwaters of Río Rimac, Peru. Syntypes: MCZ 27694.
- Maximum length: 10 cm TL
Distribution: South America: Santa Eulalia River, Pacific slope of Peru.
Countries: Peru
- Orestias empyraeus* Allen, 1942**
Orestias empyraeus Allen, in Eigenmann & Allen, 1942: 367, pl. 20 (fig. 2). Type locality: Lago Junin, Peru. Holotype: CAS 44195.
- Maximum length: 10 cm TL
Distribution: South America: Junin Lake and upper Amazon River basin.
Countries: Peru
- Orestias forgeti* Lauzanne, 1981**
Orestias forgeti Lauzanne, 1981: 79, fig. 5. Type locality: Tiquina, Lake Titicaca, Bolivia. Holotype: MNHN 1981-603.
- Maximum length: 12 cm TL
Distribution: South America: Lake Titicaca.
Countries: Bolivia, Peru
Common names: Carache
- Orestias frontosus* Cope, 1876**
Orestias frontosus Cope, 1876: 187. Type locality: Lake Titicaca, Bolivia. Syntypes: ANSP 21555-6.
- Orestias agassii pequei* Tchernavin, 1944: 185, fig. 8. Type locality: Lago Pequeño, e. part of Lake Titicaca, Bolivia. Syntypes: BMNH 1944.6.6.79-83.
- Maximum length: 15 cm TL
Distribution: South America: Lake Titicaca.
Countries: Bolivia, Peru
Common names: Carache
- Orestias gilsoni* Tchernavin, 1944**
Orestias gilsoni Tchernavin, 1944: 217, fig. 20. Type locality: Isla Taquiri, Lago Pequeño, SE Lake Titicaca, Bolivia, 2.7-2.8 m. Lectotype: BMNH 1944.6.6.524.
- Maximum length: 4.5 cm TL
Distribution: South America: Lake Titicaca basin.
Countries: Bolivia
Common names: Carache
- Orestias gracilis* Parenti, 1984**
Orestias gracilis Parenti, 1984: 172, fig. 37. Type locality: NE side of Lago Pequeño, village of Huatajata, Lake Titicaca, Bolivia. Holotype: AMNH 52120.
- Maximum length: 5 cm TL

Distribution: South America: Lake Titicaca.
Countries: Bolivia, Peru

***Orestias gymnotus* Parenti, 1984**

Orestias gymnotus Parenti, 1984: 192, fig. 55. Type locality: Near Quishuarcancha, northwest of Cerro de Pasco, Pasco Province, N Peru, elev. ca. 4062 m. Holotype: CAS 40700.

Maximum length: 8 cm TL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

***Orestias hardini* Parenti, 1984**

Orestias hardini Parenti, 1984: 193, fig. 56. Type locality: Lago Yanacocha, ca. 10°S, 77°15'W, Peru. Holotype: AMNH 52178.

Maximum length: 4.5 cm TL

Distribution: South America: Yanacocha and Llacsha Lakes.

Countries: Peru

***Orestias imarpe* Parenti, 1984**

Orestias imarpe Parenti, 1984: 205, fig. 70. Type locality: Near village of Ojjerani, between Puno and Chucuito, Bahía de Puno, Lake Titicaca, Peru. Holotype: AMNH 52184.

Maximum length: 7.5 cm TL

Distribution: South America: Lake Titicaca.

Countries: Peru, Bolivia

***Orestias incae* Garman, 1895**

Orestias incae Garman, 1895: 155, pl. 3 (fig. 9). Type locality: Bahía de Moho, Lake Titicaca, Peru. Syntypes: BMNH 1939.7.17.2 [ex MCZ 3948].

Maximum length: 6.5 cm TL

Distribution: South America: Lake Titicaca.

Countries: Peru, Bolivia

***Orestias ispi* Lauzanne, 1981**

Orestias ispi Lauzanne, 1981: 73, fig. 3. Type locality: Tiquina, Lake Titicaca, Bolivia. Holotype: MNHN 1981-605.

Maximum length: 9 cm TL

Distribution: South America: Lake Titicaca.

Countries: Bolivia, Peru

Common names: Ispi (Bolivia)

***Orestias jussiei* Valenciennes, 1846**

Orestias owenii Valenciennes, in Cuvier & Valenciennes, 1846: 241. Type locality: Lake Urcos, south of Cusco, Peru. Syntypes: MNHN A.9606.

Orestias jussiei Valenciennes, in Cuvier & Valenciennes, 1846: 235. pl. 535. Type locality: Lake Titicaca; Río Guaracóna; Lake Chinchoro, near Cuzco, Peru. Syntypes: MNHN A.9599.

Maximum length: 8.5 cm TL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

***Orestias laucaensis* Arratia, 1983**

Orestias laucaensis Arratia, 1982: 103, fig. 5b. Type locality: Río Lauca, Parinacota, Chile, elev. ca. 4300 m. Holotype: DBCUCH 160879.

Maximum length: 11 cm TL

Distribution: South America: Lauca River basin.

Countries: Chile

***Orestias luteus* Valenciennes, 1846**

Orestias luteus Valenciennes, in Cuvier & Valenciennes, 1846: 243. Type locality: Lake Titicaca. Holotype: MNHN A.9608. Appeared first in Valenciennes (1839: 118, nomen nudum).

Orestias cypho Fowler, 1916: 427, fig. 3. Type locality: La Paz, Bolivia (from a snake). Holotype: ANSP 21920.

Orestias farfani Parenti, 1984: 178, fig. 42. Type locality: Near the village of Vilurcuni, Lake Pequeño, Lake Titicaca, Peru, 1-2 m. Holotype: AMNH 52143.

Orestias rotundipinnis Parenti, 1984: 176, fig. 41. Type locality: Northeast of Isla Esteves, Bahía de Puno, Lake Titicaca, Peru. Holotype: AMNH 52138.

Maximum length: 17 cm TL

Distribution: South America: Lake Titicaca basin.

Countries: Bolivia, Peru

Common names: Carache

***Orestias minimus* Tchernavin, 1944**

Orestias minimus Tchernavin, 1944: 216, fig. 19. Type locality: Molinopampa, east of Juli, se. coast of Lake Titicaca, Bolivia. Holotype: BMNH 1944.6.6.532.

Maximum length: 3.5 cm TL

Distribution: South America: Lake Titicaca.

Countries: Peru, Bolivia

***Orestias minutus* Tchernavin, 1944**

Orestias minutus Tchernavin, 1944: 215, fig. 18. Type locality: Uruni Bay, north side of Capachica Peninsula, Lake Titicaca. Syntypes: BMNH 1944.6.6.159-160.

Maximum length: 3.5 cm TL

Distribution: South America: Lake Titicaca.

Countries: Peru

***Orestias mooni* Tchernavin, 1944**

Orestias mooni Tchernavin, 1944: 228, fig. 26. Type locality: Cota Bay in Puno Bay, Lake Titicaca, Peru, 23 m. Holotype: BMNH 1944.6.6.503.

Maximum length: 4.5 cm TL

Distribution: South America: Lake Titicaca.

Countries: Peru

***Orestias mulleri* Valenciennes, 1846**

Orestias mulleri Valenciennes, in Cuvier & Valenciennes, 1846: 240. Type locality: Lake Titicaca near Guachu, Peru, 15°32'S, 71°37'W. Syntypes: MNHN A.9605.

Maximum length: 4.5 cm TL

Distribution: South America: Lake Titicaca.

Countries: Peru

Common names: Carache

***Orestias multiporis* Parenti, 1984**

Orestias multiporis Parenti, 1984: 198, fig. 60. Type locality: Maravillas, near Río de Lampa, trib. to Lake Titicaca, Peru. Holotype: CAS 46166.

Maximum length: 10 cm TL

Distribution: South America: Lake Titicaca basin.

Countries: Peru

***Orestias mundus* Parenti, 1984**

Orestias mundus Parenti, 1984: 199, fig. 61. Type locality: Cuzco, Peru. Holotype: FMNH 41135.

Maximum length: 6 cm TL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

***Orestias olivaceus* Garman, 1895**

Orestias olivaceus Garman, 1895: 152. Type locality: Lake Umayo, 9 mi. northwest of and 400 ft. higher than Lake Titicaca, Peru. Syntypes: MCZ 3946.

Maximum length: 7.5 cm TL

Distribution: South America: Lake Titicaca basin.

Countries: Peru, Bolivia

***Orestias parinacotensis* Arratia, 1982**

Orestias parinacotensis Arratia, 1982: 100, fig. 5a. Type locality: Bofedales de Parinacota, Chile, ca. elev. 4300 m. Holotype: DBCUCH 190579.

Maximum length: 8.5 cm TL

Distribution: South America: Parinacota River, Andean basin of

Pacific slope of northern Chile.
Countries: Chile

***Orestias pentlandii* Valenciennes, 1846**

Orestias pentlandii Valenciennes, in Cuvier & Valenciennes, 1846: 230. pl. 533. Type locality: Lake Titicaca. Syntypes: MNHN A.9594. Appeared first in Valenciennes (1839: 118, nomen nudum).

Orestias bairdii Cope, 1876: 185. Type locality: Lake Titicaca, Bolivia. Holotype: ANSP 21554.

Orestias pentlandii fuscus Garman, 1895: 148. Type locality: Cuzco Valley, Peru. No types found.

Maximum length: 23.5 cm TL

Distribution: South America: Lake Titicaca and upper Amazon River basin.

Countries: Peru

***Orestias polonorum* Tchernavin, 1944**

Orestias polonorum Tchernavin, 1944: 195, fig. 12. Type locality: Lake Junin, Peru. Lectotype: BMNH 1944.6.6.223.

Maximum length: 14.5 cm TL

Distribution: South America: Junin Lake.

Countries: Peru

***Orestias puni* Tchernavin, 1944**

Orestias jussiei puni Tchernavin, 1944: 194, fig. 11. Type locality: Bahía de Puno, Lake Titicaca, Peru. Syntypes: BMNH 1944.6.6.179-180.

Maximum length: 15 cm TL

Distribution: South America: Lake Titicaca basin.

Countries: Peru

Common names: Carache

***Orestias richersoni* Parenti, 1984**

Orestias richersoni Parenti, 1984: 197, fig. 59. Type locality: Río Coata upstream from Coata, Lake Titicaca drainage, Peru. Holotype: AMNH 52181.

Maximum length: 10 cm TL

Distribution: South America: Lake Titicaca basin.

Countries: Peru

***Orestias robustus* Parenti, 1984**

Orestias robustus Parenti, 1984: 207, fig. 72. Type locality: Near village of Ojjerani, between Puno and Chucuito, Bahía de Puno, Lake Titicaca, Peru. Holotype: AMNH 52191.

Maximum length: 7 cm TL

Distribution: South America: Lake Titicaca basin.

Countries: Peru

***Orestias silustani* Allen, 1942**

Orestias silustani Allen, in Eigenmann & Allen, 1942: 366, pl. 19 (fig. 1). Type locality: Lago Umayo, Peru. Holotype: CAS 44205.

Maximum length: 10 cm TL

Distribution: South America: Lake Titicaca basin.

Countries: Peru

***Orestias taquiri* Tchernavin, 1944**

Orestias taquiri Tchernavin, 1944: 221, fig. 22. Type locality: Taquiri I., Lago Pequeño, se. Lake Titicaca, Bolivia, 2.7-2.8 m. Holotype: BMNH 1944.6.6.534.

Maximum length: 3.5 cm TL

Distribution: South America: Lake Titicaca.

Countries: Bolivia

***Orestias tchernavini* Lauzanne, 1981**

Orestias tchernavini Lauzanne, 1981: 84, fig. 6. Type locality: Tiquina, Lake Titicaca, Bolivia. Holotype: MNHN 1981-770.

Maximum length: 6 cm TL

Distribution: South America: Lake Titicaca.

Countries: Bolivia

***Orestias tomcooni* Parenti, 1984**

Orestias tomcooni Parenti, 1984: 206, fig. 71. Type locality: Near the village of Huatayata, N side of Lago Pequeño of Lake Titicaca, Bolivia. Holotype: AMNH 52188.

Maximum length: 6.5 cm TL

Distribution: South America: Lake Titicaca.

Countries: Bolivia, Peru

***Orestias tschudii* Castelnau, 1855**

Orestias tschudii Castelnau, 1855: 51. pl. 27 (fig. 1). Type locality: Lake Titicaca. Syntypes: MNHN A.9604.

Maximum length: 20 cm TL

Distribution: South America: Lake Titicaca.

Countries: Peru, Bolivia

***Orestias tutini* Tchernavin, 1944**

Orestias tutini Tchernavin, 1944: 219, fig. 21. Type locality: Taquiri I., Lago Pequeño, se. Lake Titicaca, Bolivia, 2.7-2.8 m. Holotype: BMNH 1944.6.6.544.

Maximum length: 4.5 cm TL

Distribution: South America: Lake Titicaca.

Countries: Bolivia

***Orestias uruni* Tchernavin, 1944**

Orestias uruni Tchernavin, 1944: 213, fig. 17. Type locality: Uruni Bay, north side of Capachica Peninsula, Lake Titicaca. BMNH 1944.6.6.173.

Maximum length: 6 cm TL

Distribution: South America: Lake Titicaca.

Countries: Peru

***Orestias ututo* Parenti, 1984**

Orestias ututo Parenti, 1984: 200, fig. 62. Type locality: Lago Ututo, Peru, ca. 9°50'S, 77°30'W. Holotype: AMNH 52183.

Maximum length: 5.5 cm TL

Distribution: South America: Upper Amazon River basin.

Countries: Peru

SPECIES INQUIRENDA

Oriastes lastarriae Philippi, 1876: 261. Type locality: Peru, 4500 m. Apparently an available, overlooked species description.

References

- Ahl, E. 1938. Beschreibung neuer Zahnkarpfen aus dem Zoologischen Museum Berlin. Zool. Anz., 124: 53-58.
- Arratia, G. 1982. Peces del Altiplano de Chile. Pp. 93-133, In: El Hombre y los Ecosistemas de Montaña. MAB-6. El ambiente natural y las poblaciones humanas de Los Andes del Norte Grande de Chile. Vol. 1. La vegetación y los vertebrados interiores ...entre Africa y El Lago Chungará. Peces Altiplano Chile.
- Boulenger, G.A. 1902. Description of a new cyprinodontid fish from eastern Peru. Ann. Mag. Nat. Hist. (Ser. 7), 10 (56): 153-154.
- Castelnau, F.L. 1855. Poissons. xii + 112 p., 50 pls, In: Animaux nouveaux or rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847. Chez P. Bertrand, Paris.
- Cope, E.D. 1876. Note on the ichthyology of Lake Titicaca. J. Acad. Nat. Sci. Philadelphia (Ser. 2), 8 (2): 185-187.
- Costa, W.J.E.M. 1997. Phylogeny and classification of the Cyprinodontidae revisited (Teleostei: Cyprinodontiformes): are Andean and Anatolian killifishes sister taxa? Journal of Comparative Biology, 2 (1): 1-17.
- Costa, W.J.E.M. 1998. Phylogeny and classification of the Cypr-

Check List of the Freshwater Fishes of South and Central America

- nodontiformes (Euteleostei: Atherinomorpha): a reappraisal. Pp. 537-560, In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). Phylogeny and classification of Neotropical fishes. Edipucrs, Porto Alegre.
- Cuvier, G. and A. Valenciennes. 1846. Histoire naturelle des poissons. Tome dix-huitième. Suite du livre dix-huitième. Cyprinoides. Livre dix-neuvième. Des Ésoques ou Lucioïdes. Ch. Pitois, & V.^e Levrault, Paris & Strasbourg. xix + 505 + 2 p., pls. 520-553.
- Eigenmann, C.H. 1903. The fresh-water fishes of western Cuba. Bull. U. S. Fish Comm., 22 [for 1902]: 211-236, pls. 19-21.
- Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II.- The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. Univ. Kentucky. xv + 494 p., pls. 1-22.
- Eschmeyer, W.N. (ed.). 1998. Catalog of Fishes. California Academy of Sciences, San Francisco.
- Fowler, H.W. 1916. Notes on fishes of the orders Haplomi and Microcyprini. Proc. Acad. Nat. Sci. Philadelphia, 68: 415-439.
- Fowler, H.W. 1939. Notes on fishes from Jamaica with descriptions of three new species. Not. Nat. (Philadelphia), no. 35: 1-16.
- Fowler, H.W. 1940. Zoological results of the second Bolivian expedition for the Academy of Natural Sciences of Philadelphia, 1936-1937. Part I.--The fishes. Proc. Acad. Nat. Sci. Philadelphia, 92: 43-103.
- Garman, S. 1895. The cyprinodonts. Mem. Mus. Comp. Zool., 19 (1): 1-179, pls. 1-12.
- Gistel, J. 1848. Naturgeschichte des Thierreichs, für höhere Schulen. Stuttgart. xvi + 216 p., 32 pl.
- Greenfield, D.W. and J.E. Thomerson. 1997. Fishes of the continental waters of Belize. Univ. Press Florida, Gainesville. xxii + 311 p.
- Günther, A. 1866. Catalogue of fishes in the British Museum, vol. 6. Catalogue of the Physostomi, containing the families Salmonidae, Percopsidae, Galaxidae, Mormyridae, Gymnarchidae, Esocidae, Umbridae, Scombresocidae, Cyprinodontidae, in the collection of the British Museum. Trustees, London. xv + 368 p.
- Hubbs, C.L. 1926. Studies of the fishes of the Order Cyprinodontes VI. Miscellaneous Publications of the Museum of Zoology of the University of Michigan, 16: 1-86.
- Hubbs, C.L. 1936. XVII. Fishes of the Yucatan Peninsula. Carnegie Inst. Wash. Publ., no. 457: 157-287, pls. 1-15.
- Humphries, J. M. 1984. *Cyprinodon verecundus*, n. sp., a fifth species of pupfish from Laguna Chichancanab. Copeia, 1984: 58-68.
- Humphries, J. M. and R. R. Miller. 1981. A remarkable species flock of pupfishes, genus *Cyprinodon*, from Yucatán, Mexico. Copeia, 1981: 52-64.
- La Cépède, B.G.E. 1803. Histoire naturelle des poissons, vol. 5. Plassan, Paris. lxxviii + 803 p. + index, pls. 1-21.
- Lauzanne, L. 1981. Description de trois *Orestias* nouveaux du Lac Titicaca, *O. ispi* n. sp., *O. forgeti* n. sp. et *O. tchernavini* n. sp. (Pisces, Cyprinodontidae). Cybium (Ser. 3), 5 (3): 71-91.
- Lesueur, C.A. 1821. Description of a new genus, and of several new species of fresh water fish indigenous to the United States. J. Acad. Nat. Sci. Philadelphia, 2 (1): 2-8, pls. 1-3.
- Meek, S.E. 1909. New species of fishes from tropical America. Field Columbian Mus. Zool. Ser., 7 (7): 207-211.
- Myers, G.S. 1935. An annotated list of the cyprinodont fishes of Hispaniola, with descriptions of two new species. Zoologica (N. Y.), 10 (3): 301-316.
- Oken, L. 1817. Cuviers und Oken's Zoologien neben einander gestellt. Isis [Oken]: 8 (144-148): col. 1145-1184 (incl. 1779-1782, sic 1179-1182).
- Parenti, L.R. 1981. A phylogenetic and biogeographic analysis of cyprinodontiform fishes (Teleostei, Atherinomorpha). Bull. Am. Mus. Nat. Hist., 168: 335-557.
- Parenti, L.R. 1984. A taxonomic revision of the Andean killifish genus *Orestias* (Cyprinodontiformes, Cyprinodontidae). Bull. Am. Mus. Nat. Hist., 178 (2): 107-214.
- Pellegrin, J. 1904. Mission G. de Créqui-Montfort et E. Sénéchal de la Grange. Note sur les poissons des Lacs Titicaca et Poopo. Bull. Soc. Zool. France, 29: 90-96.
- Philippi, R.A. 1876. Descripción de tres peces nuevos. An. Univ. Chile, 48 (1): 261-266.
- Poey, F. 1858-61. Memorias sobre la historia natural de la Isla de Cuba, acompañadas de sumários Latinos y extractos en Francés. Tomo 2. La Habana. 1-96 (1858), 97-336 (1860), 337-442, (1861), pls. 1-19.
- Poey, F. 1868. Synopsis piscium cubensium. Catalogo Razonado de los peces de la isla de Cuba. Repertorio Físico-Natural de la Isla de Cuba, 2: 279-484.
- Rafinesque, C.S. 1815. Analyse de la nature, ou tableau de l'univers et des corps organisés. Palerme. 224 p.
- Smith, M.L. 1989. *Cyprinodon nichollsi*, a new pupfish from Hispaniola, and species characteristics of *C. bondi* Myers (Teleostei: Cyprinodontiformes). American Museum Novitates, (2953): 1-10.
- Smith, M.L., C.M. Rodriguez and C. Lydeard. 1990. Systematics of *Cyprinodon higuey*, n. sp. and *Cyprinodon amaicensis* Fowler from the Greater Antilles (Teleostei: Cyprinodontiformes). American Museum Novitates, (2990): 1-10.
- Strecker, U. 2002. *Cyprinodon esconditus*, a new pupfish from Laguna Chichancanab, Yucatan, Mexico (Cyprinodontidae). Cybium, 26: 301-307.
- Tchernavin, V.V. 1944. A revision of the subfamily Orestiinae. Proc. Zool. Soc. London, 114 (1-2): 140-233.
- Valenciennes, A. 1839. Quelques observations sur les Poissons que M. Pentland a rapportés du lac Titicaca et des autres points élevés des Andes. L'Institut, 7: 118.
- Vila, I. and M. Pinto. 1987. A new species of killifish (Pisces, Cyprinodontidae) from the Chilean Altiplano. Rev. Hydrobiol. Trop., 19 (3-4): 233-239.

Family Poeciliidae (Livebearers)

Paulo H. F. Lucinda

Poeciliids can be characterized by: (1) a highly-inserted pectoral fin, (2) pelvic fins that migrate anteriorly during growth, (3) recessed supraorbital pores 2b through 4a, and (4) pleural ribs on the first several haemal arches as well as a series of other internal synapomorphies (see details in Parenti, 1981; Costa, 1998; Ghedotti, 2000).

Poeciliids are small and laterally compressed cyprinodontiform fishes. Body form ranges from extremely elongate (e.g. *Tomeurus*) to deep-bodied (e.g. *Phallichthys*, *Carlhubbsia*). Size is extremely variable ranging from the tiny *Fluviophylax palikur* (maximum adult recorded size: 13.9 mm) to the giant of the group, *Belonesox belizanus*, which reaches 200 mm. Poeciliids comprise 299 valid species inhabiting the fresh and brackish waters of American and African continents (but are reported to occur in salt waters in coastal areas).

Species of Poeciliidae occur in North and Middle America, Caribbean, South America to Northern Argentina, Congo basin and the African rift lakes, Dar es Salaam and Madagascar (Parenti, 1981). Following Ghedotti (2000), fishes of the family Poeciliidae are included in three subfamilies: Poeciliinae (220 valid species), Procatopodinae (78 valid species) Aplocheilichthyinae (one species).

The subfamily Poeciliinae is broadly distributed throughout the Americas. Poeciliines are characterized by: (1) the uniquely derived possession of a gonopodium formed by the modified male anal-fin rays 3, 4, and 5 (Parenti, 1981), (2) internal fertilization, (3) viviparity (*Tomeurus gracilis* possess facultative viviparity). Some species with all-female individuals, their eggs capable of developing when stimulated by the sperm of another species without fertilization. Poeciliinae is the sister group of the Procatopodinae, a group composed of the South-American *Fluviophylax* and the African procatopodines. The clade Poeciliinae plus Procatopodinae is the sister group of the Aplocheilichthyinae (Costa, 1996; Ghedotti, 2000). These three subfamilies compose the family Poeciliidae.

The Poeciliinae includes well-known aquarium fishes such as the guppies, mosquito fishes, swordtails, platys and the mollies, being very familiar to the non-scientific public. On the other hand, poeciliines are well known from several biological standpoints, being object of study for ecologists, anatomists, embryologists and many others biologist researchers. Notwithstanding, this fish assemblage is disappointingly ill-studied from the perspective of systematics. Intrageneric diversity and intergeneric relationships of the Poeciliinae are poorly known, regardless of its huge distribution range and notoriety. Similarly, phylogenetic hypotheses for most of genera are still wanting. Taxonomic revisions and phylogeny hypotheses have provided insights into the relationships of smaller groups of the Poeciliinae (e.g., Rosen, 1967, 1979; Rauchenberger, 1989; Rosa & Costa, 1993; Meyer et al., 1994; Mojica et al., 1997; Rodriguez, 1997; Ghedotti, 2000) or have dealt with higher taxa (Costa, 1996 and 1998; Parenti, 1981). The only comprehensive study is the classic revision of "Poeciliidae" by Rosen & Bailey (1963), which did not deal with cladistic methodology. Nonetheless, Rosen & Bailey (1963) is the basis for current inner classification of Poeciliinae. Later, Parenti & Rauchenberger (1989) modified the classification of Rosen & Bailey (1963) in order to accommodate it into the taxonomic rank of subfamily proposed by Parenti. Following Rosen & Bailey (1963) and Parenti & Rauchenberger (1989), *Tomeurus* alone is the supertribe Tomeurini. The remaining genera form the supertribe Poeciliini, which is subdivided in the tribes Poeciliini, Cnesterodontini, Gambusini, Scolichthyini, Girardini, Heterandrini and Xenodexini. Later, Ghedotti (2000) proposed another Poeciliinae classification based in his phylogenetic study of the Poecilioidea despite the fact that only 12 genera have been used in his cladistic analysis.

ALFARO

Petalosoma Regan, 1908: 458. Type species: *Petalosoma cultratum* Regan, 1908. Preoccupied in Coleoptera. Type by monotypy.

Gender: neuter.

Alfaro Meek, 1912: 72. Type species: *Alfaro acutiventralis* Meek, 1912. Type by monotypy. Gender: masculine.

Petalurichthys Regan, 1912: 494 (footnote). Type species: *Petalosoma cultratum* Regan, 1908. Type by being a replacement name for *Petalosoma* preoccupied in Coleoptera. Gender: masculine.

Furcipenis Hubbs, 1931: 1. Type species: *Priapichthys huberi* Fowler, 1923. Type by original designation. Gender: masculine.

***Alfaro cultratus* (Regan, 1908)**

Petalosoma cultratum Regan, 1908: 458. Type locality: Rio Iroquois [Costa Rica]. Holotype: BMNH 1909.3.13.58.

Petalosoma amazonum Regan, 1911: 659, fig. (p. 660). Type locality: Obidos. Syntypes: BMNH 1911.10.28.1-2 (2).

Alfaro acutiventralis Meek, 1912: 72. Type locality: Guapilis, Costa Rica. Holotype: FMNH 7679 [not FMNH 7579].

Maximum length: 7.5 cm TL

Distribution: Central America: Costa Rica, Panama and Nicaragua. Countries: Costa Rica, Nicaragua, Panama

Alfaro huberi (Fowler, 1923)

Priapichthys huberi Fowler, 1923: 27. Type locality: Marceligo Creek, tributary of the Tunky River, at Miranda, Nicaragua. Holotype: ANSP 51220.

Maximum length: 5 cm TL

Distribution: Central America: Southern Guatemala through Honduras to Nicaragua.

Countries: Guatemala, Honduras, Nicaragua

BELONESOX

Belonesox Kner, 1860: 419, 422. Type species: *Belonesox belizanus* Kner, 1860. Type by monotypy. Gender: masculine.

Belonesox belizanus Kner, 1860

Belonesox belizanus Kner, 1860: 419, pl. Type locality: Belize. Possible types: USNM 117504 (2).

Belonesox belizanus maxillosus Hubbs, 1936: 228, pl. 7 (fig. 5). Type locality: roadside pool 3 km. south of Progreso, Yucatan. Holotype: UMMZ 102137.

Maximum length: 20 cm TL

Distribution: North and Central America: From Laguna San Julian, northeast of Ciudad Veracruz in Mexico to Costa Rica. Southern Gulf of Mexico, southern Yucatán and along Central American coast south to Nicaragua. Introduced in freshwater in Florida.

Countries: Belize, Costa Rica, Mexico, Nicaragua

BRACHYRHAPHIS

Brachyrhaphis Regan, 1913a: 997. Type species: *Gambusia rhabdophora* Regan, 1908. Type by monotypy. Gender: feminine. See Mojica et al. (1997) for phylogenetic relationships inferred from DNA sequences.

Trigonophallus Hubbs, 1926: 48. Type species: *Trigonophallus punctifer* Hubbs, 1926. Type by original designation. Gender: masculine.

Plectrophallus Fowler, 1932: 384. Proposed as new subgenus of *Panamichthys* Hubbs. Type species: *Panamichthys tristani* Fowler, 1932. Type by original designation. Gender: masculine.

Brachyrhaphis cascajalensis (Meek & Hildebrand, 1913)

Gambusia cascajalensis Meek & Hildebrand, 1913: 86. Type locality: Rio Cascajal, Porto Bello, Panama. Holotype: FMNH 7594.

Maximum length: 6 cm TL

Distribution: Central America: Southern Costa Rica to Panama.

Countries: Costa Rica, Panama

Brachyrhaphis episcopi (Steindachner, 1878)

Gambusia episcopi Steindachner, 1878: 387, pl. 2 (fig. 3). Type locality: Streams near Obispo Station, Canal Zone, Panama. Syn-types: NMW 14705 (5).

Gambusia latipunctata Meek & Hildebrand, 1913: 87. Type locality: Arrijan, Panama. Holotype: FMNH 7595.

Maximum length: 3.5 cm TL

Distribution: Central America: Panama.

Countries: Panama

Brachyrhaphis hartwegi Rosen & Bailey, 1963

Brachyrhaphis hartwegi Rosen & Bailey, 1963: 87, fig. 41. Type locality: stream tributary to Río Jalapa, which in turn flows into an independent Pacific drainage, the Río Zintalapa, at Finca Esperanza, 450 feet in elevation, longitude 92°36' W., latitude 15°20' N., about 6 km north-northeastern of Escuintla, Soconusco District, Chiapas, Mexico. Holotype: UMMZ 179539.

Maximum length: 3.5 cm TL

Distribution: North and Central America: Mexico to Guatemala.

Countries: Guatemala, Mexico

Brachyrhaphis hessfeldi Meyer & Etzel, 2001

Brachyrhaphis hessfeldi Meyer & Etzel, 2001a: 34, fig. 1. Type locality: ditch near Palenque, 40 km NE from Portobelo (79°23' W. 9°35' N), Colon, Panama. Holotype: MTD F 22534.

Maximum length: 5.5 cm TL

Distribution: Waters west of Canal Zone, Coclé.

Countries: Panama.

Brachyrhaphis holdridgei Bussing, 1967

Brachyrhaphis holdridgei Bussing, 1967: 223, fig. 4. Type locality: Río Madre de Dios, Río Sarapiquí, and Río Arenal drainages on the Atlantic slope of Costa Rica between 50 and about 600 meters elevation [100 miles E of Quebrada los Murcielagos near Arenal, Guanacaste, Costa Rica]. Holotype: LACM 9240-1.

Maximum length: 4 cm TL

Distribution: Central America: Costa Rica.

Countries: Costa Rica

Brachyrhaphis parismina (Meek, 1912)

Gambusia parismina Meek, 1912: 71. Type locality: Parismina, Costa Rica. Holotype: FMNH 7678 [not 7578].

Maximum length: 7 cm TL

Distribution: Central America: Costa Rica.

Countries: Costa Rica

Brachyrhaphis punctifer (Hubbs, 1926)

Trigonophallus punctifer Hubbs, 1926: 49. Type locality: Guibari Creek, a tributary of the Rio Cricamola below Conquantu, on the Caribbean slope of western Panama. Holotype: UMMZ 72573.

Maximum length: 3 cm TL

Distribution: Central America: Panama.

Countries: Panama

Brachyrhaphis rhabdophora (Regan, 1908)

Gambusia rhabdophora Regan, 1908: 457. Type locality: Volcano of Tenorio and Rio Grande de Terraba [Costa Rica]. Syntypes: BMNH 1909.3.13.48-53 (6), 1909.3.13.54-56.

Priapichthys olomina Meek, 1914: 114. Type locality: Orotina, Costa Rica. Holotype: FMNH 7827.

Panamichthys tristani Fowler, 1932: 384. Type locality: Escobal, at 400 meters, Costa Rica. Holotype: ANSP 53935.

Maximum length: 4 cm TL

Distribution: Central America: Costa Rica.

Countries: Costa Rica

Remarks and references: Reznick et al (1993): life history.

Brachyrhaphis roseni Bussing, 1988

Brachyrhaphis roseni Bussing, 1988: 81, fig. 1. Type locality: Quebrada la Palma (elevation 90 m), 3 km W of Paso Canoas. [Costa Rica]. Holotype: LACM 44220-1 [ex UCR 103-4].

Maximum length: 4.42 cm SL

Distribution: Central America: Costa Rica and Panama.

Countries: Costa Rica, Panama

Brachyrhaphis roswithae Meyer & Etzel, 1998

Brachyrhaphis roswithae Meyer & Etzel, 1998: 157, fig. 1. Type locality: brook near El Valle (80°22' W, 08°58' N), Coclé, Panama. Holotype: MTD F 17046.

Maximum length: 5 cm TL.

Distribution: Waters west of Canal Zone, Coclé. Only known from type locality.

Countries: Panama

Brachyrhaphis terrabensis (Regan, 1907)

Gambusia terrabensis Regan, 1907a: 260. Type locality: Rio Grande de Terraba, Pacific Slope. Syntypes: BMNH 1907.2.11.31-32 (2), 1907.2.11.33-36 (4).

Maximum length: 5 cm TL

Distribution: Central America: Costa Rica and Panama.

Countries: Costa Rica, Panama

CARLHUBBSIA

Allophallus Hubbs, 1936: 232. Name preoccupied in Diptera. Type species: *Allophallus kidderi* Hubbs, 1936. Type by original designation. Gender: masculine.

Carlhubbsia Whitley, 1951: 67. Type species: *Allophallus kidderi* Hubbs, 1936. Type by being a replacement name. Gender: feminine.

***Carlhubbsia kidderi* (Hubbs, 1936)**

Allophallus kidderi Hubbs, 1936: 236, pl. 8 (fig. 2). Type locality: Rio Champoton, near a savanna about 18 km. from mouth at Champoton, Campeche. Holotype: UMMZ 102199.

Maximum length: 5 cm TL

Distribution: North and Central America: Champotón River, Campeche, Mexico, and the drainages of San Pedro de Mártir River, El Petén, and de la Pasión River and Alta Vera Paz, Guatemala.

Countries: Guatemala, Mexico

***Carlhubbsia stuarti* Rosen & Bailey, 1959**

Carlhubbsia stuarti Rosen & Bailey, 1959: 5, pl. 1; fig. 1. Type locality: Río Polochic at the "playa," about 0.5 km. east of Panzós, Alta Vera Cruz, Guatemala. Holotype: UMMZ 146084.

Maximum length: 5.5 cm SL

Distribution: Central America: Polochic River and Lake Izabal basins.

Countries: Belize, Guatemala, Panama

CNESTERODON

Cnesterodon Garman, 1895: 43. Type species: *Poecilia decemmaculata* Jenyns, 1842. Type by original designation. Gender: masculine. See Rosa & Costa (1993) for taxonomic revision.

Gulapinnus Langer, 1913: 207. Type species: *Poecilia decemmaculata* Jenyns, 1842. Type by original designation. Gender: masculine.

***Cnesterodon brevirostratus* Rosa & Costa, 1993**

Cnesterodon brevirostratus Rosa & Costa, 1993: 704, fig. 17. Type locality: Brazil, Rio Grande do Sul, Cambará do Sul, Parque Nacional dos Aparados da Serra, Arroio Camisa, tributary to Rio das Antas. Holotype: MZUSP 41399.

Maximum length: 4.39 cm SL

Distribution: South America: Upper Pelotas and Canoas River basins in Uruguay River drainage; Jacuí River as well as the headwaters of the Maquiné River in the Tramandaí River basins and the headwaters of Itajaí-Açu River basin.

Countries: Brazil

Common names: Barrigudinho (Brazil), Guaru (Brazil)

***Cnesterodon carnegiei* Haseman, 1911**

Cnesterodon carnegiei Haseman, 1911: 385, pl. 83. Type locality: Serrinha, Paraná. Holotype: FMNH [ex CM 2868] (missing).

Maximum length: 2.97 cm SL

Distribution: South America: Upper Iguazu River and its upper tributaries.

Countries: Brazil.

Remarks and references: See Lucinda & Garavello (2001) for discussion on types and type locality.

Common names: Barrigudinho (Brazil), Guaru (Brazil)

***Cnesterodon decemmaculatus* (Jenyns, 1842)**

Poecilia decem-maculata Jenyns, 1842: 115, pl. 22 (figs. 1, 1a). Type locality: Maldonado [Uruguay]. Syntypes: (2) BMNH 1917.7.14.25-26.

Poecilia gracilis Valenciennes in Cuvier & Valenciennes, 1846: 133. Type locality: environs de Montevideo. Syntypes: MNHN B-0939 (3)

Maximum length: 3.55 cm SL

Distribution: South America: Lower Uruguay, Laguna dos Patos, Negro, and Salado River basins; western drainages of Argentina and small coastal drainages of Uruguay and Argentina.

Countries: Argentina, Brazil, Uruguay, Chile (introduced)

Remarks and references: Jenyns (1842) stated that the types of *Poecilia decemmaculata* were collected by Charles Darwin in a lake in Maldonado. In the same paper, Jenyns also described *Lebias lineata* (= *Jenynsia lineata*) and cited its type-locality as the same as for *Poecilia decemmaculata*. Based on the color pattern of recent samples of *J. lineata* and based on localities from which Darwin made collections, Ghedotti & Weitzman (1996) concluded that Darwin did not actually collect the types in Maldonado, but in the Cebollati River drainage, a tributary of the Mirim Lagoon. Darwin did make a ten-day incursion to the arroyo Polanco, a tributary of Cebollati River: "I stayed ten weeks at Maldonado, in which a nearly perfect collection of the animals, birds, and reptiles, was procured. Before making any observations respecting them, I will give of a little excursion I made as far as the river Polanco, which is about seventy miles distant, in a northerly direction (...)" (Darwin, 1839). As *Poecilia decemmaculata* and *Lebias lineata* have the same type-localities, the same remarks should be applied to the type-locality of *Poecilia decemmaculata*. Common names: Barrigudinho (Brazil), Guaru (Brazil)

***Cnesterodon hypselurus* Lucinda & Garavello, 2001**

Cnesterodon hypselurus Lucinda & Garavello, 2001: 129, fig. 5.

Type locality: Brasil, Paraná, rio Cilada, bridge of road BR 151, rio Paranapanema drainage, Jaguariáva. Holotype: MCP 22741.

Maximum length: 3.05 cm SL

Distribution: South America: Paranapanema River basin.

Countries: Brazil

Common names: Barrigudinho (Brazil), Guaru (Brazil)

***Cnesterodon omorgmatos* Lucinda & Garavello, 2001**

Cnesterodon omorgmatos Lucinda & Garavello, 2001: 126, fig. 3.

Type locality: Brasil, Paraná, rio das Torres, rio Iguazu basin, Pinhão. Holotype: MCP 22741.

Maximum length: 3.05 cm SL

Distribution: South America: Iguazu River basin.

Countries: Brazil

Common names: Barrigudinho (Brazil), Guaru (Brazil)

***Cnesterodon raddai* Meyer & Etzel, 2001**

Cnesterodon raddai Meyer & Etzel, 2001b: 248, fig. 1. Type

locality: swamp near Resistencia, Rio Paraná basin, Argentina.

Holotype: MTD F 25416.

Maximum length: 2.32 cm SL

Distribution: South America: Paraguay and lower Paraná River basins.

Countries: Argentina, Paraguay

***Cnesterodon septentrionalis* Rosa & Costa, 1993**

Cnesterodon septentrionalis Rosa & Costa, 1993: 706, fig. 18.

Type locality: Brazil, Mato Grosso, Município de Alto Araguaia, swamp near the Córrego do Rancho fountainhead. Holotype: MZUSP 41380.

Maximum length: 3 cm SL

Distribution: South America: Upper Araguaia River basin.

Countries: Brazil

Common names: Barrigudinho (Brazil), Guaru (Brazil)

FLUVIPHYLAX

Potamophylax Myers & Carvalho in Myers, 1955: 7. Type species:

Potamophylax pygmaeus Myers & Carvalho, 1955. Type by monotypy. Preoccupied in Insecta. Gender: masculine.

Fluviphylax Whitley, 1965: 25. Type species: *Potamophylax pygmaeus* Myers & Carvalho, 1955. Type by being a replacement

name. Gender: masculine.

***Fluviophylax obscurus* Costa, 1996**

Fluviophylax obscurus Costa, 1996: 122, fig. 13. Type locality: Brazil: Estado do Amazonas: Barcelos, rio Negro. Holotype: MZUSP 49208; erroneously published as MZUSP 49207. Maximum length: 1.73 cm SL
Distribution: South America: Upper Negro River basin.
Countries: Brazil
Common names: Barrigudinho (Brazil), Guaru (Brazil)

***Fluviophylax palikur* Costa & Le Bail, 1999**

Fluviophylax palikur Costa & Le Bail 1999: 1029, fig. 1. Type locality: Brazil: Estado do Amapá: rio Taparabu, a right tributary of rio Oiapoque, Juminán, 03°58'35"N, 51°41'06"W. Holotype: MZUSP 52941
Maximum length: 1.2 cm SL.
Distribution: South America: Lower Oyapock River basin.
Countries: Brazil
Common names: Barrigudinho (Brazil), Guaru (Brazil)

***Fluviophylax pygmaeus* (Myers & Carvalho, 1955)**

Potamophylax pygmaeus Myers & Carvalho in Myers, 1955: 7. Type locality: Middle Amazon [Borba, lower Madeira River], 4°24'S, 59°35'W, Amazonas, Brazil.
Maximum length: 2 cm SL
Distribution: South America: Amazon River basin.
Countries: Brazil, Colombia, Venezuela
Common names: Barrigudinho (Brazil), Guaru (Brazil)

***Fluviophylax simplex* Costa, 1996**

Fluviophylax simplex Costa, 1996: 126, fig. 15. Type locality: Brazil: Estado do Amazonas: igarapé de lago José-Açu, Parintins. Holotype: MZUSP 49209.
Maximum length: 1.45 cm SL
Distribution: South America: Solimões-Amazonas River, between Miuá Lake (Codajás) and mouth of the Tapajós River, and lower Trombetas and Tapajós Rivers.
Countries: Brazil
Common names: Barrigudinho (Brazil), Guaru (Brazil)

***Fluviophylax zonatus* Costa, 1996**

Fluviophylax zonatus Costa, 1996: 124, fig. 14. Type locality: Brazil: Estado do Amazonas: Anavilhanas, Rio Negro. Holotype: MZUSP 49207.
Maximum length: 1.53 cm SL
Distribution: South America: Lower Negro River, between Anavilhanas Archipelago and Manaus.
Countries: Brazil
Common names: Barrigudinho (Brazil), Guaru (Brazil)

GAMBUSIA

Gambusia Poey, 1854: 382. Type species: *Gambusia punctata* Poey, 1854. Type by subsequent designation. Gender: feminine. See Greenfield et al. (1982) for taxonomy and distribution of the species in Belize, Rauchenberger (1989) and Rauchenberger et al. (1990) for systematics and biogeography.

Paragambusia Meek, 1904: 133. Type species: *Gambusia nicaraguensis* Günther, 1866. Type by original designation. Gender: feminine.

Heterophallus Regan, 1914b: 65. Type species: *Heterophallus rachovii* Regan, 1914. Type by monotypy. Gender: masculine.

Arthropallus Hubbs, 1926: 38. Proposed as subgenus of *Gambusia*. Type species: *Heterandria patruelis* Baird & Girard, 1853. Type by original designation. Gender: masculine.

Heterophallina Hubbs, 1926: 26. Proposed as subgenus of *Gambusia*. Type species: *Gambusia regani* Hubbs, 1926. Type by original designation. Gender: feminine.

Schizophallus Hubbs, 1926: 40. Proposed as subgenus of *Gambu-*

sia. Type species: *Gambusia holbrookii* Girard, 1859. Type by original designation. Gender: masculine.

Dicerophallus Alvarez, 1952: 95. Type species: *Dicerophallus echeagarayi* Alvarez, 1952. Type by original designation. Gender: masculine.

Flexipennis Hubbs in Rivas, 1963: 334. Type species: *Gambusia vittata* Hubbs, 1926. Type by original designation. Gender: masculine.

Orthophallus Rivas, 1963: 339. Type species: *Gambusia lemaitrei* Fowler, 1950. Type by original designation. Gender: masculine.

***Gambusia affinis* (Baird & Girard, 1853)**

Heterandria affinis Baird & Girard, 1853: 390. Type locality: Rio Medina and Rio Salado [Texas, USA]. Syntypes: ANSP 6974-75 (2); MCZ 41141 (1), 41150 (1).

Heterandria patruelis Baird & Girard, 1853: 390. Type locality: Rio Sabinal; Rio Leona and Rio Neuces, and Elm Creek [Texas, USA]. Syntypes: MCZ 1300 (6).

Gambusia holbrookii Girard 1859a: 62. Type locality: Palatka, e. Florida; Charleston, South Carolina, U.S.A. Syntypes: ANSP 6976-77 (2) Palatka, MCZ 35999 [ex USNM 8301] (5) Charleston, USNM 8301 (45). Name taken from Agassiz manuscript (as *Heterandria holbrookii*), but author of description is Girard.

Gambusia gracilis Girard, 1859a: 121. Type locality: Matamoras [Mexico]. Syntypes: ANSP 6973 (1), MCZ 1309 (1), MNHN [ex USNM 3506] (1), ?USNM 3506 (7, not found).

Gambusia humilis Günther, 1866: 335. Type locality: Matamoras [Mexico]. Syntypes: ANSP 6973 (1), MCZ 1309 (1), MNHN [ex USNM 3506] (1).

Haplochilus melanops Cope, 1870: 457. Type locality: in still waters of the Neuse basin, Wake Co., N. Ca. Syntypes: ANSP 7143-59 (17).

Zygonectes atrilatus Jordan & Brayton, 1878: 84 [footnote]. Type locality: Neuse River, near Goldsboro [sic] [North Carolina, USA]. Syntypes: BMNH 1880.1.21.48 (1), USNM 23464 (1).

Zygonectes brachypterus Cope, 1880: 34. Type locality: Trinity River at Fort Worth [Texas, USA]. Holotype: ANSP 20446.

Zygonectes inurus Jordan & Gilbert, 1882: 143. Type locality: Cache River [Southern Illinois, USA]. Holotype: USNM 29666. Maximum length: 4 cm TL

Distribution: North and Central America: Mississippi River basin from central Indiana and Illinois in USA south to Gulf of Mexico and Gulf slope drainages west to Mexico. One of the species with the widest range of introductions which acquired for itself a near pan-global distribution.

Countries: Bolivia (introduced), Chile (introduced), Mexico, Peru (introduced), USA

***Gambusia alvarezi* Hubbs & Springer, 1957**

Gambusia alvarezi Hubbs & Springer, 1957: 310, fig. 14. Type locality: El Ojo de San Gregorio, Chihuahua, Mexico. Holotype: UMMZ 168979.

Maximum length: 3 cm TL.

Distribution: North America: Only known from El Ojo de San Gregorio, Chihuahua, Mexico, and the adjacent creek.

Countries: Mexico

***Gambusia atrora* Rosen & Bailey, 1963**

Gambusia atrora Rosen & Bailey, 1963: 102, fig. 43. Type locality: ferry across Río Axtla to a shallow area 150 yards upstream, Xilitla, San Luis Potosí, Mexico. Holotype: UMMZ 179999.

Maximum length: 3 cm TL

Distribution: North America: Mexico.

Countries: Mexico

***Gambusia aurata* Miller & Minckley, 1970**

Gambusia aurata Miller & Minckley, 1970: 249, fig. 1. Type locality: lateral canal flowing north off the main canal from Río Mante, about 4 km west of Highway 85 on road at south end of

park on south side of Ciudad Mante, Tamaulipas. Holotype: UMMZ 188736.
Maximum length: 3.02 cm SL
Distribution: North America: Mexico.
Countries: Mexico

***Gambusia beebei* Myers, 1935**

Gambusia beebei Myers, 1935: 305, fig. 274. Type locality: Étang de Miragoâne, Haiti, S. W. end of lake, from Aux Cayes road. Neotype: USNM 203161.
Maximum length: 3.3 cm SL
Distribution: Caribbean Islands: Étang de Miragoane in Tiburon Peninsula, southwestern Haiti.
Countries: Haiti

***Gambusia bucheri* Rivas, 1944**

Gambusia bucheri Rivas, 1944b: 42. Type locality: Rio Jicotea, of the Moa system, at the bridge of the road between Aserrio de Moa and Punta Gorda, Province of Oriente [Cuba]. Holotype: USNM 203149 [ex Rivas coll. 132].
Distribution: Caribbean Islands: Oriente Province, Cuba.
Countries: Cuba

***Gambusia dominicensis* Regan, 1913**

Gambusia dominicensis Regan, 1913a: 989, pl. 99 (fig. 7); Fig. 169c. Type locality: Haiti. Syntypes: BMNH 1913.1.22.10-11 (3 or 4).
Maximum length: 2.5 cm TL
Distribution: Caribbean Islands: Hispaniola Island.
Countries: Dominican Republic, Haiti

***Gambusia echeagarayi* (Alvarez, 1952)**

Dicerophallus echeagarayi Alvarez, 1952: 95, fig. 1. Type locality: Palenque, Chis., Río Michol, en el cruce com la carretera que va de la población a las ruinas. Cuenca del Usumacinta. [Chiapas, Mexico]. Holotype: ENCB-IPN-P 279
Maximum length: 2.94 cm TL
Distribution: North America: Michol River in Chiapas, Mexico.
Countries: Mexico

***Gambusia eurystoma* Miller, 1975**

Gambusia eurystoma Miller, 1975: 19, fig. 5. Type locality: Arroyo del Azufre at Baños de Azufre, 10 km W of Teapa, Tabasco [Mexico] 93° 01' W Long., 17° 34' N Lat., elevation about 150 meters. Holotype: UMMZ 197600.
Maximum length: 3.5 cm TL
Distribution: North America: Mexico.
Countries: Mexico

***Gambusia hispaniolae* Fink, 1971**

Gambusia hispaniolae Fink, 1971a: 57, fig. 4. Type locality: Haiti, Source Trou-Caiman, Cul-de-Sac Plain, Dept. de l'Quest. Holotype: USNM 204865.
Maximum length: 5.18 cm SL
Distribution: Caribbean Islands: Hispaniola Island.
Countries: Dominican Republic, Haiti

***Gambusia hurtadoi* Hubbs & Springer, 1957**

Gambusia hurtadoi Hubbs & Springer, 1957: 307, fig. 13. Type locality: El Ojo de la Hacienda Dolores, seven miles south of Jiminez, Chihuahua, Mexico. Holotype: UMMZ 168975.
Maximum length: 3.1 cm TL
Distribution: North America: Chihuahua (only known from type locality and proximities).
Countries: Mexico

***Gambusia krumholzi* Minckley, 1963**

Gambusia krumholzi Minckley, 1963: 154, fig. 2. Type locality: a small stream (called the Río de Nava by local residents) 5.6 miles SSW of Nava, Coahuila, Mexico, along Mexican Highway 57.

Holotype: UMMZ 180320.
Maximum length: 4 cm TL
Distribution: North America: Mexico.
Countries: Mexico

***Gambusia lemaitrei* Fowler, 1950**

Gambusia lemaitrei Fowler, 1950: 2, fig. 2. Type locality: Totumo Lake, Colombia. Holotype: ANSP 71938.
Maximum length: 3.6 cm SL
Distribution: South America: Colombia.
Countries: Colombia

***Gambusia longispinis* Minckley, 1962**

Gambusia longispinis Minckley, 1962: 391, fig. 1. Type locality: a small marsh adjacent to La Angostura Canal, ca. 4 miles S, 6 miles W of Cuatro Ciénegas, Coahuila [Mexico]. Holotype: UMMZ 179620.
Maximum length: 5 cm TL
Distribution: North America: Cuatro Ciénegas basin in northern Mexico.
Countries: Mexico

***Gambusia luma* Rosen & Bailey, 1963**

Gambusia luma Rosen & Bailey, 1963: 99, fig. 42. Type locality: Puerto Barrios, Izabal, Guatemala. Holotype: UMMZ 143565.
Maximum length: 4.2 cm SL
Distribution: Central America: Guatemala and Honduras.
Countries: Belize, Guatemala, Honduras

***Gambusia manni* Hubbs, 1927**

Gambusia manni Hubbs, 1927: 61. Type locality: fresh-water lake on New Providence, one of the Bahamas. Holotype: UMMZ 72183.
Maximum length: 6.5 cm TL
Distribution: Caribbean Islands: Known only from the Bahamas.
Countries: Bahamas

***Gambusia marshi* Minckley & Craddock, 1962**

Gambusia marshi Minckley & Craddock in Minckley, 1962: 393, fig. 6. Type locality: Río Salado de los Nadadores, near its junction with Río Salado de Monclova, 1 mile S of Hermanas, Coahuila [Mexico]. Holotype: UMMZ 179167.
Maximum length: 2.4 cm SL
Distribution: North America: Northeastern Mexico.
Countries: Mexico
Remarks and references: Meffe (1985): life history.

***Gambusia melapleura* (Gosse, 1851)**

Poecilia melapleura Gosse, 1851: 84, pl. 1 (fig. 3). Type locality: Bluefields, Jamaica. Syntypes: BMNH 1849.12.27.90-95 (7).
Maximum length: 3.4 cm SL
Distribution: Caribbean Islands: Jamaica Island.
Countries: Jamaica

***Gambusia monticola* Rivas, 1971**

Gambusia punctulata monticola Rivas, 1971: 7, fig. 1. Type locality: Rio Yao, a left tributary of Rio Cauto, 15 km upstream from Bueycito, Municipality of Bayamo, Province of Oriente, Cuba. Holotype: USNM 203913.
Distribution: Caribbean Islands: Southeastern Cuba.
Countries: Cuba

***Gambusia myersi* Ahl, 1925**

Gambusia modesta Ahl, 1923: 220. Type locality: Mexico. Synonyms: ZMB 21004 (8). Permanently invalid, preoccupied by *Gambusia modesta* Troschel 1865, replaced by *Gambusia myersi* Ahl 1925.
Gambusia myersi Ahl, 1925: 36, fig.. Type locality: Mexico. Synonyms: ZMB 21004 (8).
Distribution: North America: Mexico.

Countries: Mexico

***Gambusia nicaraguensis* Günther, 1866**

Gambusia nicaraguensis Günther, 1866: 336. Type locality: Lake of Nicaragua. Syntypes: BMNH 1952.12.31.1-5 (5), USNM 151451 (1), ZMB 6069 (1).

Gambusia dovii Regan, 1913a: 986. Type locality: Lake Nicaragua. Holotype: BMNH 1952.12.31.7.

Gambusia mcnieli Fowler, 1916a: 433, fig. 5. Type locality: Panama. Holotype: ANSP 6818.

Gambusia aestiputeus Fowler, 1950b: 87, fig. 42. Type locality: Freshwater well 1/2 mile from San Andres. Holotype: ANSP 71772.

Maximum length: 3 cm SL

Distribution: Central America: Guatemala to Panama.

Countries: Belize, Guatemala, Panama

***Gambusia panuco* Hubbs, 1926**

Gambusia panuco Hubbs, 1926: 30. Type locality: Valles, San Luis Potosí, Mexico; in the Rio Valles, a tributary to the Rio Panuco. Holotype: FMNH 14060.

Maximum length: 3.5 cm TL

Distribution: North America: Panuco River basin.

Countries: Mexico

***Gambusia pseudopunctata* Rivas, 1969**

Gambusia pseudopunctata Rivas, 1969: 784, fig. 1D. Type locality: spring at Roseaux, off the road from Les Cayes to Jérémie, 15 km E of Jérémie, Département du Sud, Haiti. Holotype: USNM 203163.

Maximum length: 3.2 cm SL

Distribution: Caribbean Islands: Hispaniola Island.

Countries: Haiti

***Gambusia punctata* Poey, 1854**

Gambusia punctata Poey, 1854: 384, pl. 32 (fig. 5). Type locality: not mentioned. Syntypes or Poey specimens: ANSP 6978 (1); MCZ 6424 (3), 6393-94 (5, 53); USNM 4867 (9), 120411 [ex MCZ 6394] (1), plus other USNM lots.

Gambusia finlayi Santa Maria, 1956: 96. Type locality: Camagüey, Cuba. No types known. Apparently not available, name assigned to figures only (one male and one female), and based on an unpublished manuscript by Torre; no text or distinguishing features included (see also Rosen & Bailey 1963:101).

Maximum length: 4.8 cm SL

Distribution: Caribbean Islands: Cuba Island.

Countries: Cuba

***Gambusia puncticulata* Poey, 1854**

Gambusia puncticulata Poey, 1854: 386, pl. 31 (fig. 6). Type locality: en el foso de las murallas de la Habana [Cuba]. Lectotype: MCZ 46568 [ex MCZ 6401], designated by Fink 1971b:18.

Gambusia picturada Poey, 1868: 410. Type locality: San Diego de las Banos, Cuba. No types known.

Gambusia melanosticta Regan, 1913: 987. Type locality: Cuba. Syntypes: BMNH 1884.7.7.158-160 (3).

Gambusia nigropunctata Regan, 1913a: 987, fig. 168f. Type locality: Fermina, Bemba, Cuba. Syntypes: BMNH 1879.10.20.2-4 (3).

Gambusia caymanensis Regan, 1913a: 990. Type locality: Grand Cayman. Syntypes: BMNH 1911.3.2.3-4 (2).

Gambusia oligosticta Regan, 1913a: 988, pl. 99 (fig. 1-2); Fig. 169b. Type locality: Jamaica. Syntypes: BMNH 1897.7.1.17-19 (3), 1905.8.16.3-12 (10, now 8); USNM 151460 [ex BMNH 1905.8.16.3-12] (2).

Gambusia hubbsi Breder, 1934: 1, fig. 1. Type locality: Southern part of Andros Island, Bahamas. Holotype: AMNH 12454.

Gambusia howelli Rivas, 1944b: 44. Type locality: brackish-water lagoon near Punta del Este, Isle of Pines [Cuba]. Holotype:

UHMP 454.

Maximum length: 3.58 cm SL

Distribution: Caribbean Islands: Throughout Cuba, Jamaica, Cayman Islands and Bahamas.

Countries: Bahamas, Cayman Islands, Cuba, Jamaica

***Gambusia rachovii* (Regan, 1914)**

Heterophallus rachovii Regan, 1914: 66, fig. A. Type locality: Vera Cruz [Mexico]. Syntypes: BMNH 1914.3.23.16-21 (6).

Gambusia atzi Rosen & Gordon, 1951: 267, fig. 2. Type locality: "Laguna de la Sapote", about one kilometer northwest of Jesus Carranza, Veracruz. Holotype: UMMZ 167098.

Maximum length: 3.5 cm TL

Distribution: North America: Arroyo Santiago Vasques near Jesus Carranza and Laguna de la Sapote in Veracruz, Mexico.

Countries: Mexico

***Gambusia regani* Hubbs, 1926**

Gambusia regani Hubbs, 1926: 28. Type locality: Forlon, Tamaulipas, Mexico; in the Rio Forlon, tributary to the Panuco. Holotype: FMNH 14033.

Maximum length: 3.5 cm TL

Distribution: North America: Tamaulipas, Mexico.

Countries: Mexico

***Gambusia rhizophorae* Rivas, 1969**

Gambusia rhizophorae Rivas, 1969: 791, fig. 2D. Type locality: mangrove swamp at Matheson Hammock, Miami, Dade Co., Florida. Holotype: USNM 203223.

Maximum length: 5 cm TL

Distribution: North America and Caribbean Islands: Southeastern Florida and Cuba Island.

Countries: Cuba, USA

***Gambusia senilis* Girard, 1859**

Gambusia senilis Girard, 1859a: 122. Type locality: Chihuahua River [Grande River drainage, Mexico]. Syntypes: ?MNHN 0418 [ex USNM 3503] (1).

Maximum length: 5.5 cm TL

Distribution: North America: Devils River basin in Grande River drainage, in Texas and Mexico.

Countries: Mexico, USA

***Gambusia sexradiata* Hubbs, 1936**

Gambusia nicaraguensis sexradiatus Hubbs, 1936: 225. Type locality: main Rio Papaloapan at Papaloapan, Oaxaca, Mexico. Holotype: UMMZ 102989.

Maximum length: 2.6 cm SL

Distribution: North and Central America: Nautla River, northern Veracruz, along the Atlantic slope of Campeche, Atlantic drainage of inland Mexico in the states of Oaxaca and Chiapas, presumably across the base of the Yucatan Peninsula to Quintana Roo, south to southern Belize (Moho River drainage). Also found in the Usumacinta River drainage in Guatemala, and in isolated islands in the Petén region.

Countries: Belize, Guatemala, Mexico

***Gambusia speciosa* Girard, 1859**

Gambusia speciosa Girard, 1859a: 121. Type locality: Rio San Diego, one of its affluents, near Cadereita, New León [Mexico]. Syntypes: whereabouts unknown.

Maximum length: 3 cm TL

Distribution: North America: Mexico and USA.

Countries: Mexico, USA

***Gambusia vittata* Hubbs, 1926**

Gambusia vittata Hubbs, 1926: 26. Type locality: Forlon, Tamaulipas, Mexico; in the Rio Forlon, tributary to the Panuco. Holotype: FMNH 14046.

Maximum length: 4.5 cm TL

Distribution: North America: Mexico.

Countries: Mexico

***Gambusia wrayi* Regan, 1913**

Gambusia wrayi Regan, 1913a: 988, pl. 99 (fig. 3-4); fig. 168b.

Type locality: Jamaica. Lectotype: BMNH 1912.12.20.7, designated by Fink (1971a: 61).

Gambusia gracilior Regan, 1913a: 989, pl. 99 (fig. 5-6); Fig. 168c.

Type locality: Jamaica. Syntypes: (13) BMNH 1969.9.8.1-14 (14 now 6).

Maximum length: 3.22 cm SL

Distribution: Caribbean Islands: Jamaica Island.

Countries: Jamaica

***Gambusia xanthosoma* Greenfield, 1983**

Gambusia xanthosoma Greenfield, 1983: 459, fig. 1. Type locality: a mosquito control ditch (Herringbone system 25) constructed through mangroves along a road opposite the Taraqin Manor at West Bay, Grand Cayman, BWI. Holotype: FMNH 94188.

Maximum length: 3.44 cm SL

Distribution: Caribbean Islands: Grand Cayman Island.

Countries: Cayman Islands

***Gambusia yucatanana* Regan, 1914**

Gambusia yucatanana Regan, 1914b: 67, fig. B. Type locality: Progreso, Yucatán [Mexico]. Lectotype: BMNH 1914.3.23.12, designated by Fink, 1971:23.

Gambusia yucatanana australis Greenfield, 1985: 375. Type locality: Belize, Saint George's Cay, Barrier Reef. Holotype: FMNH 94901.

Maximum length: 5.5 cm TL

Distribution: North and Central America: Mexico, Guatemala and Belize.

Countries: Belize, Guatemala, Mexico

Species inquirenda

Heterophallus milleri Radda, 1987a: 127, Fig. 2. Type locality: Río Teapa at Teapa, W side of river, under bridge; Tabasco state [Mexico]. Holotype: UMMZ 184705.

GIRARDINUS

Girardinus Poey, 1854: 383. Type species: *Girardinus metallicus* Poey, 1854. Type by monotypy. Gender: masculine.

Glaridodon Garman, 1895: 40. Type species: *Girardinus uninotatus* Poey, 1861. Type by original designation. Not available name preoccupied in fossil Reptilia. Gender: masculine.

Glaridichthys Garman, 1896: 232. Type species: *Girardinus uninotatus* Poey, 1861. Type by being a replacement name for *Glaridodon* Garman, 1895 preoccupied in fossil Reptilia. Gender: masculine.

Toxus Eigenmann, 1903: 226. Type species: *Toxus riddlei* Eigenmann, 1903. Type by original designation. Gender: masculine.

Allodontium Howell Rivero & Rivas, 1944: 17. Type species: *Heterandria cubensis* Eigenmann, 1904. Type by original designation. Gender: neuter.

Dactylophallus Howell Rivero & Rivas, 1944: 15. Type species: *Girardinus denticulatus* Garman, 1895. Type by original designation. Gender: masculine.

***Girardinus creolus* Garman, 1895**

Girardinus creolus Garman, 1895: 47, pl. 5 (fig. 9). Type locality: Cuba. Syntypes: MCZ 6399 (2), 100254 [ex MCZ 6399a] (8).

Toxus riddlei Eigenmann, 1903: 226, fig. 6. Type locality: San Cristobal [Cuba]. Holotype: CAS 78944 [ex IU 9656] (1 of 2).

Toxus serripennis Rivas, 1958: 283, figs. 1 (5-6). Type locality: Río Taco Taco at Rangel, Province of Pinar del Río [Cuba]. Holotype: USNM 203151 [ex Rivas coll. 69].

Maximum length: 4.4 cm SL

Distribution: Caribbean Islands: Cuba Island.

Countries: Cuba

Remarks and references: Rodriguez et al (1992): phylogenetic position.

***Girardinus cubensis* (Eigenmann, 1903)**

Heterandria cubensis Eigenmann, 1903: 227, fig. 8. Type locality: Los Palacios [Cuba]. Holotype: MCZ 32958 [ex IU 7663].

Maximum length: 2.6 cm SL

Distribution: Caribbean Islands: Cuba Island.

Countries: Cuba

***Girardinus denticulatus* Garman, 1895**

Girardinus denticulatus Garman, 1895: 47. Type locality: Remedios, Cuba. Syntypes: MCZ 1412 (now 4), 36037 (2), 100255 [ex MCZ 1412a] (11); ?USNM 120265 [ex MCZ 1412a] (3), 206325 [ex MCZ 1412a] (1).

Dactylophallus ramsdeni Rivas, 1944b: 48. Type locality: Río Guaso, at the city of Guantánamo, Province of Oriente [Cuba]. Holotype: USNM 203152 [ex Rivas coll. 73].

Maximum length: 5 cm SL

Distribution: Caribbean Islands: Cuba Island.

Countries: Cuba

***Girardinus falcatus* (Eigenmann, 1903)**

Glaridichthys falcatus Eigenmann, 1903: 224, fig. 3. Type locality: San Cristobal [Pinar del Río, Cuba]. Holotype: CAS 22548 [ex IU 9664].

Glaridichthys atherinoides Rivas, 1944a: 3, fig. 2. Type locality: Arroyo Banco de Mabuya, provincia de Camagüey [Cuba]. Holotype: USNM 203155 [ex Rivas coll. 130].

Maximum length: 3.7 cm SL

Distribution: Caribbean Islands: Cuba Island.

Countries: Cuba

***Girardinus metallicus* Poey, 1854**

Girardinus metallicus Poey, 1854: 387, pl. 31 (fig. 8). Type locality: jardín botánico de la Habana y en la zanja de Güines [Cuba]. Possible syntypes: ANSP 6971 (1); MCZ 6407 (11); USNM 652 (7, not found). 120263 [ex MCZ 6407] (4), 37422 (4), 37481 (2), 130031 (3).

Girardinus garmani Eigenmann, 1903: 226, fig. 5. Type locality: Pinar del Río [Cuba]. Holotype: MCZ 32780 [ex IU 9661, ex CAS].

Girardinus pygmaeus Rivas, 1944b: 49. Type locality: Río Negro, of the Hatiguanico system (Ciénaga de Zapata), at Los Cristales, Province of Matanzas [Cuba]. Holotype: USNM 203153 [ex Rivas coll. 128].

Maximum length: 5 cm TL

Distribution: Caribbean Islands: Cuba Island.

Countries: Cuba

***Girardinus microdactylus* Rivas, 1944**

Girardinus microdactylus Rivas, 1944b: 51. Type locality: spring-fed creek, tributary to Río Taco Taco, of the San Cristobal system, at Jardin de Blain, north-west of Santa Cruz de los Pinos, Province of Pinar del Río [Cuba]. Holotype: USNM 203154 [ex Rivas coll. 110].

Maximum length: 3.3 cm SL

Distribution: Caribbean Islands: Cuba Island.

Countries: Cuba

***Girardinus uninotatus* Poey, 1860**

Girardinus uninotatus Poey, 1860: 309. Type locality: dans la rivière de Tacotaco, près de Santa-Cruz, plus de vingt lieues de la Havane. Syntypes and or Poey specimens: MCZ 6243 (6); USNM 120264 [ex MCZ 6406] (6), 37432 (2), 37465 (24).

Glaridichthys torralbasi Eigenmann, 1903: 225, fig. 4. Type locality: Pinar del Río [Cuba]. Holotype: Apparently MCZ 32957, not

CAS [ex CM 9662].
Maximum length: 4.7 cm SL
Distribution: Caribbean Islands: Cuba Island.
Countries: Cuba

HETERANDRIA

Heterandria Agassiz, 1853: 135. Type species: *Heterandria formosa* Girard, 1859. Gender: feminine. Type by subsequent designation by Bailey (1952).

Pseudoxiphophorus Bleeker, 1860: 440. Type species: *Xiphophorus bimaculatus* Heckel, 1848. Gender: masculine.

Poeciliodes Steindachner, 1863: 176. Type species: *Poeciliodes bimaculatus* Steindachner, 1863. Type by monotypy. Gender: masculine.

***Heterandria anzueto* Rosen & Bailey, 1979**

Heterandria anzueto Rosen & Bailey in Rosen, 1979: 324, fig. 11. Type locality: Río Achuelo, south side of Gualán, Río Motagua drainage, Zacapa, Guatemala. Holotype: AMNH 36319.

Maximum length: 6 cm TL

Distribution: Central America: Basin of Motagua River in Departments of El Progreso, Zacapa, Chiquimula, and Izabal, Guatemala, and Copán, Honduras, and basin of Lempa River in the Departments of Chiquimula and Jutiapa, Guatemala.

Countries: Guatemala, Honduras

***Heterandria attenuata* Rosen & Bailey, 1979**

Heterandria attenuata Rosen & Bailey in Rosen, 1979: 315, fig. 8. Type locality: Río Candelaria Yalicar about halfway between source and mouth, Río Usumacinta system via an unknown subterranean connection, Alta Verapaz, Guatemala. Holotype: AMNH 36332.

Maximum length: 6.2 cm SL

Distribution: Central America: Candelaria Yalicar River in Alta Verapaz, Guatemala.

Countries: Guatemala

***Heterandria bimaculata* (Heckel, 1848)**

Xiphophorus bimaculatus Heckel, 1848: 297, pl. 9 (figs. 1-2). Type locality: Veracruz, Mexico.

Poeciliodes bimaculatus Steindachner, 1863: 176 [15], pl. 4 (figs. 2-2a). Type locality: Kleine, kalte Gebirgsbäche bei Tepeaca (Tepeyaca) [corrected to Teapa, boundary between Chiapas and Tabasco, Mexico]. Syntypes: NMW

Pseudoxiphophorus reticulatus Troschel in Müller, 1865: 633. Type locality: Mexico. Holotype: ZMB (lost).

Pseudoxiphophorus pauciradiatus Regan, 1904: 256. Type locality: Orizaba, Mexico. Syntypes: BMNH 1894.1.27.19-26 (8).

Pseudoxiphophorus bimaculatus taeniatus Regan, 1905: 363. Type locality: San Domingo de Guzman. Syntypes: (5) BMNH.

Pseudoxiphophorus bimaculatus peninsulae Hubbs, 1936: 230, pl. 8 (fig. 1). Type locality: somewhere near Progreso. Holotype: UMMZ 102078.

Maximum length: 7 cm TL

Distribution: North and Central America: Mexico to Belize, Honduras and Guatemala.

Countries: Belize, Guatemala, Honduras, Mexico

***Heterandria cataractae* Rosen, 1979**

Heterandria cataractae Rosen, 1979: 328, fig. 12. Type locality: large jungle stream, the Arroyo Sachicha (tributary to, but isolated above a fall from, the Río Senizo), about 20 km. northwest of Cobán, 6-8 km north of Cancal, Río Salinas drainage, Río Usumacinta system, Alta Verapaz, Guatemala. Holotype: AMNH 36381.

Maximum length: 6 cm SL

Distribution: Central America: Arroyo Sachicha, one of two tributaries to the Senizo River, which flows to the upper Chixoy River

(Salinas River) at Chamá, Alta Verapaz, and isolated from all other flowing water by a downstream ribbon fall.

Countries: Guatemala

***Heterandria dirempta* Rosen, 1979**

Heterandria dirempta Rosen, 1979: 329, fig. 13. Type locality: clear meandering tributary to Río Chajmaic, 15 km. (by road) south of Sebol, Río de la Pasión drainage, Río Usumacinta system, Alta Verapaz, Guatemala. Holotype: AMNH 36380.

Maximum length: 6.4 cm TL

Distribution: Central America: Chajamaic River in Alta Verapaz, Guatemala.

Countries: Guatemala

***Heterandria jonesii* (Günther, 1874)**

Mollienesis jonesii Günther, 1874: 371. Type locality: in a volcanic lake, Alcohuaca, near Huamantla, in Mexico, 8000 feet above the level of the sea. Syntypes: (several) BMNH 1873.1.13.1.

Maximum length: 4.5 cm TL

Distribution: North America: Guayalejo River in southern Tamaulipas to Tehuacan River in Puebla.

Countries: Mexico

***Heterandria litoperas* Rosen & Bailey, 1979**

Heterandria litoperas Rosen & Bailey in Rosen, 1979: 320, fig. 9.

Type locality: tributary to Río Cahabón, 1 km. north-northwest of Lanquín, Río Polochic system, Alta Verapaz, Guatemala. Holotype: AMNH 36328.

Maximum length: 5.8 cm SL

Distribution: Central America: Polochic River basin, including both Polochic River and Cahabón River as far as streams flowing into Izabal Lake, Departments of Alta Verapaz and Izabal.

Countries: Guatemala

***Heterandria obliqua* Rosen, 1979**

Heterandria obliqua Rosen, 1979: 321, fig. 10. Type locality: Upper Río San Ramón basin, 2-3 km. (by air) above subterranean channel, Río Lacantún drainage, Río Usumacinta system, Huehuetenango, Guatemala. Holotype: AMNH 36311.

Maximum length: 6.2 cm SL

Distribution: Central America: Usumacinta River basin: Dolores River System (with a subterranean connection to Salinas River, in Department Alta Vera Paz; and Ramón River System (with a subterranean connection to Ixcán River – Lacantún River).

Countries: Guatemala

LIMIA

Limia Poey, 1854: 383. Type species: *Limia cubensis* Poey, 1854.

Type by subsequent designation. Gender: feminine. The genus *Limia* originally proposed by Poey (1854), was later listed as a subgenus of *Poecilia* by Rosen and Bailey (1963) and Parenti and Rauchenberger (1989). Rivas (1978; 1980) resurrected the genus. splitting in subgenera and species-groups. Farr (1984) survey of courtship display behavior. Chambers (1987) studied the structural variation of gonopodium. Hamilton (2001) studied the intrageneric relationships based on molecular data. Rodriguez (1997) discussed the phylogenetic position.

Acropoecilia Hilgendorf, 1889: 52. Type species: *Poecilia tridens* Hilgendorf, 1889. Type by monotypy. Gender: feminine.

Odontolimia Rivas, 1980: 29. Type species: *Limia grossidens* Rivas, 1980. Type by original designation. Gender: feminine.

***Limia caymanensis* Rivas & Fink, 1970**

Limia caymanensis Rivas & Fink, 1970: 271, fig. 1. Type locality: Coastal lagoon 2 miles west of Old Man Bay, Grand Cayman. Holotype: USNM 203511.

Maximum length: 3.18 cm SL

Distribution: Caribbean Islands: Grand Cayman Island.

Countries: Cayman Islands

***Limia dominicensis* (Valenciennes, 1846)**

Poecilia dominicensis Valenciennes in Cuvier & Valenciennes, 1846: 131, pl. 525-526, top. Type locality: Saint-Domingue]. Syntypes: BMNH 1913.1.25.1-2 [ex MNHN] (2); MNHN 1893 (13), 4390 (20), B-2882 [ex 4390] (1); USNM 94584 [ex MNHN] (2).

Platypoecilus dominicensis Evermann & Clark, 1906: 852, fig. 2. Type locality: small stream in San Francisco Moutains in the interior of Santo Domingo, some 40 miles from Santo Domingo city [Dominican Republic]. Holotype: USNM 53277. Secondarily preoccupied in *Poecilia* by *Poecilia dominicensis* Valenciennes, 1846, replaced by *Poecilia montana* Rosen & Bailey, 1963.

Poecilia montana Rosen & Bailey, 1963: 48. Type locality: Small stream in San Francisco Mts., Santo Domingo [Dominican Republic]. Holotype: USNM 53277. Replacement name for *Platypoecilus dominicensis* Evermann & Clark 1906, secondarily preoccupied in *Poecilia* by *Poecilia dominicensis* Valenciennes 1846.

Maximum length: 2.6 cm SL

Distribution: Caribbean Islands: Hispaniola Island.

Countries: Dominican Republic, Haiti

***Limia fuscomaculata* Rivas, 1980**

Limia fuscomaculata Rivas, 1980: 31. Fig 1c. Type locality: Southwest bight of Lake Miragoane, Dept. de l'Ouest, Haiti. Holotype: USNM 220525.

Distribution: Caribbean Islands: Lake Miragoâne, southwestern Haiti.

Countries: Haiti.

***Limia garnieri* Rivas, 1980**

Limia garnieri Rivas, 1980: 31, fig. 2b. Type locality: North end of Lake Miragoane, Dept. de l'Ouest, Haiti. Holotype: USNM 220527.

Maximum length: 2.6 cm SL

Distribution: Caribbean Islands: Lake Miragoâne, southwestern Haiti.

Countries: Haiti

***Limia grossidens* Rivas, 1980**

Limia grossidens Rivas, 1980: 29, fig. 1b. Type locality: North end of Lake Miragoane, Dept. de l'Ouest, Haiti. Holotype: USNM 220523.

Maximum length: 3.92 cm SL

Distribution: Caribbean Islands: Lake Miragoâne, southwestern Haiti.

Countries: Haiti

***Limia heterandria* (Regan, 1913)**

Limia heterandria Regan, 1913a: 1017, pl. 101 (figs. 3-4). Type locality: La Guayra [Guaíra], Venezuela. Syntypes: BMNH 1909.4.2.30-32 (3).

Maximum length: 1.95 cm TL

Distribution: South America: Venezuela.

Countries: Venezuela

***Limia immaculata* Rivas, 1980**

Limia immaculata Rivas, 1980: 32, fig. 2d. Type locality: North end of Lake Miragoane, Dept. de l'Ouest, Haiti. Holotype: USNM 220529.

Maximum length: 2.13 cm SL

Distribution: Caribbean Islands: Lake Miragoâne, southwestern Haiti.

Countries: Haiti

***Limia melanogaster* (Günther, 1866)**

Poecilia melanogaster Günther, 1866: 345. Type locality: _____? North America ? Jamaica ? [sic] Syntypes: BMNH 1848.1.12.1546-1550 (5).

Maximum length: 4 cm SL

Distribution: Caribbean Islands: Jamaica Island.

Countries: Haiti, Jamaica

***Limia melanotata* Nichols & Myers, 1923**

Limia melanotata Nichols & Myers, 1923: 1. Type locality: Las Lagas [Lajas], on Étang Saumâtre, San Domingo [Haiti, West Indies]. Holotype: AMNH 8220.

Maximum length: 5 cm SL

Distribution: Caribbean Islands: Hispaniola Island.

Countries: Dominican Republic, Haiti

***Limia miragoanensis* Rivas, 1980**

Limia miragoanensis Rivas, 1980: 33, fig. 3b. Type locality: North. end of Lake Miragoane, Dept. de l'Ouest, Haiti. Holotype: USNM 220531.

Maximum length: 3.02 cm SL

Distribution: Caribbean Islands: Lake Miragoâne, southwestern Haiti.

Countries: Haiti

***Limia nigrofasciata* Regan, 1913**

Limia arnoldi Regan, 1913a: 1016, pl. 101 (fig. 5). Type locality: Miragoâne, Haiti. Syntypes: BMNH 1912.8.30.2-3 (3), 1912.9.4.15-21 (9); USNM 151462 [ex BMNH 1912.9.4.21] (1).

Limia nigrofasciata Regan, 1913: 1015, pl. 101 (figs. 1-2). Type locality: Miragoâne, Haiti. Syntypes: BMNH 1913.3.6.21 (1), 1913.3.6.30-31 (2), 1912.7.25.15 (1).

Maximum length: 5.2 cm SL

Distribution: Caribbean Islands: Hispaniola Island.

Countries: Haiti

***Limia ornata* Regan, 1913**

Limia ornata Regan, 1913a: 1016, pl. 101 (fig. 7). Type locality: Haiti. Syntypes: (5) BMNH 1912.9.4.12-14 plus BMNH 1913.3.6.34 (6, in 1 jar).

Maximum length: 4 cm SL

Distribution: Caribbean Islands: Lake Miragoane, southwestern Haiti.

Countries: Haiti

***Limia pauciradiata* Rivas, 1980**

Limia pauciradiata Rivas, 1980: 34, fig. 3d. Type locality: Grand Riviere du Nord at town of Grand Riviere, Dept. du Nord, Haiti. Holotype: USNM 220533.

Maximum length: 3.5 cm SL

Distribution: Caribbean Islands: Grand Rivière du Nord, northeastern Haiti.

Countries: Haiti

***Limia perugiae* (Evermann & Clark, 1906)**

Platypoecilus perugiae Evermann & Clark, 1906: 851, fig. 1. Type locality: small stream in San Francisco Moutains, Santo Domingo [Dominican Republic]. Holotype: USNM 53278 (poor condition).

Maximum length: 10 cm TL

Distribution: Caribbean Islands: Eastern Hispaniola Island.

Countries: Dominican Republic

***Limia rivasi* Franz & Burgess, 1983**

Limia (Limia) rivasi Franz & Burgess, 1983: 51, figs. 1-3. Type locality: 1 km southeast of Anse à Galet, Ile de la Gonave, Dépt. de l'Ouest, Haiti, West Indies. Holotype: UF 31434.

Maximum length: 3.1 cm SL

Distribution: Caribbean Islands: Western Hispaniola Island.

Countries: Haiti

***Limia sulphurophila* Rivas, 1980**

Limia sulphurophila Rivas, 1980: 36, fig. 4d. Type locality: Balneario (spa) La Zurza, a sulfur spring 5 km WNW of Duverge, Prov. of Independencia, Dominican Republic. Holotype: MCZ 54401.

Maximum length: 3.92 cm SL

Distribution: Caribbean Islands: Eastern Hispaniola Island.

Countries: Dominican Republic

***Limia tridens* (Hilgendorf, 1889)**

Poecilia (Acropoecilia) tridens Hilgendorf, 1889: 52. Type locality: Port-au-Prince. Lectotype: ZMB 30958 [ex ZMB 12758], designated in Paepke & Seegers 1986:175.

Maximum length: 3 cm TL

Distribution: Caribbean Islands: Hispaniola Island.

Countries: Dominican Republic, Haiti

***Limia versicolor* (Günther, 1866)**

Girardinus versicolor Günther, 1866: 352. Type locality: San Domingo. Syntypes: (at least 2) BMNH 1857.10.28.64 (?).

Maximum length: 3.3 cm SL

Distribution: Caribbean Islands: Eastern Hispaniola Island.

Countries: Dominican Republic

***Limia vittata* (Guichenot, 1853)**

Poecilia vittata Guichenot, 1853: 146, pl. 5 (fig. 1). Type locality: Cuba. Syntypes: MNHN 4398 (now 4), B-2883 [ex MNHN 4398] (1).

Limia cubensis Poey, 1854: 388, pl. 31 (fig. 12). Type locality: not mentioned. Syntypes: (apparently 2 of following were basis of description) ANSP 6814 (1), MCZ 6403 (now 55), plus some to L. Rivas; USNM 649 (6, missing)

Limia pavonina Poey, 1876: 184 [142]. Type locality: Havana, Cuba. Holotype: MCZ 6400.

Maximum length: 8 cm TL

Distribution: Caribbean Islands: Cuba Island.

Countries: Cuba

***Limia yaguajali* Rivas, 1980**

Limia yaguajali Rivas, 1980: 35, fig. 4b. Type locality: Rio Yaguajal at Santiago Rodriguez (Sabaneta), Prov. of Rodriguez, Dominican Republic. Holotype: USNM 220535.

Maximum length: 3.75 cm SL

Distribution: Caribbean Islands: Yaguajal River, Dominican Republic. A series from Riviere du Limbe at Limbe, Departement du Nord, northeastern Haiti may also be referred to this species.

Countries: Dominican Republic, Haiti (?)

***Limia zonata* (Nichols, 1915)**

Heterandria zonata Nichols, 1915: 603, fig. 3. Type locality: San Juan River (freshwater) at Samana, Santo Domingo [Dominican Republic]. Holotype: AMNH 5232.

Maximum length: 3 cm SL

Distribution: Caribbean Islands: San Juan River in eastern Hispaniola Island.

Countries: Dominican Republic

MICROPOECILIA

Micropoecilia Hubbs, 1926: 73. Type species: *Poecilia vivipara parae* Eigenmann, 1894. Type by original designation. Gender: feminine.

***Micropoecilia branneri* (Eigenmann, 1894)**

Poecilia branneri Eigenmann, 1894: 629. Type locality: Santarem. Syntypes: (23) SU 2158 (2), 22550 [ex IU 5082] (2), 22551 [ex IU 5084] (2).

Poecilia heteristia Regan, 1909: 235. Type locality: Para [Pará, Brazil]. Syntypes: BMNH 1908.12.5.23-24 (2).

Maximum length: 3 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

Common names: Barrigudinho (Brazil), Guaru (Brazil)

***Micropoecilia bifurca* (Eigenmann, 1909)**

Acanthophaecelus bifurcus Eigenmann, 1909: 52. Type locality: Christianburg. Holotype: FMNH 53539 [ex CM 1088].

Maximum length: 3 cm TL

Distribution: South America: Amazon River basin.

Countries: Brazil

Common names: Barrigudinho (Brazil), Guaru (Brazil)

***Micropoecilia parae* (Eigenmann, 1894)**

Poecilia vivipera parae [sic] Eigenmann, 1894: 628. Type locality: in the ditches of the Rua das Mongubas of Para. Syntypes: (about 150) CAS 22552 [ex IU 5079] (25).

Acanthophaecelus melanzonus Eigenmann, 1909: 51. Type locality: Georgetown trenches. Holotype: FMNH 52717 [ex CM 1086].

Maximum length: 3 cm TL

Distribution: South America: Guyana to the Amazon River delta.

Countries: Brazil, French Guiana, Guyana, Suriname

Common names: Barrigudinho (Brazil), Guaru (Brazil)

***Micropoecilia picta* (Regan, 1913)**

Poecilia picta Regan, 1913a: 1007, pl. 100 (fig. 1-2); Fig.173a.

Type locality: Demerara. Syntypes: (many) BMNH 1872.6.11.11 (?), MNHN 1913-0226 [ex BMNH] (2), USNM 151459 (4).

Maximum length: 3 cm TL

Distribution: South America: From Trinidad to the Amazon River delta.

Countries: Brazil, French Guiana, Guyana, Trinidad and Tobago

Common names: Barrigudinho (Brazil), Guaru (Brazil)

***Micropoecilia minima* (Costa & Sarraf, 1997)**

Poecilia minima Costa & Sarraf, 1997: 186, fig. 1. Type locality: Brazil: Estado do Pará: stream (igarapé) in Ourém, rio Guamá basin. Holotype: MPEG 3393.

Maximum length: 2.36 cm SL

Distribution: South America: Guamá River basin (only known from type locality).

Countries: Brazil

Common names: Barrigudinho (Brazil), Guaru (Brazil)

NEOHETERANDRIA

Neoheterandria Henn, 1916: 117. Type species: *Neoheterandria*

elegans Henn, 1916. Type by monotypy. Gender: feminine.

Allogambusia Hubbs, 1924: 8 [footnote]. Type species: *Gambusia tridentiger* Garman, 1895. Type by original designation. Gender: feminine.

***Neoheterandria cana* (Meek & Hildebrand, 1913)**

Gambusia cana Meek & Hildebrand, 1913: 87. Type locality: Rio Satiganti, Cana [Darién], Panama. Holotype: FMNH 7596.

Maximum length: 2.5 cm TL

Distribution: Central America: Panama.

Countries: Panama

***Neoheterandria elegans* Henn, 1916**

Neoheterandria elegans Henn, 1916: 118, pl. 19 (fig. 4). Type locality: Rio Truando, a tributary of the Lower Atrato, in Colombia. Holotype: FMNH 57007 [ex CM 5823].

Maximum length: 2 cm TL

Distribution: South America: Truando River, a tributary of the Atrato River basin.

Countries: Colombia

***Neoheterandria tridentiger* (Garman, 1895)**

Gambusia tridentiger Garman, 1895: 89, pl. 4 (fig. 10). Type locality: Isthmus of Panama, fresh waters. Syntypes: MCZ 6389

(orig. 10, now 7), 100253 [ex MCZ 6389a] (11); USNM 120260 [ex MCZ 6389a] (3).

Maximum length: 2.5 cm TL

Distribution: Central America: Toro Point, Fort Sherman, Canal Zone, and Chame and Arrijan Rivers.

Countries: Panama

PAMPHORICHTHYS

Pamphoria Regan, 1913a: 1003. Type species: *Cnesterodon scalpridens* Garman, 1895. Type by monotypy. Gender: feminine.

Pamphorichthys Regan, 1913a: 1003. Type species: *Heterandria minor* Garman, 1895. Type by original designation. Gender: masculine.

Parapoecilia Hubbs, 1924: 11 [footnote]. Type species: *Limia hollandi* Henn, 1916. Type by original designation. Gender: feminine.

***Pamphorichthys araguaiensis* Costa, 1991**

Pamphorichthys araguaiensis Costa, 1991: 40, fig. 1. Type locality: Brésil: Goiás: lagune près d'Aruana, bassin de l'Araguaia. Holotype: MZUSP 42313.

Maximum length: 2.45 cm SL

Distribution: South America: Araguaia-Tocantins and Xingu River basins.

Countries: Brazil

Common names: Barrigudinho (Brazil), Guaru (Brazil)

***Pamphorichthys hasemani* (Henn, 1916)**

Heterandria hasemani Henn, 1916: 116, pl. 20 (fig. 1). Type locality: Puerto Suarez, Bolivia (Paraguay Basin). Holotype: FMNH 55874 [ex CM 4663].

Maximum length: 1.38 cm SL

Distribution: South America: Paraguay River drainage.

Countries: Bolivia (probably), Brazil

Remarks and references: *Pamphorichthys hasemani* occurs in the Pantanal Brasileiro (upper portions of drainage of the Paraguay River in Mato Grosso. Although its type-locality is Puerto Suárez (Bolivia), no record from the west side of Paraguay River basin is available. The absence of records is probably related to the lack of collecting efforts (Figueiredo, 1997).

Common names: Barrigudinho (Brazil), Guaru (Brazil)

***Pamphorichthys hollandi* (Henn, 1916)**

Limia hollandi Henn, 1916: 138. Pl. 19 (fig. 3). Type locality: Penedo, Rio San Francisco. Holotype: FMNH 55861 [ex CM 4643a].

Maximum length: 2.1 cm SL

Distribution: South America: São Francisco River basin and one record from the Parnaíba River basin (Figueiredo, 1997).

Countries: Brazil

Common names: Barrigudinho (Brazil), Guaru (Brazil)

***Pamphorichthys minor* (Garman, 1895)**

Heterandria minor Garman, 1895: 92, pl. 4 (fig. 8). Type locality: Villa Bella [Parintins], Brazil. Syntypes: AMNH 22647 [ex MCZ 6254] (5, c&s); MCZ 6254 [not 6294] (orig. 33, now 20); USNM 120268 [ex MCZ 6254] (6).

Maximum length: 1.7 cm SL

Distribution: South America: Amazon River basin, between Santarém and Manaus.

Countries: Brazil

Remarks and references: Rosen & Bailey (1963) have misinterpreted the type locality as Vila Bela at Mato Grosso. Actually, Villa Bella or Villa Bella da Imperatriz corresponds to the city of Parintins, Amazonas. Syntypes were labelled from Villa Bella da Imperatriz (Agassiz, 1855). See Figueiredo (1997)

Common names: Barrigudinho (Brazil), Guaru (Brazil)

***Pamphorichthys scalpridens* (Garman, 1895)**

Cnesterodon scalpridens Garman, 1895: 45, pl 8 (fig. 17). Type locality: Amazon basin: Santarém; Obidos; Tapajós; Villa Bella; Trombetas. Syntypes: MCZ 6261 (1), 6355 (1), 6830 (1), 6839 (6).

Maximum length: 2.48 cm SL

Distribution: South America: Amazon River channel and Tapajós River basin.

Countries: Brazil

Common names: Barrigudinho (Brazil), Guaru (Brazil)

PHALLICHTHYS

Phallichthys Hubbs, 1924: 10 [footnote]. Type species: *Poeciliopsis isthmensis* Regan, 1913. Type by original designation. Gender: masculine.

***Phallichthys amates* (Miller, 1907)**

Poecilia amates Miller, 1907: 108, fig. 1. Type locality: Pond and its outlet at Los Amates. Holotype: CAS 22554 [ex IU 11375].

Poecilia pittieri Meek, 1912: 71. Type locality: La Junta, Costa Rica. Holotype: FMNH 7680 [not 7580].

Poeciliopsis isthmensis Regan, 1913a: 997, pl. 100 (fig. 3-4); Fig. 171b. Type locality: Colon, Panama. Syntypes: (12) BMNH 1913.1.22.14-16.

Maximum length: 3 cm TL

Distribution: Central America: Atlantic drainages, from southern Guatemala to Costa Rica and Panama.

Countries: Costa Rica, Guatemala, Panama

***Phallichthys fairweatheri* Rosen & Bailey, 1959**

Dextripennis evides Turner, 1940: 89 (nomen nudum).

Phallichthys fairweatheri Rosen & Bailey, 1959: 24. Type locality: Río San Pedro de Mártir, or a branch, about ¼ mile below Laguna de Yalác, some 6 leagues (by river) from El Passo de los Caballos, in the Usumacinta River basin, El Petén, Guatemala. Holotype: UMMZ 172456.

Maximum length: 3.75 cm SL

Distribution: North and Central America: Mexico to Guatemala and Honduras.

Countries: Belize, Guatemala, Honduras, Mexico

***Phallichthys quadripunctatus* Bussing, 1979**

Phallichthys quadripunctatus Bussing, 1979: 3, fig. 2. Type locality: small tributary of the Rio Sixaola, 0.5 km NE of Chase on road between Puerto Viejo and Bratsi, Limón Province, Costa Rica. Holotype: LACM 36018-1.

Maximum length: 1.5 cm SL

Distribution: Central America: Sixaola River basin.

Countries: Costa Rica

***Phallichthys tico* Bussing, 1963**

Phallichthys tico Bussing, 1963: 3, fig. 1. Type locality: Río Puerto Viejo 5.5 kilometers downstream from junction with the Río Sarapiquí and 6.5 kilometers SE of the Pueblo of Puerto Viejo, Sarapiquí drainage, Provincia de Heredia, Costa Rica. Holotype: LACM 2780.

Maximum length: 2.5 cm SL

Distribution: Central America: Upper San Juan River in Costa Rica.

Countries: Costa Rica

PHALLOCEROS

Phalloceros Eigenmann, 1907: 431. Type species: *Girardinus caudimaculatus* Hensel, 1868. Type by original designation. Gender: masculine.

***Phalloceros caudimaculatus* (Hensel, 1868)**

Girardinus caudimaculatus Hensel, 1868: 362. Type locality: Costa da Serra bei S. Leopoldo in Brunnen und Gräben gesammelt. Syntypes: (41) ZMB 7425-26 (2, 5), 31496 (25).

Phalloceros caudomaculatus var. *reticulata* Stoye 1935: 61, pl. 10 (top fig.). No locality. Nomen nudum.

Maximum length: 6.5 cm SL

Distribution: South America: Upper Tocantins drainage, Atlantic coastal river drainages from Bahia State, southward to Uruguay Argentina and Paraguay.

Countries: Argentina, Brazil, Paraguay, Uruguay

Common names: Barrigudinho (Brazil), Guaru (Brazil)

Remarks and references: *Phalloceros caudimaculatus* probably is a species complex of several similar species.

PHALLOPTYCHUS

Phalloptychus Eigenmann, 1907: 430. Type species: *Girardinus januarius* Hensel, 1868. Type by original designation. Gender: masculine.

Phalloptychus eigenmanni Henn, 1916

Phalloptychus eigenmanni Henn, 1916: 121, pl. 20 (fig. 2). Type locality: Alagoinhas, Rio Catu, Bahia. Holotype: FMNH 55876 [ex CM 4665].

Maximum length: 2.5 cm SL

Distribution: South America: Catu River in Alagoinhas, Bahia State.

Countries: Brazil

Common names: Barrigudinho (Brazil), Guaru (Brazil)

Phalloptychus januarius (Hensel, 1868)

Girardinus januarius Hensel, 1868: 360. Type locality: Rio de Janeiro. Syntypes: (41) ZMB 7422-24 (2, 4, 1), 31479 (20).

Maximum length: 2.5 cm SL

Distribution: South America: Coastal drainages from Rio de Janeiro to Paraná States.

Countries: Brazil

Common names: Barrigudinho (Brazil), Guaru (Brazil)

Phalloptychus iheringii (Boulenger, 1889)

Girardinus iheringii Boulenger, 1889: 266. Type locality: Rio Grande do Sul. Restricted by Ihering (1893: 29) to "an der Mündung des Rio Camaquã" [= in the mouth of Camaquã River]. Syntypes: BMNH 1886.1.21.73-82; SU 1132 (1).

Maximum length: 3.41 cm SL

Distribution: South America: Coastal drainages in Santa Catarina and Rio Grande do Sul States.

Countries: Brazil.

Remarks and references: Boulenger (1889) described *Girardinus iheringii* in honour of Hermann von Ihering who collected and sent him the specimens on which the description was based (Ihering, 1893). This name has subsequently been used by Eigenmann & Eigenmann (1891) referring to Rio Grande do Sul specimens. Boulenger originally cited the type-locality as "Rio Grande do Sul", probably because it was the only collection information he had. Ihering (1893) states that type-specimens has been collected "an der Mündung des Rio Camaquã" [=in the mouth of the Camaquã River], thus restricting the type-locality. In the same paper, however, Ihering claimed that *G. iheringii* should be regarded as a junior synonym of *G. januarius*, based on information provided in letter by Hingeldorf. Presumably, for this reason, subsequent authors have considered both names synonyms.

Common names: Barrigudinho (Brazil), Guaru (Brazil)

PHALLOTORYNUS

Phallotorynus Henn, 1916: 126. Type species: *Phallotorynus fasciolatus* Henn, 1916. Type by monotypy. Gender: masculine.

Phallotorynus fasciolatus Henn, 1916

Phallotorynus fasciolatus Henn, 1916: 129. Pl. 21 (fig. 1). Type locality: One mile north of Jacarehy, São Paulo, Brazil, from the basin of the Rio Parahyba. Holotype: FMNH 55061 [ex CM 3752].

Maximum length: 2.5 cm SL

Distribution: South America: Rio Paraíba do Sul basin in São Paulo State.

Countries: Brazil

Common names: Barrigudinho (Brazil), Guaru (Brazil)

Phallotorynus jucundus Ihering, 1930

Phallotorynus jucundus Ihering, 1930: 98, fig. 9. Type locality: Corrego de Rincão, Est. de São Paulo, affluente do rio Mogyguassú. Holotype. Instituto Biológico de São Paulo, probably lost.

Maximum length: 3 cm SL

Distribution: South America: Upper Pardo River basin in Grande River drainage.

Countries: Brazil.

Remarks and references: Ihering (1930) original description does not explicitly designate the type-material of *P. jucundus*. Ihering probably described *P. jucundus* based on material housed in the Instituto Biológico de São Paulo. Although, Ihering did not expressly designate the type specimens, the material from which he made the description, should be regarded as the type series on the basis of the Article 72.4.1.1 of the fourth edition of the International Code of Zoological Nomenclature (ICZN, 1999). However, our effort to locate the type-material was unfruitful. The Instituto Biológico de São Paulo had a small collection of fishes, now belonging to MZUSP. This collection has been transferred to the MZUSP a long time ago (Oyakawa, in litt., 1999). However, we were not able to locate the types in MZUSP. The type catalogues of Britski (1969) and Oyakawa (1996) do not mention this type-material. Similar situation occurs with the three other Siluriformes species described by Ihering in the same paper: *Pseudotegophilus scarificator*, *Glanidium neivai* and *Bunocephalus larai*. Mees (1989) states based in a letter from Britski that the types of *B. larai* are probably lost. So, it let us to conclude that the types of *P. jucundus* are probably lost as well.

Common names: Barrigudinho (Brazil), Guaru (Brazil)

Phallotorynus victoriae Oliveros, 1983

Phallotorynus victoriae Oliveros, 1983: 19, fig 2. Type locality: madrejón El Negro, isla Los Mellados (Santa Fe). Holotype: Inst. Nac. Limnología 10.

Maximum length: 2.3 cm SL.

Distribution: South America: Lower and middle Paraná River drainage in Caaguazú, Misiones and Alto Paraná Departments (Paraguay), in Santa Fé and Corrientes Provinces (Argentina), and Mato Grosso do Sul State (Brazil).

Countries: Argentina, Brazil, Paraguay

Common names: Madrecita (Argentina), Barrigudinho (Brazil), Guaru (Brazil), Piky (Paraguay).

POECILIA

Poecilia Bloch & Schneider, 1801: 452. Type species: *Poecilia vivipara* Bloch & Schneider, 1801. Type by subsequent designation. Gender: feminine.

Mollienesia Lesueur, 1821: 3. Type species: *Mollienesia latipinna* Lesueur, 1821. Type by monotypy. Gender: feminine. Originally spelt *Mollinesia* but emendation is justified (Bailey & Miller, 1950). Taxonomy and phylogenetic hypotheses of subgenus *Mollienesia*: Hubbs (1933); Schultz & Miller (1971); Miller (1975, 1983); Rauchenberger (1989).

Alazon Gistel, 1848: X. Type species: *Poecilia vivipara* Bloch & Schneider, 1801. Type by being a replacement name. Gender: masculine.

Lebistes De Filippi, 1861: 69. Type species: *Lebistes poecilioides*

- De Filippi, 1861. Type by monotypy. Gender: masculine.
- Acanthophaelus* Eigenmann, 1907: 426 [footnote]. Type species: *Poecilia reticulata* Peters, 1859. Type by original designation. Gender: masculine.
- Allopoecilia* Hubbs, 1924: 11 [footnote]. Type species: *Girardinus caucanus* Steindachner, 1880. Type by original designation. Gender: feminine.
- Neopoecilia* Hubbs, 1924: 11 [footnote]. Type species: *Neopoecilia holacanthus* Hubbs, 1924. Type by original designation. Gender: feminine.
- Psychropoecilia* Myers, 1935: 311. Proposed as subgenus of *Poecilia*. Type species: *Platypoecilus dominicensis* Evermann & Clark, 1906. Type by original designation. Gender: feminine.
- Lembesseia* Fowler, 1949: 267. Type species: *Lembesseia parvianalis* Fowler, 1949. Type by original designation. Gender: feminine.
- Curtipenis* Rivas & Myers, 1950: 289. Type species: *Mollienesia elegans* Trewavas, 1948. Type by original designation. Gender: masculine.
- Receptopocilia* Whitley, 1951: 68. Type species: *Poecilia vivipara parae* Eigenmann, 1894. Type by being a replacement name. Gender: feminine.
- Poecilia amazonica* Garman, 1895**
Poecilia amazonica Garman, 1895: 64, pl. 4 (fig. 9). Type locality: Santa Cruz; Para. Syntypes: MCZ 27573 (128), 69635 (97); UMMZ 146750 [ex MCZ 27573] (6 or 5); USNM 120286 [ex MCZ 27573a] (6).
 Maximum length: 2 cm TL
 Distribution: South America: Santa Cruz, Pará State.
 Countries: Brazil
 Common names: Barrigudinho (Brazil), Guaru (Brazil)
- Poecilia butleri* Jordan, 1889**
Poecilia butleri Jordan, 1889: 330. Type locality: Rio Presidio, near Mazatlan [Sinaloa, Mexico]. Syntypes: USNM 37158 (orig. 6, now 4).
 Maximum length: 7 cm TL
 Distribution: North and Central America: Mexico to Panama.
 Countries: Guatemala, Mexico, Panama
- Poecilia catemacensis* Miller, 1975**
Poecilia catemacensis Miller, 1975: 13, fig. 4. Type locality: Laguna Catemaco at Playa Azul, about 3.2 km E of Catemaco, Veracruz [Mexico] 95° 05' W. Long., 18° 25' N Lat., elevation about 340 m. Holotype: UMMZ 195953.
 Maximum length: 8 cm TL
 Distribution: North America: Laguna Catemaco basin.
 Countries: Mexico
- Poecilia caucana* (Steindachner, 1880)**
Girardinus caucanus Steindachner, 1880: 87 [35], pl. 6 (fig. 4). Type locality: des Cauca und der Flüsse bei Guayaquil. Syntypes: NMW 81128 (3).
 Maximum length: 3 cm TL
 Distribution: Central to South America: Pacific drainage basins from Darién, Panama to the Cauca River, Colombia, and Lake Maracaibo basin.
 Countries: Colombia, Panama, Venezuela
- Poecilia caudofasciata* (Regan, 1913)**
Limia caudofasciata Regan, 1913a: 1017, pl. 101 (fig. 6). Type locality: Jamaica. Syntypes: (several) BMNH 1905.8.16.13-21 (?21), MNHN 1913-0227 (2), USNM 151463 [ex BMNH 1905.8.16.22] (1).
Limia caudofasciata tricolor Stoye, 1933: 12-14. Type locality: ?
 Distribution: Caribbean Islands. Jamaica Island.
 Countries: Jamaica
- Poecilia chica* Miller, 1975**
Poecilia chica Miller, 1975: 2, fig. 1. Type locality: tributary of Río Purificación about 2.5 km E of La Concepción (about 8.5 km E of La Herta), Jalisco [Mexico] 104° 34' W Long., 19° 30' N Lat., elevation about 305 m. Holotype: UMMZ 172134.
 Maximum length: 3 cm TL
 Distribution: North America: Jalisco.
 Countries: Mexico
- Poecilia dauli* Meyer & Radda, 2000**
Poecilia dauli Meyer & Radda, 2000: 77, fig. 1. Type locality: brook near Miranda, Venezuela. Holotype: NWM-94540.
 Maximum length: 3.9 cm TL
 Distribution: South America: Coastal drainages of Venezuela
 Countries: Venezuela
- Poecilia elegans* (Trewavas, 1948)**
Mollienesia elegans Trewavas, 1948: 409, pl. 1 (fig. 4); figs. 1-2. Type locality: Jarabocoa, San Domingo, Haiti, West Indies. Holotype: BMNH 1947.11.27.4-5 (1 of 2).
 Maximum length: 3.6 cm SL
 Distribution: Caribbean Islands: Eastern Hispaniola Island.
 Countries: Dominican Republic
- Poecilia gillii* (Kner, 1863)**
Xiphophorus gillii Kner, 1863: 224, fig. 9. Type locality: Aus dem Rio Chagres in Panama, Nordseite. Syntypes: (33) NMW 21609 (2).
 Maximum length: 6 cm TL
 Distribution: Central America: Panama.
 Countries: Panama
- Poecilia hispaniolana* Rivas, 1978**
Poecilia hispaniolana Rivas, 1978: 101, figs. 1a-b, 2a, 3. Type locality: Río Mijo at road from Azua to San Juan, Prov. of Benefactor, Dominican Republic. Holotype: USNM 218706.
 Maximum length: 3.6 cm SL
 Distribution: Caribbean Islands: Hispaniola Island.
 Countries: Dominican Republic, Haiti
- Poecilia kykensis* Poeser, 2002**
Mollienesia petenensis Günther, 1866: 348. Type locality: Lake Peten [Guatemala]. Syntypes: BMNH 1864.1.26.375 (3), ZMB 6082 (1). Secondarily preoccupied by *Poecilia petenensis* Günther, 1866; replaced by *Poecilia kykensis* Poeser, 2002.
Poecilia kykensis Poeser, 2002: 244. Type locality: Lake Peten. Syntypes: BMNH 1864.1.26.375 (3), ZMB 6082 (1). Replacement for *Mollienesia petenensis* Günther, 1866, preoccupied in *Poecilia* by *Poecilia petenensis* Günther, 1866.
 Distribution: Central America: Lake Peten.
 Countries: Guatemala
- Poecilia latipinna* (Lesueur, 1821)**
Mollienesia latipinna Lesueur, 1821: 3, pl. 3. Type locality: in the freshwater ponds in the vicinity of New Orleans [Louisiana, USA]. Lesueur specimens or syntypes: MNHN B-0929 (8).
Poecilia multilineata Lesueur, 1821: 4, pl. 1. Type locality: East Florida [USA].
Limia poeciloides Girard, 1858: 170. Type locality: Indianola, Texas [USA]. Syntypes: USNM 670 (2, missing).
Poecilia lineolata Girard, 1858: 170. Type locality: Brownsville, Texas, (...) and Fort Brown, Texas [USA]. Syntypes: MCZ 1296 [ex USNM 667] (1); USNM 667 (3) missing, 668 (4) missing.
Limia matamorenensis Girard, 1859a: 117. Type locality: Matamoros [Tamaulipas, Mexico]. Syntypes: AMNH 29833SW [ex USNM 3509] (3, c&s), USNM 3509 (now 67).
 Maximum length: 15 cm TL
 Distribution: North America: From Cape Fear drainage in North Carolina, USA to Veracruz, Mexico. Introduced to many coun-

tries. Several countries report adverse ecological impact after introduction. Gulf of Mexico.

Countries: Bahamas (introduced), Colombia (introduced), Mexico, USA

***Poecilia latipunctata* Meek, 1904**

Poecilia latipunctata Meek, 1904: 150, fig. 48. Type locality: Forlon, Tamaulipas, Basin of the Rio Panuco [Mexico]. Holotype: FMNH 4484.

Maximum length: 5 cm TL

Distribution: North America: Panuco River basin.

Countries: Mexico

***Poecilia marcellinoi* Poeser, 1995**

Poecilia marcellinoi Poeser, 1995: 241, fig. 2a. Type locality: Lago de Ilopango [El Salvador]. Holotype: RMNH 31771.

Maximum length: 6.3 cm SL

Distribution: Central America: Ilopango Lake basin.

Countries: El Salvador

***Poecilia maylandi* Meyer, 1983**

Poecilia maylandi Meyer, 1983: 56, fig. 2. Type locality: Mexique, Guerrero, Arroyo Chacambero près de Altamirano. Holotype: SMF 17855.

Maximum length: 9.5 cm TL

Distribution: North America: Balsas River basin.

Countries: Mexico

***Poecilia mexicana* Steindachner, 1863**

Poecilia mexicana Steindachner, 1863: 178, pl. 4 (figs. 1-1a). Type locality: Orizaba in Mexico. Syntypes: (16) NMW 61288 (14).

Poecilia cuneata Garman, 1895: 62, pl. 5 (fig. 3). Type locality: Turbo, Gulf of Darien [Panama]. Syntypes: MCZ 6458 (now 10), USNM 120285 [ex MCZ 6458] (3).

Poecilia limantouri Jordan & Snyder, 1899: 129, fig. 10. Type locality: Río Tamesoe near Tampico, Tamaulipas, Mexico. Holotype: SU 6165.

Maximum length: 11 cm SL

Distribution: North and Central America: From San Juan River, Mexico to Guatemala. At least one country reports adverse ecological impact after introduction.

Countries: Belize, Guatemala, Mexico, Panama (?)

***Poecilia nicholsi* (Myers, 1931)**

Limia nicholsi Myers, 1931: 1. Type locality: San Juan River (fresh water) at Samaná, Dominican Republic. Holotype: AMNH 5239a.

Maximum length: ?

Distribution: Caribbean Islands: San Juan River basin in eastern Hispaniola Island.

Countries: Dominican Republic

Remarks and references: Description and figures in Nichols (1915) referred to as *Heterandria versicolor* (Günther, 1874).

***Poecilia orri* Fowler, 1943**

Poecilia orri Fowler, 1943: 1, fig. 1. Type locality: Lagoon and salt water ditch on Bonacca Island, Bay Islands, Honduras. Holotype: ANSP 70158.

Maximum length: 5.6 cm SL

Distribution: North and Central America: Southern Mexico (Quintana Roo) to northern Honduras and Colombia (Islas de Providencia).

Countries: Belize, Colombia, Honduras, Mexico

***Poecilia petenensis* Günther, 1866**

Mollinesia petenensis Günther, 1866: 348. Type locality: Lake Peten [Guatemala]. Syntypes: BMNH 1864.1.26.375 (3), ZMB 6082 (1).

Poecilia petenensis Günther, 1866: 342. Type locality: Lake Peten [Guatemala]. Syntypes: (at least 5) BMNH 1864.1.26.375, 1864.1.26.376, 1864.1.26.379.

Maximum length: 8 cm TL

Distribution: North and Central America: Southeastern Mexico to Belize and Guatemala.

Countries: Belize, Guatemala, Mexico

***Poecilia reticulata* Peters, 1859**

Poecilia reticulata Peters, 1859: 412. Type locality: Caracas; in dem Guayre-Flusse von Gollmer gesammelt [Venezuela]. Syntypes: BMNH 1866.6.6.3 [ex ZMB] (1); ZMB 3468 (9), 3469 (8, lost).

Girardinus guppii Günther, 1866: 353. Type locality: Trinidad; Venezuela. Syntypes: BMNH 1847.7.18.9-11 (?3) Venezuela, 1865.11.30.8 (1) Trinidad; ZMB 6081 (2).

Maximum length: 3.5 cm TL

Distribution: South America and Caribbean Islands: Venezuela, Barbados, Trinidad, northern Brazil and the Guianas. Widely introduced and established elsewhere, mainly for mosquito control, but had rare to non-existing effects on mosquitos, and negative to perhaps neutral effects on native fishes. Africa: Feral populations reported from the coastal reaches of Natal rivers from Durban southwards, as well as in the Kuruman Eye and L. Otjikoto in Namibia. Several countries report adverse ecological impact after introduction.

Countries: Antigua and Barbuda, Barbados, Brazil (introduced), Colombia (introduced), Cuba (introduced), Jamaica (introduced), Mexico (introduced), Peru (introduced), Puerto Rico (introduced), Trinidad and Tobago, Venezuela

Common names: Barrigudinho (Brazil), Guaru (Brazil), Guppy (Brazil, USA)

***Poecilia salvatoris* Regan, 1907**

Poecilia salvatoris Regan, 1907: 65. Type locality: San Salvador, in warm springs. Syntypes: BMNH 1864.1.26.191 (6?), BMNH uncat. (5).

Distribution: Central America: El Salvador.

Countries: El Salvador

***Poecilia sphenops* Valenciennes, 1846**

Mollinesia surinamensis Müller & Troschel, 1844: 36. Type locality: Mexico [Misantla River at the town of the same name and the Tacoluta River 6 hours riding above the sea and 13 hours from Papanla, Central Vera Cruz, Mexico. Not Suriname, corrected by Paepke & Meyer (1995)]. Holotype: ZMB 3473. Preoccupied in *Poecilia* by *Poecilia surinamensis* Valenciennes, 1821.

Poecilia sphenops Valenciennes in Cuvier & Valenciennes, 1846: 130, pl. 525-526, bottom. Type locality: près de Veracruz [same type locality of *Mollinesia surinamensis* Müller & Troschel, 1844]. Syntypes: MNHN B-0930 (8).

Poecilia thermalis Steindachner, 1863: 181, pl. 4 (figs. 3-3a). Type locality: in mexikanischen Staate Chiapas in der Schwefelquelle *La Esperanza* [sic] gefunden, deren Wasser 23° Réamur warm ist. Syntypes: (40) NMW 15153 (5), 59834 (4), 60645 (5), 76504-07 (7, 7, 7, 4).

Gambusia modesta Troschel in Müller, 1865: 105. Type locality: Mexico. Holotype: ZMB (apparently lost).

Gambusia plumbea Troschel in Müller, 1865: 106. Type locality: Mexico. Holotype: ZMB (missing).

Poecilia spilurus Günther, 1866: 345. Type locality: Central America. Holotype: BMNH 1971.6.9.1.

Poecilia chisoyensis Günther, 1866: 342. Type locality: River Chisoy, Vera Paz [Alta Vera Paz, Guatemala]. Syntypes: BMNH 1864.1.26.190 (3).

Poecilia dovii Günther, 1866: 344. Type locality: Guatemala; Mexico. Syntypes: BMNH 1862.6.6.11-12 (2?) Mexico, 1863.12.16.77-92 (10) Lake Nicaragua, BMNH uncat. (?) Lake Amatitlan.

- Platypoecilus mentalis* Gill, 1877: 335. Type locality: a stream on the Atlantic side of the Isthmus [of Panama]. Holotype: USNM 16675.
- Poecilia boucardii* Steindachner, 1878: 386, pl. 3 (fig. 2). Type locality: Aspinwall (Colón), (Atlantic) Panama. Syntypes: (many) ?MCZ 32959 (10); NMW 14931-33 (1, 1, 1), 61266 (3), 77475-78 (2, 2, 2, 1), 22839-40 (1, 1), 10669-71 (1, 1, 1), 10672-73 (1).
- Poecilia vandepolli arubensis* van Lidth de Jeude, 1887: 138, pl. 2 (fig. 6). Type locality: Aruba. Syntypes: RMNH 5156 (6).
- Platypoecilus nelsoni* Meek, 1904: 147, fig. 46. Type locality: Papayo, Guerrero [Balsas River basin, Mexico]. Holotype: USNM 51484.
- Platypoecilus tropicus* Meek, 1907: 146. Type locality: Turrialba, Costa Rica. Holotype: FMNH 6027.
- Poecilia tenuis* Meek, 1907: 147. Type locality: Tiribi, Costa Rica. Holotype: FMNH 6028.
- Poecilia spilonota* Regan, 1908: 460 [footnote]. Type locality: San José [Costa Rica]. BMNH. Syntypes: BMNH 1907.2.11.44-50 (6 of 7).
- Poecilia caudata* Meek, 1909: 209. Type locality: Turrubares, Costa Rica. Holotype: FMNH 6360.
- Mollienisia gracilis* Regan, 1913a: 1012. Type locality: Lake Petén in Guatemala. Syntypes: BMNH 1864.1.26.377 (3), 1864.1.26.379 (2).
- Mollienisia sphenops ventynei* Hubbs, 1935: 11, pl. 2 (fig. 1, upper). Type locality: aguada at Uaxactun, Guatemala. Holotype: UMMZ 97874.
- Mollienisia sphenops macrura* Hubbs, 1935: 12, pl. 2 (fig. 2). Type locality: Río San Pedro de Mártir, at El Paso de Los Caballos, Guatemala, in the stream system of Río Usumancita. Holotype: UMMZ 95516.
- Mollienisia sphenops altissima* Hubbs, 1936: 242, pl. 9 (fig. 2). Type locality: Miramar Spring, near Talcha, Yucatan. Holotype: UMMZ 102127.
- Mollienisia sphenops pallida* de Buen, 1943a: 252, fig. 1. Type locality: em la Plaza La Bocana del río Marqués. Syntypes: (24).
- ?*Lembesseia parvianalis* Fowler, 1949: 267, fig. 70. Type locality: Oka, Congo system. [Lembesse River Basin; French Equatorial Africa; introduced]. Holotype: ANSP 71924.
- Poecilia veti-providentiae* Fowler, 1950b: 77, fig. 12. Type locality: One quarter of mile south of Ironwood Hill, in fresh-water stream called Huffington's Creek at the Watering Place and above, east side of the island. Holotype: ANSP 71750.
- Maximum length: 6 cm TL
Distribution: North, Central and South America: Mexico to Colombia. Often confused with *P. mexicana*.
Countries: Colombia, Cook Islands, Curaçao Island, Mexico, Trinidad and Tobago (introduced), Venezuela
- Poecilia sulphuraria* (Alvarez, 1948)**
Mollienisia sulphuraria Alvarez, 1948b: 276, fig. 1. Type locality: Baños del Azufre, a 12 Km de Teapa, Tab. Holotype: ENCB-IPN-P-186.
Maximum length: 5 cm TL
Distribution: North America: Mexico.
Countries: Mexico
- Poecilia teresae* Greenfield, 1990**
Poecilia teresae Greenfield, 1990: 449, fig. 1. Type locality: Macal River on the Mountain Pine Ridge (trib. eastern branch of Belize River), Belize, Central America, 89°01'W, 16°52'N. Holotype: FMNH 82918.
Maximum length: 5 cm SL
Distribution: Central America: Belize.
Countries: Belize
- Poecilia vandepolli* van Lidth de Jeude, 1887**
Poecilia vandepolli van Lidth de Jeude, 1887: 137, pl. 2 (fig. 4). Type locality: Curaçao. Syntypes: RMNH 5155 (6).
Maximum length: 4.5 cm TL
Distribution: Caribbean Islands: Curaçao Island.
Countries: Curaçao
Remarks and references: Recently redescribed by Poeser (1992).
- Poecilia velifera* (Regan, 1914)**
Mollienisia velifera Regan, 1914a: 338. Type locality: Progreso, Yucatán. Syntypes: BMNH 1914.2.18.6-8 (3).
Maximum length: 15 cm TL
Distribution: North America: Southeastern Mexico.
Countries: Colombia (introduced), Mexico,
- Poecilia vivipara* Bloch & Schneider, 1801**
Poecilia vivipara Bloch & Schneider, 1801: 452, pl. 86 (lower fig.). Type locality: aquis dulcibus Surinami bipollicaris. Holotype: ZMB 3465.
Poecilia surinamensis Valenciennes in Humboldt & Valenciennes, 1821: 158, pl. 51 (fig. 1). Type locality: in aquis dulcibus Surinami. Holotype: ?
Poecilia unimaculata Valenciennes in Humboldt & Valenciennes, 1821: 158, pl. 51 (fig. 2). Type locality: in aquis dulcibus Brasiliae [Rio Janeiro]. Holotype: ?
Poecilia schneideri Valenciennes in Humboldt & Valenciennes, 1821: 159. Unneeded replacement name for *Poecilia vivipara*.
Molnesia fasciata Müller & Troschel, 1844: 36. Type locality: Suriname [not Mexico]. Holotype: ZMB 3472. Type-locality corrected by Paepke & Meyer (1995).
Neopoecilia holacanthus Hubbs, 1924: 11 [footnote]. Type locality: not stated in original description but referred to material recorded as *Poecilia vivipara* by Evermann & Marsh 1900 [Ponce and Fajardo; Arroyo and Hucare; Puerto Rico - an introduced stock]. Syntypes: FMNH 3240 (6).
Maximum length: 4 cm TL
Distribution: South America: From Venezuela all along the coast to La Plata River in Argentina. Introduced in Puerto Rico.
Countries: Argentina, Brazil, French Guiana, Guyana, Puerto Rico (introduced), Suriname, Trinidad and Tobago, Uruguay, Venezuela
Common names: Barrigudinho (Brazil), Guaru (Brazil)
- POECILIOPSIS**
Hemixiphophorus Bleeker, 1860: 440. Type species: *Xiphophorus gracilis* Heckel, 1848. Type by subsequent monotypy. Gender: masculine. Appeared first in key, without included species. One species added by Bleeker (1860: 485). Senior synonym of *Poeciliopsis* Regan, 1913 but *Poeciliopsis* is placed in the official list of generic names in zoology (opinion 375) of the ICZN (see Rosen & Bailey, 1963:131 and Melville & Smith, 1987).
Poeciliopsis Regan, 1913a: 996. Type species: *Poecilia presidionis* Jordan & Culver, 1895. Type by subsequent designation. Gender: feminine.
Leptorhaphis Regan, 1913a: 998. Type species: *Gambusia infans* Woolman, 1895. Type by monotypy. Gender: feminine.
Aulophallus Hubbs, 1926: 69. Type species: *Poecilia elongata* Günther, 1866. Type by original designation. Gender: masculine.
Poecilistes Hubbs, 1926: 68. Type species: *Heterandria lutzi* Meek, 1904. Type by original designation. Gender: masculine.
- Poeciliopsis baenschi* Meyer, Radda, Riehl & Feichtinger, 1986**
Poeciliopsis baenschi Meyer, Radda, Riehl & Feichtinger, 1986: 80, fig. 1. Type locality: ruisseau près de El Tuito, Jalisco, Mexico. Holotype: SMF 19988.
Maximum length: 2.5 cm TL
Distribution: North America: Creek near El Tuito in Jalisco, as well as tributaries of the Purificación River near La Huerta.
Countries: Mexico

***Poeciliopsis balsas* Hubbs, 1926**

Poeciliopsis balsas Hubbs, 1926: 66. Type locality: Balsas, on the Rio Balsas, Guerrero, Mexico. Holotype: FMNH 3702.

Poeciliopsis anonas de Buen, 1943b: 263, fig. 1. Type locality: Arroyo de las Anonas de la cuenca del río Marqués, a 406 metros sobre el nivel del mar. Holotype: Estación Limnológica Pátzcuaro.

Maximum length: 3.5 cm TL

Distribution: North America: Balsas River basin, Arteaga and Aguililla Rivers in Michoacan.

Countries: Mexico

***Poeciliopsis catemaco* Miller, 1975**

Poeciliopsis catemaco Miller, 1975: 35, fig. 11. Type locality: a small beach on the west side of Laguna Catemaco, Veracruz [Mexico] 95° 07' W Long., 18° 25' N Lat., elevation about 340 m. Holotype: UMMZ 176977.

Maximum length: 4 cm TL

Distribution: North America: Laguna de Catemaco in Veracruz.

Countries: Mexico

***Poeciliopsis elongata* (Günther, 1866)**

Poecilia elongata Günther, 1866: 342. Type locality: Panama. Holotype: BMNH 1866.1.14.23.

Maximum length: 11 cm TL

Distribution: Central America: Costa Rica and Panama.

Countries: Costa Rica, Panama

***Poeciliopsis fasciata* (Meek, 1904)**

Gambusia fasciata Meek, 1904: 129, fig. 37. Type locality: San Geronimo, Oaxaca [Mexico]. Holotype: FMNH 4715.

Maximum length: 3 cm TL

Distribution: North America: Mexico in Laguna Coyuca near Acapulco, Guerrero as far as the Pijijiapan River in Chiapas and Coatzacoalcos River in Oaxaca.

Countries: Mexico

***Poeciliopsis gracilis* (Heckel, 1848)**

Xiphophorus gracilis Heckel, 1848: 300, pl. 9 (fig. 3). Type locality: Orizaba, Mexico. Syntypes: (13) NMW 59600 (3), 76512 (6), 76514 (2, dry), 81118 (4).

Gambusia Heckeli [sic] Bleeker, 1860: 485. Type locality: Amsept, Mexico. Unneeded substitute name for *Xiphophorus gracilis* Heckel 1848, not preoccupied by the later *Gambusia gracilis* Girard 1859.

Girardinus pleurospilus Günther, 1866: 353. Type locality: Lake of Dueñas, Guatemala. Syntypes: BMNH 1864.1.26.180 (1?), ZMB 6078 (3).

Priapichthys letonai Hildebrand, 1925: 258, fig. 12. Type locality: Río San Miguel, San Miguel, El Salvador. Holotype: USNM 87251.

Maximum length: 5.1 cm TL

Distribution: North and Central America: From southern Mexico to Honduras.

Countries: Guatemala, Honduras, Mexico, Venezuela (introduced)

***Poeciliopsis hnilickai* Meyer & Vogel, 1981**

Poeciliopsis hnilickai Meyer & Vogel, 1981: 358, fig. 1. Type locality: Mexico, Chiapas, Gebirgsbach 1 km W Ixtapa. Holotype: SMF 15526.

Maximum length: 3.5 cm TL

Distribution: North America: Salina River in Chiapas.

Countries: Mexico

***Poeciliopsis infans* (Woolman, 1895)**

Gambusia infans Woolman, 1895: 62, pl. 2. Type locality: Rio de Lerma at Salamanca, Mexico. Lectotype: USNM 45570, designated by Jordan & Evermann 1896: 680.

Poeciliopsis porosus de Buen, 1943b: 273, fig. 9. Type locality:

Lago de Camécuaro, Mich. Holotype: Estación Limnol. Pátzcuaro.

Maximum length: 3.5 cm TL

Distribution: North America: Mexican states of Jalisco and Michoacan in Grande de Santiago River basins, Lerma and Ameca River basins.

Countries: Mexico

***Poeciliopsis latidens* (Garman, 1895)**

Glaridodon latidens Garman, 1895: 42, pl. 5 (fig. 11). Type locality: Chihuahua, Mexico. Syntypes: MCZ 1307 (4).

Maximum length: 5 cm TL

Distribution: North America: Del Fuerte River to San Blas in Nayarit.

Countries: Mexico

***Poeciliopsis lucida* Miller, 1960**

Poeciliopsis lucida Miller, 1960: 2, pl. 1 (fig. A). Type locality: small tributary of the Río Mocerito, 0.9 mile N of San Benito, Sinaloa; 107°, 46'W Long., 25°, 32'N Lat. Holotype: UMMZ 177266.

Maximum length: 3 cm TL

Distribution: North America: Mocerito River basin and del Fuerte River on the Gulf of California in Sinaloa.

Countries: Mexico

***Poeciliopsis lutzi* (Meek, 1902)**

Heterandria lutzi Meek, 1902: 106, pl. 20, lower. Type locality: Río Quiotepec at Cuicatlan, Oaxaca, Mexico. Holotype: FMNH 3718.

Maximum length: 3.5 cm TL

Distribution: North America: Mexico.

Countries: Mexico

***Poeciliopsis monacha* Miller, 1960**

Poeciliopsis monacha Miller, 1960: 3, pl. 1 (fig. C). Type locality: Arroyo San Benito, about 1.5 miles ESE of Rancho Guirocoba, Sonora; 108° 40'W Long., 26° 56'N Lat. Holotype: UMMZ 177268.

Distribution: North America: Mexico.

Countries: Mexico

***Poeciliopsis occidentalis* (Baird & Girard, 1853)**

Heterandria occidentalis Baird & Girard, 1853: 390. Type locality: Río Santa Cruz of the Rio Gila [Mexico - not Santa Cruz River, Tucson, Arizona, USA.]. Syntypes: ANSP 6972 (1).

Girardinus sonoriensis Girard, 1859: 120. Type locality: san Bernardino creek, Mex. [tributary of Río Yaqui, Sonora, Mexico]. Syntypes: MCZ 1310 (1), 1461 (1).

Maximum length: 6 cm TL

Distribution: North America: Gila River system in New Mexico and Arizona and streams south to western Mexico. Occurs naturally in the Colorado and Yaqui River basins at altitudes ranging from sea level to 1500 m. High altitude occurrences are most commonly associated with outflows and springs.

Countries: Mexico, USA

***Poeciliopsis paucimaculata* Bussing, 1967**

Poeciliopsis paucimaculata Bussing, 1967: 227, fig. 5. Type locality: tributaries to the Río General, a confluent of the Río Grande de Térraba [General River, by 1st steel bridge, 15 km South of San Isidro del General on Pan. Am. Hiway, San Jose, Costa Rica] Holotype: LACM 9236-1.

Maximum length: 3.5 cm TL

Distribution: Central America: General River basin.

Countries: Costa Rica

***Poeciliopsis presidionis* (Jordan & Culver, 1895)**

Poecilia presidionis Jordan & Culver in Jordan, 1895: 413, pl. 29. Type locality: in the clear waters of the Rio Presidio, about Presidio [Sinaloa, Mexico]. Lectotype: SU 2687 (not separated from paralectotypes), established as figured specimen in caption to Pl. 114, p. 3257 by Jordan & Evermann (1900).

Maximum length: 3.5 cm TL

Distribution: North America: Sinaloa River in Sinaloa to San Blas in Nayarit.

Countries: Mexico

***Poeciliopsis prolifica* Miller, 1960**

Poeciliopsis prolifica Miller, 1960: 5, pl. 2 C. Type locality: Arroyo Sonolona [tributary to Culiacán River] 18.5 miles by road E of Culiacán, Sinaloa, 107° 08'W Long., 24°48'N Lat. Holotype: UMMZ 177272.

Maximum length: 3 cm TL

Distribution: North America: Lower courses of Yaqui River in Sonora and along the coast to San Blas in Nayarit. The species enters brackish water.

Countries: Mexico

***Poeciliopsis retropinna* (Regan, 1908)**

Poecilia retropinna Regan, 1908: 458. Type locality: Boruca [Costa Rica]. Holotype: BMNH 1909.3.13.69.

Maximum length: 5 cm TL

Distribution: Central America: Costa Rica and Panama.

Countries: Costa Rica, Panama

***Poeciliopsis scarlli* Meyer, Riehl, Dawes & Dibble, 1985**

Poeciliopsis scarlli Meyer, Riehl, Dawes, & Dibble, 1985: 26, fig. 1. Type locality: canal at El Bordqueral, 40 km N on HW 200 from state boundary Guerrero/Michoacán, Michoacán, Mexico. Holotype: SMF 19715.

Maximum length: 3 cm TL

Distribution: North America: Guerrero and Michoacan.

Countries: Mexico

***Poeciliopsis turneri* Miller, 1975**

Poeciliopsis turneri Miller, 1975: 27, fig. 8. Type locality: Río Apamila, 4.5 km WNW of La Huerta, Jalisco [Mexico] 104° 39' W Long., 19° 29' N Lat., elevation about 280 m. La Huerta is a small town on Hwy 80 SW of Autlán. Holotype: UMMZ 183942.

Maximum length: 3 cm TL

Distribution: North America: From the Purificacion River basin to the Resolana River and northeastern Cihuatlan.

Countries: Mexico

***Poeciliopsis turrubarensis* (Meek, 1912)**

Gambusia turrubarensis Meek, 1912 (18 Sep): 71. Type locality: Turrubares, Costa Rica [San José, Pacific slope]. Holotype: FMNH 7676 [not 7576].

Heterandria colombianus Eigenmann & Henn in Eigenmann, 1912 (23 Dec): 27. Type locality: Brackish water, mouth of Rio Dagua, Colombia. Holotype: FMNH 56047 [ex CM 4837].

Priapichthys fosteri Hildebrand, 1925: 260, figs. 14-15. Type locality: Río Lempa, San Marcos, El Salvador. Holotype: USNM 87263.

Maximum length: 4 cm TL

Distribution: North, Central and South America: Jalisco, Mexico to the Dagua River in Colombia.

Countries: Colombia, Costa Rica, El Salvador, Mexico

***Poeciliopsis viriosa* Miller, 1960**

Poeciliopsis viriosa Miller, 1960: 4, pl. 2 (fig. A). Type locality: Greenbank, from a spring-fed creek about 4.5 miles SW of Las Palmas, on the road Ixtapita, Jalisco; 105° 10'W Long., 20°48'N Lat. Holotype: UMMZ 177270.

Maximum length: 3.5 cm TL

Distribution: North America: Ameca River basin in Jalisco and south Nayarit to the Mocorito River in Sinaloa.

Countries: Mexico

PRIAPELLA

Priapella Regan, 1913a: 992. Type species: *Gambusia bonita* Meek, 1904. Type by monotypy. Gender: feminine.

***Priapella bonita* (Meek, 1904)**

Gambusia bonita Meek, 1904: 132, fig. 39. Type locality: Refugio, Vera Cruz. [Mexico]. Holotype: FMNH 4630.

Distribution: North America: Mexico.

Countries: Mexico

***Priapella compressa* Alvarez, 1948**

Priapella compressa Alvarez, 1948a: 335, fig. 2. Type locality: Ruinas de Palenque, Chis. Holotype: ENCB-IPN-P-188.

Maximum length: 4.5 cm TL

Distribution: North America: Grijalva River basin to the lower Usumacinta River basin in Chiapas.

Countries: Mexico

***Priapella intermedia* Alvarez & Carranza, 1951**

Priapella intermedia Alvarez & Carranza, 1951: 284. Type locality: Santa María Chimalapa, em el Arroyo El Zacatal. Holotype: ENCB-IPN-P-188.

Maximum length: 5 cm TL

Distribution: North America: Mexico.

Countries: Mexico

***Priapella olmecae* Meyer & Espinoza Pérez, 1990**

Priapella olmecae Meyer & Espinoza Pérez, 1990: 122, fig. 1. Type locality: Rio de la Palma, about 10 km NNW Sontecomapan, 25 km NNE Lake Catemaco, Veracruz, México. Holotype: SMF 21157.

Maximum length: 5 cm TL

Distribution: North America: La Palma and Agua Fria Rivers and a lagoon called Escondida, Los Tuxtlas, Veracruz.

Countries: Mexico

PRIAPICHTHYS

Priapichthys Regan, 1913a: 991. Type species: *Gambusia annectens* Regan, 1907. Gender: masculine.

Diphyacantha Henn, 1916: 113. Type species: *Diphyacantha chocoensis* Henn, 1916. Type by monotypy. Gender: feminine.

Darienichthys Hubbs, 1924: 8 [footnote]. Type species: *Gambusia darienensis* Meek & Hildebrand, 1913. Type by original designation. Gender: masculine.

Panamichthys Hubbs, 1924: 8 [footnote]. Type species: *Priapichthys panamensis* Meek & Hildebrand, 1916. Type by original designation. Gender: masculine.

Alloheterandria Hubbs, 1924: 9 [footnote]. Type species: *Gambusia nigroventralis* Eigenmann & Henn, 1912. Type by original designation. Gender: feminine.

***Priapichthys annectens* (Regan, 1907)**

Gambusia annectens Regan, 1907a: 259. Type locality: Costa Rica, Carullo and Juan Veñas; Irazu. Syntypes: (numerous) BMNH 1907.2.11.5-14 (10), 1907.2.11.15-23 (9), 1907.6.28.38-42 (5); MNHN 1913-0228 [ex BMNH] (2).

Priapichthys annectens hesperis Hubbs, 1924: 22. Type locality: Río María Aguilar, upper trib. to Río Grande de Tárcoles, San José, Costa Rica. Holotype: FMNH 14106.

Maximum length: 4 cm TL

Distribution: Central America: Costa Rica.

Countries: Costa Rica

***Priapichthys caliensis* (Eigenmann & Henn, 1916)**

Gambusia caliensis Eigenmann & Henn in Henn, 1916: 113. Type locality: Cali, Colombia. Holotype: FMNH 57721 [ex CM 6700a].
Maximum length: 2.8 cm SL.
Distribution: South America: Colombia.
Countries: Colombia

***Priapichthys chocoensis* Henn, 1916**

Diphyacantha chocoensis Henn, 1916: 114, pl. 19 (fig. 1). Type locality: small creek near mouth of Rio Calima, a tributary of the lower San Juan, Chocó, Colombia. Holotype: CAS 22547 [ex IU 13618].
Maximum length: 3.5 cm TL
Distribution: South America: Colombia.
Countries: Colombia

***Priapichthys darienensis* (Meek & Hildebrand, 1913)**

Gambusia darienensis Meek & Hildebrand, 1913: 88. Type locality: Rio Capeti [Tuira River basin, Panama]. Holotype: FMNH 7597.
Maximum length: 3 cm TL
Distribution: Central America: Tuira River basin.
Countries: Panama

***Priapichthys nigroventralis* (Eigenmann & Henn, 1912)**

Gambusia nigroventralis Eigenmann & Henn in Eigenmann, 1912: 26. Type locality: Rio San Juan at Itsmina, Colombia. Holotype: FMNH 56045 [ex CM 4835].
Gambusia caudovittata Regan, 1913b: 471. Type locality: Rio Condoto [Colombia]. Holotype: BMNH 1913.10.1.68.
Maximum length: 3 cm TL
Distribution: South America: San Juan River basin.
Countries: Colombia

***Priapichthys panamensis* Meek & Hildebrand, 1916**

Priapichthys panamensis Meek & Hildebrand, 1916: 322. Type locality: Chame Point, Panama. Holotype: FMNH 8950.
Maximum length: 2.5 cm TL
Distribution: Central America: Panama.
Countries: Panama.

***Priapichthys puetzi* Meyer & Etzel, 1996**

Priapichthys puetzi Meyer & Etzel, 1996: 4. Type locality: a small brook of the upper Rio Guarumo system, 20 km on the road from Punta Peña towards Gualaca, Bocas del Toro, Panama. Holotype: MTD F16250.
Maximum length: 6.72 cm TL
Distribution: Central America: Panama.
Countries: Panama

PSEUDOPOECILIA

Pseudopoecilia Regan, 1913a: 995. Type species: *Poecilia festae* Boulenger, 1898. Type by monotypy. Gender: feminine.

***Pseudopoecilia austrocolumbiana* Radda, 1987**

Pseudopoecilia austrocolumbiana Radda, 1987b: 173, fig. 10. Type locality: bei Sammelort Nr. 10, einem Bach im Regenwald, 25 km W El Diviso, an der Strasse von Tuquerres nach Tumaco, Seehöhe 475 m, in der Küstenebene der Provinz Nariño, Kolumbien. Holotype: NMW 85922.
Maximum length: 2 cm TL
Distribution: South America: Colombia.
Countries: Colombia

***Pseudopoecilia festae* (Boulenger, 1898)**

Poecilia festae Boulenger, 1898: 13. Type locality: Sources thermales de S. Vicenta, canton de Santa Elena. Syntypes: BMNH

1898.11.4.80-85 (6), MSNG [ex Mus. Torino] 36549 (19), MZUT 1496 (1).
Maximum length: 3.5 cm TL
Distribution: South America: Chico Chaune River in Ecuador to Peru.
Countries: Ecuador, Peru

***Pseudopoecilia fria* (Eigenmann & Henn, 1914)**

Poecilia fria Eigenmann & Henn in Eigenmann, Henn & Wilson, 1914: 13. Type locality: Vinces, Ecuador. Holotype: FMNH 56603 [ex CM 5420].
Distribution: South America: Ecuador.
Countries: Ecuador

QUINTANA

Quintana Hubbs, 1934: 2. Type species: *Quintana atrizona* Hubbs, 1934. Type by original designation. Gender: feminine.

***Quintana atrizona* Hubbs, 1934**

Quintana atrizona Hubbs, 1934: 4, pl. 1 (fig. 1). Type locality: uncertain [tentatively Baracoa, Cuba]. Holotype: UMMZ 106459 (descendant of aquarium stock. Label states Vic. of Baracoa - aquarium bred fish from female of Everglades Aquatic Nursery stock).
Maximum length: 2.5 cm SL
Distribution: Caribbean Islands: Cuba Island.
Countries: Cuba

SCOLICHTHYS

Scolichthys Rosen, 1967: 2. Type species: *Scolichthys greenwayi* Rosen, 1967. Type by original designation. Gender: masculine.

***Scolichthys greenwayi* Rosen, 1967**

Scolichthys greenwayi Rosen, 1967: 4, fig. 2. Type locality: clear, jungle headwater stream of the Río Salbá, a tributary to the Río Chixoy-Río Salinas (Río Usumacinta basin), 20 kilometers northwest of Cobán and 6 to 8 kilometers north of Cancal, Alta Verapaz, Guatemala. Holotype: AMNH 22713.
Maximum length: 3.5 cm TL
Distribution: Central America: Chixoy and Salinas River basins.
Countries: Guatemala

***Scolichthys iota* Rosen, 1967**

Scolichthys iota Rosen, 1967: 9, fig. 7. Type locality: tiny, clear creek emptying into the Río Chajmayic, the true headwater source of the Río de la Pasión (Río Usumacinta Basin) 15 kilometers by road south of Sebol, Alta Verapaz, Guatemala. Holotype: AMNH 22716.
Maximum length: 2.5 cm TL
Distribution: Central America: Chajmaic River basin.
Countries: Guatemala

TOMEURUS

Tomeurus Eigenmann, 1909: 53. Type species: *Tomeurus gracilis* Eigenmann, 1909. Type by monotypy. Gender: masculine.

***Tomeurus gracilis* Eigenmann, 1909**

Tomeurus gracilis Eigenmann, 1909: 53. Type locality: Mud Creek in Aruka River. Holotype: FMNH 53541 [ex CM 1093].
Maximum length: 3.3 cm TL
Distribution: South America: Small coastal drainages of the Venezuelan departments Delta Amacuro, Monagas, Territorio Federal and in Brazilian states of Amapá and Pará; Guamá and Tocantins River basins; Cuyuni, Mazaruni, Essequibo Corantijn River basins.
Countries: Brazil, Guyana, Suriname, Venezuela

XENODEXIA

Xenodexia Hubbs, 1950: 8. Type species: *Xenodexia ctenolepis* Hubbs, 1950. Type by original designation. Gender: feminine.

***Xenodexia ctenolepis* Hubbs, 1950**

Xenodexia ctenolepis Hubbs, 1950: 9, pl. I (fig. 1). Type locality: Río Seniso (Río Salba), at Finca Chamá, Guatemala, from the hacienda to the mouth of the stream. [Usumancita drainage, Quiche, Alta Vera Paz, Guatemala]. Holotype: UMMZ 105460. Maximum length: 4.1 cm TL
Distribution: Central America: Finca River basin, 30 km NW of Cobán, Alta Vera Paz, in the Salbá River, tributary to the Negro River (Chixoy River) which becomes the Salinas River of the Usumacinta basin.
Countries: Guatemala

XENOPHALLUS

Xenophallus Hubbs, 1924: 10 [footnote]. Type species: *Gambusia umbratilis* Meek, 1912. Type by original designation. Gender: masculine.

***Xenophallus umbratilis* (Meek, 1912)**

Gambusia umbratilis Meek, 1912: 70. Type locality: Guapilis [Limón], Costa Rica. Holotype: FMNH 7684 [not 7584].
Poeciliopsis maculifer Fowler, 1916a: 390, fig. 1. Type locality: Río Guapilis at Guapilis [Guapiles], Costa Rica. Holotype: ANSP 45391.
Maximum length: 4 cm TL
Distribution: Central America: Costa Rica.
Countries: Costa Rica

XIPHOPHORUS

Xiphophorus Heckel, 1848: 291. Type species: *Xiphophorus hellerii* Heckel, 1848. Type by subsequent designation. Gender: masculine.

Platypoecilus Günther, 1866: 350. Type species: *Platypoecilus maculatus* Günther, 1866. Type by monotypy. Gender: masculine.

***Xiphophorus alvarezii* Rosen, 1960**

Xiphophorus hellerii alvarezii Rosen, 1960: 126, fig. 23. Type locality: Mexico Chiapas Río Usumacinta system Río Santo Domingo, a tributary of Río Jatate, upper Río Usumacinta system, 90 km E Comitán. Holotype: UMMZ 177304.
Distribution: North and Central America: Chiapas in Mexico and Huehuetenango, El Quiché and Alta Veracruz in Guatemala.
Countries: Guatemala, Mexico

***Xiphophorus andersi* Meyer & Scharl, 1980**

Xiphophorus andersi Meyer & Scharl, 1980: 148, fig. 1. Type locality: Mexico, Veracruz, Río Atoyac bei Finca St. Anita, nahe Chico. Holotype: SMF 15118.
Maximum length: 4.5 cm TL
Distribution: North America: Atoyac River near Chico in Veracruz, Mexico.
Countries: Mexico

***Xiphophorus birchmanni* Lechner & Radda, 1987**

Xiphophorus montezumae birchmanni Lechner & Radda, 1987: 191, fig. 3. Type locality: Río Talol/Río Tempoal- subsystem des Río Panuco-Systems, Ortschaft Orizatlán (400 m ü. M.)/Hidalgo, Mexiko. Holotype: SMF 21154.
Maximum length: 7 cm TL
Distribution: North America: Panuco River basin in Hidalgo, Mexico.
Countries: Mexico

***Xiphophorus clemenciae* Alvarez, 1959**

Xiphophorus clemenciae Alvarez, 1959: 69. Type locality: em el arroyo de La Cascada, afluente del río Sarabia, muy proximo a la confluencia de éste com el Coatzacoalcos; en el Rancho San Carlos, 24 Km al E de Palomares (Oax.). Holotype: ENCB-IPN-P-403.

Maximum length: 4 cm TL
Distribution: North America: Oaxaca.
Countries: Mexico

***Xiphophorus continens* Rauchenberger, Kallman & Morizot, 1990**

Xiphophorus continens Rauchenberger, Kallman & Morizot, 1990: 9, fig. 5. Type locality: nacimiento of the Río Ojo Frío at El Quince, north of Rascón, Río Gallinas-Río Pánuco drainage, SLP, Mexico. Holotype: AMNH 88335.

Maximum length: 2.5 cm TL
Distribution: North America: Panuco River drainage in San Luis Potosí.
Countries: Mexico

***Xiphophorus cortezi* Rosen, 1960**

Xiphophorus montezumae cortezi Rosen, 1960: 96, fig. 13. Type locality: Mexico, San Luis Potosí Río Panuco system Río Moctezuma Arroyo Matlapa at Comoca, 2 mi. N of Axtla. Holotype: UMMZ 177302.

Maximum length: 5 cm TL
Distribution: North America: Panuco River basin.
Countries: Mexico

***Xiphophorus couchianus* (Girard, 1859)**

Limia couchiana Girard, 1859a: 116. Type locality: in the waters of the Río San Juan, at Caderecta and Monterey, in the Province of New Leon [Mexico]. No types known.

Poecilia couchii Günther, 1866: 347. Type locality: Río San Juan (Province of New Leon). Unjustified emendation of (and objective synonym of) *Limia couchiana* Girard 1859.

Maximum length: 4 cm TL
Distribution: North America: Mexico (now restricted to vicinity of Monterrey, formerly more widespread).
Countries: Mexico

***Xiphophorus evelynae* Rosen, 1960**

Xiphophorus variatus evelynae Rosen, 1960: 87, fig. 7. Type locality: Mexico, Puebla Río Tecolutla, side branch of the Río Xaltepuztla where it meets the Río Necaxa at Tepexic. Holotype: UMMZ 177306.

Maximum length: 4 cm TL
Distribution: North America: Tecolutla (Necaxa) River basin.
Countries: Mexico

***Xiphophorus gordonii* Miller & Minckley, 1963**

Xiphophorus gordonii Miller & Minckley, 1963: 538, fig. 1. Type locality: Laguna Santa Tecla, about 20 airline miles south-southeast of the town of Cuarto Ciénegas, Coahuila, Mexico. Holotype: UMMZ 179866.

Maximum length: 3.5 cm TL
Distribution: North America: Cuatrociénegas River basin.
Countries: Mexico

***Xiphophorus hellerii* Heckel, 1848**

Xiphophorus hellerii Heckel, 1848: 291, pl. 8 (figs. 1-3). Type locality: Orizaba, Mexico. Syntypes: NMW 60543 (8).

Xiphophorus guntheri Jordan & Evermann, 1896: 702. Type locality: Río Chisoy, basin of Río Usumacinta, Guatemala. Syntypes: BMNH 1864.1.26.185 (1), 1894.1.26.193 (1).

Xiphophorus jalapae Meek, 1902: 107, pl. 26. Type locality: Jalapa, Vera Cruz, Mexico. Holotype: FMNH 3724.

Xiphophorus strigatus Regan, 1907b: 65. Type locality: southern Mexico, Veracruz and Oaxaca. Syntypes: BMNH.

- Xiphophorus brevis* Regan, 1907b: 65. Type locality: British Honduras, Stann Creek. Syntypes: BMNH 1890.9.8.18-19 (2).
Xiphophorus rachovii Regan, 1911b: 373. Type locality: Porto Barrios, on the Atlantic coast of Guatemala, between Lake Yzabal and Río Motagua. Syntypes: BMNH 1911.8.14.4-8 (6).
 Maximum length: 14 cm TL
 Distribution: North and Central America: From Nantla River, Veracruz in Mexico to northwestern Honduras. Africa: Feral populations reported from Natal and eastern Transvaal as well as in Lake Otjikoto, Namibia.
 Countries: Belize, Brazil (introduced), Colombia (introduced), Guatemala, Honduras, Jamaica (introduced), Mexico, Puerto Rico (introduced)
- Xiphophorus kosszanderi* Meyer & Wischnath, 1981**
Xiphophorus kosszanderi Meyer & Wischnath, 1981: 130, figs. 1-3. Type locality: Arroyo Chapultepec, 7 km northeast of Monterrey, Nuevo León, Mexico. Holotype: SMF 16200.
 Distribution: North America: Mexico.
 Countries: Mexico
- Xiphophorus maculatus* (Günther, 1866)**
Platypoecilus maculatus Günther, 1866: 350. Type locality: Mexico. Syntypes: BMNH 1857.7.31.11-12 (2).
Platypoecilus nigra Brind, 1914: 22. Type locality: Mexico. No types known.
Platypoecilus pulchra Brind, 1914: 22, fig. Type locality: Mexico. No types known.
Platypoecilus rubra Brind, 1914: 22. Type locality: Mexico. No types known.
Platypoecilus maculatus cyanellus Meinken, 1935: 261, fig. unnumbered Type locality: in der Nähe der Stadt Tancasnequi, an einen Nebenflusse des Rio Panuco [Mexico]. Holotype: whereabouts unknown.
Platypoecilus maculatus sanguinea Stoye, 1935: 51. Type locality: No locality. No types known.
Platypoecilus maculatus aurata Stoye, 1935: 51. Type locality: No locality. No types known.
 Maximum length: 6 cm TL
 Distribution: North and Central America: Ciudad Veracruz, Mexico to northern Belize.
 Countries: Bahamas (introduced), Belize, Brazil (introduced), Colombia (introduced), Guatemala, Jamaica (introduced), Puerto Rico (introduced)
- Xiphophorus malinche* Rauchenberger, Kallman & Moziriot, 1990**
Xiphophorus malinche Rauchenberger, Kallman & Morizot, 1990: 10, fig. 7. Type locality: Río Claro at Tlatzintla, Río Pánuco drainage, HID, Mexico. Holotype: AMNH 88336.
 Maximum length: 5.5 cm TL
 Distribution: North America: Pánuco River drainage in Hidalgo, Mexico.
 Countries: Mexico
- Xiphophorus mayae* Meyer & Scharl, 2002**
Xiphophorus mayae Meyer & Scharl, 2002: 60, fig. 1. Type locality: Guatemala: Castillo de San Felipe, near hotel Marimonte, Lago de Izabal. Holotype: SMF 28885.
 Maximum length: 7.8 cm SL
 Distribution: Central America: Atlantic slope, in Lake Izabal, and the Polochic, Dulce, and Motagua River basins.
 Countries: Guatemala
- Xiphophorus meyeri* Scharl & Schröder, 1988**
Xiphophorus meyeri Scharl & Schröder, 1988: 312, fig. 1. Type locality: near Muzquiz, Coahuila, Mexico. Holotype: SMF 21192.
 Maximum length: 3 cm TL
 Distribution: North America: Mexico.
 Countries: Mexico
- Xiphophorus milleri* Rosen, 1960**
Xiphophorus milleri Rosen, 1960: 89, fig. 8. Type locality: Mexico, Veracruz Rio Papaloapan System. A small tributary of Laguna Catemaco about 2 mi. SE Catemaco. Holotype: UMMZ 177308.
 Maximum length: 3 cm TL
 Distribution: North America: Catemaco in Veracruz, Mexico.
 Countries: Mexico
- Xiphophorus montezumae* Jordan & Snyder, 1899**
Xiphophorus montezumae Jordan & Snyder, 1899: 131, fig. 11. Type locality: Río Verde near Rascon, San Luis Potosí, e. Mexico. Holotype: SU 6145.
 Maximum length: 5.5 cm TL
 Distribution: North America: Northeastern Mexico (Tamaulipas, northern Veracruz, San Luis Potosí).
 Countries: Mexico
- Xiphophorus multilineatus* Rauchenberger, Kallman & Morizot, 1990**
Xiphophorus multilineatus Rauchenberger, Kallman & Morizot, 1990: 15, fig. 13. Type locality: Río Coy near confluence with the Río Tampaón, Río Pánuco drainage, SLP, Mexico. Holotype: AMNH 88337.
 Maximum length: 4.5 cm TL
 Distribution: North America: Coy River of Panuco River basin in San Luis Potosí, Mexico.
 Countries: Mexico
- Xiphophorus nezahualcoyotl* Rauchenberger, Kallman & Morizot, 1990**
Xiphophorus nezahualcoyotl Rauchenberger, Kallman & Morizot, 1990: 6, fig. 4. Type locality: Arroyo Gallitos, 0.5 km west of Gallitos, an internal drainage, TAMPS, Mexico. Holotype: AMNH 88334.
 Maximum length: 5 cm TL
 Distribution: North America: Tamasi River drainage in San Luis Potosí, Mexico.
 Countries: Mexico
- Xiphophorus nigrensis* Rosen, 1960**
Xiphophorus pygmaeus nigrensis Rosen, 1960: 100, fig. 15. Type locality: Mexico San Luis Potosí Rio Panuco system Rio Choy Nacimiento del Rio Choy, 4 km. N Hotel Taninul, 3 km. N of road from Route 110 (Valles-Tampico Highway). Holotype: UMMZ 177301.
 Maximum length: 6 cm TL
 Distribution: North America: Choy River, in the Pánuco River drainage in San Luis Potosí, Mexico.
 Countries: Mexico
- Xiphophorus pygmaeus* Hubbs & Gordon, 1943**
Xiphophorus pygmaeus Hubbs & Gordon, 1943: 31, pl. 1 (fig. 1). Type locality: Río Axtla of the Río Panuco system, at Axtla, San Luis Potosí, México. Holotype: UMMZ 124365.
 Maximum length: 4 cm TL
 Distribution: North America: Pánuco River system, northeastern Mexico.
 Countries: Mexico
- Xiphophorus roseni* Meyer & Wischnath, 1981**
Xiphophorus roseni Meyer & Wischnath, 1981: 133, fig. 4. Type locality: Arroyo Cahpultepec, 7 km northeast of Monterrey, Nuevo León, Mexico. Holotype: SMF 16204.
 Distribution: North America: Mexico.
 Countries: Mexico

***Xiphophorus signum* Rosen & Kallman, 1969**

Xiphophorus helleri signum Rosen & Kallman, 1969: 5, fig. 1B.
Type locality: Río Semococh, tributary to the Río Chajmaic, a headwater source of the Río de la Pasión (Río Usumacinta Basin) 15 kilometers by road south of Sebol, Alta Verapaz, Guatemala. Holotype: AMNH 27675.
Maximum length: 7.5 cm TL
Distribution: Central America: Chajmaic and de la Pasión River drainages in Alta Verapaz, Guatemala.
Countries: Guatemala

***Xiphophorus variatus* (Meek, 1904)**

Platypoecilus variatus Meek, 1904: 146, pl. 10. Type locality: Valles, San Luis Potosí [Mexico]. Holotype: FMNH 4501.
Maximum length: 7 cm TL
Distribution: North America: From southern Tamaulipas to northern Veracruz.
Countries: Colombia (introduced), Mexico

***Xiphophorus xiphidium* (Gordon, 1932)**

Platypoecilus xiphidium Gordon, 1932: 287. Type locality: Río Corona at La Corona, 15 mi. north of Ciudad, Victoria, Río Soto la Marina system, Tamaulipas, Mexico. Lectotype: UMMZ 97573, designated by Rosen (1960: 83).
Maximum length: 4 cm TL
Distribution: North America: Soto La Marina River drainage in Tamaulipas, Mexico.
Countries: Mexico

GENERA INQUIRENDAE

Arizonichthys Nichols, 1940: 1. Type species: *Arizonichthys psammophilus* Nichols, 1940. Type by monotypy. Gender: masculine.
Gambusia (Toluichthys) Dahl in Dahl & Medem, 1964: 80. Type species: *Gambusia (Toluichthys) meadi* Dahl, 1964. Type by monotypy. Gender: masculine.
Hubbsichthys Schultz, 1949: 95. Type species: *Hubbsichthys laurae* Schultz, 1949. Type by original designation. Gender: masculine.

SPECIES INQUIRENDAE

Arizonichthys psammophilus Nichols 1940: 1. Type locality: 3 1/2 miles east of Tanque Verde, Pima County, Arizona, altitude 2750 ft. Holotype: AMNH 15373 (not found in 1996).
Fundulus capensis Garman 1895: 113, Pl. 3 (fig. 2). Type locality: False Bay, Cape of Good Hope, South Africa [apparently in error]. Holotype: MCZ 6454.
Gambusia (Toluichthys) meadi Dahl in Dahl & Medem, 1964: 80, fig. pg. 81. Type locality: vecindad de Tolú. Holotype: not located.
Gambusia baracoana Rivas, 1944b: 46. Type locality: small freshwater pond, near the mouth of Río Miel, in the vicinity of the city of Baracoa, Province of Oriente [Cuba]. Holotype: USNM 203150 [ex Rivas coll. 134].
Girardinus januaris var. *reticulatus* Hippisus 1910: 392, Figs. 31-32. Unknown type locality. No types known.
Girardinus microdactylus rivasi Baruš & Wohlgemuth, 1994: 250, fig. 1. Type locality: small man-made freshwater pool near Rancho Tesoro Hotel, Nueva Gerona, Isla de la Juventud, Cuba. Holotype: Inst. Landscape Ecol., Acad. Sci. Czech Republic ILE 11993.
Girardinus zonatus Schreiner & Miranda Ribeiro, 1903: 73. Type locality: Brazil ? Syntypes: MNRJ (10) uncatalogued and missing.
Hubbsichthys laurae Schultz, 1949: 96, fig. 13. Type locality: Near Pampán, Estado de Trujillo, Venezuela, and probably in

Río Motatán drainage. Holotype: USNM 120999.
Lebistes poecilioides De Filippi, 1861: 70, pl. 4 (figs. 6, 6a-d). Type locality: Barbados, West Indies. No types known. Probable synonym of some species of *Poecilia*, but not *P. reticulata*.
Lebistes reticulatus aurata Schreitmüller, 1934: 242. No type locality. Syntypes: ZMB 21084 (7). Name found in Eschmeyer (1998) without reference to a publication. Availability of name undetermined.
Mollienesia sphenops petersi Schindler, 1959: 1, fig. 1. Type locality: Yojoa-See (NW-Honduras, atlantisches Einzugsgebiet). Holotype: ZSM 15639.
Poecilia mexicana De Filippi in Tortonese, 1940: 142. type locality: Città di Messico. Not available: nomen nudum also preoccupied by *Poecilia mexicana* Steindachner, 1863.
Poecilia unipunctata Guérin-Méneville, 1829-38: 28, pl. 47 (fig. 3). Type locality: les eaux douce de l'Amérique Méridionale, a Rio-Janeiro. No types known.
Xiphophorus elegans Paepke & Seegers, 1986: 175. Type locality: ?. Syntypes: ZMB 31510 (2)?
Xiphophorus heckelii Weyenbergh, 1874: 292, pls. 1-2 (= figs. 1-31). Type locality: La Plata. Syntypes: MSNG 33704 (4)
Xiphophorus marmoratus Obregon-Barboza & Contreras-Balderas, 1988: 95, fig. 2. Type locality: Cascada La Alberca, sw of Múzquiz, road to airport, Coahuila, Mexico. Holotype: UANL 8077.
Xiphophorus minor Weyenbergh, 1877: 20, pl. 4 (fig. 19). Type locality: Catamarca, Argentina. Syntypes: (several) Mus. Nacional Argentina, Buenos Aires.
Xiphophorus obscurus Weyenbergh, 1877: 18, pl. 4 (figs. 17-18). Type locality: La Plata, Argentina. Syntypes: (several) Museo Nacional Argentina, Buenos Aires. Syntypes: (several) MSNG 33705 (3)
Xiphophorus pseudomontezumae Ahl, 1938: 53, figs. 1-2. Type locality: Mexico. Holotype: ZMB 21083.

References

Agassiz, L. 1853. Recent researches of Prof. Agassiz. [Extract from letter to J. D. Dana dated Cambridge, June 9th, 1853]. Am. J. Sci. Arts (Ser. 2) 16 (46): 134-136.
Agassiz, L. 1855. [Remarks on Dr. B. Dowler's paper "Discovery of viviparous fish in Louisiana."]. Am. J. Sci. Arts (Ser. 2), 19: 133-136.
Ahl, E. 1923. *Gambusia modesta* sp. n. Blätter für Aquarien- und Terrarienkunde, 34: 220-221.
Ahl, E. 1925. *Gambusia Myersi* E. Ahl nom. nov. Blätter für Aquarien- und Terrarienkunde, 36 (2): 42-43.
Ahl, E. 1938. Beschreibung neuer Zahnkarpfen aus dem Zoologischen Museum Berlin. Zoologischer Anzeiger, 124: 53-58.
Alvarez, J. 1948a. Contribución al conocimiento del genero *Priapella* y descripción de una nueva especie (Pisces, Poeciliidae.). Revista de la Sociedad Mexicana de Historia Natural, 9 (3/4): 331-340.
Alvarez, J. 1948b. Descripción de una nueva especie de *Mollienesia* capturada en Baños del Azufre, Tabasco (Pisces, Poeciliidae). Anales de la Escuela Nacional de Ciencias Biológicas, 5 (1/2): 275-281.
Alvarez, J. 1952. Dicerophallini nueva tribu de Poeciliidae de Chiapas (Pisc., Cyprinodont.). Ciencia (Mexico City), 12: 95-97.
Alvarez, J. 1959. Nuevas especies de *Xiphophorus* e *Hyporhamphus* procedentes del Río Coatzacoalcos (Pisc., Poeciliidae y Hemiramphidae). Ciencia (Mexico DF), 19: 69-73.
Alvarez, J. and J. Carranza. 1951. Cuatro especies nuevas de peces dulceacuícolas del sureste de México. Ciencia (Mexico DF), 11: 281-289.
Bailey, R.M. 1952. Proposed use of the plenary powers to designate a type species for the genus "*Heterandria*" Agassiz, 1853

Check List of the Freshwater Fishes of South and Central America

- (Class Osteichthyes, Order Cyprinodontida) in harmony with current usage. *Bull. Zool. Nomenclature*, 6: 263-265.
- Bailey, R.M. and R.R. Miller. 1950. *Mollienesia* versus *Mollienisia* as the name for a genus of poeciliid fishes. *Copeia*, 1950 (4): 318.
- Baird, S.F. and C. Girard. 1853. Descriptions of new species of fishes collected by Mr. John H. Clark, on the U. S. and Mexican Boundary Survey, under Lt. Col. Jas. D. Graham. *Proc. Acad. Nat. Sci. Phila.*, 6: 387-390.
- Baruš, V. and E. Wohlgenuth. 1994. Two proposed subspecies in *Girardinus microdactylus* (Pisces: Poeciliidae) from Isla de Cuba and Isla de la Juventud. *Folia Zoologica*, 43 (3): 245-254.
- Bleeker, P. 1860. *Conspectus systematis Cyprinorum*. *Natuurkd. Tijdschr. Neder. Indië*, 20: 421-441.
- Bleeker, P. 1860. De visschen van den Indischen Archipel, Beschreven en Toegelicht. Deel II. [Also: *Ichthyologiae Archipelagi Indici Prodromus, Auct.*, Volumen II]. Cyprini. *Ordo Cyprini*. Karpers.]. *Acta Soc. Sci. Indo-Neerl.*, 7 (N. S., v. 2): 1-492 + i-xiii.
- Bloch, M.E. and J.G. Schneider 1801. M. E. Blochii, *Systema Ichthyologiae iconibus cx illustratum*. Post obitum auctoris opus inchoatum absolvit, correxit, interpolavit Jo. Gottlob Schneider, Saxo. Berolini. Sumtibus Auctoris Impressum et Bibliopolio Sanderiano Commissum. i-lx + 1-584, pls. 1-110.
- Boulenger, G.A. 1889. Descriptions of a new snake and two new fishes obtained by Dr. H. von Ihering in Brazil. *Annals and Magazine of Natural History* (Ser. 6), 4 (22): 265-267.
- Boulenger, G.A. 1898. Viaggio del Dr. Enrico Festa nell' Ecuador e regioni vicine. Poissons de l'Équateur. [Première Partie]. *Boll. Mus. Zool. Anat. Comp. Torino*, 13 (329): 1-13.
- Breder, C.M., Jr. 1934. A new *Gambusia* from Andros Island, Bahamas. *Am. Mus. Novit.* 719: 1-3.
- Brind, W.L. 1914-1915. Domesticated fish. 40 p.
- Britski, H.A. 1969. Lista dos tipos de peixes das coleções do Departamento de Zoologia da Secretaria da Agricultura de São Paulo. *Papéis Avulsos do Depto. Zool.*, São Paulo, 22 (19): 197-215.
- Bussing, W.A. 1963. A new poeciliid fish, *Phallichthys tico* from Costa Rica. *Contrib. Sci. Los Angeles County*, 77: 1-13.
- Bussing, W.A. 1967. New species and new records of Costa Rican freshwater fishes with a tentative list of species. *Rev. Biol. Trop.*, 14 (2): 205-249.
- Bussing, W.A. 1979. A new fish of the genus *Phallichthys* (Family Poeciliidae) from Costa Rica. *Contrib. Sci. Natur. Hist. Mus. Los Angeles County*, 301: 1-8.
- Bussing, W.A. 1988. A new fish, *Brachyrhaphis roseni* (Poeciliidae) from Costa Rica and Panama. *Rev. Biol. Trop.*, 36 (1): 81-87.
- Chambers, J. 1987. The Cyprinodontiform gonopodium, with an atlas to gonopodia of the fishes of the genus *Limia*. *J. Fish Biol.*, 389-418.
- Cope, E.D. 1870. Partial synopsis of the fishes of the fresh waters of North Carolina. *Proc. Am. Philos. Soc.*, 11: 448-495.
- Cope, E.D. 1880. On the zoological position of Texas. *Bull. U. S. Natl. Mus.*, 17: 1-51.
- Costa, W.J.E.M. 1991. Description d'une nouvelle espèce du genre *Pamphorichthys* (Cyprinodontiformes: Poeciliidae) du bassin de l'Araguaia, Brésil. *Rev. Fr. Aquariol.*, 18 (2): 39-42.
- Costa, W.J.E.M. 1996. Relationships, monophyly and three new species of the Neotropical miniature poeciliid genus *Fluviphylax* (Cyprinodontiformes: Cyprinodontoides). *Ichthyol. Explor. Freshwaters*, 7 (2): 111-130.
- Costa, W.J.E.M. 1998. Phylogeny and classification of the Cyprinodontiformes (Euteleostei: Atherinomorpha): a reappraisal. Pp. 537-560, In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). *Phylogeny and classification of Neotropical fishes*. Edipucrs, Porto Alegre.
- Costa, W.J.E.M. and A. Sarraf. 1997. *Poecilia (Lebistes) minima*, a new species of Neotropical poeciliid fish from the Brazilian Amazon. *Ichthyol. Explor. Freshwaters*, 8 (2): 185-191.
- Costa, W.J.E.M. and P-Y. Le Bail. 1999. *Fluviphylax palikur*: a new poeciliid from the Rio Oiapoque basin, Northern Brazil (Cyprinodontiformes: Cyprinodontoides), with comments on miniturization in *Fluviphylax* and other Neotropical freshwater fishes. *Copeia*, 1999 (4): 1027-1034.
- Cuvier, G. and A. Valenciennes. 1846. *Histoire naturelle des poissons*. Tome dix-huitième. Suite du livre dix-huitième. Cyprinoides. Livre dix-neuvième. Des Ésoques ou Lucioïdes. i-xix + 2 pp. + 1-505 + 2 pp., pls. 520-553.
- Dahl, G. and F. Medem. 1964. Informe sobre la fauna acuatica del Rio Sinu. I Parte. Los Peces y la Pesca del Rio Sinu. Corporacion Autonoma Regional de los Valles del Magdalena y del Sinu -CVM-. Departamento de Investigaciones Ictiologicas y Faunisticas. 1-109.
- Darwin, C. 1839. *The voyage of the Beagle*, xiv + 496 pp., figs. J. M. Dent & Sons, LTD. London.
- de Buen, F. 1943a. *Mollienisia sphenops pallida* de Buen, nov. subsp. (Pisces - Poeciliidae). *An. Inst. Biol. Mex.*, 14 (1): 251-259.
- de Buen, F. 1943b. *Poeciliopsis* en las cuencas de los rios Lerma y Marques con descripción de dos nuevas especies (Pisces - Poeciliidae). *An. Inst. Biol. Mex.*, 14 (1): 261-283.
- De Filippi, F. 1861. Note Zoologiche. IV. *Lebistes* nuovo genere di pesce della famiglia dei Ciprinodonti. *Arch. Zool. Anat. Fisiol. (Genova)*, 1: 69-70, pl. 4.
- Eigenmann, C.H. 1894. Notes on some South American fishes. *Ann. N. Y. Acad. Sci.*, 7 (art. 5): 625-637.
- Eigenmann, C.H. 1903. The fresh-water fishes of western Cuba. *Bull. U. S. Fish Comm.*, 22 [1902]: 211-236, pls. 19-21.
- Eigenmann, C.H. 1907. The Poeciliid fishes from the Rio Grande do Sul and the La Plata basin. *Proc. U. S. Nat. Mus.* 32:425-433.
- Eigenmann, C.H. 1909. Reports on the expedition to British Guiana of the Indiana University and the Carnegie Museum, 1908. Report no. 1. Some new genera and species of fishes from British Guiana. *Ann. Carnegie Mus.*, 6 (1): 4-54.
- Eigenmann, C.H. 1912. Some results from an ichthyological reconnaissance of Colombia, South America. Part I. *Indiana Univ. Studies*, 16 [sic No. 8]: 1-27.
- Eigenmann, C.H. and R.S. Eigenmann 1891. A catalogue of the fresh-water fishes of South America. *Proc. U. S. Natl. Mus.*, 14 (842): 1-81.
- Eigenmann, C.H., A.W. Henn and C. Wilson. 1914. New fishes from western Colombia, Ecuador, and Peru. *Indiana Univ. Studies* 19: 1-15.
- Evermann, B.W. and H.W. Clark. 1906. New fishes from Santo Domingo. *Proc. U. S. Natl. Mus.*, 30 (1478): 851-855.
- Evermann, B.W. and M.C. Marsh. 1900. The fishes of Porto Rico. *Bull. U. S. Fish Comm.*, 20 (1): 49-350, pls. 1-49.
- Farr, J.A. 1984. Premating behavior in the subgenus *Limia* (Pisces: Poeciliidae): sexual selection and evolution of courtship. *Z. Tierpsychol.*, 65: 152-165.
- Figueiredo, C.A.A. 1997. Revisão taxonômica e filogenia de *Pamphorichthys* Regan 1913 (Cyprinodontiformes; Poeciliidae). Unpublished M.Sc. Thesis, Universidade Federal do Rio de Janeiro. 108 p.
- Fink, W.L. 1971a. A revision of the *Gambusia nicaraguensis* species group (Pisces: Poeciliidae). *Publ. Gulf Coast Res. Lab. Mus.*, 2: 47-77.
- Fink, W.L. 1971b. A revision of the *Gambusia puncticulata* complex (Pisces: Poeciliidae). *Publ. Gulf Coast Res. Lab. Mus.*, 2: 11-46.
- Fowler, H.W. 1916a. Cold-blooded vertebrates from Costa Rica and the Canal Zone. *Proc. Acad. Nat. Sci. Phila.*, 68: 389-414.

Check List of the Freshwater Fishes of South and Central America

- Fowler, H.W. 1916b. Notes on fishes of the orders Haplomi and Microcyprini. Proc. Acad. Nat. Sci. Phila., 68: 415-439.
- Fowler, H.W. 1923. Fishes from Nicaragua. Proc. Acad. Nat. Sci. Phila., 75: 23-32.
- Fowler, H.W. 1932. Notes on fresh water fishes from Central America. Proc. Acad. Nat. Sci. Phila., 84: 379-385.
- Fowler, H.W. 1943. A new poeciliid fish from Honduras. Not. Nat. (Phila.), 117: 1-3.
- Fowler, H.W. 1949. Results of the two Carpenter African expeditions, 1946-1948. Pt. II-The fishes. Proc. Acad. Nat. Sci. Phila., 101: 233-275.
- Fowler, H.W. 1950a. Colombian Zoological Survey, Pt. VI.--Fishes obtained at Totumo, Colombia, with descriptions of two new species. Not. Nat. (Phila.), 222: 1-8.
- Fowler, H.W. 1950b. Results of the Catherwood-Chaplin West Indies Expedition, 1948. Part III. The fishes. Proc. Acad. Nat. Sci. Phila., 102: 69-93.
- Franz, R. and G.H. Burgess. 1983. A new poeciliid killifish, *Limia rivasi*, from Haiti. Northeast Gulf Sci., 6 (1): 51-54.
- Garman, S. 1895. The cyprinodonts. Mem. Mus. Comp. Zool., 19 (1): 1-179, pls. 1-12.
- Garman, S. 1896. Cross fertilization and sexual rights and lefts among vertebrates. Am. Nat., 30: 232.
- Ghedotti, M.J. 2000. Phylogenetic analysis and taxonomy of the poecilioid fishes (Teleostei: Cyprinodontiformes). Zool. J. Linn. Soc., 130: 1-53.
- Ghedotti, M.J. and S.H. Weitzman. 1996. A new species of *Jenynsia* (Cyprinodontiformes: Anablepidae) from Brazil with comments on the composition and taxonomy of the genus. Occas. Pap. Nat. Hist. Mus. Univ. Kansas, 179: 1-25.
- Gill, T.N. 1877. Notes on fishes from the Isthmus of Panama, collected by Dr. J. F. Bransford, U. S. N. Proc. Acad. Nat. Sci. Phila., 28 (for 1876): 335-339.
- Girard, C. 1858. Notes upon various new genera and new species of fishes, in the museum of the Smithsonian Institution, and collected in connection with the United States and Mexican boundary survey: Major William Emory, Commissioner. Proc. Acad. Nat. Sci. Phila., 10: 167-171.
- Girard, C. 1859a. Ichthyological notices. Proc. Acad. Nat. Sci. Phila., 11: 56-68, 100-104, 113-122.
- Girard, C. 1859b. Ichthyology. In: United States and Mexican boundary survey, under the order of Lieut. Col. W. H. Emory, Major First Cavalry and United States commissioner. 1-85, fishes pls. 1-41.
- Gistel, J. 1848. Naturgeschichte des Thierreichs, für höhere Schulen. Stuttgart. xvi + 216 p., 32 pl.
- Gordon, M. 1932. Dr. Myron Gordon going on expedition. Aquatic Life v. 15: 287-288.
- Gosse, P.H. 1851. A naturalist's sojourn in Jamaica. London. i-xxiv + 1-508.
- Greenfield, D.W. 1983. *Gambusia xanthosoma*, a new species of poeciliid fish from Grand Cayman Island, BWI. Copeia, 1983 (2): 457-464.
- Greenfield, D.W. 1985. Review of the *Gambusia yucatana* complex (Pisces: Poeciliidae) of Mexico and Central America. Copeia, 1985 (2): 368-378.
- Greenfield, D.W. 1990. *Poecilia teresae*, a new species of poeciliid fish from Belize, Central America. Copeia, 1990 (2): 449-454.
- Greenfield, D.W., T.A. Greenfield and D.M. Wildrick. 1982. The taxonomy and distribution of the species of *Gambusia* (Pisces: Poeciliidae) in Belize, Central America. Copeia, 1982 (1): 128-147.
- Guérin-Méneville, F.E. 1829-38. Iconographie du Règne animal de Cuvier (mamifères, oiseaux, reptiles et poissons) pour servir d'atlas a tous les traités de zoologie (1829-44). I. Planches des Animaux Vertébrés. Paris. 1-44, pls. 1-70.
- Guichenot, A. 1853. Poissons. In: Sagra, R. de la, Histoire physique, politique et naturelle de l'Île de Cuba. Vol. 2. Paris. 1-206, Pisces pls. 1-5.
- Günther, A. 1866. Catalogue of fishes in the British Museum. Catalogue of the Physostomi, containing the families Salmonidae, Percopsidae, Galaxidae, Mormyridae, Gymnarchidae, Esocidae, Umbridae, Scombrosoidea, Cyprinodontidae, in the collection of the British Museum. i-xv + 1-368.
- Günther, A. 1874. Descriptions of new species of fishes in the British Museum. Annals and Magazine of Natural History (Ser. 4), 14 (47): 368-371.
- Hamilton, A. 2001. Phylogeny of *Limia* (Teleostei: Poeciliidae) based on NADH dehydrogenase subunit 2 sequences. Mol. Phyl. Evol. v. 19 (2): 277-289.
- Haseman, J.D. 1911. Some new species of fishes from the Rio Iguassú. Ann. Carnegie Mus., 7 (3-4) (19): 374-387, pls. 50, 58, 73-83.
- Heckel, J.J. 1848. Eine neue Gattung von Poecilien mit rochenartigem Anklammerungs-Organ. Sitzungsber. Akad. Wiss. Wien, 1 (1-5): 289-303, pls. 8-9.
- Henn, A.W. 1916. On various South American poeciliid fishes. Ann. Carnegie Mus., 10 (1-2) (9): 93-142, pls. 18-21.
- Hensel, R. 1868. Beiträge zur Kenntniss der Wirbelthiere Südbrasilien. Arch. Naturgeschichte, 34 (1): 323-375.
- Hildebrand, S.F. 1925. Fishes of the Republic of El Salvador, Central America. Bull. Bur. Fish., 41 (985): 237-287.
- Hilgendorf, F.M. 1889. Über eine Fischsammlung von Haiti, welche 2 neue Arten, *Poecilia* (subg. n. *Acropoecilia*) *tridens* und *Eleotris maltzani*, enthält. Sitzungsber. Ges. Naturf. Freunde Berlin 1889: 51-55.
- Hippius, K. 1910. *Girardinus retikulyatus Girardinus januarius* var. *reticulatus* Peters and *petsiliya retikulyata Poecilia reticulata* Peters. Akvarium Komnatnye Rasteniya, Moskva, 2 (4) [1909]: 392-396. [In Russian.]
- Howell-Rivero, L. and L.R. Rivas. 1944. Studies of the Cyprinodont fishes, two new genera of the tribe Girardinini, from Cuba. Torreia., 12: 3-19, 2 pls.
- Hubbs, C.L. 1924. Studies of the fishes of the order Cyprinodontes. Misc. Publ. Mus. Zool. Univ. Mich. 13: 1-31, pls. 1-4.
- Hubbs, C.L. 1926. Studies of the fishes of the order Cyprinodontes. VI. Misc. Publ. Mus. Zool. Univ. Mich. 16: 1-86, pls. 1-4.
- Hubbs, C.L. 1927. Studies of the fishes of the order Cyprinodontes. VII. *Gambusia manni*, a new species from the Bahamas. Copeia, 164: 61-66.
- Hubbs, C.L. 1931. Studies of the fishes of the order Cyprinodontes. IX. A new and primitive genus of Poeciliidae from Central America. Occas. Pap. Mus. Zool. Univ. Mich., 230: 1-3.
- Hubbs, C.L. 1933. Species and hybrids of *Mollienesia*. Aquarium, 1: 263-268.
- Hubbs, C.L. 1934. Studies of the fishes of the order Cyprinodontes. XIII. *Quintana atrizona*, a new poeciliid. Occas. Pap. Mus. Zool. Univ. Mich., 301: 1-8, pl. 1.
- Hubbs, C.L. 1935. Fresh-water fishes collected in British Honduras and Guatemala. Misc. Publ. Mus. Zool. Univ. Mich., 28: 1-22, pls. 1-4.
- Hubbs, C.L. 1936. XVII. Fishes of the Yucatan Peninsula. Carnegie Inst. Wash. Publ., 457: 157-287, pls. 1-15.
- Hubbs, C.L. 1950. Studies of cyprinodont fishes. XX. A new subfamily from Guatemala, with ctenoid scales and a unilateral pectoral clasper. Misc. Publ. Mus. Zool. Univ. Mich., 78: 1-28, pls. 1-4.
- Hubbs, C.L. and M. Gordon. 1943. Studies of cyprinodont fishes. XIX. *Xiphophorus pygmaeus*, new species from Mexico. Copeia, 1943 (1): 31-33, pl. 1.
- Hubbs, C.L. and V.G. Springer. 1957. A revision of the *Gambusia nobilis* species group, with descriptions of three new species,

Check List of the Freshwater Fishes of South and Central America

- and notes on their variation, ecology and evolution. *Tex. J. Sci.*, 9 (3): 279-327.
- Humboldt, F.H.A. von and A. Valenciennes. 1821. Recherches sur les poissons fluviatiles de l'Amérique Équinoxiale. In: Voyage de Humboldt et Bonpland, Deuxième partie. Observations de Zoologie et d'Anatomie comparée. Paris. 145-216, pls. 45-52.
- Ihering, H. von. 1893. Die Susswasser-fische von Rio Grande do Sul. *Kozeritz Deutscher Volkskalender für Brasilien, Porto Alegre, Gundlach*, p. 95-128.
- Ihering, R. von. 1930. Notas ecologicas referentes a peixes d'agua doce do Estado de S. Paulo e descrição de 4 especies novas. *Arch. Inst. Biol. São Paulo*, 3: 93-103, pl. 13.
- ICZN [International Commission for Zoological Nomenclature]. 1999. International Code of Zoological Nomenclature. Fourth Edition. The Natural History Museum, London.
- Jenyns, L. 1840-42. Fish. In: The zoology of the voyage of H. M. S. Beagle, under the command of Captain Fitzroy, R. N., during the years 1832 to 1836. London: Smith, Elder, and Co. Issued in 4 parts. i-xvi + 1-172, pls. 1-29.
- Jordan, D.S. 1889. List of fishes collected by Alphonse Forrer about Mazatlan, with descriptions of two new species - *Heros beani* and *Poecilia butleri*. *Proc. U. S. Natl. Mus.*, 11 (719): 329-334.
- Jordan, D.S. 1895. The fishes of Sinaloa. *Proc. Calif. Acad. Sci.* (Ser. 2), 5: 377-514, pls. 26-55.
- Jordan, D.S. and A.W. Brayton. 1878. Contributions to North American ichthyology. No. 3. A. On the distribution of the fishes of the Allegany region of South Carolina, Georgia, and Tennessee, with descriptions of new or little known species. *Bull. U. S. Natl. Mus.*, 12: 3-95.
- Jordan, D.S. and B.W. Evermann. 1896. The fishes of North and Middle America: a descriptive catalogue of the species of fish-like vertebrates found in the waters of North America, north of the Isthmus of Panama. Part I. *Bull. U. S. Natl. Mus.*, 47: i-lx + 1-1240.
- Jordan, D.S. and B.W. Evermann. 1900. The fishes of North and Middle America: a descriptive catalogue of the species of fish-like vertebrates found in the waters of North America, north of the Isthmus of Panama. Part IV. *Bull. U. S. Natl. Mus.*, 47: i-ci + 3137-3313, pls. 1-392.
- Jordan, D.S. and C.H. Gilbert. 1882. Description of a new cyprinodont (*Zygonectes inurus*), from southern Illinois. *Proc. U. S. Natl. Mus.*, 5 (273): 143-144.
- Jordan, D.S. and J.O. Snyder. 1899. Notes on a collection of fishes from the rivers of Mexico, with description of twenty new species. *Bull. U. S. Fish Comm.*, 19 [1899]: 115-147.
- Kner, R. 1860. Über *Belonesox belizanus*, nov. gen. et spec., aus der Familie der Cyprinodonten. *Sitzungsber. Akad. Wiss. Wien*, 40 (10): 419-422, pl.
- Kner, R. 1863. Eine Uebersicht der ichthyologischen Ausbeute des Herrn Professors Dr. Mor. Wagner in Central-Amerika. *Sitzungsber. Königl. Bayer. Akad. Wiss. Muenchen*, 2: 220-230.
- Langer, W.F. 1913. Beiträge zur Morphologie der viviparen Cyprinodontiden. *Morph. Jahrb. Leipzig*, 47 (1-2): 193-307.
- Lechner, P. and A.C. Radda. 1987. Revision des *Xiphophorus montezumae/cortezii* - Komplexes und Neubeschreibung einer Subspezies. *Aquaria (St Gallen)*, 34 (12): 189-196.
- Lesueur, C-A. 1821. Description of a new genus, and of several new species of fresh water fish indigenous to the United States. *J. Acad. Nat. Sci. Phila.*, 2 (1): 2-8, pls. 1-3.
- Lucinda, P.H.F. and J.C. Garavello. 2001. Two new species of *Cnesterodon* Garman, 1895 (Cyprinodontiformes: Poeciliidae) from the upper rio Paraná drainage. *Comum. Mus. Ciênc. Tecnol. PUCRS, sér. Zool.*, 13 (2): 119-138.
- Meek, S.E. 1902. A contribution to the ichthyology of Mexico. *Field Columbian Mus. Zool. Ser.*, 3 (6): 63-128, pls. 14-31.
- Meek, S.E. 1904. The fresh-water fishes of Mexico north of the isthmus of Tehuantepec. *Field Columbian Mus. Zool. Ser.*, 5: i-lxiii + 1-252, pls. 1-17.
- Meek, S.E. 1907. Notes on fresh-water fishes from Mexico and Central America. *Field Columbian Mus. Zool. Ser.*, 7 (5): 133-157.
- Meek, S.E. 1909. New species of fishes from tropical America. *Field Columbian Mus. Zool. Ser.*, 7 (7): 207-211.
- Meek, S.E. 1912. New species of fishes from Costa Rica. *Field Mus. Nat. Hist. Publ.* 163. *Zool. Ser.*, 10 (7): 69-75.
- Meek, S.E. 1914. An annotated list of fishes known to occur in the fresh-waters of Costa Rica. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 10 (10): 101-134.
- Meek, S.E. and S.F. Hildebrand. 1913. New species of fishes from Panama. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 10 (8): 77-91.
- Meek, S.E. and S.F. Hildebrand. 1916. The fishes of the fresh waters of Panama. *Field Mus. Nat. Hist. Publ. Zool. Ser.*, 10 (15): 1-374, pls. 6-32.
- Mees, G.F. 1989. Notes on the genus *Dysichthys*, subfamily Bunoccephalinae, family Aspredinidae (Pisces, Nematognathi). *Proceedings of the Koninklijke Nederlandse Akademie van Wetenschappen*, 92 (2): 189-250.
- Meffe, G.K. 1985. Life history patterns of *Gambusia marshi* (Poeciliidae) from Cuatro Ciénegas, Mexico. *Copeia*, 1985 (4): 898-905.
- Meinken, H. 1935. Ueber einige in letzter Zeit eingeführte Fische. *Blätt. Aquar. Terrarienkunde*, 45 (14): 261-262.
- Melville, R.V. and J.D.D. Smith, 1987. Official lists and indexes of names and works in zoology. The international Trust for Zoological Nomenclature. 1-366.
- Meyer, A., J.M. Morrissey and M. Scharl. 1994. Recurrent origin of a sexually selected trait in *Xiphophorus* fishes inferred from a molecular phylogeny. *Nature*, 368: 539-542.
- Meyer, M.K. 1983. Une nouvelle espèce de *Poecilia* du Guerrero, Mexique (Pisces: Poeciliidae). *Rev. Fr. Aquariol.*, 10 (2): 55-58.
- Meyer, M.K. and H. Espinosa Pérez. 1990. *Priapella olmecae* sp. n., a new species from Veracruz (México) Teleostei: Poeciliidae). *Zoologische Abhandlungen Staatliches Museum für Tierkunde Dresden*, 45 (12): 121-126.
- Meyer, M.K. and V. Etzel. 1996. Notes on the genus *Priapichthys* Regan (1913), sensu Radda (1985), with description of *P. puetzi* spec. nov. from the Atlantic slope of northern Panama (Teleostei: Cyprinodontiformes: Poeciliidae). *Zoologische Abhandlungen Staatliches Museum für Tierkunde Dresden*, 49 (1): 1-11.
- Meyer, M.K. and V. Etzel. 1998. Notes on the genus *Brachyrhaphis* Regan 1913, with the description of a new species from Panama (Pisces: Teleostei: Cyprinodontiformes: Poeciliidae). *Senckenb. Biol.*, 77 (2): 155-160.
- Meyer, M.K. and V. Etzel, 2001a. Additional notes on the genus *Brachyrhaphis* Regan, 1913, with description of a new species from Panama (Teleostei: Cyprinodontiformes: Poeciliidae). *Zoologische Abhandlungen Staatliches Museum für Tierkunde Dresden*, 51 (4): 33-39.
- Meyer, M.K. and V. Etzel. 2001b. Description of *Cnesterodon raddai* sp. n. from a swamp near Resistencia, Rio Paraná basin, Argentina (Teleostei: Cyprinodontiformes: Poeciliidae). *Zoologische Abhandlungen Staatliches Museum für Tierkunde Dresden*, 51 (17): 247-252.
- Meyer, M.K. and A.C. Radda, 2000. Notes on the subgenus *Mollienesis* Lesueur, 1821, with a description of a new species of *Poecilia* Bloch & Schneider, 1801 (Cyprinodontiformes, Poeciliidae) from Venezuela. *Ann. Naturhist. Mus. Wien.*, 102B: 75-81.
- Meyer, M.K., A.C. Radda R. Riehl and W. Feichtinger. 1986. *Poeciliopsis baenschi* n. sp., un nouveau taxon de Jalisco, Mex-

Check List of the Freshwater Fishes of South and Central America

- ique (Teleostei, Poeciliidae). Rev. Fr. Aquariol., 12 (3) (1985): 79-84.
- Meyer, M.K., R. Riehl, J.A. Dawes and I. Dibble. 1985. *Poeciliopsis scarlli* spec. nov., a new taxon from Michoacán, Mexico, (Teleostei: Poeciliidae). Rev. Fr. Aquariol., 12 (1): 23-26.
- Meyer, M.K. and M. Scharl. 1980. Eine neue *Xiphophorus*-Art aus Vera Cruz, Mexiko (Pisces: Poeciliidae). Senckenb. Biol., 60 (3/4): 147-151.
- Meyer, M.K. and M. Scharl. 2002. *Xiphophorus mayae*, a new species of swordtail from Guatemala (Teleostei: Poeciliidae). Ichthyological Exploration of Freshwaters, 13: 59-66.
- Meyer, M.K. and D. Vogel. 1981. Ein neuer *Poeciliopsis* aus Chiapas, Mexico (Pisces: Poeciliidae). Senckenb. Biol., 61 (5/6): 357-361.
- Meyer, M.K. and L. Wischnath. 1981. Zwei neue *Xiphophorus* - Arten aus Nuevo Leon, Mexiko (Pisces: Poeciliidae). Aquaria, 28 (8): 129-134.
- Miller, N. 1907. The fishes of the Motagua River, Guatemala. Bulletin of the American Museum of Natural History, 23 (2): 95-123.
- Miller, R.R. 1960. Four new species of viviparous fishes, genus *Poeciliopsis*, from northwestern Mexico. Occas. Pap. Mus. Zool. Univ. Mich., 619: 1-11, pls. 1-2.
- Miller, R.R. 1975. Five new species of Mexican poeciliid fishes of the genera *Poecilia*, *Gambusia*, and *Poeciliopsis*. Occas. Pap. Mus. Zool. Univ. Mich., 672: 1-44.
- Miller, R.R. and W.L. Minckley. 1963. *Xiphophorus gordonii*, a new species of platyfish from Coahuila, México. Copeia, 1963 (3): 538-546.
- Miller, R.R. and W.L. Minckley. 1970. *Gambusia aurata*, a new species of poeciliid fish from northeastern Mexico. Southwest. Nat., 15 (2): 249-259.
- Minckley, W.L. 1962. Two new species of fishes of the genus *Gambusia* (Poeciliidae) from northeastern Mexico. Copeia, 1962 (2): 391-396.
- Minckley, W.L. 1963. A new poeciliid fish (genus *Gambusia*) from the Rio Grande drainage of Coahuila, Mexico. Southwest. Nat., 8 (3): 154-161.
- Mojica, C.L., A. Myer and G.W. Barlow. 1997. Phylogenetic relationships of species of the genus *Brachyrhaphis* (Poeciliidae) inferred from partial mitochondrial DNA sequences. Copeia, 1997 (2): 298-305.
- Müller, J.W. von. 1865. Reisen in den Vereinigten Staaten, Canada und Mexico. 3 vols. Leipzig, 1864-65.
- Müller, J. and F.H. Troschel. 1844. Bericht über die zur Behanntmachung geeigneten Verhandlungen der Königl. Preuss. Akademie der Wissenschaften zu Berlin im Monat Februar 1844. Monatsb. Akad. Wiss. Berlin 1844: 35-36.
- Myers, G.S. 1931. Poeciliid fishes of the genus *Mollienesia* in Hispaniola, with notice of a new *Limia* from the Samaná Peninsula. Am. Mus. Novit., 503: 1-2.
- Myers, G.S. 1935. An annotated list of the cyprinodont fishes of Hispaniola, with descriptions of two new species. Zoologica (N. Y.), 10 (3): 301-316.
- Myers, G.S. 1955. Notes on the classification and names of cyprinodont fishes. Trop. Fish Mag. Mar. 1955: 7.
- Nichols, J.T. 1915. On *Heterandria zonata* sp. nov. and *Heterandria versicolor* (Günther) from the Island of Santo Domingo. Bull. Am. Mus. Nat. Hist., 34 (art. 20): 603-604.
- Nichols, J.T. 1940. Results of the Archbold expeditions. No. 28. A new tooth-carp from Arizona. Am. Mus. Novit., 1084: 1-2.
- Nichols, J.T. and G.S. Myers. 1923. A new *Limia* from San Domingo. Am. Mus. Novit., 79: 1-2.
- Obregon-Barboza, H. and S. Contreras-Balderas. 1988. Una nueva especie de pez del genero *Xiphophorus* del grupo *couchianus* en Coahuila, México (Poeciliidae). Publ. Biol. Univ. Auton. Nuevo León, 2 (3): 93-124.
- Oliveros, O.B. 1983. *Phallotorynus victoriae* sp. nov. de la cuenca del río Paraná Medio, Argentina (Pisces, Poeciliidae). Rev. Asoc. Cienc. Nat. Litoral, 14: 17-27.
- Oyakawa, O.T. 1996. Catálogo dos tipos de peixes recentes do Museu de Zoologia da USP. I. Characiformes (Teleostei: Ostariophysi). Papéis Avulsos de Zoologia, 39 (23): 443-507.
- Paepke, H.-J. and L. Seegers. 1986. Kritischer Katalog der Typen und Typoide der Fischesammlung des Zoologischen Museums Berlin. Mitt. Zool. Mus. Berlin, 62 (1): 135-186.
- Paepke, H.-J. and M.K. Meyer. 1995. On the identity of *Molinesia fasciata* Müller & Troschel, 1844 and *M. surinamensis* Müller & Troschel, 1844 (Teleostei: Poeciliidae). Ichthyological Exploration of Freshwaters, 6 (3): 283-287.
- Parenti, L.R. 1981. A phylogenetic and biogeographic analysis of cyprinodontiform fishes (Teleostei, Atherinomorpha). Bull. Am. Mus. Nat. Hist., 168: 335-557.
- Parenti, L.R. and M. Rauchenberger. 1989. Systematic overview of the Poeciliines. Chapter 1. Pp. 1-14. In: Meffe, G. K., and F. F. Snelson, Jr. (eds.). Ecology and evolution of livebearing fishes (Poeciliidae). Prentice Hall. 453 pp.
- Peters, W.C.H. 1859. Eine neue vom Herrn Jagor im atlantischen Meere gefangene Art der Gattung *Leptocephalus*, und über einige andere neue Fische des Zoologischen Museums. Monatsb. Akad. Wiss. Berlin 1859: 411-413.
- Poeser, F.N. 1992. Re-establishment and redescription of *Poecilia vandepolli* van Lidth de Jeude, 1887 (Pisces: Poeciliinae), with comments on related species. Stud. Nat. Hist. Caribbean Region, 71: 79-98.
- Poeser, F.N. 1995. Nonrandom variation in *Poecilia marcellinoi* n. sp. and *P. salvatoris* Regan, 1907 in El Salvador (Pisces, Poeciliidae). Bijdragen tot der Dierkunde, 64 (4): 239-252.
- Poeser, F. N. 2002. *Poecilia kykesis* nom. nov., a new name for *Mollienesia petenensis* Günther, 1866, and redescription, revalidation and the designation of a lectotype for *Poecilia petenensis* Günther, 1866 (Teleostei: Poeciliidae). Bijdr. Dierkd., 70 (4): 243-246.
- Poey, F. 1851-54. Memorias sobre la historia natural de la Isla de Cuba, acompañadas de sumarios latinos y extractos en francés. Tomo 1º. Habana, pp. 1-463.
- Poey, F. 1858-61. Memorias sobre la historia natural de la Isla de Cuba, acompañadas de sumarios latinos y extractos en francés. Tomo 2º. Habana, pp. 1-96 (1858), 97-336 (1860), 337-442, (1861).
- Poey, F. 1868. Synopsis piscium cubensium. Catalogo Razonado de los peces de la isla de Cuba. Repertorio Fisico-Natural de la Isla de Cuba, 2: 279-484.
- Poey, F. 1876. Enumeratio piscium cubensium (Parte Segunda). An. Soc. Esp. Hist. Nat. Madrid, 5: 131-176 (3 May) 177-218 (4 Oct.), pls. 4-9.
- Radda, A.C. 1987a. Beschreibung von *Heterophallus milleri* n. sp. (Teleostei, Poeciliidae, Gattungsgruppe Gambusiini). Aquaria (St Gallen), 34 (8): 125-132.
- Radda, A.C. 1987b. Poeciliiden - Studien in Ecuador und Kolumbien. Aquaria (St Gallen), 34 (11): 169-177.
- Rauchenberger, M. 1989. Systematics and biogeography of the genus *Gambusia* (Cyprinodontiformes: Poeciliidae). Am. Mus. Novit., 2951: 1-74.
- Rauchenberger, M., K.D. Kallman and D.C. Morizot. 1990. Monophyly and geography of the Río Pánuco Basin swordtails (Genus *Xiphophorus*) with descriptions of four new species. Am. Mus. Novit., 2975: 1-41.
- Regan, C.T. 1904. Descriptions of new or little-known fishes from Mexico and British Honduras. Annals and Magazine of Natural History (Ser. 7), 13 (76): 255-259.
- Regan, C.T. 1905. A collection of fishes made by Dr. H. Gadown in southern Mexico. Annals and Magazine of Natural History (Ser. 7), 16 (93): 361-363.

Check List of the Freshwater Fishes of South and Central America

- Regan, C.T. 1907a. Descriptions of six new freshwater fishes from Mexico and Central America. *Annals and Magazine of Natural History* (Ser. 7), 19 (111): 258-260.
- Regan, C.T. 1907b. Diagnoses of new Central-American freshwater fishes of the families *Cyprinodontidae* and *Mugilidae*. *Annals and Magazine of Natural History* (Ser. 7), 19 (109): 64-66.
- Regan, C.T. 1908. A collection of freshwater fishes made by Mr. C. F. Underwood in Costa Rica. *Annals and Magazine of Natural History* (Ser. 8), 2 (11): 455-464.
- Regan, C.T. 1909. Descriptions of three new freshwater fishes from South America, presented to the British Museum by Herr J. Paul Arnold. *Annals and Magazine of Natural History* (Ser. 8), 3 (14): 234-235.
- Regan, C.T. 1911a. A new Poeciliid fish from the Amazon, with notes on the genera *Petalosoma* and *Tomeurus*. *Annals and Magazine of Natural History* (Ser. 8), 8 (47): 659-660.
- Regan, C.T. 1911b. On some fishes of the family Poeciliidae. *Annals and Magazine of Natural History* (Ser. 8), 8 (45): 373-374.
- Regan, C.T. 1912. A revision of the Poeciliid fishes of the genera *Rivulus*, *Pterolebias*, and *Cynolebias*. *Annals and Magazine of Natural History* (Ser. 8), 10 (59): 494-508.
- Regan, C.T. 1913a. A revision of the cyprinodont fishes of the subfamily Poeciliinae. *Proc. Zool. Soc. Lond.* 1913 (4): 977-1018, pls. 99-101.
- Regan, C.T. 1913b. The fishes of the San Juan River, Colombia. *Annals and Magazine of Natural History* (Ser. 8), 12 (71): 462-473.
- Regan, C.T. 1914a. Description of a new cyprinodont fish of the genus *Mollienisia* from Yucatan. *Annals and Magazine of Natural History* (Ser. 8), 13 (75): 338.
- Regan, C.T. 1914b. Descriptions of two new cyprinodont fishes from Mexico, presented to the British Museum by Herr A. Rachow. *Annals and Magazine of Natural History* (Ser. 8), 14 (79): 65-67.
- Reznick, D., A. Meyer and D. Frear. 1993. Life history of *Brachyrhaphis rhabdophora* (Pisces: Poeciliidae). *Copeia*, 1993: 103-111.
- Rivas, L.R. 1944a. Contribuciones al estudio de los peces Cubanos de la familia Poeciliidae. II - *Glaridichthys atherinoides*, nueva especie de la Provincia de Camaguey. *Contr. Occas. Mus. Hist. Nat. Col. "La Salle" Vedado*, 2: 1-7.
- Rivas, L.R. 1944b. Contributions to the study of the Poeciliid fishes of Cuba. I. Descriptions of six new species of the subfamily Gambusiinae. *Proc. New England Zool. Club*, 23: 41-53.
- Rivas, L.R. 1958. The origin, evolution, dispersal, and geographical distribution of the Cuban poeciliid fishes of the tribe Girardinini. *Proc. Am. Philos. Soc.*, 102 (3): 281-320.
- Rivas, L.R. 1963. Subgenera and species groups in the Poeciliid fish genus *Gambusia* Poey. *Copeia*, 1963: 331-347.
- Rivas, L.R. 1969. A revision of the poeciliid fishes of the *Gambusia punctata* species group, with descriptions of two new species. *Copeia*, 1969: 778-795.
- Rivas, L.R. 1971. A new subspecies of poeciliid fishes of the genus *Gambusia* from eastern Cuba. *Publ. Gulf Coast Res. Lab. Mus.*, 2: 5-9.
- Rivas, L.R. 1978. A new species of poeciliid fish of the genus *Poecilia* from Hispaniola, with reinstatement and redescription of *P. dominicensis* (Evermann and Clark). *Northeast Gulf Sci.*, 2 (2): 98-112.
- Rivas, L.R. 1980. Eight new species of poeciliid fishes of the genus *Limia* from Hispaniola. *Northeast Gulf Sci.*, 4 (1): 28-38.
- Rivas, L.R. and W.L. Fink. 1970. A new species of poeciliid fish of the genus *Limia* from the island of Grand Cayman, B.W.I. *Copeia*, 1970 (2): 270-274.
- Rivas, L.R. and G.S. Myers, 1950. A new genus of Poeciliid fishes from Hispaniola, with notes on the genera allied to *Poecilia* and *Mollienisia*. *Copeia*, 1950 (4): 288-294.
- Rodriguez, C.M. 1997. Phylogenetic analysis of the tribe Poeciliini (Cyprinodontiformes: Poeciliidae). *Copeia*, 1997 (4): 663-679.
- Rodriguez, L.H., A. Du-Bauchet and M.L. Smith. 1992. Phylogenetic position of the Cuban poeciliid fish, *Girardinus creolus* (Cyprinodontiformes). *Copeia*, 1992 (2): 474-477.
- Rosa, R.S. and W.J.E.M. Costa. 1993. Systematic revision of the genus *Cnesterodon* (Cyprinodontiformes: Poeciliidae) with the description of two new species from Brazil. *Copeia*, 1993 (3): 696-708.
- Rosen, D.E. 1960. Middle-American poeciliid fishes of the genus *Xiphophorus*. *Bull. Fla. State Mus. Biol. Sci.*, 5 (4): 57-242.
- Rosen, D.E. 1967. New poeciliid fishes from Guatemala, with comments on the origins of some South and Central American forms. *Am. Mus. Novit.*, 2303: 1-15.
- Rosen, D.E. 1979. Fishes from the uplands and intermontane basins of Guatemala: revisionary studies and comparative geography. *Bull. Am. Mus. Nat. Hist.*, 162 (art. 5): 267-376.
- Rosen, D.E. and R.M. Bailey. 1959. Middle-American poeciliid fishes of the genera *Carlhubbsia* and *Phallichthys* with descriptions of two new species. *Zoologica* (N. Y.), 44 (pt 1, no. 1): 1-44, pls. 1-6.
- Rosen, D.E. and R.M. Bailey. 1963. The poeciliid fishes (Cyprinodontiformes), their structure, zoogeography, and systematics. *Bull. Am. Mus. Nat. Hist.*, 126: 1-176.
- Rosen, D.E. and M. Gordon. 1951. A new fish of the genus *Gambusia* from southern Veracruz, Mexico, with a discussion of the tribe Gambusiini Hubbs. *Zoologica* (N. Y.), 36 (pt 4, 21): 267-272.
- Rosen, D.E. and K.D. Kallman. 1969. A new fish of the genus *Xiphophorus* from Guatemala, with remarks on the taxonomy of endemic forms. *Am. Mus. Novit.*, 2379: 1-29.
- Santa Maria, M.A. 1956. *Album de Don Carlos de la Torre y Huerta. Acuario*, 2 (4): 94-97.
- Schartl, M. and J.H. Schröder. 1988. A new species of the genus *Xiphophorus* Heckel 1848, endemic to northern Coahuila, Mexico (Pisces: Poeciliidae). *Senckenb. Biol.*, 68 (4/6): 311-321.
- Schindler, O. 1959. *Mollienisia sphenops petersi* nov. subsp. eine neue Poeciliiden-Unterart aus Nordwest-Honduras. *Opusc. Zool.*, 31: 1-6.
- Schreiner, C. and A. Miranda Ribeiro. 1903. A collecção de peixes do Museu Nacional do Rio de Janeiro. *Arq. Mus. Nac. Rio de J.*, 12 (1902): 67-110.
- Schultz, L.P. 1949. A further contribution to the ichthyology of Venezuela. *Proc. U. S. Natl. Mus.*, 99 (3235): 1-211, pls. 1-3.
- Schultz, R.J. and R.R. Miller. 1971. Species of the *Poecilia sphenops* complex (Pisces: Poeciliidae) in Mexico. *Copeia*, 1971 (2): 282-290.
- Steindachner, F. 1863. Beiträge zur Kenntniss der Sciaenoiden Brasiliens und der Cyprinodonten Mejicos. *Sitzungsber. Math.-Naturwiss. Classe K. Akad. Wiss. Wien*, 48: 162-185, pls. 1-4.
- Steindachner, F. 1878. *Ichthyologische Beiträge*. VI. *Sitzungsber. Akad. Wiss. Wien*, 77: 379-392, pls. 1-3.
- Steindachner, F. 1880. Zur Fisch-Fauna des Cauca und der Flüsse bei Guayaquil. *Denkschr. Akad. Wiss. Wien*, 42: 55-104, pls. 1-9.
- Stoye, F.H. 1933. Einige neueingeführte Zahnkarpfen, I. *Blätter Aquar. Terrarienkunde*, 44 (18): 305-309.
- Stoye, F.H. 1935. *Tropical fishes for the home: their care and propagation*. Second edition. Carl Mertens, New York. *Tropical Fishes*: 284 pp.
- Tortonese, E. 1940. Elenco dei tipi esistenti nella collezione ittologica del R. Museo di Torino. *Boll. Mus. Zool. Anat. Comp. Torino*, 48 (Ser. 3) (111): 133-144.
- Trewavas, E. 1948. Cyprinodont fishes of San Domingo, Island of Haiti. *Proc. Zool. Soc. Lond.*, 118 (2): 408-415, pl. 1.
- Turner, C.L. 1940. Superfetation in viviparous cyprinodont fishes. *Copeia*, 1940 (2): 88-91.

Check List of the Freshwater Fishes of South and Central America

- van Lidth de Jeude, T.W. 1887. On a collection of reptiles and fishes from the West-Indies. Notes Leyden Mus., 9: 129-139, pl. 2.
- Weyenbergh, H. 1874. Bijdrage tot de kennis van het visschenge-lacht *Xiphophorus* Heck. Versl. Akad. Amsterdam (Ser. 2), 8: 291-308, pls. 1-2.
- Weyenbergh, H. 1877. Algunos nuevos pescados del Museo Na-cional, y algunas noticias ictiológicas. Actas Acad. Nacional Cien. Exactas, 3 (1): 1-21, pls. 1-4.
- Whitley, G.P. 1951. New fish names and records. Proc. R. Zool. Soc. N. S. W. v. for 1949-50: 61-68.
- Whitley, G.P. 1965. Some fish genera scrutinized. Proc. R. Zool. Soc. N. S. W. v. for 1964-65: 25-26.
- Woolman, A.J. 1895. Report on a collection of fishes from the rivers of central and northern Mexico. Bull. U. S. Fish Comm., 14 [1894]: 55-66, pl. 2.

Family Anablepidae (Four-eyed fishes, onesided livebearers and the white eye)

Michael J. Ghedotti

Four-eyed fishes, onesided livebearers & the white eye form a diverse and relatively recently recognized family of cyprinodontiform fishes. The family was most recently recognized with its current composition by Parenti (1981) in a phylogenetic study based using morphological data. The composition of the family was supported by subsequent phylogenetic studies by Meyer & Lydeard (1993) using DNA sequence data and by Costa (1998), and Ghedotti (1998, 2000) using morphological data. Phylogenetic relationships among members of the Anablepidae have been proposed by Ghedotti (1998), Ghedotti et al. (2001) and Lucinda et al. (2002) based upon morphological data. The family is uniquely diagnosed among cyprinodontiform fishes by the possession of laterality in the male urogenital papilla or gonopodium. Both dextral and sinistral individuals occur in all species. Most species exhibit teeth that are to some degree tricuspid. Two of the three species of otherwise distinctive four-eyed fishes have unicuspid teeth.

The family is composed of three morphologically distinct genera, monotypic *Oxyzygonectes*, *Jenynsia* with eleven species and *Anableps* with three species. The white eye, *Oxyzygonectes dovii*, is a relatively large (to 15 cm total length) externally fertilizing, oviparous species from Central America with a pointed snout, a particularly flat dorsal profile and reflective dorsal irises. The onesided livebearers and the four-eyed fishes, *Jenynsia* and *Anableps* respectively, are sister taxa (Parenti, 1981, Meyer & Lydeard, 1993, Costa, 1998, Ghedotti, 1998) and exhibit both internal fertilization and viviparity. Adult male *Jenynsia* and *Anableps* have the anal fin modified as a fleshy tubular gonopodium with the tip angled laterally. The onesided livebearers, genus *Jenynsia*, are widely distributed in southeastern South America and exhibit a more "typical" cyprinodontiform shape. Unlike members of the other two anablepids genera, *Jenynsia* when quickly examined can be confused with poeciliid fishes. The four-eyed fishes, genus *Anableps*, are distributed in Central America and northern South America. *Anableps* are the most distinctive members of the family and grow to the largest sizes of any cyprinodontiform fishes, reaching up to 32 cm in total length. *Anableps* are called four-eyed fishes because they have eyes that are prominently raised above the top of head and each eye is divided lengthwise forming two pupils, one dorsal and one ventral, in each eye. *Anableps* individuals often swim with the center of the eye at the water's surface and are capable of simultaneous aerial and aquatic vision. Female *Anableps* exhibit sexual laterality and have a flap of skin covering either the dextral or sinistral surface of the urogenital opening (Garman, 1896). Female laterality is absent in other anablepids (Ghedotti & Weitzman, 1996; Ghedotti, 1998).

The family is found in Pacific drainages of Central America from Oaxaca State Mexico to northern Panama, coastal and estuarine areas of northern South America from the Orinoco River delta to the Amazon River delta, and in southern South America in coastal estuaries from Rio de Janeiro to Buenos Aires province as well as in inland areas in northern Argentina, southern Bolivia, Uruguay, and southern Brazil. Anablepids are absent from the Caribbean drainages of Central America, the Pacific drainages of South America, the Amazon Basin (except for its delta), and Patagonia.

Anablepids inhabit a wide variety of environments. *Oxyzygonectes dovii* inhabit estuarine waters but breed in freshwater (Fromm, 1982). *Anableps anableps* is largely estuarine and is usually found on muddy tidal flats (Lowe-McConnell, 1975). However, this species can survive in freshwater for long periods (Zahl et al., 1977). *Anableps microlepis* has been noted in full sea water along the open coast as well as 100 km up the Orinoco River (Miller, 1979) and exhibits. *Anableps dowi* has been noted in full sea water along the open coast but is most commonly encountered in brackish and, especially, freshwaters up to an elevation of 670m (Miller, 1979). *Jenynsia multidentata* inhabit estuarine and near-shore environments varying in salinity from freshwater to fully marine. The other species of *Jenynsia* are largely restricted to freshwaters although the species from western and southern Argentina may be found in waters with a higher salinity due to evaporation. *Oxyzygonectes dowi* and *Anableps* species are known to consume terrestrial insects (Miller, 1979; Fromm, 1982) and *Anableps dowi* and *A. anableps* have been seen to occasionally capture insects in the air (Zahl et al., 1977; Miller, 1979). *Anableps anableps* has been observed consuming tidally exposed silt covered with diatoms (Zahl et al., 1977) and the gut contents of *A. anableps* and *A. microlepis* confirm that these species do consume silt (Ghedotti, 1998). *Jenynsia* usually consume aquatic insects and algae. *Jenynsia* species are not as commonly surface feeders as are *Anableps* and *Oxyzygonectes*. Escalante (1987) found that *Jenynsia multidentata* from Argentina consumed primarily diatoms, filamentous green algae and benthic insect larvae.

The details of viviparity in *Anableps* and *Jenynsia* differ and have been explored. Turner (1938, 1940b) reported on viviparity in *Anableps anableps* and noted that, as in poeciliids, *Anableps* has intrafollicular gestation during which nutrients

are transferred through a vascular follicular “placenta.” Knight et al. (1985) determined that *Anableps* embryos had post fertilization weight increases of 298,000% (for *Anableps anableps*) to 843,000% (for *Anableps dowi*) showing the greatest amount of viviparous maternal nutrient transfer in any teleost. Burns and Flores (1981) documented seasonal breeding and superfoetation (embryos in different stages in the ovary) in *Anableps dowi* and noted that the female genital opening closes during gestation. Turner (1940a) also reported on viviparity in *Jenynsia multidentata*. He noted ovarian lumen gestation with the development of flaps of the ovarian epithelium entering the pharyngeal cavity of embryos and forming a type of “branchial placenta” to meet the respiratory needs of the embryos. He also noted the presence of ovarian fluid and desquamated cells within the digestive tract of the embryos. Schindler and De Vries (1988) determined that the epithelium of the ovarian flaps is involved in trans-epithelial transport from the ovary into the pharyngeal cavity of the embryo. Downing Meisner et al. (2000) and Ghedotti et al. (2001) confirmed the presence of ovarian folds in *J. alternimaculata*, *J. eirmostigma*, *J. lineata* and *J. weitzmani* and suggested that the embryos are ingesting portions of the ovarian fold. Seasonality of breeding in *J. multidentata* was noted by Turner (1957). Grier et al. (1981) and Burns (1991) described the testis structure of *A. anableps*, *A. dowi*, and *J. multidentata* and noted that *A. dowi* forms partial sperm bundles while the other two species form free sperm.

It is unlikely that additional species of the large fishes in the genera *Anableps* or *Oxyzygonectes* will be discovered unless somewhat cryptic species are recognized through molecular studies within existing species. However, the number of species within the genus *Jenynsia* has doubled in the last decade with five species described and one subspecies elevated to species status (Ghedotti & Weitzman, 1995, 1996; Ghedotti et al., 2001; Lucinda et al., 2002). It is very likely that additional species of *Jenynsia* will be described in the near future because of the increasing attention being given to the ichthyofauna of southern Brazil and the currently recognized diversity of *Jenynsia* in this region.

No anablepid species are commercially important as food, but *Anableps anableps* and *A. microlepis* are locally consumed and marketed. *Anableps* and *Jenynsia* species appear occasionally as novelty aquarium fishes.

ANABLEPS

Anableps Scopoli, 1777: 450. Type species: *Cobitis anableps* Linnaeus, 1758. Gender: feminine.

Anableps Bloch, 1794: 7. Type species: *Anableps tetrophthalmus* Bloch, 1794. Type by monotypy. Gender: feminine.

Peltatetraops Fowler, 1931: 396. Type species: *Anableps microlepis* Müller & Troschel, 1844. Type by original designation. Gender: masculine.

Anableps anableps (Linnaeus, 1758)

Cobitis anableps Linnaeus, 1758: 303. Type locality: India.

Anableps tetrophthalmus Bloch, 1794: 7, pl. 361. Type locality: Surinam. Syntypes: ZMB 3498-3500.

Anableps surinamensis La Cepède, 1803: 25, 26. Type locality: Surinam.

Anableps gronovii Valenciennes in Cuvier & Valenciennes, 1846: 252, pl. 538. Type locality: Cayenne [French Guiana]. Holotype: MNHN B.936.

Anableps lineatus Gronow, in Gray, 1854: 192. Type locality: Not known. Holotype: ZMUC 417.

Maximum length: 30 cm TL

Distribution: South America: Trinidad Island and coastal drainages from Venezuela to the Amazon River delta.

Countries: Brazil, French Guiana, Guyana, Suriname, Trinidad and Tobago, Venezuela

Anableps dowi Gill, 1861

Anableps dowei Gill, 1861: 4. Type locality: Bay of La Unión [El Salvador]. Holotype: ANSP 6982 or USNM 6048.

Maximum length: 22 cm TL

Distribution: North and Central America: Pacific drainages, from southern Mexico to Nicaragua.

Countries: El Salvador, Guatemala, Honduras, Mexico, Nicaragua
Remarks and references: The specific epithet of *Anableps dowei* was justifiably corrected to *dowi* by Miller (1966).

Anableps microlepis Müller & Troschel, 1844

Anableps microlepis Müller & Troschel, 1844: 36. Type locality: British Guiana. No types known.

Anableps coarctatus Valenciennes, in Cuvier & Valenciennes, 1846: 266, pl. 540. Type locality: Cayenne [French Guiana]. MHNH B.938.

Anableps elongatus Valenciennes, in Cuvier & Valenciennes, 1846: 267, pl. 541. Type locality: Cayenne [French Guiana]. Holotype: MNHN B.937.

Maximum length: 32 cm TL

Distribution: South America: Trinidad Island and coastal drainages from Venezuela to the Amazon River delta.

Countries: Brazil, French Guiana, Guyana, Suriname, Trinidad and Tobago, Venezuela

JENYNSIA

Fitzroyia Günther, 1866: 307. Type species: *Lebias multidentata* Jenyns, 1842. Type by monotypy. Gender: feminine.

Jenynsia Günther, 1866: 331. Type species: *Lebias lineata* Jenyns, 1842. Type by monotypy. Gender: feminine.

Plesiojenynsia Ghedotti, 1998: 579. Type species: *Jenynsia unitaenia* Ghedotti & Weitzman, 1995. Type by original designation. Gender: feminine. Proposed as a subgenus of *Jenynsia*.

Jenynsia alternimaculata (Fowler, 1940)

Fitzroyia lineata alternimaculata Fowler, 1940: 57, figs. 12-13. Type locality: Monte Bello, Tarija, Bolivia. Holotype: ANSP 68833.

Maximum length: 5.5 cm SL

Distribution: South America: Upper reaches of Paraná River tributaries in northwestern Argentina and southern Bolivia.

Countries: Argentina, Bolivia

Jenynsia eigenmanni (Haseman, 1911)

Fitzroyia eigenmanni Haseman, 1911: 385, pl. 82. Type locality: near Serrinha Paraná, Brazil, three miles from Rio Iguassú. Holotype: FMNH 69527.

Maximum length: 6.5 cm SL

Distribution: South America: Upper Iguazu River basin.

Countries: Brazil

Jenynsia eirmostigma Ghedotti & Weitzman, 1995

Jenynsia eirmostigma Ghedotti & Weitzman, 1995: 940, fig. 1. Type locality: Rio Grande do Sul, rio Manoel Leao, Município de Cambará do Sul, near to Sao José dos Ausentes. Holotype: MZUSP 47625.

Maximum length: 7.1 cm SL

Distribution: South America: Upper Uruguay and Jacui River basins.

Countries: Brazil

Jenynsia lineata (Jenyns, 1842)

Lebias lineata Jenyns, 1842: 116, pl. 22 (fig. 2). Type locality: Maldonado [Uruguay]. Syntypes: BMNH 1843.2.8.43 and BMNH 1917.7.14.20-23.

Maximum length: 5.5 cm SL

Distribution: South America: Southern tributaries of the Mirim Lagoon.

Countries: Brazil, Uruguay

Jenynsia maculata Regan, 1906

Jenynsia maculata Regan, 1906: 154. Type locality: Cachi, Salta, Argentina, at an elevation of 2500 m. Syntypes: BMNH 1906.5.31.62-71.

Maximum length: 7.3 cm SL

Distribution: South America: Caichauqui River in upper Salado River drainage, Salta Province.

Countries: Argentina

Jenynsia multidentata (Jenyns, 1842)

Lebias multidentata Jenyns, 1842: 117, pl. 22 (fig. 3). Type locality: Uruguay, Montevideo. Holotype: BMNH 1917.7.14.24.

Poecilia punctata Valenciennes, in Cuvier & Valenciennes, 1846: 133. Type locality: Monte Video. Holotype: MNHN B.935.

Maximum length: 6.3 cm SL

Distribution: South America: Most of northern Argentina, from Colorado River to lower Paraná River drainage and costal rivers from Uruguay to Rio de Janeiro.

Countries: Argentina, Brazil, Uruguay

Jenynsia onca Lucinda, Reis & Quevedo, 2002

Jenynsia onca Lucinda, Reis & Quevedo, 2002: 35, fig. 2. Type locality: Brazil, Rio Grande do Sul, rio Inhacundá about 500 m upstream of pottery (29°32'27"S 55°07'45"W) São Francisco de Assis. Holotype: MCP 26478.

Maximum length: 3.9 cm SL

Distribution: South America: Ibicuí River basin in Brazil and the Negro River basin in Uruguay.

Countries: Brazil, Uruguay

Jenynsia pygogramma Boulenger, 1902

Jenynsia pygogramma Boulenger, 1902: 336. Type locality: Río Cruz del Eje, Prov. Cordova, 600 m [Argentina]. Syntypes: BMNH 1902.5.22.72-81

Maximum length: 6 cm TL

Distribution: South America: Dulce River basin in western Argentina.

Countries: Argentina

Jenynsia sanctaecatrinae Ghedotti & Weitzman, 1996

Jenynsia sanctaecatrinae Ghedotti & Weitzman, 1996: 3, fig. 1. Type locality: Rio Pique off road between Meleiro and Arangua, Morro Cortado, Santa Catarina, Brazil. Holotype: MZUSP 26511.

Maximum length: 4.2 cm SL

Distribution: South America: Araranguá River basin in southern Santa Catarina.

Countries: Brazil

Jenynsia unitaenia Ghedotti & Weitzman, 1995

Jenynsia unitaenia Ghedotti & Weitzman, 1995: 943, fig. 5. Type locality: Brazil, Santa Catarina, Município de Praia Grande, rio Faxinalzinho at Mae dos Homens near Praia Grande. Holotype: MZUSP 47615.

Maximum length: 7.6 cm SL

Distribution: South America: Coastal rivers in Santa Catarina and northeastern Rio Grande do Sul States.

Countries: Brazil

Jenynsia weitzmani Ghedotti, Downing Meisner & Lucinda, 2001

Jenynsia unitaenia Ghedotti, Downing Meisner & Lucinda, 2001: 728, fig. 1. Type locality: Brazil, Santa Catarina State, tributary of rio Pinheiros near Anitápolis, 7 kkm from road SC-407 (approximately 27°54'S 49°7'W). Holotype: MCP 25559.

Maximum length: 7.6 cm SL

Distribution: South America: Tubarão River basin in southern Santa Catarina State.

Countries: Brazil

OXYZYGONECTES

Oxyzygonectes Fowler, 1916: 425. Type species: *Haplochilus dovii* Günther, 1866. Type by original designation. Gender: masculine.

Oxyzygonectes dovii (Günther, 1866)

Haplochilus dovii Günther, 1866: 316. Type locality: Costa Rica, Punta Arena. Syntypes: BMNH 1865.7.20.29-30.

Maximum length: 15 cm TL

Distribution: Central America: Pacific drainages in western Panama to Nicaragua.

Countries: Costa Rica, Nicaragua, Panama

References

- Bloch, M.E. 1794. Naturgeschichte der ausländischen Fische, vol. 8. Berlin. iv + 174 p., pls. 361-396.
- Boulenger, G.A. 1902. List of the fishes, batrachians, and reptiles collected by the late Mr. P. O. Simons in the provinces of Mendoza and Cordova, Argentina. Ann. Mag. Nat. Hist. (Ser. 7), 9 (53): 336-339.
- Burns, J.R. 1991. Testis and gonopodium development in *Anableps dowi* (Pisces: Anablepidae) correlated with pituitary gonadotrophic zone area. J. Morph., 210: 45-53.
- Burns, J.R. and J.A. Flores. 1981. Reproductive biology of the cuatro ojos, *Anableps dowi* (Pisces: Anablepidae), from El Salvador and its seasonal variations. Copeia, 1981 (1): 25-32.
- Cuvier, G. and A. Valenciennes. 1846. Histoire naturelle des poissons. Tome dix-huitième. Suite du livre dix-huitième. Cyprinoides. Livre dix-neuvième. Des Ésoques ou Lucioïdes. Ch. Pitois & V.° Levrault, Paris & Strasbourg. xix + 2 + 505 + 2 p., pls. 520-553.
- Downing Meisner, A., J.R. Burns and M.J. Ghedotti. 2000. Mode of embryonic nutrition in four species of *Jenynsia* (Teleostei: Atherinomorpha: Anablepidae). In B. Norberg, O.S. Kjesbu, G.L. Taranger, E. Anderson, and S.O. Stefansson. (eds.). Proceedings of the 6th International Symposium on the Reproductive Physiology of Fish. Bergen, Norway, University of Bergen Press.
- Escalante, A.H. 1987. Alimentacion de *Bryconamericus iheringi* y *Jenynsia lineata lineata* (Osteichthys) en Sierra de la Ventana (Argentina). An. Mus. Hist. Nat. Valparaiso, 18: 101-108.
- Fowler, H.W. 1916. Cold-blooded vertebrates from Costa Rica and the Canal Zone. Proc. Acad. Nat. Sci. Philadelphia, 68: 389-439.
- Fowler, H.W. 1931. Fishes obtained by the Barber Asphalt Company in Trinidad and Venezuela in 1930. Proc. Acad. Nat. Sci. Philadelphia, 83: 391-410.
- Fowler, H.W. 1940. Zoological results of the second Bolivian expedition for the Academy of Natural Sciences of Philadelphia, 1936-1937. Part I.--The fishes. Proc. Acad. Nat. Sci. Philadelphia, 92: 43-103.
- Fromm, D. 1982. The white eye, *Oxyzygonectes dovii* (Gunther). J. Amer. Killifish Assoc., 15 (5): 201-210.

Check List of the Freshwater Fishes of South and Central America

- Garman, S. 1896. Cross fertilization and sexual rights and lefts. *Amer. Natur.*, 30: 232.
- Ghedotti, M.J. 1998. Phylogeny and classification of the Anablepidae (Teleostei: Cyprinodontiformes). Pp. 560-582, In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). *Phylogeny and classification of Neotropical fishes*. Edipucrs, Porto Alegre.
- Ghedotti, M.J. 2000. Phylogenetic analysis and taxonomy of the poecilioid fishes (Teleostei: Cyprinodontiformes). *Zool. J. Linn. Soc.*, 130: 1-53.
- Ghedotti, M.J., A. Downing Meisner and P.H.F. Lucinda. 2001. New species of *Jenynsia* (Teleostei: Cyprinodontiformes) from southern Brazil and its phylogenetic relationships. *Copeia*, 2001 (3): 726-736.
- Ghedotti, M.J. and S.H. Weitzman. 1995. Description of two new species of *Jenynsia* (Cyprinodontiformes: Anablepidae) from southern Brazil. *Copeia*, 1995 (4): 939-946.
- Ghedotti, M.J. and S.H. Weitzman. 1996. A new species of *Jenynsia* (Cyprinodontiformes: Anablepidae) from Brazil with comments on the composition and taxonomy of the genus. *Occas. Pap. Mus. Nat. Hist. Univ. Kansas*, 179: 1-25.
- Gill, T.N. 1861. Description of a new species of the genus *Anableps* of Gronovius. *Proc. Acad. Nat. Sci. Philadelphia*, 13: 3-6.
- Gray, J.E. 1854. *Catalogue of fish collected and described by Laurence Theodore Gronow, now in the British Museum*. London. vii + 196 p.
- Grier, H.J., J.R. Burns and J.A. Flores. 1981. Testis structure in three species of teleosts with tubular gonopodia. *Copeia*, 1981 (4): 797-801.
- Günther, A. 1866. *Catalogue of fishes in the British Museum*. *Catalogue of the Physostomi, containing the families Salmonidae, Percopsidae, Galaxiidae, Mormyridae, Gymnarchidae, Esocidae, Umbridae, Scombresocidae, Cyprinodontidae*, in the collection of the British Museum. Trustees, London. xv + 368 p.
- Haseman, J.D. 1911. Some new species of fishes from the Rio Iguassú. *Ann. Carnegie Mus.*, 7 (3-4): 374-387, pls. 50, 58, 73-83.
- Jenyns, L. 1842. Part IV, Fish, In: C. Darwin (ed.). *The zoology of the voyage of H. M. S. Beagle, under the command of Captain FitzRoy, R. N., during the years 1832 to 1836*. Smith, Elder, and Co., London. xvi + 172 p., pls. 1-29.
- Knight, F.K., J. Lombardi, J.P. Wourms and J.R. Burns. 1985. Follicular placenta and embryonic growth of the viviparous four-eyed fish (*Anableps*). *J. Morph.*, 185: 131-142.
- La Cepède, B.G.E. 1803. *Histoire naturelle des poissons*, vol. 5. Plassan, Paris. lxxviii + 803 p. + index, pls. 1-21.
- Linnaeus, C. 1758. *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis*. Tomus I. Editio decima, reformata. Holmiae. ii + 824 p.
- Lowe-McConnell, R.H. 1975. *Fish communities in tropical freshwaters: their distribution, ecology, and evolution*. Longman, New York.
- Lucinda, P.H.F., R.E. Reis and R. Quevedo. 2002. *Jenynsia onca*, a new species of anablepid fish (Teleostei: Cyprinodontiformes) from southern Brazil and its phylogenetic position. *Ichthyol. Explor. Freshwaters*, 13: 33-40.
- Meyer, A. and C. Lydeard. 1993. The evolution of copulatory organs, internal fertilization, placenta and viviparity in killifishes (Cyprinodontiformes) inferred from a DNA phylogeny from the tyrosine kinase gene X-src. *Proc. R. Soc. London*, 254: 153-162.
- Miller, R.R. 1979. Ecology, habits and relationships of the Middle American cuatro ojos, *Anableps dowi* (Pisces: Anablepidae). *Copeia*, 1979 (1): 82-91.
- Müller, J. and F.H. Troschel. 1844. Bericht über die zur Bekanntmachung geeigneten Verhandlungen der Königl. Preuss. Akademie der Wissenschaften zu Berlin, 1844: 35-36.
- Parenti, L.R. 1981. A phylogenetic and biogeographic analysis of cyprinodontiform fishes (Teleostei, Athrinomorpha). *Bull. Amer. Mus. Nat. Hist.* v. 168: 335-557.
- Regan, C.T. 1906. Description of a new cyprinodont fish of the genus *Jenynsia* from Argentina. *Ann. Mag. Nat. Hist. (Ser. 7)*, 18 (104): 154.
- Scopoli, G.A. 1777. *Introductio ad historiam naturalem, sistens genera lapida, plantarum et animalium hactenus detecta, characteribus essentialibus Donata, in tribus divisa, subinde ad leges naturae*. Prague.
- Turner, C.L. 1938. Adaptations for viviparity in embryo and ovary of *Anableps anableps*. *J. Morph.*, 62: 323-349.
- Turner, C.L. 1940a. Adaptations for viviparity in jenynsiid fishes. *J. Morph.*, 67: 291-297.
- Turner, C.L. 1940b. Follicular pseudoplacenta and gut modifications in anablepid fishes. *J. Morph.*, 67: 91-104.
- Turner, C.L. 1957. The breeding cycle of the South American fish, *Jenynsia lineata*, in the northern hemisphere. *Copeia*, 1957 (3): 195-203.
- Zahl, P.A., J.J.A. McLaughlin and R.J. Gomprecht. 1977. Visual versatility and feeding of the four-eyed fishes, *Anableps*. *Copeia*, 1977 (4): 791-793.

Family Belonidae (Needlefishes)

Nathan R. Lovejoy and Bruce B. Collette

Elongate fishes with both upper and lower jaws extended into long beaks filled with sharp teeth (except in neotenic *Belonion*); nostrils in a pit anterior to eyes. No spines in fins; dorsal and anal fins posterior in position; pectoral fins short. Lateral line running down from pectoral fin origin and then along ventral margin of body. Scales small, cycloid, easily detached. Color: These fishes live at the surface and are protectively colored for this mode of life by being green or blue on the back and silvery white on the lower sides and belly. Usually, a dusky or dark blue stripe along sides; fleshy tip of lower jaw frequently red or orange.

The Belonidae contains 10 genera and 33 species (Collette et al. 1984). Four genera are monotypic: the southern African *Petalichthys*, the worldwide *Ablennes* and *Platybelone*, and apparently the Asian freshwater *Xenetodon*. The eastern Atlantic *Belone* contains two species. *Tylosurus* contains six species of strictly marine species. Three genera are restricted to freshwaters of South America: *Belonion* (two species), *Potamorrhaphis* (three), and *Pseudotylosurus* (two). Biogeography and molecular systematics of the South American needlefishes are discussed by Lovejoy and de Araújo (2000) and Lovejoy and Collette (2001). The most speciose genus, *Strongylura*, contains 14 species, mostly marine, some estuarine, and three strictly freshwater, two of which are found in Central and South America, *S. fluviatilis* from Ecuador and Colombia and *S. hubbsi* from Mexico and Guatemala.

Most species are marine, but some occur in freshwaters. Carnivorous, feeding largely on small fishes which they catch sideways in their beaks. Information on the ecology of the three endemic South American genera was presented by Goulding and Carvalho (1984). Needlefishes tend to leap and skitter at the surface and some people have been injured when accidentally struck by them, particularly at night when the fishes are attracted by lights.

Needlefishes are caught by casting or trolling surface or near-surface lures and in floating gill nets. Flesh excellent in flavor although some people have misgivings about eating it due to the green color of the bones. Some fresh water needlefishes reach only 6 or 7 cm in total length while some marine species may attain 2 m.

BELONION

Belonion Collette, 1966: 7. Type species: *Belonion apodion* Collette, 1966. Type by original designation. Gender: neuter.

***Belonion apodion* Collette, 1966**

Belonion apodion Collette, 1966: 12, fig. 1 (b, c). Type locality: Bolivia, laguna 3 km southwest of Costa Marques, Brazil, Rio Guaporé. Holotype: AMNH 20805.

Maximum length: 5 cm SL

Distribution: South America: Guaporé and Madeira River basins.

Countries: Bolivia, Brazil

***Belonion dibranchodon* Collette, 1966**

Belonion dibranchodon Collette, 1966: 9, fig. 1a. Type locality: Venezuela, Río Atabapo, a tributary of the Orinoco River on the border between the state of Amazonas, Venezuela and Vaupes, Colombia. Holotype: MNHN 87-836.

Maximum length: 4.8 cm SL

Distribution: South America: Atabapo and Negro River basins.

Countries: Brazil, Venezuela.

POTAMORRHAPHIS

Potamorrhaphis Günther, 1866: 256. Type species: *Belone (Potamorrhaphis) taeniata* Günther, 1866. Type by subsequent designation of Jordan & Fordice (1887 = *B. guianensis* Schomburgk). Gender: feminine. Originally proposed as a subgenus of *Belone*.

***Potamorrhaphis eigenmanni* Miranda Ribeiro, 1915**

Potamorrhaphis eigenmanni Miranda Ribeiro, 1915: Belonidae p. 13. Type locality: Cáceres-Rio Jaurú at Pôrto Esperidião, Mato Grosso, Brazil. Lectotype: MNRJ 1343A.

Maximum length: 22.8 cm SL

Distribution: South America: Upper Madeira River and its tributaries (Beni, Mamoré, and Guaporé); also from the Paraguay-Paraná River basin.

Countries: Argentina, Bolivia, Brazil, Paraguay

Remarks and references: Redescribed by Collette (1982)

***Potamorrhaphis guianensis* (Jardine, 1843)**

Belone Guianensis Jardine, in Schomburgk, 1843: 131, pl. 1. Type locality: Patauiri River, Guiana. Holotype: whereabouts unknown.

Belone scolopacina Valenciennes, in Cuvier & Valenciennes, 1846: 428. Type locality: La Mana, Cayenne [French Guiana]. Holotype: MNHN 833.

Belone (Potamorrhaphis) taeniata Günther, 1866: 256. Type locality: River Capin, Brazil, Pará. Lectotype: BMNH 1849.11.9.59, designated by Collette (1982: 728).

Maximum length: 29.1 cm TL

Distribution: South America: Amazon and Orinoco River basins, and the Guianas.

Countries: Brazil, Colombia, Ecuador, French Guiana, Guyana, Peru, Suriname, Venezuela

Common names: Aiguillette (French Guiana), Peixe agulha (Brazil), Pirapucu (Brazil), Poisson aiguille (French Guiana), Zophi noué (French Guiana)

Remarks and references: Redescribed by Collette (1982).

***Potamorrhaphis petersi* Collette, 1974**

Potamorrhaphis petersi Collette, 1974a: 34, fig. 1a. Type locality: Colombia, Laguna Coco northeast of Puerto Inírida, pool near junction of Río Guaviare and Río Inírida. Holotype: USNM 210546.

Maximum length: 24.6 cm SL

Distribution: South America: Upper Orinoco and Negro River basins.

Countries: Brazil, Colombia, Venezuela

PSEUDOTYLOSURUS

Pseudotylorus Fernández-Yépez, 1948: 72. Type species: *Pseudotylorus brasiliensis* Fernández-Yépez, 1948. Type by monotypy. Gender: masculine.

Deltatylorus Martin, 1954: 4. Type species: *Deltatylorus guayoensis* Martin, 1954. Type by monotypy. Gender: masculine.

***Pseudotylorus angusticeps* (Günther, 1866)**

Belone angusticeps Günther, 1866: 238. Type locality: Coast of Ecuador. Holotype: BMNH 1860.6.16.181.

Pseudotylorus brasiliensis Fernández-Yépez, 1948: 72. Type locality: Junction of Río Xingu with Amazon R. at Pôrto do Moz, Pará, Brazil. Holotype: MCZ 8797.

Maximum length: 29.8 cm SL

Distribution: South America: Upper Amazon and Paraguay-Paraná basins.

Countries: Argentina, Bolivia, Brazil, Ecuador, Peru

Common names: Pez aguja (Peru)

Remarks and references: Redescribed by Collette (1974c).

***Pseudotylorus microps* (Günther, 1866)**

Belone microps Günther, 1866: 237. Type locality: Suriname. Lectotype: BMNH 1845.6.22.104, designated by Collette (1974c: 178).

Belone amazonica Steindachner, 1876: 94. Type locality: Tajapurú, Amazon R., Brazil. Lectotype: NMW 12926, designated by Collette (1974c: 178).

Deltatylorus guayoensis Martin, 1954: 5. Type locality: Channel of the Orinoco R., near Misión de Guayo, Estado Delta Amacuro, Venezuela. Holotype: MHNLS 9923.

Maximum length: 40.7 cm SL

Distribution: South America: Orinoco and lower Amazon River basins; Guianas.

Countries: Brazil, Guyana, Peru, Suriname, Venezuela

Common names: Pez aguja (Peru)

Remarks and references: Redescribed by Collette (1974c).

STRONGYLURA

Strongylura van Hasselt, 1824: 374. Type species: *Strongylura caudimaculata* van Hasselt, 1823. Type by monotypy. Gender: feminine.

Stenocaulus Ogilby, 1908: 91. Type species: *Belone krefftii* Günther, 1866. Type by original designation. Gender: masculine.

Lewinichthys Whitley, 1933: 67. Type species: *Belone ferox* Günther, 1866. Type by original designation. Gender: masculine.

Rhaphiobelone Fowler, 1934: 322. Type species: *Rhaphiobelone dammermani* Fowler, 1934. Type by original designation. Gender: feminine.

Dorybelone Fowler, 1944: 215. Type species: *Belone stoltzmanni* Steindachner, 1878. Type by original designation. Gender: feminine.

***Strongylura fluviatilis* (Regan, 1903)**

Belone fluviatilis Regan, 1903: 626. Type locality: Rivers of N.W. Ecuador. Holotype: BMNH 1901.8.3.26.

Maximum length: 51.7 cm SL

Distribution: South America: rivers of the western slope of the Andes.

Countries: Colombia, Ecuador

***Strongylura hubbsi* Collette, 1974**

Strongylura hubbsi Collette, 1974b: 612, fig. 1. Type locality: Río de la Pasión immediately above mouth of Arroyo de Petexbatúm at Sayaxché, El Petén, Guatemala. Holotype: UMMZ 194998.

Maximum length: 49.8 cm SL

Distribution: North and Central America: Guatemala and Mexico.

Countries: Guatemala, Mexico

References

- Collette, B.B. 1966. *Belonion*, a new genus of fresh-water needlefishes from South America. American Mus. Novit., No. 2274: 1-22.
- Collette, B.B. 1974a. *Potamorrhaphis petersi*, a new species of freshwater needlefish (Belonidae) from the Upper Orinoco and Rio Negro. Proc. Biol. Soc. Washington, 87 (5): 31-40.
- Collette, B.B. 1974b. *Strongylura hubbsi*, a new species of freshwater needlefish from the Usumacinta Province of Guatemala and México. Copeia, 1974 (3): 611-619.
- Collette, B.B. 1974c. South American freshwater needlefishes (Belonidae) of the genus *Pseudotylorus*. Zool. Meded. (Leiden), 48 (16): 169-186.
- Collette, B.B. 1982. South American freshwater needlefishes of the genus *Potamorrhaphis* (Beloniformes: Belonidae). Proc. Biol. Soc. Washington, 95 (4): 714-747.
- Collette, B.B., G.E. McGowen, N.V. Parin and S. Mito. 1984. Beloniformes: Development and relationships, In: H.G. Moser et al., (eds.). Ontogeny and systematics of fishes. Amer. Soc. Ich. Herp., Spec. Publ. 1:335-354.
- Cuvier, G. and A. Valenciennes. 1846. Histoire naturelle des poissons. Tome dix-huitième. Suite du livre dix-huitième. Cyprinoides. Livre dix-neuvième. Des Ésoques ou Lucioïdes. Ch. Pitois, & V.^e Levraut, Paris & Strasbourg. xix + 2 + 505 + 2 p., pls. 520-553.
- Fernández-Yépez, A. 1948. El *Pseudotylorus brasiliensis*, nuevo genero y nueva especie de pez, procedente del Brasil. Mem. Soc. Cienc. Nat. La Salle, 8 (21): 72-73.
- Fowler, H.W. 1934. Descriptions of new fishes obtained 1907 to 1910, chiefly in the Philippine Islands and adjacent seas. Proc. Acad. Nat. Sci. Philadelphia, 85 [for 1933]: 233-367.
- Fowler, H.W. 1944. Results of the fifth George Vanderbilt expedition (1941): Bahamas, Caribbean Sea, Panama, Galápagos Archipelago and Mexican Pacific islands; the Fishes. Monogr. Acad. Nat. Sci. Philadelphia, no. 6: 57-529, Pls. 1-20.
- Goulding, M. and M.L. Carvalho. 1984. Ecology of Amazonian needlefishes (Belonidae). Rev. Bras. Zool., São Paulo, 2(3):99-111.
- Günther, A. 1866. Catalogue of fishes in the British Museum, vol. 6. Catalogue of the Physostomi, containing the families Salmonidae, Percopsidae, Galaxidae, Mormyridae, Gymnarchidae, Esocidae, Umbridae, Scombresocidae, Cyprinodontidae, in the collection of the British Museum. xv + 368 p.
- Jordan, D.S. and M.W. Fordice. 1887. A review of the American species of Belonidae. Proc. U.S. Nat. Mus., 9:339-361.
- Lovejoy, N.R. and M.L.G. Araújo. 2000. Molecular systematics, biogeography and population structure of Neotropical freshwater needlefishes of the genus *Potamorrhaphis* Molecular Ecology, 9:259-268.
- Lovejoy, N.R. and B.B. Collette. 2001. Phylogenetic relationships of New World needlefishes (Teleostei: Belonidae) and the biogeography of transitions between marine and freshwater habitats. Copeia, 2001 (2): 324-338.
- Martin, F. 1954. Un nuevo genero y especie de los peces Beloni-

Check List of the Freshwater Fishes of South and Central America

- formes, Berg 1940. Noved. Cient. Mus. Hist. Nat. La Salle (Ser. Zool.), no. 14: 1-8.
- Miranda Ribeiro, A. 1913-1915. Fauna brasiliense. Peixes. Tomo V. [Eleutherobranchios aspirophoros]. Physoclisti.. Arq. Mus. Nac. Rio de Janeiro, 17: [1-679], pls.
- Ogilby, J. D. 1908. Descriptions of new Queensland fishes. Proc. R. Soc. Queensland, 21: 87-98.
- Regan, C.T. 1903. Descriptions of new South-American fishes in the collection of the British Museum. Ann. Mag. Nat. Hist. (Ser. 7), 12 (72): 621-630.
- Schomburgk, R.H. 1843. The natural history of fishes of Guiana.-- Part II, In: Jardine, W. (ed.). The Naturalists' Library. Vol. 5. W. H. Lizars, Edinburgh.
- Steindachner, F. 1876. Ichthyologische Beiträge (III). Sitzungsber. Akad. Wiss. Wien, 72: 29-96, pls. 1-8.
- Steindachner, F. 1878. Ichthyologische Beiträge (VII). Sitzungsber. Akad. Wiss. Wien, 78: 377-400.
- van Hasselt, J.C. 1823. Uittreksel uit een' brief van Dr. J. C. van Hasselt, aan den Heer C. J. Temminck. Algem. Konst Letterbode II Deel (no. 35): 130-133.
- van Hasselt, J.C. 1824. Extrait d'une seconde lettre sur les poissons de Java, écrite par M. Van Hasselt à M. C.-J. Temminck, datée de Tjecande, résidence de Bantam, 29 décembre 1822. Bull. Sci. Nat. Géol. (Ser. 2), 2: 374-377.
- Whitley, G.P. 1933. Studies in ichthyology. No. 7. Records of the Australian Museum, 19 (1): 60-112, Pls. 11-15.

Family Hemiramphidae (Halfbeaks)

Bruce B. Collette

The Hemiramphidae, the halfbeaks, are one of five families of the order Beloniformes. They are the sister-group of the Exocoetidae, the flying fishes, forming the superfamily Exocoetoidea (Collette et al., 1984). Most halfbeaks have an elongate lower jaw that distinguishes them from flying fishes which have lost the elongate lower jaw and from needlefishes (Belonidae) and sauries (Scomberesocidae) which have both jaws elongate. The family is defined by one derived character, third pair of upper pharyngeal bones anklylosed into a plate. Other diagnostic characters include: pectoral fins short or moderately long; premaxillae pointed anteriorly, forming a triangular upper jaw (except in *Oxyporhamphus*); lower jaw elongate in juveniles of all genera, adults of most genera; parapophyses forked; swimbladder not extending into haemal canal; nostrils in a pit anterior to the eyes; no spines in fins; dorsal and anal fins posterior in position; pelvic fins in abdominal position, with 6 soft rays; lateral line running down from pectoral fin origin and then backward along ventral margin of body. Scales moderately large, cycloid, easily detached. Halfbeaks live at the surface and are protectively colored for this mode of life being green or blue on the back and silvery white on the sides and ventrally. The tip of the lower jaw is bright red or orange in life in most species.

Most species are marine, but some inhabit freshwaters; omnivorous, feeding on floating sea grasses, crustaceans and small fishes. They are prone to leap and skitter at the surface and one offshore species, *Euleptorhamphus velox* can leap out of the water and glide like a flying fish. The flesh is excellent and larger species of halfbeaks are utilized as food in many parts of the world. In the Gulf of Mexico and Caribbean Sea, they are more important as baitfish for billfishes, dolphins, kingfish, wahoo, and kingmackerel than as food fish. They are caught with seines or dipnetted under lights at night.

The Hemiramphidae contains 12 genera and over 100 species (Collette, in press.) Four genera, the first three monotypic (*Arrhamphus*, *Chriodorus*, *Melapedalion*, and *Oxyporhamphus*) have very short or no beaks. *Euleptorhamphus* and *Oxyporhamphus* contain two offshore species each. The subfamily Zenarchopterinae contains five genera and about 50 sexually dimorphic internally-fertilizing Indo-West Pacific estuarine or freshwater species (Meisner and Collette, 1999). Three of these genera (*Dermogenys*, *Hemiramphodon*, and *Nomorhamphus*) are viviparous and have the anal fin of the male modified into an andropodium. *Hemiramphus* (with 10 species) is a world wide marine genus. *Rhynchorhamphus* (with 4 species) has fimbriate nasal papillae and is confined to Indo-West Pacific marine waters. *Hyporhamphus*, the most speciose genus, includes two subgenera, *Hyporhamphus* with 23 species and *Reporhamphus* with 11 species, all confined to the Indo-West Pacific. Some species are marine, some estuarine, and some freshwater. All genera are characterized by particular lateral line characters (Parin and Astakhov, 1982). The halfbeak fauna of the western Atlantic includes nine marine species in five genera (Collette, in press), *Chriodorus* (1 species), *Euleptorhamphus* (1), *Oxyporhamphus* (1), *Hemiramphus* (3), and *Hyporhamphus* (3), plus two freshwater species of *Hyporhamphus* in rivers draining into the western Atlantic.

HYPORHAMPHUS

Hyporhamphus Gill, 1859: 131. Type species: *Hyporhamphus tricuspidatus* Gill, 1859. Type by monotypy. Gender: masculine.
Ichthyacus Fernández-Yépez, 1948: [1]. Type species: *Ichthyacus brederi* Fernández-Yépez, 1948. Type by original designation. Gender: masculine.

Hyporhamphus brederi (Fernández-Yépez, 1948)

Ichthyacus brederi Fernández-Yépez, 1948: [2]. Type locality: Río Orinoco, Boca del Caño Orupe, between mouths of Río Meta and Río Apure, Venezuela. Holotype: AFY 48051.

Maximum length: 10 cm SL

Distribution: South America: Orinoco River and Amazon River at Santarem.

Countries: Brazil, Venezuela

Hyporhamphus mexicanus (Alvarez, 1959)

Hyporhamphus mexicanus Alvarez, 1959: 71. Type locality: Rancho San Carlos, Río Coatzacoalcos, Palomares, Oaxaca, Mexico. Holotype: PNCB 403.

Maximum length: 16.1 cm SL

Distribution: North and Central America: Freshwater streams and lagoons of the Usumacinta River drainage in Petén, Guatemala, westward to the Coatzacoalcos River, Mexico.

Countries: Guatemala, Mexico

Remarks and references: See Miller (1966) for distribution.

References

- Alvarez, J. 1959. Nuevas especies de *Xiphophorus* e *Hyporamphus* procedentes del Río Coatzacoalcos (Pisc., Poeciliidae y Hemiramphidae). *Ciencia* (Mexico City), 19 (4-5): 69-73.
- Collette, B.B. In Press. Hemiramphidae, In: K.E. Carpenter (ed.). *FAO Identification Guide to Living Marine Resources of the West Central Atlantic*. FAO, Rome.
- Collette, B.B., G.E. McGowen, N.V. Parin and S. Mito. 1984. Beloniformes: development and relationships. Pp. 335-354, In: H.G. Moser et al. (eds.). *Ontogeny and systematics of fishes*. American Society of Ichthyologists and Herpetologists, Special Publication No. 1.

Check List of the Freshwater Fishes of South and Central America

- Fernández-Yépez, A. 1948. *Ichthyacus breederi* nuevo género y especie de pez syentognatho, de los ríos de Sur América. *Evencias*, 4: 3 unnumbered pp.
- Gill, T.N. 1859. Description of *Hyporhamphus*, a new genus of fishes allied to *Hemirhamphus*, Cuv. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 11: 131.
- Meisner, A.D. and B.B. Collette. 1999. Generic relationships of the internally-fertilized southeast Asian halfbeaks (Hemiramphidae: Zenarchopterinae). Pp. 69-76, In: B. Séret and J.-Y. Sire (eds.). *Proceedings of the 5th Indo-Pacific Fish Conference, Nouméa, 1997*, Société Française d'Ichtyologie.
- Miller, R.R. 1966. Geographical distribution of Central American freshwater fishes. *Copeia*, 1966 (4): 773-802.
- Parin, N.V. and D.A. Astakhov. 1982. Studies on the acoustico-lateralis system of beloniform fishes in connection with their systematics. *Copeia*, 1982 (2): 276-291.

Family Syngnathidae (Pipefishes and seahorses)

Carl J. Ferraris, Jr.

The Syngnathidae consists of about 150 species, most of which are near shore marine inhabitants. Some species are euryhaline and others seem to be restricted to freshwaters. The family includes the elongate pipefishes and the curiously shaped seahorses. All species are encased in bony plates that form rings around the body. Male syngnathids brood eggs in specialized pouches on the ventral surface of either the abdomen or tail.

Syngnathids are distributed throughout the tropical and warm temperate regions of the world. Most species have no commercial value, but seahorses and some of the more colorful pipefishes are kept as aquarium fishes and dried specimens of some species, especially seahorses, are sold for their alleged medicinal value in Asia and in Asian communities worldwide.

The taxonomy presented here is based on Dawson (1982, 1984), with some minor alterations to the nomenclature presented therein.

MICROPHIS

Microphis Kaup 1853: 234. Type species: *Syngnathus deocata* Hamilton 1822. Type by subsequent designation by Jordan 1919:254.

Coelonotus Peters 1855: 465. Type species: *Syngnathus argulus* Peters 1855. Type by monotypy. Gender: masculine.

Hemithylacus Kaup 1856: 61. Type species: *Syngnathus leiaspis* Bleeker 1853. Type by monotypy. Gender: masculine. Name spelled *Hemithylacum* on p. 27, first reviser not determined.

Belonichthys Peters 1868: 147. Type species: *Syngnathus zambezensis* Peters 1855. Type by monotypy. Gender: masculine.

Oostethus Hubbs, 1929: 3. Type species: *Doryichthys lineatus* Kaup, 1856. Type by original designation. Gender: masculine.

Parabelonichthys Fowler 1943: 57. Type species: *Parabelonichthys kellersi* Fowler 1943. Type by original designation. Gender: masculine.

Paramicrophis Klausewitz 1955: 325. Type species: *Paramicrophis schmidti* Klausewitz 1955. Gender: masculine.

Lophocampus Dawson 1984: 166. Type species: *Syngnathus retzii* Bleeker 1856. Type by original designation. Gender: masculine. Originally proposed as a subgenus of *Microphis*.

***Microphis lineatus* (Kaup, 1856)**

Doryichthys lineatus Kaup, 1856: 59. Type locality: Bahia, Mexico, and Guadeloupe [restricted by lectotype designation to Veracruz, Mexico]. Lectotype: MNHN 6213, designated by Dawson (1979: 478).

Syngnathus cayennensis Sauvage, 1882: 176. Type locality: Cayenne. Holotype: MNHN A.4247.

Siphostoma brevicaudum Meek, 1904: 163, fig. 51. Type locality: Boca del Río, Veracruz, Mexico. Holotype: FMNH 4586.

Siphostoma torrei Nichols, 1912: 183, fig. 1. Type locality: Matanzas, Río San Juan, Matanzas, Cuba. Holotype: AMNH 3359.

Doryrhamphus sierra Nichols, 1915: 142, fig. 1. Type locality: Mouth of the Loiza River, east of San Juan [Puerto Rico]. Holotype: AMNH 4840.

Siphostoma eigenmanni Wilson, 1916: 60. Type locality: Rio Vermelho, Bahia [Brazil]. Holotype: FMNH 56857 [ex CM 5672a].

Maximum length: 19 cm SL.

Distribution: North, Central, and South America and Caribbean Islands: Coastal rivers of Caribbean and Atlantic basins.

Countries: Bahamas, Barbados, Belize, Brazil, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, French Guiana, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico, Nicaragua, Panama, Suriname, Trinidad and Tobago, Venezuela.

Remarks and references: This species is still referred to in recent literature as *Oostethus lineatus* and *Microphis brachyurus lineatus*.

PSEUDOPHALLUS

Pseudophallus Herald, 1940:51. Type species: *Siphostoma starksii* Jordan & Culver, 1895. Type by original designation. Gender: masculine.

***Pseudophallus elcapitanensis* (Meek & Hildebrand, 1914)**

Siphostoma elcapitanense Meek & Hildebrand, in Meek, 1914: 119. Type locality: El Capitan, Panama; Jesus Maria and Turruabales [Rivers], Costa Rica. Lectotype: USNM 81735, designated by Meek & Hildebrand (1923: 260).

Maximum length: 18.5 cm SL

Distribution: Central America: Pacific coastal drainages

Countries: Costa Rica, Panama

***Pseudophallus mindii* (Meek & Hildebrand, 1923)**

Syngnathus mindii Meek & Hildebrand, 1923: 261, pl. 18 (fig. 2). Type locality: creek near Mindi, Canal Zone [Panama]. Holotype: USNM 81770.

Pseudophallus brasiliensis Dawson, 1974: 406, figs. 1-3. Type locality: Brazil, Pará, Rio Tocantins, Igarapé Inó, Faroda Panaguera, 01°52'S, 49°10'W. Holotype: MZUSP 10278.

Maximum length: 16 cm SL

Distribution: South and Central America and Caribbean Islands: Atlantic and Caribbean coastal rivers.

Countries: Brazil, Costa Rica, Cuba, Guatemala, Jamaica, Nicaragua, Panama, Puerto Rico, Venezuela, Virgin Is.

***Pseudophallus starksii* (Jordan & Culver, 1895)**

Siphostoma starksii Jordan & Culver, in Jordan, 1895: 416, pl. 30. Río Presidio ... about a mile below the village of Presidio Sinaloa, Mexico]. Lectotype: SU 67185 [ex SU 2686], designated by Jordan & Evermann (1900: 3259) in caption to pl. 120.

Maximum length: 17.6 cm SL

Distribution: North, Central, and South America: Pacific coastal rivers.

Countries: Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama.

SYNGNATHUS

Syngnathus Linnaeus, 1758: 336. Type species: *Syngnathus acus* Linnaeus, 1758. Type by subsequent designation. Jordan (1912:103) cited on Official List (Opinion 77, Direction 56) of the International Commission on Zoological Nomenclature as responsible for type designation, but Eschmeyer and Bailey (in Eschmeyer, 1990) note an earlier type designation by Fowler (1906: 93). Gender: masculine.

Tiphle Rafinesque, 1810: 18. Type species: *Tiphle hexagonus* Rafinesque, 1810 (= *Syngnathus tiphle* Linnaeus, 1758). Type by subsequent designation by Jordan (1917:78). Gender: feminine.

Siphostoma Rafinesque, 1810: 18. Type species: *Syngnathus pelagicus* Linnaeus, 1758. Type by subsequent designation by Jordan & Evermann (1896: 761). Gender: feminine.

Typhlinus Rafinesque, 1815: 90. Type species: *Syngnathus tiphle* Linnaeus, 1758. Type by being a replacement for *Tiphle* Rafinesque, 1810.

Siphonostoma Agassiz, 1846: 342. Type species: *Syngnathus pelagicus* Linnaeus, 1758. Unjustified emendation for *Siphostoma* Rafinesque, 1810, therefore taking the same type species.

Dermatostethus Gill, 1862: 283. Type species: *Dermatostethus punctipinnis* Gill, 1862. Type by monotypy. Gender: masculine.

Syrictes Jordan & Evermann, 1927: 504. Type species: *Syngnathus fuscus* Storer, 1839. Type by original designation. Gender: masculine.

Syngnathus scovelli (Evermann & Kendall, 1896)

Siphostoma scovelli Evermann & Kendall, 1896: 113. Type locality: Shamrock Point, Corpus Christi, Texas. Lectotype: USNM 47300, designated by Dawson (1982: 83).

Maximum length: 18 cm SL

Distribution: North, Central, and South America: Atlantic, Gulf, and Caribbean coastal drainages.

Countries: Belize, Brazil, Guatemala, Honduras, Mexico, Panama, Venezuela.

Remarks and references: found primarily in nearshore marine habitats, but reported from several freshwater collections.

References

- Agassiz, L. 1846. Nomenclatoris Zoologici. Index universalis, continens nomina systematica classium, ordinum, familiarum et generum animalium omnium, tam viventium quam fossilium. Soliduri. i-viii + 1-393.
- Dawson, C.E. 1974. *Pseudophallus brasiliensis* (Pisces: Syngnathidae), a new freshwater pipefish from Brazil. Proc. Biol. Soc. Washington, 87 (36): 405-410.
- Dawson, C.E. 1979. Review of the polytypic doryrhamphine pipefish *Oostethus brachyurus* (Bleeker). Bull. Mar. Sci., 29 (4): 465-480.
- Dawson, C.E. 1982. Subfamilies Doryrhamphinae and Syngnathinae, pp. 4-172. In: Fishes of the Western North Atlantic, part 8: Order Gasterosteiformes, Suborder Syngnathoidi. Memoir no. 1. Sears Foundation for Marine Research.
- Dawson, C.E. 1984. Revision of the genus *Micropis* Kaup (Pisces, Syngnathidae). Bull. Mar. Sci., 35 (2): 117-181.
- Dawson, C.E. 1985. Indo-Pacific pipefishes (Red Sea to the Americas). Gulf Coast Research Lab., Ocean Springs, Mississippi. vi + 230 p.
- Eschmeyer, W.N. (ed.). 1990. Catalog of the genera of Recent fishes. California Academy of Sciences. v + 697 p.
- Evermann, B.W. and W.C. Kendall. 1896. Description of a new species of pipefish (*Siphostoma scovelli*) from Corpus Christi, Texas. Proc. U. S. Natl. Mus., 18 (1043): 113-115.
- Fowler, H.W. 1906. Some cold-blooded vertebrates of the Florida Keys. Proc. Acad. Nat. Sci. Philadelphia, 58: 77-113, pls. 3-4.
- Fowler, H.W. 1943. Contributions to the biology of the Philippine Archipelago and adjacent regions. Descriptions and figures of new fishes obtained in Philippine seas and adjacent waters by the United States Bureau of Fisheries steamer "Albatross.". Bull. U. S. Natl. Mus. No. 100, 14 (2): i-iii + 53-91.
- Gill, T. N. 1862. Synopsis of the species of lophobranchiate fishes of western North America. Proc. Acad. Nat. Sci. Philadelphia, 14: 282-284.
- Herald, E.S. 1940. A key to the pipefishes of the Pacific American coasts with descriptions of new genera and species. Rep. Allan Hancock Pacific Exped. 1932-1938, 9 (3): 51-64.
- Hubbs, C.L. 1929. *Oostethus*: a new generic name for a doryrhamphine pipefish. Occas. Pap. Mus. Zool. Univ. Mich., no. 199: 1-4.
- Jordan, D.S. 1895. The fishes of Sinaloa. Proc. Calif. Acad. Sci. (Ser. 2), 5: 377-514, Pls. 26-55.
- Jordan, D.S. 1912. Smithsonian Publ. 2060: 103.
- Jordan, D.S. 1917. The genera of fishes, from Linnaeus to Cuvier, 1758-1833, seventy-five years, with the accepted type of each. A contribution to the stability of scientific nomenclature (assisted by Barton Warren Evermann.). Leland Stanford Jr. Univ. Publ., Univ. Ser., no. 27: 1-161.
- Jordan, D.S. 1919. The genera of fishes, part II, from Agassiz to Bleeker, 1833-1858, twenty-six years, with the accepted type of each. A contribution to the stability of scientific nomenclature. Leland Stanford Jr. Univ. Publ., Univ. Ser., no. 36: i-ix + 163-284 + i-xiii.
- Jordan, D.S. and B.W. Evermann. 1896. The fishes of North and Middle America: a descriptive catalogue of the species of fish-like vertebrates found in the waters of North America, north of the Isthmus of Panama. Part I. Bull. U. S. Natl. Mus., no. 47: i-lx + 1-1240.
- Jordan, D.S. and B.W. Evermann. 1900. The fishes of North and Middle America: a descriptive catalogue of the species of fish-like vertebrates found in the waters of North America, north of the Isthmus of Panama. Part IV. Bull. U. S. Natl. Mus., no. 47: i-ci + 3137-3313, Pls. 1-392.
- Jordan, D.S. and B.W. Evermann. 1927. New genera and species of North American Fishes. Proc. California. Acad. Sci. (Ser. 4), 16 (15): 501-507.
- Kaup, J.J. 1853. Uebersicht der Lophobranchier. Arch. Naturgeschichte, 19 (1): 226-234.
- Kaup, J.J. 1856. Catalogue of lophobranchiate fish in the collection of the British Museum. London. iv + 80 p., 4 pls.
- Klausewitz, W. 1955. *Paramicrophis schmidti*, eine neue Seenadel aus Indien (Pisces, Syngnathidae). Senckenb. Biol. 36 (5/6): 325-327.
- Linnaeus, C. 1758. Systema naturae, per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Tomus I. Editio decima, reformata. Holmiae. ii + 824 p.
- Meek, S.E. 1904. The fresh-water fishes of Mexico north of the isthmus of Tehuantepec. Field Columbian Mus. Zool. Ser., 5: i-lxiii + 1-252, pls. 1-17.
- Meek, S.E. 1914. An annotated list of fishes known to occur in the fresh-waters of Costa Rica. Field Mus. Nat. Hist. Publ., Zool. Ser., 10 (10): 101-134.
- Meek, S.E. and S.F. Hildebrand. 1923. The marine fishes of Panama. Part I. Field Mus. Nat. Hist. Publ. Zool. Ser., 15 (215): i-xi + 1-330, pls. 1-24.
- Nichols, J.T. 1912. Notes on Cuban fishes. Bull. American Mus. Nat. Hist., 31 (18): 179-194.

Check List of the Freshwater Fishes of South and Central America

- Nichols, J.T. 1915. Fishes new to Porto Rico. Bull. American Mus. Nat. Hist., 34 (7): 141-146.
- Peters, W.C.H. 1855. Übersicht der in Mossambique beobachteten Seefische. Arch. Naturgeschichte, 21 (2-3): 234-282.
- Peters, W.C.H. 1868. Über eine neue Untergattung der Flederthiere, so wie über neue Gattungen und Arten von Fischen. Monatsb. Akad. Wiss. Berlin, 1868: 145-148.
- Rafinesque, C.S. 1810. Caratteri di alcuni nuovi generi e nuove specie di animali e piante della sicilia, con varie osservazioni sopra i medisimi. 105 p., 20 pl.
- Rafinesque, C.S. 1815. Analyse de la nature, ou tableau de l'univers et des corps organisés. Palerme. 224 p.
- Sauvage, H.E. 1882. Descriptions de quelques poissons de la collection du Muséum d'histoire naturelle. Bull. Soc. Philomath. Paris (Ser. 7), 6: 168-176.
- Wilson, C. 1916. Some marine fishes from Colombia and Ecuador. Ann. Carnegie Mus., 10 (1/2): 57-76, pls. 10-12.

Family Synbranchidae (Swamp-eels)

Sven O. Kullander

Swamp-eels are eel-like fishes distributed in fresh water, occasionally in brackish water; throughout tropical and subtropical regions, including southern and eastern mainland Asia, the Indo-Australian Archipelago, West Africa (Liberia), Mexico, Central and South America. Pectoral and pelvic fins are absent; dorsal and anal fins are rudimentary; the caudal fin is short, rudimentary or absent. The eyes are minute. The gill membranes fused, leaving a single ventral gill opening appearing as a short transverse slit or pore. No swimbladder and no ribs. Vertebral numbers range between 98-188. Most species are air breathers, and found in swamps or similar conditions with low oxygen levels. Most species are burrowers, some cave dwellers. The largest species is *Synbranchus marmoratus*, reaching 150 cm TL. The family includes 16 species, most of them in Asia (10 species). Only four species are recognized from South and Central America. Because of their secluded life style and paucity of strongly expressed external diagnostic characters, species identification and detection is difficult and requires examination of internal characters. The number of species will increase with forthcoming revisions.

Although large-sized, none of the species constitutes more than very local food fishes.

OPHISTERNON

Ophisternon McClelland, 1844: 175. Type species: *Ophisternon bengalensis* McClelland, 1844. Type by subsequent designation. Gender: neuter.

Tetrabanchus Bleeker, 1851: 69. Type species: *Tetrabanchus microphthalmus* Bleeker, 1851. Type by monotypy. Gender: masculine.

Pluto Hubbs, 1938: 291. Type species: *Pluto infernalis* Hubbs, 1938. Type by original designation. Gender: masculine.

Furmastix Whitley, 1951: 67. Type species: *Pluto infernalis* Hubbs, 1938. Type by being a replacement name. Gender: feminine.

Anommatophasma Mees, 1962: 27. Type species: *Anommatophasma candidum* Mees, 1962. Type by original designation. Gender: neuter.

Ophisternon aenigmaticum Rosen & Greenwood, 1976

Ophisternon aenigmaticum Rosen & Greenwood, 1976: 52, fig. 23. Type locality: About 13 km southwest of Sebol, Alta Verapaz, Río Chajmaic, Guatemala. Holotype: AMNH 32410.

Maximum length: 80 cm TL

Distribution: North and Central America and Caribbean Islands: Throughout the Atlantic Slope of Guatemala and Mexico to Cuba.

Countries: Belize, Cuba, Guatemala, Honduras, Mexico, Saint Lucia (introduced), Trinidad and Tobago

Ophisternon infernale (Hubbs, 1938)

Pluto infernalis Hubbs, 1938: 292, pl. 4. Type locality: Hoctun Cave at Hoctun, between Merida and Chichen Itza, Yucatán, Mexico. Holotype: UMMZ 116093.

Distribution: North America: Yucatán.

Countries: Mexico

SYNBRANCHUS

Synbranchus Bloch, 1795: 86. Type species: *Synbranchus marmoratus* Bloch, 1795. Type by subsequent designation. Gender: masculine.

Typhlobranchus Schneider, 1801: 537. Type species: *Typhlobran-*

chus spurius Schneider, 1801. Type by monotypy. Gender: masculine.

Unibranchapertura La Cepède, 1803: 656. Type species: *Synbranchus marmoratus* Bloch, 1795. Type by subsequent designation. Gender: feminine.

Unipertura Duméril, 1856: 201. Type species: *Synbranchus marmoratus* Bloch, 1795. Type by being a replacement name. Gender: feminine.

Falconeria Larrañaga, 1923: 381. Type species: not fixed. Gender: feminine.

Synbranchus madeirae Rosen & Rumney, 1972

Synbranchus madeirae Rosen & Rumney, 1972: 11, figs. 15-16, 17B, 18B. Type locality: Río Beni, Beni, Bolivia, 14°18'S, 67°23'W. Holotype: CAS 13704 [ex IU 17250].

Maximum length: 100 cm TL

Distribution: South America: Madeira River basin.

Countries: Bolivia

Synbranchus marmoratus Bloch, 1795

Synbranchus immaculatus Bloch, 1795: 87, pl. 419 (fig. 1). Type locality: Suriname; Tranquebar, India [erroneous].

Synbranchus marmoratus Bloch, 1795: 87, pl. 418. Type locality: Suriname.

Typhlobranchus spurius Schneider 1801: 537. American rivers.

Unibranchapertura lineata La Cepède, 1803: 656, 658. Type locality: Cayenne, French Guiana. No types known.

Synbranchus fuliginosus Ranzani, 1840: 75, pl. 11 (figs. 1a-b). Type locality: Brazil. Holotype: MZUB 991.

Synbranchus pardalis Valenciennes, 1842: pl. 13 (fig. 1). Type locality: Buenos Aires, Argentina.

Synbranchus vittatus Castelnau, 1855: 84, pl. 44 (fig. 3). Type locality: Rio de Janeiro, Brazil.

Synbranchus mercedarius Weyenbergh, 1877: 22, pl. 4. Type locality: Lakes along Río Primero, near Cordoba and Chacra de la Merced, Argentina.

Synbranchus tigrinus Weyenbergh, 1877: 16, pl. 1. Type locality: Lakes near Santa Fe, Argentina.

Synbranchus doringii Weyenbergh, 1877: 15, pl. 2. Type locality: Lakes near Santa Fe, Argentina.

Synbranchus hieronymi Weyenbergh, 1877: 14, pl. 2. Type locali-

ty: Oran, Salta Prov., Argentina.
Falconeria aptera Larrañaga 1923: 381 Type locality: Uruguay.
 No types known.
Falconeria pinnata Larrañaga 1923: 381. Type locality: Uruguay.
 No types known.
 Maximum length: 150 cm TL
 Distribution: North, Central, and South America: Mexico to northern Argentina.
 Countries: Argentina, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, French Guiana, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay, Venezuela

References

- Bleeker, P. 1851. Derde bijdrage tot de kennis der ichthyologische fauna van Borneo, met beschrijving van eenige nieuwe soorten van zoetwatervisschen. *Natuurkd. Tijdschr. Neder. Indië*, 2: 57-70.
- Bloch, M.E. 1795. *Naturgeschichte der ausländischen Fische*, vol. 9. Berlin. ii + 192 p., pls. 397-429.
- Castelnau, F.L. 1855. Poissons, In: *Animaux nouveaux or rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847*, xii + 112, pls. 1-50.
- Duméril, A.M.C. 1856. *Ichthyologie analytique ou classification des poissons, suivant la méthode naturelle, à l'aide de tableaux synoptiques*. *Mém. Acad. Sci., Paris*, 27 (1): 1-507.
- Hubbs, C.L. 1938. Fishes from the caves of Yucatan. *Carnegie Inst. Wash. Publ.*, no. 491: 261-295, pls. 1-4.
- La Cépède, B.G.E. 1803. *Histoire naturelle des poissons*, vol. 5. Plassan, Paris. lxxviii + 803 p. + index.
- Larrañaga, D.A. 1923. *Escritos de Don Dámaso Antonio Larrañaga*. Los Publica el Instituto Histórico y Geográfico del Uruguay. Edición Nacional. 512 p.
- McClelland, J. 1844. Apodal fishes of Bengal. *J. Nat. Hist. Calcutta*, 5 (18): 151-226, pls. 5-14.
- Mees, G.F. 1962. The subterranean freshwater fauna of Yardie Creek Station, North West Cape, Western Australia. *J. Roy. Soc. Western Australia*, 45 (1): 24-32.
- Ranzani, C. 1840. *De novis speciebus piscium. Dissertatio prima. Novi Comment. Acad. Sci. Inst. Bonon.*, 4: 65-83, pls. 8-13.
- Rosen, D.E. and P.H. Greenwood. 1976. A fourth Neotropical species of synbranchid eel and the phylogeny and systematics of synbranchiform fishes. *Bulletin of the American Museum of Natural History*, 157 (1): 1-69.
- Rosen, D.E. and A. Rumney. 1972. Evidence of a second species of *Synbranchus* (Pisces, Teleostei) in South America. *American Museum Novitates*, no. 2497: 1-45.
- Schneider, J.G. (ed.). 1801. M. E. Blochii, *Systema Ichthyologiae iconibus cx illustratum. Post obitum auctoris opus inchoatum absolvit, correxit, interpolavit Jo. Gottlob Schneider, Saxo. Berolini. Sumtibus Auctoris Impressum et Bibliopolio Sanderiano Commissum*. lx + 584 p.
- Valenciennes, A. 1842. Poissons [plates], In: A. d'Orbigny. *Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivia, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833*. Paris, Bertrand et Levrault.
- Weyenbergh, H. 1877. Algunos nuevos pescados del Museo Nacional, y algunas noticias ictiológicas. *Actas Acad. Nacional Cien. Exactas*, 3 (1): 1-21, pls. 1-4.
- Whitley, G.P. 1951. New fish names and records. *Proc. Roy. Zool. Soc. New South Wales*, 1949-50: 61-68.

Family Percichthyidae (Temperate basses)

Gloria Arratia

Percichthyids, as many other basal percoids, are characterized by a combination of features such as the presence of a body more or less compressed covered with scales bearing needle-like or slightly amputated ctenii on their posterior fields; the articular surface the of ctenii is almost straight; there are five or more large depressions in the skin covering the dentary, the last one is positioned between the dentary and angulo-articular where the mandibular sensory pores open. Slit-like pores of the mandibular canal and of the infraorbital canal are present on the skin covering the lower jaw and infraorbital 1. (Unpublished data by G. Arratia in which South American percichthyids appear in the clade containing the marine and estuarine Australian percichthyids). Larger South American percichthyids may reach approximately 400 mm total length (e.g., *Percichthys colhuapensis*); commonly, the size ranges between 200 to 350 mm total length (e.g., *Percichthys malanops*, *P. trucha*). Data on the morphology, taxonomy, and systematics of the South American percichthyids can be found in Arratia et al. (1981) and Arratia (1982).

Percichthyids are typical inhabitants of the Austral Region of South America. They live in freshwater rivers and lakes of central and southern Chile and of Argentinean Patagonia. The reproductive mechanism of percichthyids is unknown for most species. Although, MacDonagh (1955) mentioned that *Percichthys colhuapensis* and *P. trucha* (from Argentina) were protandrous hermaphrodites, no studies support such an assumption. This condition has not been described for the Chilean percichthyids. The eggs of *P. colhuapensis* have been described as demersal and adhesive (Fuster and Plaza, 1955); information on other percichthyids is missing.

The meat of percichthyids is considered as a 'delicatessen' by those who have tasted it. However, percichthyids have never been used economically and at present time this seems unlikely, at least in Chile. The number of individuals of species of *Percichthys* in Chile is considerable less than in the first half of the 20th century where percichthyids were described as forming large schools. The reduction in number is due in part to the illegal use of explosives in freshwaters of Chile and the high contamination affecting rivers and lakes.

PERCICHTHYS

Percichthys Girard, 1855: 197. Type species: *Perca chilensis* Girard, 1855. Type by subsequent designation. Gender: masculine.

Percosoma Gill, 1861: 51. Type species: *Percichthys melanops* Girard, 1854. Type by original designation. Gender: neuter.

Percichthys altispinis Regan, 1905

Percichthys altispinis Regan, 1905: 390, pl. 5 (fig. 1). Type locality: Río Colorado, Buenos Aires [Argentina]. Syntypes: BMNH 1905.3.18.1; MHNG 677.100.

Maximum length: 13.4 cm TL

Distribution: South America: Lower Colorado River in Argentina.

Countries: Argentina

Percichthys colhuapiensis MacDonagh, 1955

Percichthys colhuapiensis MacDonagh, 1955: 305, fig. 1. Type locality: Lago Colhué Huapí, Gobernación Militar de Comodoro Rivadavia en la cuenca del río Senguerr. Altura aproximada sobre el nivel del mar: 260 m [Argentina]. Holotype: MACN 1.XII.49.1.

Maximum length: 40 cm TL

Distribution: South America: Colhué Huapí Lake (Chubut); Upper Negro River at Cipolletti; General Fernández Oro, Pellegrini Lake; and Limay River at Plottier Río Negro.

Countries: Argentina

Common names: Largemouth perch (Argentina), Percas boconas (Argentina)

Percichthys melanops Girard, 1855

Percichthys melanops Girard, 1855: 197. Type locality: a tributary of the Río de Maypu, Chili. Syntype: ANSP 22892.

Maximum length: 20 cm TL

Distribution: South America: Pre-Andean streams of central Chile.

Countries: Chile

Percichthys trucha (Valenciennes, 1833)

Perca trucha Valenciennes, in Cuvier & Valenciennes, 1833: 429.

Type locality: Río Negro; Patagonia; Chile. Syntypes: MNHN 6528 [Chile], A.7699, MNHN (1, lost) [R. Negro].

Percichthys chilensis Girard, 1855: 197. Type locality: fresh waters of Chili. No types known.

Maximum length: 40 cm TL

Distribution: South America: Pre-Andean streams of central and southern Chile and Argentina.

Countries: Argentina, Chile

Common names: Percas de boca chica (Argentina), Smallmouth perch (Argentina)

Percichthys vinciguerrae Perugia, 1891

Percichthys vinciguerrae Perugia, 1891: 610. Type locality: Río Santa Cruz [Patagonia, Argentina]. Syntypes: MSNG 13443.

Distribution: South America: Santa Cruz and Negro River basins.

Countries: Argentina

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Perca laevis Jenyns, 1840: 1, pl. 1. Type locality: Río Santa Cruz,

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- Patagonia [Argentina]. Holotype: BMNH 1917.7.14.33. Valid species according to A. López-Arbarelo.
- Perca pochá* Philippi, 1863: 210. Type locality: Santiago, Chile. Holotype: unknown.
- Perca segethi* Philippi, 1863: 211. Type locality: Santiago, Chile. Holotype: ZMB 6015.

References

- Arratia, G. 1982. A review of freshwater percoids from South America (Pisces, Osteichthyes, Perciformes, Percichthyidae, and Perciliidae). *Abhandlungen der Senckenbergischen Naturforschenden Gesellschaft*, 540: 1-52.
- Arratia, G., G. Rojas and A. Chang. 1981. Géneros de peces de aguas continentales de Chile. *Museo Nacional de Historia Natural, Chile, Publicación Ocasional*, 43: 3-108.
- Cuvier, G. and A. Valenciennes. 1833. *Histoire naturelle des poissons*. Tome neuvième. Suite du livre neuvième. Des Scomberoïdes. Ch. Pitois, & V.^e Levrault, Paris & Strasbourg. xxix + 3 + 512 p.
- Delfin, F.T. 1898. Catálogo de los peces de Chile. *Rev. Chil. Hist. Nat.*, 2: 92-93, 144-150, 161-163.
- Fuster, M. and J. Plaza. 1955. Nuevos ensayos para obtener la reproducción artificial de las percas o truchas criollas (*Percichthys* sp.). *Pub. Misc. Minist. Agric. Ganad.*, 407: 5-48.
- Gill, T. 1861. Synopsis of the subfamily of Percinae. *Proc. Acad. Nat. Sci. Philadelph[ia]*, 1861: 44-52.
- Girard, C.F. 1855. Abstract of a report to Lieut. Jas. M. Gilliss, U. S. N., upon the fishes collected during the U. S. N. Astronomical Expedition to Chili. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 7: 197-199.
- Jenyns, L. 1840. Part IV, Fish, In: C. Darwin (ed.). *The zoology of the voyage of H. M. S. Beagle, under the command of Captain FitzRoy, R. N., during the years 1832 to 1836*. Smith, Elder, and Co., London. xvi + 172 p., pls. 1-29. [Issued in 4 parts, from 1840 to 1842; *Percichthids* in part dated 1840].
- MacDonagh, E.J. 1955. Las truchas criollas (*Percichthys*) del Lago Colhué Huapí (Comodoro Rivadavia) y el problema de la especie. *Rev. Mus. La Plata Secc. Zool*, 6: 297-329.
- Perugia, A. 1891. Appunti sopra alcuni pesci sud-americani conservati nel Museo Civico di Storia Naturale di Genova. *Ann. Mus. Civ. Stor. Nat. Genova (Ser. 2a)*, 10: 605-657.
- Philippi, R.A. 1863. Kurze Nachricht über ein paar chilenische Fische. *Archiv für Naturgeschichte*, 29 (1): 207-212.
- Regan, C.T. 1905. Description de six poissons nouveaux faisant partie de la collection du Musée d'Histoire Naturelle de Genève. *Revue Suisse de Zoologie*, 13: 389-393.

Family Perciliidae (Southern Basses)

Gloria Arratia

Perciliids, as many other basal percoids, are characterized by a combination of features such the presence of an oblong, more or less compressed body which is covered with large scales bearing needle-like ctenii on their posterior fields (Chilean perciliids) or with few ctenii or only cycloid scales (in their Australian sister group). The frontoparietal, or parietal, or parieto-supraoccipital crest on the cranial roof is missing. The anterior epaxial muscles are not attached onto the frontal bones. The infraorbital bones, opercular bones (without preopercle), posttemporal and supracleithrum commonly lack serrae. The preopercle has few or no serrae. Only few round or oval pores of the mandibular canal open in the skin of the dentary. Caudal skeleton with only one uroneural (Unpublished data by G. Arratia in which the South American *Percilia* appears as part of a clade including Australian genera such as *Bostockia*, *Edelia*, and *Nannoperca*). South American perciliids are small fishes of about 90 mm as maximum length. Data on the morphology, taxonomy, and systematics of South American perciliids can be found in Arratia et al. (1981) and Arratia (1982).

Perciliids are freshwater fishes endemic of central and southern Chile; thus, they are typical inhabitants of the Austral Region of South America. Information on their reproductive mechanism are scarce; however, the only work on the subject, based on month-to-month histological observations, shows that *Percilia gillissi* is a protandrous hermaphrodite (Riffo and Bustos-Obregón, pers. commun.). Despite their nice colors, perciliids have not attracted the attention of aquarists. Due to their small size and strong bones, they are not used as food by the human population.

PERCILIA

Percilia Girard, 1855: 197. Type species: *Percilia gillissi* Girard, 1855. Type by monotypy. Gender: feminine.

***Percilia gillissi* Girard, 1855**

Percilia gillissi Girard, 1855: 197. Type locality: Rio de Maypu, Chile. Syntypes: MCZ 36246 (1); USNM 5692 (5).

Maximum length: 9 cm TL

Distribution: South America: Central and southern Chile.

Countries: Chile

***Percilia irwini* Eigenmann, 1927**

Percilia irwini Eigenmann, 1927: 63, pl. 16 (fig. 1). Type locality: Rio Nonguen, in the grounds of the Agricultural School, Concepcion [Chile]. Holotype: CAS 49919.

Maximum length: 9.6 cm TL

Distribution: South America: Streams and rivers of Malleco and Bio-Bio River basins.

Countries: Chile

SPECIES INQUIRENDA

Percilia gracilis Philippi, 1866: 710. Type locality: Aus den

Gewässern von Paine bei Santiago, Chile. Holotype: ZMB 6011.

References

- Arratia, G. 1982. A review of freshwater percoids from South America (Pisces, Osteichthyes, Perciformes, Percichthyidae, and Perciliidae). *Abhandlungen der Senckenbergischen Naturforschenden Gesellschaft*, 540: 1-52.
- Arratia, G., G. Rojas and A. Chang. 1981. Géneros de peces de aguas continentales de Chile. *Museo Nacional de Historia Natural, Chile, Publicación Ocasional*, 43: 3-108.
- Eigenmann, C.H. 1928. The fresh-water fishes of Chile. *Memoirs of the National Academy of Sciences*, 22 (2): 1-63.
- Girard, C.F. 1855. Abstract of a report to Lieut. Jas. M. Gilliss, U. S. N., upon the fishes collected during the U. S. N. Astronomical Expedition to Chili. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 7: 197-199.
- Philippi, R.A. 1866. Bemerkungen über die chilenischen Flussfische. *Monatsberichte der Akademie der Wissenschaften, Berlin*, 1866: 708-717.

Family Sciaenidae (Drums or croakers)

Lilian Casatti

The croakers or drums, family Sciaenidae, include about 78 genera and 287 species, inhabiting coastal, estuarine and freshwaters in tropical and temperate regions (Chao, 1986). Six genera are restricted to freshwaters, but may also occur in estuaries. Among those, the monotypic *Boesemania* Trewavas occurs in South East Asian rivers (Kottelat et al., 1993). The monotypic *Aplodinotus* Rafinesque ranges from Canada south to the Usumacinta River system in Guatemala. The other four genera, *Pachyurus* La Cepède, *Pachypops* Gill, *Plagioscion* Gill, and *Petilipinnis* Casatti are endemic to South American freshwaters, and recognized locally as corvinas (Spanish), pescadillos (Peru), pescadas (Brazil), or akoupas (French Guiana). These genera are widely distributed in South America, occurring throughout the Magdalena, Orinoco, Amazonas, São Francisco, and Paraná River basins and Guianan rivers. *Plagioscion* species are large piscivores mainly found in big rivers and supporting locally important commercial or sport fishing (Goulding, 1980: 179). *Pachyurus* and *Pachypops* are smaller bentivore species characteristic of lakes. The genus *Petilipinnis* was proposed for *Corvina grunniens* Jardine (Casatti, 2002b) due to the presence of conspicuous features not shared with other sciaenids. Many more species of the family are important in the coastal fishery and may be landed in coastal ports, but are not covered here. Keith et al. (2000), Greenfield & Thomerson (1997) are important recent references for coastal species.

A recent baseline revision of the family was done by Trewavas (1977) based on Indo-Pacific species and characters traditionally used in the family systematic, like barbel morphology, mental and chin pores, position of the mouth, and swimbladder morphology. Chao (1978) presented a taxonomic synopsis with some phylogenetic considerations about the western Atlantic Sciaenidae, also focusing on the external, otolith, and swimbladder morphology. The first cladistic contribution to the relationships of the family by Sazaki (1989) focused on nominal genera and few species from South American freshwaters were analyzed by him. Sazaki found that *Pachypops*, *Pachyurus*, and *Plagioscion* are polyphyletic, as corroborated by unpublished personal analysis of almost all valid South American species.

The first species level revision including the South American freshwater Sciaenidae was done by Jordan and Eigenmann (1889), who recognized ten valid species. Subsequently, Campos (1942) recognized the same species. Fowler (1954) listed 20 valid Brazilian species of *Pachypops*, *Pachyurus* and *Plagioscion* and described *Pachypops camposi* from the Rupununi River in Guyana. *Pachyurus* and *Pachypops* were recently revised by Casatti (2001, 2002a) and together with the addition of a new species described by Casatti & Chao (2002), both genera includes 13 species. The genus *Petilipinnis* includes *P. grunniens* (see Casatti, 2002b). The taxonomy of *Plagioscion* is being studied and the four species listed by Campos (1942) are valid with the addition of *P. montei* recently described by Soares & Casatti (2000), and *Plagioscion casattii* Aguilera & Aguilera (2001), totaling six species for the genus. Thus, 20 species of freshwater Sciaenidae are currently recognized in South America. Considering the occurrence of *Aplodinotus grunniens* in Central America, 21 species of freshwater Sciaenidae are registered for Neotropical freshwaters.

APLODINOTUS

Aplodinotus Rafinesque, 1819: 418. Type species: *Aplodinotus grunniens* Rafinesque, 1819. Type by original designation. Gender: masculine.

Eutychelithus Jordan, 1876: 242. Type species: *Corvina richardsonii* Cuvier, 1830. Type by monotypy. Gender: masculine.

***Aplodinotus grunniens* Rafinesque, 1819**

Aplodinotus grunniens Rafinesque, 1819: 419. Type locality: Ohio R. No types known.

Sciaena grisea Lesueur, 1821: 254. Type locality: Ohio River. Syntypes: (2) whereabouts unknown.

Sciaena oscula Lesueur, 1821: 252, unnumbered plate (apparently 13). Type locality: Lake Erie or Lake Ontario. Syntypes: MNHN A.5695 (1).

Corvina richardsonii Cuvier, in Cuvier & Valenciennes, 1830: 100. Type locality: Lake Huron. Holotype: not found at MNHN. Maximum length: 89 cm TL

Distribution: North and Central America: East of Rocky Mountains in St. Lawrence-Great Lakes, Hudson Bay and Mississippi River basins from Quebec to Manitoba and Saskatchewan in Canada and south to the Gulf of Mexico in USA; and Gulf Coast drainages from Mobile Bay in Georgia and Alabama through east Mexico to Usumacinta River basin in Guatemala.

Countries: Canada, Guatemala, Mexico, USA

PACHYPOPS

Pachypops Gill, 1861: 87. Type species: *Micropogon trifilis* Müller & Troschel, 1848. Type by original designation. Gender: masculine.

***Pachypops fourcroi* (La Cepède, 1802)**

Perca fourcroi La Cepède, 1802: 398, 424. Type locality: Unknown. Holotype: MNHN 7539.

Corvina biloba Cuvier, in Cuvier & Valenciennes, 1830: 112. Type locality: Locality unknown. Holotype: MNHN 7683.

Pachyurus nattereri Steindachner, 1863: 171, pl. 3. Type locality: Rio Branco and Rio Negro, Brazil. Syntypes: NMW 15178 (3 specimens). Spelled *natteri* on heading, but *nattereri* elsewhere. Maximum length: 18.7 cm SL
Distribution: South America: Amazon and Orinoco River basins, and rivers of the Guianas.
Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela
Remarks and references: Redescribed by Casatti (2002a).
Common names: Curbinata (Venezuela, Peru), Corvina (Brazil) Pescada (Brazil)

***Pachypops pigmaeus* Casatti, 2002**

Pachypops pigmaeus Casatti, 2002a: 14, fig. 7. Type locality: Brazil, Rondônia, Rio Machado, Jamarizinho. Holotype: MZUSP 34108.
Maximum length: 5.6 cm SL
Distribution: South America: Amazon River basin, in the Branco and Madeira River drainages.
Countries: Brazil

***Pachypops trifilis* (Müller & Troschel, 1849)**

Micropogon trifilis Müller & Troschel, 1849: 622. Type locality: Guiana. Holotype: ZMB 936.
Pachypops camposi Fowler, 1954: 252, fig. 843. Type locality: Rupununi River, Guyana. Holotype: ANSP 39773.
Maximum length: 18.9 cm SL
Distribution: South America: Amazon River basins and rivers of the Guianas.
Countries: Brazil, Guyana
Remarks and references: Redescribed by Casatti (2002a).
Common names: Curbinata (Venezuela, Peru), Corvina (Brazil), Pescada (Brazil)

PACHYURUS

Pachyurus Agassiz in Spix & Agassiz, 1831: 125, 127. Type species: *Pachyurus squamipinnis* Agassiz, 1831. Type by monotypy. Gender: masculine.

***Pachyurus adpersus* Steindachner, 1879**

Pachyurus (Lepipterus) adpersus Steindachner, 1879: 123. Type locality: Rio Parahyba; Rio doce; Rio San Antonio; Rio Mucuri, Brazil. Lectotype: NMW 31450, designated by Casatti (2001).
Maximum length: 26.4 cm SL
Distribution: South America: Atlantic versant rivers of Brazil, including Mucuri, Doce, and Parafba do Sul River basins.
Countries: Brazil
Remarks and references: Redescribed by Casatti (2001).
Common names: Corvina (Brazil), Pescada (Brazil)

***Pachyurus bonariensis* Steindachner, 1879**

Pachyurus (Lepipterus) bonariensis Steindachner, 1879: 126. Type locality: Río de La Plata, Argentina. Lectotype: NMW 15181, designated by Casatti (2001).
Pachyurus paranensis Daneri, 1956: 6. Type locality: Argentina, Río Paraná frente a Estación Hidrobiológica de Rosario. Holotype: MACN 4234.
Maximum length: 20.4 cm SL
Distribution: South America: Uruguay and Paraguay River basin and lower parts of Paraná River.
Countries: Argentina, Brazil, and Uruguay
Remarks and references: Redescribed by Casatti (2001).
Common names: Corvina del rio (Argentina), Corvina (Brazil), Pescada (Brazil)

***Pachyurus calhamazon* Casatti, 2001**

Pachyurus calhamazon Casatti, 2001: 133, fig. 8c. Type locality: Rio Branco, Estado de Roraima, Brazil. Holotype: MZUSP 66684.
Maximum length: 8.1 cm SL

Distribution: South America: Branco River in Brazil.
Countries: Brazil
Common names: Corvina (Brazil), Pescada (Brazil)

***Pachyurus francisci* (Cuvier, 1830)**

Lepipterus francisci Cuvier, in Cuvier & Valenciennes, 1830: 152, pl. 113. Type locality: rivière de Sainte-Françoise, Brazil. Holotype: MNHN A.5600 (dry).
Lepipterus corvina Reinhardt, 1851: 30. Type locality: Rio das Velhas, Brazil. Syntypes: ZMUC 3[1], 4[1], 5[1] (3 specimens).
Maximum length: 29.7 cm SL
Distribution: South America: São Francisco River basin.
Countries: Brazil
Remarks and references: Redescribed by Casatti (2001).
Common names: Corvina (Brazil), Pescada (Brazil)

***Pachyurus gabrielensis* Casatti, 2001**

Pachyurus gabrielensis Casatti, 2001: 133, fig. 8b. Type locality: Rio Negro, Cachoeira de São Gabriel, Estado do Amazonas, Brazil. Holotype: MZUSP 34093.
Maximum length: 14.6 cm SL
Distribution: South America: Amazon and Orinoco River basins
Countries: Brazil, Peru, and Venezuela
Common names: Corvina (Brazil), Curbinata (Peru and Venezuela), Pescada (Brazil)

***Pachyurus junki* Soares & Casatti, 2000**

Pachyurus junki Soares & Casatti, 2000: 500, fig. 1. Type locality: Rio Solimões, Coari, AM, Brazil. Holotype: INPA 619.
Maximum length: 29.3 cm SL
Distribution: South America: Amazon River basin
Countries: Brazil
Remarks and references: Redescribed by Casatti (2001).
Common names: Corvina (Brazil), Pescada (Brazil)

***Pachyurus paucirastrus* Aguilera, 1983**

Pachyurus paucirastrus Aguilera, 1983: 121, fig. 1. Type locality: Rio Tocantins, Capuerana, Brazil. Holotype: MNRJ 11176.
Maximum length: 14.8 cm SL
Distribution: South America: Tocantins River basin.
Countries: Brazil
Remarks and references: Redescribed by Casatti (2001).
Common names: Corvina (Brazil), Pescada (Brazil)

***Pachyurus schomburgkii* Günther, 1860**

Pachyurus schomburgkii Günther, 1860: 282. Type locality: Rio Capin [Pará] and Caripe Pará, Brazil. Holotype: BMNH 49.11.8-22.
Distribution: South America: Amazon and Orinoco River basins.
Countries: Bolivia, Brazil, Peru, Venezuela
Remarks and references: Redescribed by Casatti (2001).
Common names: Curbinata (Venezuela), Corvina (Brazil), Pescada (Brazil)

***Pachyurus squamipennis* Agassiz, 1831**

Pachyurus squamipennis Agassiz in Spix & Agassiz, 1831: 128, pl. 71. Type locality: Oceano Atlantico. No types known.
Pachyurus lundii Reinhardt, 1855: 111. Type locality: Rio das Velhas, Brazil. Syntypes: ZUMC 1[1], 2[1] (2 specimens).
Maximum length: 29.1 cm SL
Distribution: South America: São Francisco River basin in Brazil.
Countries: Brazil
Remarks and references: Redescribed by Casatti (2001).
Common names: Corvina (Brazil), Pescada (Brazil)

***Pachyurus stewarti* Casatti & Chao, 2002**

Pachyurus stewarti Casatti & Chao, 2002: 1, fig. 1. Río Aguarico, in the confluence with Río Pushino, 0°2.6'N 76°54.4' W, Ecuador, Sucumbios. Holotype: FMNH 101957.

Maximum length: 19.2 cm SL
 Distribution: South America: Napo River drainage in Ecuador.
 Countries: Ecuador

PETILIPINNIS

Petilipinnis Casatti, 2002b: 169, figs. 1-2. Type species: *Corvina grunniens* Jardine, 1843. Gender: feminine.

***Petilipinnis grunniens* (Jardine, 1843)**

Corvina grunniens Jardine, 1843: 136, pl. 2. Type locality: Essequibo River, British Guiana. Type unknown.
 Maximum length: 279 cm SL
 Distribution: South America: Amazon, Cuyuni, and Essequibo River basins.
 Countries: Brazil, Guyana, and Venezuela
 Remarks and references: Redescribed by Casatti (2002b).
 Common names: Corvina (Brazil), Pescada (Brazil)

PLAGIOSCION

Plagioscion Gill, 1861: 82. Type species: *Sciaena squamosissima* Heckel, 1840. Type by subsequent designation by Jordan and Eigenmann (1889: 380). Gender: masculine. Described by Gill (1861) without included species.

Diplolepis Steindachner, 1863: 164. *Sciaena squamosissima* Heckel, 1840. Type by monotypy. Gender: feminine.

***Plagioscion auratus* (Castelnau, 1855)**

Johnius auratus Castelnau, 1855: 12, pl. 4 (fig. 2). Type locality: Río Ucayali, Amazon basin, Peru. Holotype: MNHN 7622.

Corvina monacantha Cope, 1867: 402. Type locality: Near Paramaribo, Suriname. Holotype: ANSP 11519.

Plagioscion auratus iquitensis Nakashima, 1941: 67, unnumbered fig. Type locality: Iquitos, Amazon system, ne. Peru.

Maximum length: 34.6 cm SL
 Distribution: South America: Amazon, Orinoco, and rivers of Guianas.

Countries: Brazil, French Guiana, Guyana, Peru, Suriname, Venezuela

Common names: Acoupa eau douce (French Guiana), Acoupa grosse tête (French Guiana), Acoupa rivière (French Guiana), Akoupa dilo-dous (French Guiana), Akoupa gro-têt (French Guiana), Pescada preta (Brazil), Rockhead basher (Guyana), Curbinata (Venezuela, Peru), Corvina (Colombia, Brazil), Pescada (Brazil)

***Plagioscion casattii* Aguilera & Aguilera, 2001**

Plagioscion casattii Aguilera & Aguilera, 2001: 63, fig. 1. Type locality: Río Orinoco, Venezuela. Holotype: MBUCV-V-29490.

Maximum length: 33 cm SL

Distribution: South America: Orinoco River basin

Countries: Venezuela

Common names: Curvinata (Venezuela)

***Plagioscion montei* Soares & Casatti, 2000**

Plagioscion montei Soares & Casatti, 2000: 504, fig. 5. Type locality: Rio Solimões, Lago Janauacá, AM, Brazil. Holotype: INPA 15959.

Maximum length: 28.4 cm SL

Distribution: South America: Amazon River basin.

Countries: Brazil, Peru

Common names: Corvina (Brazil), Pescada (Brazil), Pescada-branca (Brazil)

***Plagioscion squamosissimus* (Heckel, 1840)**

Sciaena squamosissima Heckel, 1840: 438, pl. 30 (fig. 26-28). Type locality: Rio-negro and Rio-branco. Holotype: NMW 92.124 (dry).

Johnius crouvina Castelnau, 1855: 11, pl. 5 (fig. 1). Type locality:

Rio Crixas, and affluent of Rio Araguay, Brazil. Holotype: MNHN 7503.

Johnius amazonicus Castelnau, 1855: 12, pl. 4 (fig. 1). Type locality: Amazon River. Syntypes: MNHN 7504 (1), B.2772 [ex MNHN 7504] (1).

Plagioscion francisci Steindachner, 1917b: 669, pl. 2 (fig. 2). Type locality: Barra, at confluence of Rio Grande and Rio São Francisco, Brazil. Holotype: NMW 57217.

Plagioscion squamosissimus iquitensis Nakashima, 1941: 68, unnumbered fig. Type locality: Iquitos, Amazon system, ne. Peru.

Maximum length: 80 cm TL

Distribution: South America: Amazon, Orinoco, Paraná, Paraguay, and São Francisco River basins and rivers of Guianas.

Countries: Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Peru, Suriname, Venezuela

Common names: Acoupa eau douce (French Guiana), Acoupa grosse tête (French Guiana), Acoupa rivière (French Guiana), Akoupa dilo-dous (French Guiana), Pescada branca (Brazil), Curbinata (Venezuela, Peru), Corvina (Colombia, Brazil), Pescada (Brazil), Pacora (US English)

***Plagioscion surinamensis* (Bleeker, 1873)**

Pseudosciaena surinamensis Bleeker, 1873: 458, pl. 21. Type locality: Suriname. Holotype: RMNH 5995.

Sciaena magdalenae Steindachner, 1878: 22, pl. 1, fig. 1. Type locality: Río Magdalena, Colombia. Type not found.

Maximum length: 32 cm SL

Distribution: South America: Amazon and Magdalena River basins and coastal rivers of Suriname.

Countries: Brazil, Colombia, Suriname

***Plagioscion ternetzi* Boulenger, 1895**

Plagioscion ternetzi Boulenger, 1895: 523. Type locality: Remanso, Rio Grande, Paraguay. Syntypes: BMNH 1895.5.17.1-2.

Plagioscion macdonaghi Daneri, 1954: 181, fig. 1. Type locality: Río de la Plata, Buenos Aires Prov., Argentina. Holotype: MACN 4197.

Maximum length: 39 cm SL

Distribution: South America: Paraguay and lower Paraná River basins.

Countries: Argentina, Brazil, Paraguay, and Uruguay

Common names: Corvina (Argentina, Brazil, Paraguay, Uruguay), Pescada (Brazil).

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Sciaena rubella Jardine, 1843: 133. Type locality: Guiana rivers. No types known.

Plagioscion pauciradiatus Steindachner, 1917a: 228. Type locality: Salt and brackish water near Paramaribo, Suriname. Type not found at NMW. [Probably this is not a *Plagioscion*].

References

- Aguilera, O. 1983. Una nueva especie de pez del genero *Pachyurus* (Perciformes: Sciaenidae) de la región Amazónica de Brasil. Mem. Soc. Cienc. Nat. La Salle, 43 (119): 119-126.
- Aguilera, O. and D.R. Aguilera. 2001. A new species of croaker *Plagioscion* (Perciformes, Sciaenidae) from the Orinoco River basin, Venezuela. Mem. Fund. La Salle Cien. Nat., 60 (153): 61-67.
- Bleeker, P. 1873. Description de deux espèces nouvelles de Sciaenoides de Surinam. Arch. Neerl. sci. exact. Nat., 8: 456-461.
- Boulenger, G.A. 1895. [Abstract of a report on a large collection of fishes formed by Dr. C. Ternetz in Matto Grosso and Paraguay, with descriptions of new species.]. Proc. Zool. Soc. London, 1895 (pt 3): 523-529.
- Campos, A.A. 1942. Sciaenidae de água doce. Estudo das espécies

- que habitam os rios do Brasil. Arq. Mus. Parana., 2(11): 9-22.
- Casatti, L. 2001. Taxonomia dos peixes neotropicais do gênero *Pachyurus* Agassiz, 1831 (Teleostei, Perciformes, Sciaenidae) e descrição de duas novas espécies. Comunicações do Museu de Ciências e Tecnologia da PUCRS, série Zoologia, 14 (2): 133-178.
- Casatti, L. 2002a. Taxonomy of the South American genus *Pachypops* Gill, 1861 (Teleostei: Perciformes: Sciaenidae), with the description of a new species. Zootaxa, 26: 1-20.
- Casatti, L. 2002b. *Petilipinnis*, a new genus for *Corvina grunniens* Jardine, 1943, (Perciformes, Sciaenidae) from the Amazon and Essequibo river basins and redescription of *Petilipinnis grunniens*. Papéis Avulsos de Zool., São Paulo, 42 (7): 169-181.
- Casatti, L. and N.L. Chao. 2002. A new species of *Pachyurus* Agassiz 1831 (Teleostei: Perciformes: Sciaenidae) from the Río Napo basin, Eastern Ecuador. Zootaxa, 38: 1-7.
- Castelnau, F.L. 1855. Poissons. xii + 112 p., 50 pls, In: Animaux nouveaux ou rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847. Chez P. Bertrand, Paris.
- Chao, L.N. 1978. A basis for classifying western Atlantic Sciaenidae (Teleostei: Perciformes). NOAA Technical Report NMFS Circular 415: 1-65.
- Chao, L.N. 1986. A synopsis on zoogeography of the Sciaenidae. Pp. 570-589, In: T. Uyeno, R. Arai, T. Taniuchi, K. Matsuura (ed.). Indo-Pacific fish biology: Proceedings of the Second International Conference of Indo-Pacific Fishes. Ichthyological Society of Japan, Tokyo.
- Cope, E.D. 1867. Supplement on some new species of American and African fishes. Trans. Am. Philos. Soc., 13 (2): 400-407.
- Cuvier, G. and A. Valenciennes. 1830. Histoire naturelle des poissons. Tome cinquième. Livre cinquième. Des Sciénoïdes. Ch. Pitois, & V.° Levrault, Paris & Strasbourg. xviii + 499 + 4 p., pls. 100-140.
- Daneri, C.A. 1954. Una nueva especie de "Corvina de agua dulce" *Plagioscion macdonaghi* n. sp. (Pisces, Sciaenidae). Comun. Inst. Invest. Mus. Argent. Cienc. Nat. Zool., 2: 179-188.
- Daneri, C.A. 1956. *Pachyurus paranensis* n. sp. de corvina de agua dulce. Comun. J. Icticas, Santa Fe. Dir. Princ. Biol. Anim. Zootec. Santa Fé, 7: 633-637.
- Fowler, H.W. 1954. Os peixes de água doce do Brasil. Arquivos de Zoologia, São Paulo, 9: 1-400.
- Gill, T.N. 1861. Revision of the genera of North American Sciaeninae. Proceedings of the Academy of Natural Sciences of Philadelphia, 13: 79-89.
- Goulding M. 1980. The fishes and the forest. University of California Press, Berkeley.
- Greenfield, D.W. and J.E. Thomerson. 1997. Fishes of the continental waters of Belize. University Press of Florida, Florida, 311 pp.
- Günther, A. 1860. Catalogue of the fishes in the British Museum, vol. 2. Catalogue of the acanthopterygian fishes ...in the British Museum. Squamipinnes, Cirrhitidae, Triglidae, Trachinidae, Sciaenidae, Polynemidae, Sphyraenidae, Trichiuridae, Scombridae, Carangidae, Xiphiidae. Trustees, London. xxi + 548 p.
- Heckel, J.J. 1840. Johann Natterer's neue Flussfische Brasilien's nach den Beobachtungen und Mittheilungen des Entdeckers beschrieben (Erste Abtheilung, Die Labroiden). Ann. Wien. Mus. Naturges., 2: 325-471, pls. 29-30.
- Jardine, W. (ed.). 1843. The natural history of fishes of Guiana.-- Part II, In: Jardine, W. (ed.). The Naturalists' Library. Vol. 5. W. H. Lizars, Edinburgh.
- Jordan, D.S. 1876. Class V.--Pisces. (The fishes, pp. 199-362), In: Manual of the vertebrates of the northern United States, including the district east of the Mississippi River and north of North Carolina and Tennessee, exclusive of marine species. Chicago.
- Jordan, D.S. and C.H. Eigenmann. 1889. A review of the Sciaenidae of America and Europe. Rep. U.S. Fish Comm., 14: 343-451.
- Keith, P., O.-Y. Le Bail and P. Planquette. 2000. Atlas des poissons d'eau douce de Guyane (tome 2, fascicule I). Publications scientifiques du M.N.H.N, Paris. 286 pp.
- Kottelat, M., A.J. Whitten, S.N. Kartikasari and S. Wirjoatmodjo. 1993. Freshwater fishes of Indonesia and Sulawesi. Periphus Ed., Hong Kong, 221 pp.
- La Cepède, B.G.E. 1802. Histoire naturelle des poissons, vol. 4. Plassan, Paris. xlv + 728 p., pl. 1-16.
- Lesueur, C.A. 1821. Description of three new species of the genus *Sciaena*. J. Acad. Nat. Sci. Philadelphia, 2: 251-256.
- Müller, J. and F.H. Troschel. 1849. Fische (pp. 618-644), In: Reisen in Britisch-Guiana in den Jahren 1840-44. Im Auftrag Sr. Majestat des Königs von Preussen ausgeführt von Richard Schomburgk. [Versuch einer Fauna und Flora von Britisch-Guiana.] v. 3. Berlin.
- Nakashima, S. 1941. Algunos peces del Orient peruano. Bol. Mus. Hist. Nat. "Javier Prado" Lima, 5 (16): 61-78.
- Rafinesque, C.S. 1819. Prodrome de 70 nouveaux genres d'animaux découverts dans l'intérieur des États-Unis d'Amérique, durant l'année 1818. J. Phys. Chim. Hist. Nat. 88: 417-429.
- Reinhardt, J.T. 1851. Nye sydamerikanske Ferskvandsfiske. Vidensk. Medd. Naturh. Foren. Kjob., 1849 (3-5): 29-57.
- Reinhardt, J.T. 1855. Notits om Slaegten *Pachyurus* Agass. og de dertil hørende Arter. Vidensk. Medd. Naturh. Foren. København, 1854: 108-112.
- Sazaki, K. 1989. Phylogeny of the family Sciaenidae, with notes on its zoogeography (Teleostei, Perciformes). Mem. Fac. Fish. Hokkaido Univ., 36: 1-137.
- Soares, L. and L. Casatti. 2000. Descrição de duas novas espécies de Sciaenidae (Perciformes) de água doce da bacia amazônica. Acta Amazonica, 30 (3): 499-514.
- Spix, J.B. von and L. Agassiz. 1829-31. Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXVII-MDCCCXX jussu et auspiciis Maximiliani Josephi I.... colleget et pingendso curavit Dr J. B. de Spix.... Monachii. Part 1: i-xvi + i-ii + 1-82, Pls. 1-48; part 2: 83-138, pls. 49-101.
- Steindachner, F. 1863. Beiträge zur Kenntniss der Sciaenoiden Brasiliens und der Cyprinodonten Mejicos. Sitzungsber. Akad. Wiss. Wien, 48: 162-185, pls. 1-4.
- Steindachner, F. 1878. Zur Fischfauna des Magdalenen-Stromes. Anz. Akad. Wiss. Wien, 15 (12): 88-91.
- Steindachner, F. 1879. Ichthyologische Beiträge (VIII). Sitzungsber. Akad. Wiss. Wien, 80: 119-191, pls. 1-3.
- Steindachner, F. 1917a. Ichthyologische Beiträge (XIX). Anz. Akad. Wiss. Wien, 54 (18): 228-229.
- Steindachner, F. 1917b. Ichthyologische Beiträge (XIX). Sitzungsber. Akad. Wiss. Wien, 126: 657-676, pls. 1-2.
- Trewavas, E. 1977. The sciaenid fishes (croakers or drums) of Indo-West-Pacific. Transactions of the Zoological Society, London, 33: 253-541.

Family Polycentridae (Leaffishes)

Ralf Britz and Sven O. Kullander

Species of Polycentridae have long been placed in the family Nandidae along with a few African and Asian percoids that share a cryptic, leaf-mimicking color pattern and lurking behavior. The South American species are grouped here with the West African monotypic genera *Afronandus* and *Polycentropsis*, also traditionally included in the Nandidae. Kullander & Britz (2002) presented osteological evidence that the Asian genera *Badis* (Badidae) and *Nandus* (Nandidae) are sister groups, and Britz (1997) found that the Polycentridae (except *Afronandus*) share a unique egg surface pattern with narrow ridges running radially from the micropyle, larvae with a multicellular cement gland on top of the head, and a unique adult spawning procedure. There is no evidence of a close relationship between the Polycentridae and the Nandidae + Badidae.

South American polycentrids are small fishes, reaching about 6-8 cm SL. The dorsal fin has 16-18 spines and 7-13 rays, the anal fin 12-13 spines and 7-14 rays. There is no lateral line on the side. The two species have a characteristically large mouth and head, with extremely protractile upper jaws in *Monocirrhus*. *Monocirrhus polyacanthus* is strongly compressed laterally and resembles a dead leaf both in color pattern and shape, including a short skin flap projecting from the lower jaw that resembles the stalk of the leaf. It can move slowly towards small prey fish, being mistaken by them for a drifting leaf. In both polycentrid species, the pectorals and soft parts of the dorsal and anal fins are highly transparent and are the only fins that move when approaching prey. Both South American species exhibit male parental care of eggs and larvae. The egg clutch is deposited under leaves of aquatic plants (*Monocirrhus*) or at the roof of small crevices (*Polycentrus*) (Barlow, 1967). The group has never been thoroughly revised, and it is possible that there are more than one species in each genus.

MONOCIRRHUS

Monocirrhus Heckel, 1840: 439. Type species: *Monocirrhus polyacanthus* Heckel, 1840. Type by monotypy. Gender: masculine.

Monocirrhus polyacanthus Heckel, 1840

Monocirrhus polyacanthus Heckel, 1840: 439. Type locality: Waldlachen am Rio-negro [forest ponds at the Negro River, Brazil] Holotype: NMW 76725.

Monocirrhus mimophyllus Eigenmann & Allen, 1921, fig. 1. Type locality: Brooks near the Rio Itaya, Iquitos. Syntypes: (3) CAS 59826 [ex IU 15715] (2).

Maximum length: 8 cm SL.

Distribution: South America: Amazon River basin in Peru, Brazil, Bolivia, Colombia and Venezuela.

Countries: Bolivia, Brazil, Colombia, Peru, Venezuela

Common names: Peixe folha, Pirá-caá, Pirá-cará (Brazil), Pez hoja (Peru)

POLYCENTRUS

Polycentrus Müller & Troschel, 1849: 622. Type species: *Polycentrus schomburgkii* Müller & Troschel, 1849. Type by monotypy. Gender: masculine.

Polycentrus schomburgkii Müller & Troschel, 1849

Labrus punctatus Linnaeus, 1758: 285. Type locality: Surinami. Lectotype: NRM 4, designated by Kullander (1983: 84).

Polycentrus Schomburgkii Müller & Troschel, 1849: 622. Type locality: Essequibo. Syntypes: ZMB 1024 (2), 20604 (ca. 30).

Polycentrus tricolor Gill, 1858: 373. Type locality: Tranquil river; Arouco River. [Trinidad, W.I.]. Syntypes: (2), whereabouts unknown.

Mesonauta surinamensis Sauvage, 1882: 173. Type locality: Surinam. Holotype: MNHN A.2912.

Maximum length: 5.5 cm SL

Distribution: South America: Trinidad (W.I.), and Atlantic coastal rivers of Venezuela, Guyana, Suriname, French Guiana and Brazil (state of Amapá).

Countries: Brazil, French Guiana, Guyana, Suriname, Trinidad and Tobago, Venezuela

Remarks and references: Opinion 1954 (International Commission of Zoological Nomenclature, 2000) gives priority to *Polycentrus schomburgkii* over *Labrus punctatus* whenever these two species are considered synonyms.

Common names: Kala, Poisson feuille (French Guiana), King coscarob (Trinidad and Tobago)

References

- Barlow, G.W. 1967. Social behavior of a South American leaf fish, *Polycentrus schomburgkii*, with an account of recurring pseudofemale behavior. *American Midland Naturalist*, 78: 215-234
- Britz, R. 1997. Egg surface structure and larval cement glands in nandid and badid fishes with remarks on phylogeny and biogeography. *American Museum Novitates*, 3195: 1-17.
- Eigenmann, C.H. and W.R. Allen. 1921. A leaf mimicking fish. *Biological Bulletin*, 41: 301-305.
- Gill, T.N. 1858. Synopsis of the fresh water fishes of the western portion of the island of Trinidad, W. I. *Annals of the Lyceum of Natural History of New York*, 6: 363-430.
- Heckel, J. 1840. Johann Natterer's neue Flussfische Brasilien's nach den Beobachtungen und Mittheilungen des Entdeckers beschrieben. (Erste Abtheilung, die Labroiden.) *Annalen des Wiener Museums der Naturgeschichte* 2: 327-470.
- ICZN [International Commission of Zoological Nomenclature]. 2000. Opinion 1954. *Labrus* Linnaeus, 1758, *Cichlasoma* Swainson, 1839 and *Polycentrus* Müller & Troschel, 1849 (Osteichthyes, Perciformes): conserved by the designation of *Labrus mixtus* Linnaeus, 1758 as the type species of *Labrus* and *L. bimaculatus* Linnaeus, 1758 as the type species of *Cichlasoma*;

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- and *Polycentrus schomburgkii* Müller & Troschel, 1849: specific name given precedence over *L. punctatus* Linnaeus, 1758. Bulletin of Zoological Nomenclature, 57: 131-136.
- Kullander, S.O. 1983. A revision of the South American cichlid genus *Cichlasoma* (Teleostei: Cichlidae). Naturhistoriska Riksmuseet, Stockholm. 296 pp.
- Kullander, S.O. and R. Britz. 2002. A revision of the family Badiidae (Teleostei: Perciformes), with description of a new genus and ten new species. Ichthyological Exploration of Freshwaters, 13 (4): 295-372.
- Linnaeus, C. 1758. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Tomus I. Editio decima, reformata. Holmiae. ii + 824 p.
- Müller, J. and F.H. Troschel. 1849. Fische. Pp. 618-644, In: Reisen in Britisch-Guiana in den Jahren 1840-44. Im Auftrag Sr. Majestat des Königs von Preussen ausgeführt von Richard Schomburgk. [Versuch einer Fauna und Flora von Britisch-Guiana.] 3. Berlin.
- Sauvage, H.E. 1882. Description de quelques poissons de la collection du Muséum d'histoire naturelle. Bulletin de la Société Philomatique, Paris (7), 5: 168-176.

Family Cichlidae (Cichlids)

Sven O. Kullander

The cichlids are the most species-rich non-Ostariophysan fish family in freshwaters world-wide, and one of the major vertebrate families, with at least 1300 species and with estimates approaching 1900 species (Kullander, 1998).

The geographical distribution includes freshwaters of Africa (900 valid species, estimated more than 1300 species), the Jordan Valley in the Middle East (four species), Iran (one species), southern India and Sri Lanka (three species, also in brackish water), Madagascar (17 valid species, some also in brackish water), Cuba and Hispaniola (four valid species, some in brackish water), North America and isthmian Central America (111 valid species), and South America (291 valid species) (Kullander, 1998, updated).

Cichlids are known by family or genus-level local names, commonly with an adjective to distinguish well-marked species. Higher level names include bujurqui (Peru, most cichlids), acará (Brazil, most cichlids), mochoroca (Venezuela), mojarra (Ecuador, Colombia, throughout Central America), krobria (Surinam), prapra (French Guiana).

Cichla species are known locally as pavón (Venezuela, Colombia) or tucunaré (Brazil, Peru), the latter name expressed as lukanani (Guyana), toekoenali (Surinam), toukounaré (French Guiana) or similar names in the Guianas. *Crenicichla* species are known as jacundá in Brazil, añashúa in Peru, angoumot (French Guiana), mataguaro (Colombia, Venezuela), datra fisi (Surinam), cabeza amarga (Argentina and Uruguay).

Cichlids are recognized by several unambiguous anatomical synapomorphies.

1. The loss of a major structural association between parts A2 and Aw of the adductor mandibulae muscle and the muscular insertion of a large ventral section of A2 onto the posterior border of the ascending process of the anguloarticular (Stiassny, 1981)
2. The presence of an extensive cartilaginous cap on the anterior margin of each second epibranchial bone (Stiassny, 1981)
3. The presence of an expanded head of each fourth epibranchial bone (Stiassny, 1981)
4. The presence of characteristically shaped and distributed micro-branchiospines on the gill arches (Stiassny, 1981)
5. The transversus dorsalis anterior muscle is subdivided into four distinct parts (Liem & Greenwood, 1981)
6. The stomach has an extendible blind pouch (Zihler, 1982)
7. The stomach has a left hand exit to the anterior intestine and the first intestinal loop is on the left side (Zihler, 1982)
8. The sagitta features an anterocaudal pseudocolliculum having a long and thick ventral part which is separated from the crista inferior by a long, deep and sharp furrow (Gaemers, 1985)
9. The presence of short paired hypapophyses on the third and/or fourth vertebral centra (Kullander, 1998).

Cichlid diversity has been explained both by their advanced brood care and by the versatile design of the pharyngeal jaw complex used for food mastication. The unpaired lower pharyngeal toothplate and the opposed upper pharyngeal tooth plates are contained in a muscular sling characterizing labroid fishes. There is considerable variation in the shape of the toothplates and associated dentition, reflecting diet specializations. The oral jaws are generally highly movable and protrusible, and tooth shape varies greatly, although most Neotropical cichlids have simple, subconical, unicuspid teeth, whereas African cichlids commonly have laterally bicuspid or tricuspid oral teeth.

Among Neotropical fishes they can be recognized externally by the possession of 7-24 (usually 13-16) spines in the dorsal fin, 2-12 (usually 3, rarely more than 5) anal-fin spines; and a single nostril on each side of the head. The lateral line is usually divided into one anterior upper portion ending below the end of the dorsal-fin base, and a posterior lower portion running along the middle of the caudal peduncle.

Among Neotropical taxa, lengths range from about 25-30 mm adult size in *Apistogramma* and *Taeniacara*, to about 1 meter in *Cichla temensis*. Most taxa are in the interval 10-20 cm, however.

Most Neotropical cichlids occupy lentic habitats within rivers and streams; but there is also a number of moderately to strongly adapted rheophilic species. The latter include many *Crenicichla* species and the genera *Teleocichla* and *Retroculus*, which are distributed mainly in the Brazilian and Guianan highlands.

The majority of the Neotropical cichlids feed on a variety of invertebrates and some plant matter, and specializations

among those species remain little investigated. *Cichla*, large *Crenicichla* species, *Petenia*, *Parachromis*, *Caquetaia*, *Astronotus*, and *Acaronia*, feed on fishes and large invertebrates. *Chaetobranchopsis*, *Chaetobranchus* and *Satanoperca acuticeps* are plankton feeders.

Most Neotropical Cichlidae are moderately to strongly sex dimorphic, and breed pairwise. Eggs are typically deposited on a substrate and both parents guard offspring over several weeks, even for some time after the young are free-swimming. Smaller species, particularly in the genus *Apistogramma*, may be strongly sexually dimorphic. Sexes differ in color and the female is smaller than the male and assumes all or most of the care for the eggs and young. Oral incubation, or mouthbrooding, has been recorded for many *Geophagus*, *Gymnogeophagus*, and *Satanoperca* species, but also for one species of *Aequidens* and one species of *Heros*. Mouthbrooding species are usually biparental, and eggs are guarded on a substrate prior to oral incubation which starts with advanced eggs or newly hatched larvae. A few mouthbrooding species practice exclusive maternal brood care, with a minimum delay between egg-laying and oral incubation (*Gymnogeophagus balzanii*, NE Colombian *Geophagus* species).

Geographical ranges are commonly limited to a single river or even one or a few streams, reflecting both ecological constraints and drainage basin histories. A few Neotropical cichlids are recorded from brackish water conditions. The northernmost species are *Herichthys cyanoguttatus* from the lower Grande River drainage in Texas, USA, on the Atlantic coast, and '*Cichlasoma*' *beani*, which reaches north to the Yaquí River on the Pacific coast of Mexico. In South America cichlids are recorded from virtually all river drainages, but rarely occupy elevations over 500 m ASL, and generally remain below 200 m ASL. Cichlids are absent from the Marañón River above the Pongo de Manseriche and from the Ucayali River drainage upstream of Atalaya (the mouth of the Urubamba River [Vilcanota River] and Tombo River [Apurimac River]). There are four permanent cichlid species occurring on the island of Trinidad, but no cichlids are found on any other islands close to the Venezuelan coast. Most Atlantic coastal rivers of Brazil have 1-3 species of cichlids. The southern limit of the family in South America is not well documented, but may be in the lower Negro River in Argentina, which river marks the northern limit of Patagonia. On the Pacific slope, cichlids are found in a succession of permanent rivers south to the Jequetepeque River or perhaps even to slightly south of Lima, Peru.

Because of the varied behavior and often attractive colors and moderate size, cichlids are commonly kept as ornamental fish. Practically all genera and more than half of the species have been kept in aquaria at some time. The traditionally most important aquarium species are *Pterophyllum* and *Symphysodon* species, the former often representing the aquarium hobby in logotypes.

Sportfishing is concentrated on the *Cichla* species for which there is a strong North American and Brazilian market including sport fishing safaris and Tucunaré fishing contests predominantly in Brazil (Kelber, 1999).

All the larger species are used as food fish, within a traditional artisanal and subsistence fishery, and all local markets in the lowland Amazon and Orinoco drainages offer *Cichla*, *Astronotus*, and other available species of sizes over 10 cm (Ferreira et al., 1998, for a market survey at Santarém). *Astronotus* species, and to some extent *Cichla* species are subject to aquaculture in Brazil.

The family Cichlidae was first monographed by Heckel (1840), based on the Natterer collection from Brazil (illustrations in Riedl-Dorn, 2000). Another early major treatise is by Jardine (1843), based on the Schomburgk collection from Guyana, Brazil and Venezuela (Kullander & Stawikowski, 1997a-b, for identifications). Steindachner (1875) worked on the Thayer expedition collection of Amazonian cichlids, but did not add much beyond the work of Heckel. Günther (1868, based on several shorter papers) described and illustrated a large part of the Central American cichlid fauna, followed by Regan (1906-1908).

Pellegrin (1904) revised the family with diagnoses of all genera and species known to him. Much of Pellegrin's efforts with the Neotropical taxa were improved upon by Regan's series of generic revisions in the next two years (Regan, 1905-1906), which remained the platform for all Neotropical cichlid systematics until the 1980s. The first modern phylogenetic revision of the Neotropical cichlids was presented by Cichocki (1976), and most recently Kullander (1998) and Farias et al. (1999) have provided phylogenetic hypotheses based on morphology and molecular data respectively. A formal classification down to tribe is provided by Kullander (1998).

Scientific general reviews of the family are provided by Keenleyside (1991) and Barlow (2000). There is no scientific monograph covering all Neotropical cichlid species, but numerous aquarium books of variable quality, of which Stawikowski & Werner (1998) may be consulted for the most updated compilation of cichlasomatine cichlids.

Country monographs of cichlids are available for Peru (Kullander, 1986) and Surinam (Kullander & Nijssen, 1989). Bussing (1998: 293-384) summarizes data on 24 Costa Rican cichlid species; Keith et al. (2000: 146-229) summarize data for 38 cichlid species from French Guiana and adjacent countries; Greenfield & Thomerson (1997: 184-206) cover 19 species from Belize

Recent generic revisions cover *Crenicichla* (Ploeg, 1991; many errors and inconsistencies), *Gymnogeophagus* (Reis & Malabarba, 1988), *Apistogramma* (Kullander, 1980a, somewhat outdated), *Cichlasoma* (Kullander, 1983a), *Teleocichla* (Kullander, 1988), *Retroculus* (Gosse, 1971), *Geophagus* s. lato (Gosse, 1976, somewhat outdated), *Biotoecus* (Kullander,

1989a), and *Mesonauta* (Kullander & Silfvergrip, 1991).

The checklist herein recognizes 406 valid Neotropical cichlid species out of 635 nominal taxa. Kullander (1998) estimated that there are about ten undescribed North-Central American cichlid taxa and about 160 undescribed South American taxa. Numerous problems of species discrimination remain. Some of the most enigmatic cases include '*Cichlasoma*' *urophthalmus*, of which Hubbs (1936) described numerous subspecies. Some of these taxa are certainly distinct species, but the status of highly localized subspecies from the Yucatán peninsula, which are based on one or very few specimens, remains a subject for revision. All these taxa are herein treated as valid for want of any better option.

Another source of frustration concerns the generic assignment of Central American taxa, and a few South American taxa, which were excluded from the catch-all genus *Cichlasoma* by Kullander (1983a). Most of these are now recognized in well-diagnosed genera (Kullander, 1986, 1996b, Kullander & Hartel, 1997), but several are kept with the generic denomination '*Cichlasoma*' which is judged better than to include them in genera to which they certainly do not belong.

On the whole it is not satisfactory to have one-third of the Neotropical cichlid fauna without a scientific name, illustrating a real problem with the more formalized procedure of naming species, but it could also signify a safeguarding against doubtful species. The current estimate of 450 South American taxa is based on species already represented in museum collections; it can be assumed that new collections will bring in many more new taxa.

ACARICHTHYS

Acarichthys Eigenmann, 1912: 500. Type species: *Acara heckelii* Müller & Troschel, 1849. Type by original designation. Gender: masculine.

Acarichthys heckelii (Müller & Troschel, 1849)

Acara heckelii Müller & Troschel in Schomburgk, 1849: 624. Type locality: Sümpfen der Savanne. No types known. Originally spelled as *Acara Heckelii*

Geophagus Thayeri Steindachner, 1875: 108 [48], pl. 3 (fig. 2, 2a-2b). Type locality: Amazonstrom bei Teffé, Villa bella, Obidos, Cudajas, Tonantins, Jatuarana, Ueranduba, Serpa, Rio Tapajos, R. Trombetas, R. negro, R. Xingu, see Hyanuary, José Assù, Saraca, Alexo und Lago maximo etc. Syntypes: (many) NMW 74135 (1), 9249-9254 (5), NMW 17046-17048 (3), NMW 17050-17051 (2), NMW 17052-17054 (3), NMW 17055-17057 (3), NMW 17058-17060 (2), NMW 17061-17064 (3), NMW 17066 (1), NMW 17067-17070 (4), NMW 17101-17102 (1), NMW 17103-17110 (several), NMW 17119-17125 (several), NMW 23819-23821 (3), NMW 24012 (1), NMW 24094-24095 (2), 24096 (7), NMW 24105-24106 (2), NMW 24107-24108 (2), NMW 24109-24110 (2), NMW 24111-24114 (3), NMW 24115-24116 (2), NMW 24133-24138 (6), ZSM 27335 (1).

Acara subocularis Cope, 1878: 696. Type locality: [Peruvian Amazon]. Holotype: ANSP 21233 (missing).

Maximum length: 13.4 cm SL

Distribution: South America: Along mainstream Amazon River in Peru, Colombia, and Brazil, including lower parts of the Putumayo, Trombetas, Negro, and Xingu Rivers; lower Tocantins River, and Capim River; Branco River (Amazon basin) in Brazil and Guyana, and the Essequibo River in Guyana.

Countries: Brazil, Colombia, Guyana, Peru

Remarks and references: Redescription based on Peruvian material by Kullander (1986: 134).

ACARONIA

Acara (Acaropsis) Steindachner, 1875: 80. Type species: *Acara nassa* Heckel, 1840. Type by monotypy. Gender: feminine. Preoccupied by *Acaropsis* Moquin-Tandon 1859 in Arachnida.

Acaronia Myers, 1940: 170. Type species: *Acara nassa* Heckel, 1840. Type by being a replacement name. Gender: feminine. Replacement for *Acaropsis* Steindachner 1875, preoccupied by *Acaropsis* Moquin-Tandon 1859 in Arachnida.

Acaronia nassa (Heckel, 1840)

Acara nassa Heckel, 1840: 353. Type locality: Rio-Guaporé. Syntypes: NMW 10538-40 (3), NMW 16185 (1), NMW uncat. (1).

Acara unicolor Heckel, 1840: 357, pl. 30 (fig. 25). Type locality: Barra do Rio-negro. Syntypes: NMW 33347-33348 (2).

Acara cognatus Heckel, 1840: 356. Type locality: Barra do Rio-negro. Holotype: NMW 33619.

Centrarchus ? rostratus Jardine, 1843: 163, pl. 15. Type locality: Rio Negro. No types known.

Apistogramma ambloplitoides Fowler, 1940: 281, fig. 63. Type locality: Ucayali River basin, Contamana, Peru. Holotype: ANSP 68681.

Maximum length: 15.4 cm SL

Distribution: South America: Amazonas lowlands in Peru, Brazil, and Colombia, Bolivian Amazon basin, middle and lower Negro River, Branco River, also Amapá State, the Oyapock drainage in French Guiana, and the Essequibo drainage in Guyana.

Countries: Bolivia, Brazil, Colombia, French Guiana, Guyana, Peru

Remarks and references: Redescription based on Peruvian material in Kullander (1986: 79), distinguishing characters and synonymy discussed in Kullander (1989b).

Common names: Krobié (French Guiana), Paya (French Guiana)

Acaronia vultuosa Kullander, 1989

Acaronia vultuosa Kullander, 1989b: 447, fig. 1. Type locality: Venezuela, Terr. Federal Amazonas, Departamento Ature, small drying backwater pool off road from El Burro to Puerto Ayacucho, approximately 05°47'N, 67°29'W. Holotype: MBUCV-V 17714.

Maximum length: 12.2 cm SL

Distribution: South America: Orinoco River basin in Colombia and Venezuela, including the Casiquiare, Inírida, Caura, Vichada Rivers; upper Negro River in Brazil and Venezuela (San Carlos, Ererê River and Tamaquaré Island).

Countries: Brazil, Colombia, Venezuela

AEQUIDENS

Aequidens Eigenmann & Bray, 1894: 616. Type species: *Acara tetramerus* Heckel, 1840. Type by original designation. Gender: masculine. Originally *Astronotus (Aequidens)*.

Aequidens biseriatus (Regan, 1913)

Cichlosoma (Aequidens) biseriatum Regan, 1913b: 471. Type locality: Rio Condoto. Syntypes: BMNH 1913.10.1.80-88 (7 of 8).

Maximum length: 8 cm TL

Distribution: South America: Atrato, San Juan and Baudó River basins.

Countries: Colombia

Aequidens chimantanus Inger, 1956

- Aequidens chimantanus* Inger, 1956: 437, fig. 94. Type locality: Río Abácapa on the west side of Chimantá-tepui; 1,300 feet altitude. Holotype: FMNH 45702.
Maximum length: 10.2 cm SL
Distribution: South America: Caroní River basin in Orinoco River drainage.
Countries: Venezuela
- Aequidens coeruleopunctatus* (Kner & Steindachner, 1863)**
Acara coeruleopunctata Kner & Steindachner in Kner, 1863: 222, fig. 3. Type locality: Río Chagres im Staate Panama, Nordseite. Syntypes: NMW 33635-33636 (2), 22168 (1).
Maximum length: 14.5 cm SL
Distribution: Central America: Atlantic slope of Panama, and Pacific slope of Costa Rica (Coto River).
Countries: Costa Rica, Panama
Remarks and references: Reviewed by Bussing (1998: 310), with key, diagnosis, geographical distribution, and figures.
Common names: Chogorro (Panama), Mojarra (Costa Rica)
- Aequidens diadema* (Heckel, 1840)**
Acara diadema Heckel, 1840: 344. Type locality: einem Ygarapé oder Waldbache bei Marabitanos. Syntypes: NMW 33791 (1), 33797 (1).
Maximum length: 11.8 cm SL
Distribution: South America: Amazon River basin, in the upper Negro River; Orinoco River basin, in tributaries of the Orinoco River in Colombia and Venezuela.
Countries: Brazil, Colombia, Venezuela
Remarks and references: *Aequidens diadema* reported from Peru by Kullander (1986: 348) is a different species.
- Aequidens epae* Kullander, 1995**
Aequidens epae Kullander, 1995: 158, fig. 10. Type locality: Brazil, State of Pará, Río Tapajós drainage, igarapé in Barreirinha. Holotype: MZUSP 21979.
Maximum length: 11.3 cm SL
Distribution: South America: Amazon River basin, in the lower Tapajós River drainage near Jacareacanga and São Luis.
Countries: Brazil
- Aequidens gerciliae* Kullander, 1995**
Aequidens gerciliae Kullander, 1995: 150, fig. 1. Type locality: Brazil, State of Mato Grosso, Núcleo Aripuanã, Igarapé do Aeroporto, above the cachoeira (approximately 10°10'S 59°25'W). Holotype: INPA 974.
Maximum length: 12.8 cm SL
Distribution: South America: Amazon River basin, known only from the upper Aripuanã River, near Cachoeira de Dardanelos and in a headwater stream on the Juína-Vilhena road.
Countries: Brazil
- Aequidens hoehnei* (Miranda Ribeiro, 1918)**
Nannacara hoehnei Miranda Ribeiro, 1918b: 14, pl. 7 (top figs.). Type locality: rio Branco, affluente do Araguaia, e n'uma lagoa do Coxipo da Ponte, em Mato Grosso. Holotype: MNRJ 1245.
Maximum length: 5.6 cm SL
Distribution: South America: Amazon River basin, in the Araguaia River drainage.
Countries: Brazil
- Aequidens latifrons* (Steindachner, 1878)**
Acara latifrons Steindachner, 1878: 89. Type locality: Cienaga, Río Magdalena, Colombia; Panama. Syntypes: (several) NMW.
Maximum length: 17 cm TL
Distribution: South America: Magdalena, Atrato, Sinú, and San Juan River basins.
Countries: Colombia
- Common names: Azulejo (Colombia), Casasola (Colombia), Mojarra azul (Colombia)
- Aequidens mauesanus* Kullander, 1997**
Aequidens mauesanus Kullander, 1997a: 378, fig. 1. Type locality: Brazil, Estado do Amazonas, rio Maués drainage, município do Maués, igarapé do rio Maraú. Holotype: MZUSP 7306.
Maximum length: 13.4 cm SL
Distribution: South America: Amazon River basin, in the Maués and Arapiuns Rivers.
Countries: Brazil
- Aequidens metae* Eigenmann, 1922**
Aequidens metae Eigenmann, 1922a: 241, pl. 30 (fig. 2). Type locality: Barrigón.; Eigenmann, 1922b: 198. Type locality: Barrigona Río Meta. Holotype: CAS 66884 [ex IU 13967].
Maximum length: 12.5 cm SL
Distribution: South America: Orinoco River basin, in the Meta River.
Countries: Colombia
Remarks and references: Eigenmann (1922a) and (1922b) appeared both in October 1922 and it cannot be decided with available evidence which publication should have priority.
- Aequidens michaeli* Kullander, 1995**
Aequidens michaeli Kullander, 1995: 163, fig. 14. Type locality: Brazil, State of Pará, Rio Xingu drainage, Belo Monte, rocky pool near cachoeira. Holotype: MZUSP 32674.
Maximum length: 20 cm TL
Distribution: South America: Amazon River basin, in the lower Xingu River at Altamira and Belo Monte.
Countries: Brazil
- Aequidens pallidus* (Heckel, 1840)**
Acara pallidus Heckel, 1840: 347. Type locality: Rio-negro. Holotype: NMW 33678.
Centrarchus ? vittatus Jardine, 1843: 161, pl. 14. Type locality: [not stated]. Types not known.
Aequidens duopunctata Haseman, 1911: 338, pl. 56. Type locality: Manaos. Holotype: FMNH 54033 [ex CM 2573]. Apparently the number 2574 in the caption to pl. 56 should have been 2573.
Maximum length: 14.3 cm SL
Distribution: South America: Amazon River basin, in the middle and lower Negro River, Uatumã, Preto da Eva, and Puraquequara Rivers.
Countries: Brazil
Remarks and references: Redescribed by Kullander & Ferreira (1991).
- Aequidens paloemeuensis* Kullander & Nijssen, 1989**
Aequidens paloemeuensis Kullander & Nijssen, 1989: 141, fig. 77.
Type locality: Suriname, Dist. Marowijne, R. Marowijne system, small brook tributary to the right bank of R. Paloemeu, on road between Trombaka Noord and Trombaka Zuid. Holotype: IRSNB 755.
Maximum length: 9.5 cm SL
Distribution: South America: Known only from the Paloemeu River, Marowijne River drainage.
Countries: Suriname
- Aequidens patricki* Kullander, 1984**
Aequidens patricki Kullander, 1984b: 2, fig. 1. Type locality: Pérou, depto. Ucayali, prov. Coronel Portillo, bassin du R. Aguaytia, petit ruisseau drainant un marais desséché, affluent du R. Aguaytia, le long de la route de Pucallpa à Tingo Maria, 15 km à l'Ouest du village d'Aguaytia (9°02'S, 75°31'W). Holotype: MHNG 2163.93.
Maximum length: 11.6 cm SL
Distribution: South America: Amazon River basin, restricted to the

Aguaytía and Pachitea Rivers.

Countries: Peru

Remarks and references: Redescribed by Kullander (1986: 347).

***Aequidens plagiozonatus* Kullander, 1984**

Aequidens plagiozonatus Kullander, 1984a: 155, fig. 1. Type locality: Brazil, State of Mato Grosso, R. Paraguay system ... Mun. Itiquira, internal lakes of the Piquiri-Itiquira system, Fazenda Santo Antonio do Paraíso. Holotype: MZUSP 28232.

Maximum length: 10.3 cm SL

Distribution: South America: Amazon River basin (upper Guaporé River drainage), and Paraná River basin (upper Paraguay River drainage).

Countries: Brazil

***Aequidens potaroensis* Eigenmann, 1912**

Aequidens potaroensis Eigenmann, 1912: 490, pl. 66 (fig. 2). Type locality: Amatuk. Holotype: FMNH 53892 [ex CM 2407].

Maximum length: 10 cm SL

Distribution: South America: Essequibo River basin.

Countries: Guyana

***Aequidens pulcher* (Gill, 1858)**

Cychlasoma pulchrum Gill, 1858: 382. Type locality: [western portion of Trinidad]. Syntypes: USNM 1110 (orig. 1, now 2).

Maximum length: 16 cm TL

Distribution: Central and South America: Trinidad, W.I., and adjacent Venezuela.

Countries: Trinidad and Tobago, Venezuela

Common names: Blue coscarob (Trinidad and Tobago), Cocoroba (Venezuela)

***Aequidens rivulatus* (Günther, 1860)**

Chromis rivulata Günther, 1860b: 418. Type locality: Andes of Western Ecuador. Syntypes: BMNH 1860.6.16.153 (1).

Acara aequinoctialis Regan, 1905b: 337. Type locality: W. Ecuador. Syntypes: BMNH 1860.6.15.13-16 (4).

Aequidens azurifer Fowler, 1911: 515, fig. 7. Type locality: Affluent of the Chimbo River, near Bucay, Province of Guayas, Ecuador. Holotype: ANSP 39118.

Maximum length: 20 cm TL

Distribution: South America: Pacific slope from Ecuador (Esmeraldas River) to Peru (Tumbes River).

Countries: Ecuador, Peru

***Aequidens rondoni* (Miranda Ribeiro, 1918)**

Acaropsis rondoni Miranda Ribeiro, 1918b: 11, pl. 4 (fig.1). Type locality: Rio do Sangue, acima do Salto Bello. Holotype: MNRJ 1616.

Maximum length: 9.7 cm SL

Distribution: South America: Amazon River basin, in the upper Tapajós River basin.

Countries: Brazil

***Aequidens sapayensis* (Regan, 1903)**

Acara sapayensis Regan, 1903b: 628. Type locality: Rio Sapayo, N.W. Ecuador. Holotype: BMNH 1902.7.29.56.

Maximum length: 10 cm TL

Distribution: South America: Pacific slope, in the Cayapas River drainage in northwestern Ecuador.

Countries: Ecuador

***Aequidens tetramerus* (Heckel, 1840)**

Acara tetramerus Heckel, 1840: 341, pl. 29 (fig. 1-4). Type locality: Rio-branco. Syntypes: NMW 33757-58 (2).

Chromys uniocellata Castelnau, 1855: 15, pl. 6 (fig. 1). Type locality: rio Ucayale, mission de Sarayacu. Syntypes: MNHN A.9481 (2). Spelled *uniocellatus* in list of figures.

Aequidens stollei Miranda Ribeiro, 1918b: 13, pl. 5 (fig. 3). Type

locality: Rio Jamary. Lectotype: MNRJ 1592A, designated by Miranda Ribeiro (1953: 397) [but perhaps specimen not isolated]. *Acaronia trimaculata* Allen in Eigenmann & Allen, 1942: 389, pl. 22 (fig. 8). Type locality: Iquitos. Holotype: CAS 67009 [ex IU 17794].

Maximum length: 16.2 cm SL

Distribution: South America: Widely distributed in the Amazon River basin in Peru, Colombia, Ecuador, Brazil and Bolivia, also in the Tocantins and Parnaíba Rivers, French Guiana, Suriname, Guyana, and in the Orinoco River basin of Venezuela and Colombia.

Countries: Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Peru, Suriname, Venezuela

Common names: Acará-cuaima (Brazil), Acará-pixuna (Brazil), Kokko (Suriname), Manja koko (Suriname), Prapra (French Guiana)

***Aequidens tubicen* Kullander & Ferreira, 1991**

Aequidens tubicen Kullander & Ferreira, 1991: 427, fig. 4. Type locality: Brazil, Estado do Pará, Reserva Biológica de Trombetas, Igarapé at km 4 on the road to Perimetral Norte. Holotype: MZUSP 15887.

Maximum length: 11.6 cm SL

Distribution: South America: Amazon River basin, restricted to the Trombetas River close to Cachoeira Porteira.

Countries: Brazil

***Aequidens viridis* (Heckel, 1840)**

Acara viridis Heckel, 1840: 343. Type locality: in den durch das Anschwellen der Flüsse gebildeten Walddachen ..., ... in einer derselben bei der Stadt Matogrosso liegenden und Juquiã ... genannten. Syntypes: NMW 16247 (1), 33833 (1), ?91433 (1); SMF 2925 [ex NMW in 1844] (1).

Aequidens awani Haseman, 1911: 335, pl. 55. Type locality: São Antonio de Guaporé, Rio Guaporé, Brazil. Holotype: FMNH 54036 [ex CM 2576].

Aequidens guaporensis Haseman, 1911: 335, pl. 54. Type locality: São Antonio de Guaporé. Holotype: FMNH 54035 [ex CM 2575].

Maximum length: 16.5 cm SL

Distribution: South America: Amazon River basin, in the Guaporé River basin.

Countries: Bolivia, Brazil

AMPHILOPHUS

Amphilophus Agassiz, 1859: 408. Type species: *Amphilophus froebelii* Agassiz, 1859. Type by monotypy. Gender: masculine.

Astatheros Pellegrin, 1904: 203. Type species: *Heros (Cichlasoma) heterodontus* Vaillant & Pellegrin, 1902. Type by monotypy. Gender: masculine.

Erythrichthys Meek, 1907b: 118. Type species: *Heros citrinellus* Günther, 1864. Type by original designation. Gender: masculine. Originally *Cichlasoma (Erythrichthys)*.

Curraichthys Fernández-Yépez, 1969: [3]. Type species: *Heros lobocheilus* Günther, 1868. Type species by original designation. Gender: masculine.

***Amphilophus alfari* (Meek, 1907)**

Cichlasoma alfari Meek, 1907a: 148. Type locality: Turrialba, Costa Rica. Holotype: FMNH 6032.

Cichlosoma lethrinus Regan, 1908a: 462. Type locality: Rio Iroquois. Syntypes: BMNH 1909.3.13.92-97 (5 of 6) and 1909.3.13.98 (1, skeleton).

Cichlasoma bouchellei Fowler, 1923: 29. Type locality: Tunky Bin River above Eden, Nicaragua. Holotype: ANSP 51222.

Maximum length: 15 cm SL

Distribution: Central America: Atlantic slope from Honduras (Patuca River) to Costa Rica; Atlantic slope of Costa Rica.

Countries: Costa Rica, Honduras, Nicaragua

Remarks and references: Villa and Miller, 1975 identified *C. bouchellei* as a junior synonym of *A. alfari*. Reviewed by Bussing (1998: 318), with key, diagnosis, geographical distribution, and figures.

Common names: Mojarra (Costa Rica)

***Amphilophus amarillo* Stauffer & McKaye, 2002**

Amphilophus amarillo Stauffer & McKaye, 2002: 8, fig. 4. Type locality: Agua caliente, Lake Xiloá (N 12° 13,848' W 86° 19,387'). Holotype: PSU 3448.1).

Maximum length: 15.5 cm SL

Distribution: Central America: Atlantic slope of Nicaragua, endemic to Lake Xiloá.

Countries: Nicaragua

***Amphilophus altifrons* (Kner, 1863)**

Heros altifrons Kner, 1863: 223. Type locality: Panama. Syntype: NMW 21204 (1).

Maximum length: 13 cm SL

Distribution: Central America: Pacific slope of Costa Rica (Térraba River) to Panama (Chiriqui River).

Countries: Costa Rica, Panama

Remarks and references: Also appeared as new in Kner & Steindachner (1864: 11, pl. 2, fig. 1) from Colombia and Panama. Reviewed by Bussing (1998: 322), with key, diagnosis, geographical distribution, and figures.

Common names: Mojarra (Costa Rica)

***Amphilophus bussingi* Loisel, 1997**

Amphilophus bussingi Loisel, 1997: 2, fig. p. 2. Type locality: Río Cocolis, a tributary of the Río Sixaola, 3.5 km SE of Shiroles on the Bratsí-Shiroles road, Limon Province, Costa Rica. Holotype: AMNH 59077.

Maximum length: 15 cm SL

Distribution: Central America: Atlantic slope of Costa Rica (Sixaola River drainage) to Panama (Guarumo River).

Countries: Costa Rica, Panama

Remarks and references: Reviewed by Bussing (1998: 325), with key, diagnosis, geographical distribution, and figures.

Common names: Mojarra (Costa Rica)

***Amphilophus calobrensis* (Meek & Hildebrand, 1913)**

Cichlasoma calobrense Meek & Hildebrand, 1913: 90. Type locality: Río Calobre, Panama. Holotype: FMNH 7600.

Maximum length: 25 cm TL

Distribution: Central America: Pacific slope of Panama (Tuíra, Chucunaque and Bayano River basins).

Countries: Panama

***Amphilophus citrinellus* (Günther, 1864)**

Heros citrinellus Günther, 1864c: 153. Type locality: Lake of Nicaragua. Syntypes: BMNH 1864.1.26.201-203 (3).

Heros basilaris Gill in Gill & Bransford, 1877: 182. Type locality: Lake Nicaragua. Types not located, but may be present in the Bransford collection deposited in the USNM.

Cichlasoma granadense Meek, 1907b: 121. Type locality: Lago Nicaragua, Granada, Nicaragua. Holotype: FMNH 5951.

Maximum length: 24.4 cm SL

Distribution: Central America: Atlantic slope of Nicaragua and Costa Rica (San Juan River drainage, including Lakes Nicaragua, Managua, Masaya, and Apoyo).

Countries: Costa Rica, Nicaragua

Remarks and references: *Cichlasoma granadense* was synonymised with *A. citrinellus* by Villa (1976: 381). Systematics and biology covered by Barlow & Munsey (1976). Reviewed by Bussing (1998: 312), with key, diagnosis, geographical distribution, and figures.

Common names: Mojarra (Costa Rica), Mojarra rayada (Costa

Rica, Nicaragua)

***Amphilophus diquis* (Bussing, 1974)**

Cichlasoma diquis Bussing, 1974: 37, fig. 2. Type locality: Costa Rica, Puntarenas Province, tributary (20 m) of Río Sierpe 2 km S of Palmar Sur at IH. Holotype: LACM 33911-1.

Maximum length: 13.5 cm SL

Distribution: Central America: Pacific slope of SE Costa Rica.

Countries: Costa Rica

***Amphilophus hogaboomorum* (Carr & Giovannoli, 1950)**

Cichlasoma hogaboomorum Carr & Giovannoli, 1950: 27, pl. 2 (fig. 1). Type locality: Río Choluteca, 5 kilometers below Choluteca, elevation 50 meters. Holotype: UMMZ 144664.

Maximum length: 15 cm SL

Distribution: Central America: Pacific slope of Honduras, in the Choluteca River basin.

Countries: Honduras

Common names: Guapotillo (Honduras)

***Amphilophus labiatus* (Günther, 1864)**

Amphilophus froebelii Agassiz, 1859: 408. Type locality: Lake Nicaragua. Types in MCZ, missing.

Heros labiatus Günther, 1864a: 27, pl. 4 (fig. 1). Type locality: Lake of Managua, Nicaragua. Syntypes: BMNH 1867.9.23.7-8 (2) or 1863.12.15.74-76 (3).

Heros erythraeus Günther, 1867: 602. Type locality: Lake of Managua. Holotype: BMNH 1865.7.20.33. Described in more detail in Günther (1868: 457, pl. 75, fig. 2).

Heros loboichilus Günther, 1867: 602. Type locality: Lake of Managua. Syntypes: BMNH 1865.7.20.36 (2). Described in more detail in Günther 1868: 457, pl. 75 (fig. 1).

Cichlasoma dorsatum Meek, 1907b: 123. Type locality: Lago Managua, Managua, Nicaragua. Holotype: FMNH 5971.

Maximum length: 24 cm SL

Distribution: Central America: Atlantic slope of Nicaragua, in Lakes Nicaragua and Managua.

Countries: Nicaragua

Remarks and references: Systematics and biology covered by Barlow & Munsey (1976). Kullander & Hartel (1997: 199) examined Agassiz' description of *Amphilophus froebelii* and searched in vain for type material. Villa (1976: 381) added *Cichlasoma dorsatum* to the synonymy of *A. labiatus*. The name *froebelii* has never been used as a senior synonym of *A. labiatus* subsequent to its description. Original description copied in Günther (1864b: 231).

Common names: Mojarra picuda (Nicaragua)

***Amphilophus longimanus* (Günther, 1867)**

Heros longimanus Günther, 1867: 601. Type locality: Lake of Nicaragua. Holotype: BMNH 1864.1.26.204.

Cichlasoma popenoei Carr & Giovannoli, 1950: 31, pl. 2 (fig. 2). Type locality: Río Yeguaré, about 1 kilometer below bridge on road between Tegucigalpa and Danlí, Department of Morazan, Honduras; elevation 735 meters. Holotype: UMMZ 147178.

Maximum length: 13.5 cm SL

Distribution: Central America: Atlantic slope from Honduras (Aguan River) to Nicaragua and Costa Rica (Prinzapolka, San Juan River drainage including Lake Nicaragua), Pacific slope from Guatemala to Costa Rica (Nahualate River to Bebedero River).

Countries: Costa Rica, Guatemala, Honduras, Nicaragua

Remarks and references: Reviewed by Bussing (1998: 329), with key, diagnosis, geographical distribution, and figures.

Common names: Carataca (Honduras), Carate (Nicaragua), Machaca (Honduras), Pecho rojo (Nicaragua), Viejito (Guatemala)

***Amphilophus lyonsi* (Gosse, 1966)**

- Cichlasoma lyonsi* Gosse, 1966: 16, fig. 1. Type locality: Costa Rica (prov. Puntarenas), affluent du Rio Coto, Plantation United Fruit Company, Golfito. Holotype: IRSNB 464.
Maximum length: 15 cm SL
Distribution: Central America: Pacific slope of Costa Rica (Coto River) and Panama (Dupí River).
Countries: Costa Rica, Panama
Remarks and references: Reviewed by Bussing (1998: 316), with key, diagnosis, geographical distribution, and figures.
Common names: Mojarra (Costa Rica)
- Amphilophus macracanthus* (Günther, 1864)**
Heros macracanthus Günther, 1864c: 153. Type locality: Chiapas and Huamuchal. Syntypes: (about 12) BMNH 1864.1.26.197-200 (4), 1864.1.26.252-254 (3) Chiapas, 1864.1.26.368 (1) Huamuchal, 1864.1.26.255 (1, skeleton).
Heros (*Cichlasoma*) *heterodontus* Vaillant & Pellegrin, 1902: 86 [2]. Type locality: Isthme de Tehuantepec (Mexique). Syntypes: MNHN A.9528 (3).
Cichlasoma evermanni Meek, 1904: 214, fig. 70. Type locality: Tehuantepec, Oaxaca. Holotype: FMNH 4727 [not 4227].
Cichlasoma meeki Hildebrand, 1925: 275, fig. 20. Type locality: Lake Guija, El Salvador. Holotype: USNM 87301. Secondarily preoccupied by *Thorichthys helleri meeki* Brind, 1918, replaced by *Cichlasoma guija* Hildebrand, 1934.
Cichlasoma guija Hildebrand, 1934: 192. Type locality: [Lake Guija, El Salvador.] Holotype: USNM 87301. Replacement name for *Cichlasoma meeki* Hildebrand, 1925, preoccupied in *Cichlasoma* by *Thorichthys helleri meeki* Brind, 1918.
Maximum length: 25 cm SL
Distribution: North and Central America: Pacific slope from southern Mexico to El Salvador.
Countries: El Salvador, Guatemala, Mexico
- Amphilophus margaritifer* (Günther, 1862)**
Heros margaritifer Günther, 1862: 287. Type locality: Lake Peten, Guatemala. Holotype: BMNH 1864.1.26.62.
Maximum length: 12.7 cm SL
Distribution: Central America: Atlantic slope of Guatemala (Lake Petén).
Countries: Guatemala
Remarks and references: Type locality doubtful, species not reported with certainty since original description.
- Amphilophus nourissati* (Allgayer, 1989)**
Theraps nourissati Allgayer, 1989: 12, fig. p. 13. Type locality: petite riviére à 1 km avant le village "La Pera" sur la route de Palenque vers Ojo de Agua, Chiapas (Mexique). Holotype: MNHN 1989-583.
Maximum length: 22 cm TL
Distribution: North and Central America: Atlantic slope of Mexico and Guatemala (Usumacinta River basin).
Countries: Guatemala, Mexico
Common names: Panza negra (Mexico)
- Amphilophus rhytisma* (López S., 1983)**
Cichlasoma rhytisma López S., 1983: 133, fig. 1. Type locality: Costa Rica, Limón Province, Río Cocolis, a tributary of Río Sixaola, 3.5 km SE of Shiroles on road between Bratsí and Shiroles. Holotype: LACM 42998-1.
Maximum length: 13.5 cm SL
Distribution: Central America: Atlantic slope of Costa Rica (Sixaola River).
Countries: Costa Rica
Remarks and references: Reviewed by Bussing (1998: 332), with key, diagnosis, geographical distribution, and figures.
Common names: Mojarra (Costa Rica)
- Amphilophus robertsoni* (Regan, 1905)**
Cichlosoma robertsoni Regan, 1905a: 239. Type locality: Stann Creek, British Honduras [=Belize]. Holotype: BMNH 1890.9.8.11.
Cichlasoma acutum Miller, 1907: 117, fig. 6. Type locality: Río Tenedores, Tenedores. Holotype: IU 11186.
Maximum length: 19 cm SL
Distribution: North and Central America: Atlantic slope from Mexico (Coatzacoalcos River) to Honduras.
Countries: Belize, Guatemala, Honduras, Mexico
Common names: False firemouth cichlid (Belize), Klanki (Honduras), Machaca (Honduras), Mojarra (Honduras), Tepemehine (Mexico)
- Amphilophus rostratus* (Gill, 1877)**
Heros rostratus Gill in Gill & Bransford, 1877: 181. Type locality: Lake Nicaragua. Syntypes: USNM 16872(9).
Maximum length: 18.5 cm SL
Distribution: Central America: Atlantic slope of Nicaragua and Costa Rica (San Juan River drainage including Lakes Managua, Nicaragua and Masaya, to Matinaon River).
Countries: Costa Rica, Nicaragua
Remarks and references: Reviewed by Bussing (1998: 334), with key, diagnosis, geographical distribution, and figures.
Common names: Carate (Nicaragua), Masamiche (Costa Rica, Nicaragua)
- Amphilophus sagittae* Stauffer & McKaye, 2002**
Amphilophus sagittae Stauffer & McKaye, 2002: 12, fig. 11. Type locality: Agua caliente Lake Xiloá (N 12° 13,848' W 86° 19,387'). Holotype: PSU 3386.1.
Maximum length: 16 cm SL
Distribution: Central America: Atlantic slope of Nicaragua, endemic to Lake Xiloá.
Countries: Nicaragua
- Amphilophus xiloaensis* Stauffer & McKaye, 2002**
Amphilophus xiloaensis Stauffer & McKaye, 2002: 9, fig. 7. Type locality: Southeastern shore of Lake Xiloá (N 12° 12,793' W 86° 19,028'). Holotype PSU 3381.1
Maximum length: 16 cm SL
Distribution: Central America: Atlantic slope of Nicaragua, endemic to Lake Xiloá.
Countries: Nicaragua
- Amphilophus zaliosus* (Barlow, 1976)**
Cichlasoma zaliosum Barlow in Barlow & Munsey, 1976: 363, fig. 5. Type locality: Lake Apoyo, Nicaragua. Holotype: CAS 29104.
Maximum length: 20 cm TL
Distribution: Central America: Atlantic slope of Nicaragua, endemic to Lake Apoyo.
Countries: Nicaragua
Common names: Mojarra flecha (Nicaragua)
- APISTOGRAMMA**
Heterogramma Regan, 1906b: 60. Type species: *Mesops taeniatus* Günther, 1862. Type by subsequent designation by Eigenmann (1910: 478). Gender: feminine. Preoccupied by *Heterogramma* Guenée, 1854.
Apistogramma Regan, 1913c: 282. Type species: *Mesops taeniatus* Günther, 1862. Type by being a replacement name. Gender: feminine.
Pintoichthys Fowler, 1954: 316. Type species: *Biotodoma trifasciatus* Eigenmann & Kennedy, 1903. Type by original designation. Gender: masculine.
- Apistogramma agassizii* (Steindachner, 1875)**
Geophagus (*Mesops*) *agassizii* Steindachner, 1875: 111, pl. 8 (fig. 2). Type locality: Syntypes from Curupira..., Cudajas..., Río Puty..., Lago Maximo...See Manacapuru; lectotype from Manacapuru

- ru (Amazonas State, Brazil; 3°16'S 60°37'N). Lectotype: NMW 23484, designated by Kullander (1980a: 89).
- Apistogramma parva* Ahl, 1931: 210. Type locality: Rio Capim. Holotype: ZMB 23410.
Maximum length: 4.2 cm SL
Distribution: South America: Amazon River basin, along Amazon-Solimões River from Peru through Brazil to Capim River basin.
Countries: Brazil, Colombia, Peru
Remarks and references: Redescribed by Kullander (1980a: 89), with bibliography, description, distribution, lectotype designation; brief redescription of Peruvian material in Kullander (1986: 189). Holotype of *A. parva* briefly redescribed by Kullander (1980a: 145). Synonym status of *A. parva* is still tentative.
- Apistogramma arua* Römer & Warzel, 1998**
Apistogramma arua Römer & Warzel, 1998: 46, fig. 1. Type locality: some 2.5 km upstream of the village of Arua in a small right-bank affluent of the Rio Arua, a tributary of the Rio Arapiuns, Para State, Brazil (approx. 2°39'27"S, 55°43'24"W). Holotype: MZUSP uncat.
Maximum length: 4.4 cm SL
Distribution: South America: Amazon River basin, in the Arapiuns River basin.
Countries: Brazil
Remarks and references: Original description repeated in German in Römer (1998: 266-283) but with additional photos.
- Apistogramma atahualpa* Römer, 1997**
Apistogramma atahualpa Römer, 1997: 9, 2 figs. Type locality: Peru (Loreto). Imported...from Iquitos. Holotype: SMF 28212.
Maximum length: 4.2 cm SL
Distribution: South America: Amazon River basin, in the Nanay River basin.
Countries: Peru
- Apistogramma bitaeniata* Pellegrin, 1936**
Apistogramma pertense var. *bitaeniata* Pellegrin, 1936: 56. Type locality: Rio Madeira (Brésil) [apparently incorrect: Kullander, 1980a: 97], emended to: Colombia (Amazonas), environments of Leticia. Lectotype: MNHN 1935-34, designated by Kullander (1980a).
Apistogramma sweglesi Meinken, 1961: 136, fig. p. 137. Type locality: Wasserläufen bei Letitia in Peru. Holotype: lost.
Apistogramma klausewitzii Meinken, 1962: 138, fig. 1. Type locality: Brasilien, oberer Rio Solimões, Igarapé Preto. Holotype: SMF 5526.
Apistogramma kleei Meinken, 1964: 293, fig. p. 295. Type locality: unbekannt [unknown]. Holotype: USNM 199593.
Maximum length: 4.6 cm SL
Distribution: South America: Amazon River basin, restricted to Peruvian and adjacent Brazilian black-water river systems (collected in the lower Nanay, Mazán and Tigre in Peru, near Leticia in Colombia, and in Igarapé Preto and Lago Tefé in Brazil).
Countries: Brazil, Colombia, Peru
Remarks and references: Redescribed by Kullander (1980a: 97), with bibliography, description, distribution, lectotype designation; brief redescription of Peruvian material by Kullander (1986: 191).
- Apistogramma borellii* (Regan, 1906)**
Heterogramma borellii Regan, 1906b: 63. Type locality: Carandasiñho, Matto Grosso. Syntypes: BMNH 1900.4.14.12-15 (3; one lost).
Heterogramma ritense Haseman, 1911: 362, pl. 70. Type locality: Santa Rita, Rio Santa Rita of the Paraguay basin. Holotype: FMNH 54187 [ex CM 2765a].
Heterogramma rondoni Miranda Ribeiro, 1918b: 16, pl. 11. Type locality: Caceres, na Caiçara (Campina). Lectotype: MNRJ 1247A, designated by Miranda Ribeiro (1953: 397).
- Apistogramma aequipinnis* Ahl, 1938: 246. Type locality: vermutlich Argentinien. Holotype: ZMB 23409.
Apistogramma reitzigi Mitsch, 1938: 181. Type locality: Wahrscheinlich mittleres Südamerika. No type specimens.
Maximum length: 3.9 cm SL
Distribution: South America: Paraguay River basin and along the lower Paraná River in Argentina.
Countries: Argentina, Brazil, Paraguay
Remarks and references: *Apistogramma reitzigi* was named twice (Mitsch, 1938, Ahl, 1938) with the same name. The earlier description by Mitsch (1938) clearly makes the name available. Although attributed in that paper to E. Ahl, there is no indication that Ahl would have been involved in writing the paper and Ahl cannot be author. Brief review, with key and distribution map, in Kullander (1983b: 311).
- Apistogramma brevis* Kullander, 1980**
Apistogramma brevis Kullander, 1980a 107, fig. 13. Type locality: Petit igarapé du Lago Penera, rive droite du Uaupés, État d'Amazonas, Brésil. (0°01'N 67°21'W.). Holotype: IRSNB 570.
Maximum length: 3.9 cm SL
Distribution: South America: Amazon River basin, in the Uaupés River basin.
Countries: Brazil
- Apistogramma cacatuoides* Hoedeman, 1951**
Apistogramma cacatuoides Hoedeman, 1951: 1, fig. p. 3. Type locality: near Paramaribo, Dutch Guiana [incorrect, restricted and emended by Kullander, 1980a: R. Amazonas basin between 69° and 71° W]. Holotype: ZMA 100033.
Maximum length: 5 cm SL
Distribution: South America: Amazon River basin, in tributaries of the Ucayali, Amazon and Solimões Rivers from the Pachitea River to Tabatinga.
Countries: Brazil, Colombia, Peru
Remarks and references: Redescription in Kullander (1980a 86). Brief review with bibliography, diagnostic characters, and distribution map in Kullander (1986: 181).
- Apistogramma caetei* Kullander, 1980**
Apistogramma caetei Kullander, 1980a: 76. Type locality: Igarapé in Bragança (Estado do Pará, Brazil; 1°45'S 46°47'W). Holotype: FMNH 54164 [ex CM 2732].
Maximum length: 3.6 cm SL
Distribution: South America: Apeú and Caeté Rivers in the Bragança region, Pará State.
Countries: Brazil
- Apistogramma commbrae* (Regan, 1906)**
Heterogramma commbrae Regan, 1906b: 64. Type locality: Carandasiñho, Matto Grosso; Colonia Risso. Lectotype: BMNH 1900.4.14.16, designated by Kullander (1982a: 36).
Heterogramma corumbae Eigenmann & Ward in Eigenmann, McAtee & Ward, 1907: 146, pl. 45 (fig. 3). Type locality: Corumba. Holotype: CAS 33719 [ex IU 10166].
Maximum length: 3.3 cm SL
Distribution: South America: Paraguay River basin, middle Paraná River basin in Argentina, and Uruguay River basin.
Countries: Argentina, Brazil, Paraguay
Remarks and references: Species monographed by Kullander (1982a).
- Apistogramma cruzi* Kullander, 1986**
Apistogramma cruzi Kullander, 1986: 159, pl. 16, fig. 1. Type locality: Peru, departamento Loreto, Río Napo drainage system, lower course of a quebrada right bank tributary to the Río Mazán nearly 2 hours upstream from Puerto Alegre on the mouth of the Río Mazán, Peru. Holotype: NRM 16664.
Maximum length: 5.1 cm SL

Distribution: South America: Amazon River basin, in the Napo River drainage of Peru and Ecuador, and the Putumayo and Caquetá River drainages of Colombia.

Countries: Colombia, Ecuador, Peru

***Apistogramma diplotaenia* Kullander, 1987**

Apistogramma diplotaenia Kullander, 1987a: 259, fig. 1. Type locality: Brasil, est. Amazonas, R. Negro drainage system, downstream of the R. Daraã. Holotype: MZUSP 28213.

Maximum length: 2.9 cm SL

Distribution: South America: Amazon River basin, in the middle Negro River from San Carlos to Arirará River.

Countries: Brazil, Venezuela

***Apistogramma elizabethae* Kullander, 1980**

Apistogramma elizabethae Kullander, 1980a: 103, fig. 12. Type locality: Igarapé affluent de la rive droite du Uaupés à Trovao (environ 20 km en amont de l'embouchure de Uaupés), État d'Amazonas. Brésil. (0°02'N 67°26'W). Holotype: IRSNB 596.

Maximum length: 4 cm SL

Distribution: South America: Amazon River basin, in the Uaupés River basin.

Countries: Brazil

***Apistogramma eunotus* Kullander, 1981**

Apistogramma eunotus Kullander, 1981a: 184, fig. 1. Type locality: Peru, Depto. Loreto, R. Ucayali system, near Pucallpa, on road to Aguaytia, "Dunkelwasser bei 'Campo Verde'". Holotype: ZFMK 10772.

Maximum length: 5.3 cm SL

Distribution: South America: Amazon River basin, in tributaries to the Ucayali and Amazonas Rivers, and in the Yavarí River in Peru, and the Japurá River in Brazil.

Countries: Brazil, Peru

***Apistogramma geisleri* Meinken, 1971**

Apistogramma geisleri Meinken, 1971: 35, fig. 1. Type locality: Amazonas-Gebiet, Rio Curuçamba bei Obidos. Holotype: SMF 10617.

Maximum length: 2.8 cm SL

Distribution: South America: Amazon River basin, in the region of the lower Trombetas River basin.

Countries: Brazil

Remarks and references: Redescribed by Kullander (1980a: 72).

***Apistogramma gephyra* Kullander, 1980**

Apistogramma gephyra Kullander, 1980a: 131, fig. 17. Type locality: Igarapé affluent de la rive gauche du Rio Negro, dans l'Archipel des Anavilhanas, État d'Amazonas, Brésil. (3°00'S 60°45'W). Holotype: IRSNB 581.

Maximum length: 3.3 cm SL

Distribution: South America: Amazon River basin, in the lower Negro River basin.

Countries: Brazil

***Apistogramma gibbiceps* Meinken, 1969**

Apistogramma gibbiceps Meinken, 1969: 91, fig. 1. Type locality: Brasilien, wahrscheinlich Gebiet des Rio Negro. Holotype: SMF 9441.

Apistogramma roraimae Kullander, 1980a: 138, fig 19. Type locality: Igarapé Uazinho à environ 20 km de Boa Vista sur la route Boa Vista-Caracarai, Territoire du Rio Branco, Brésil. (2°49'N 60°40'W). Holotype: IRSNB 565.

Maximum length: 4.5 cm SL

Distribution: South America: Amazon River basin, in the Branco and middle Negro River basins.

Countries: Brazil

Remarks and references: Redescribed by Kullander (1980a: 115) with diagnosis, bibliography, description and distribution; syn-

onymy of *A. roraimae* herein is based on Kullander (unpublished).

***Apistogramma gossei* Kullander, 1982**

Apistogramma gossei Kullander, 1982d: 65, fig. 1. Type locality: Brasil, terr. Amapá, R. Oyapock system, Martinique. Holotype: MNHN 1981-231.

Maximum length: 4.4 cm SL

Distribution: South America: Oyapock River drainage in French Guiana and Brazil; Approuague River drainage in French Guiana.

Countries: Brazil, French Guiana

Common names: Prapra (French Guiana)

***Apistogramma guttata* Antonio C., Kullander & Lasso A., 1989**

Apistogramma guttata Antonio C., Kullander & Lasso A., 1989: 132, fig. 1. Type locality: Venezuela, Estado Anzoátegui, Río Morichal Largo, close to village San Miguel (63°22'W 8°38'N). Holotype: MHNLS 3587.

Maximum length: 3.6 cm SL

Distribution: South America: Morichal Largo River in northeastern Venezuela.

Countries: Venezuela

***Apistogramma hippolytae* Kullander, 1982**

Apistogramma hippolytae Kullander, 1982b: 182, fig. 1. Type locality: Brasil, est. Amazonas, Rio Solimoes System, Igarapé des Lago Manacapuru. Holotype: MZUSP 6657.

Maximum length: 3.4 cm SL

Distribution: South America: Amazon River basin, middle Negro River drainage (near mouths of Urubaxi and Daraã Rivers), and Lake Manacapuru.

Countries: Brazil

***Apistogramma hoignei* Meinken, 1965**

Apistogramma hoignei Meinken, 1965a: 258, fig. 1. Type locality: Zuflüsse der Sümpfe am Unterlauf des Rio Portuguesa westlich der Orte Sta. Rosa und Camaguan, an der Autostraße von Calabozo am Südende der seenartigen Erweiterung 'Embalse del Guárico' des Rio Guárico nach San Fernando am Mittellauf des Rio Apuré, im Staat Guárico, Venezuela. Holotype: SMF 7891.

Maximum length: 6 cm SL

Distribution: South America: Orinoco River basin, in the Portuguesa, Aracua, and lower Caura River drainages, and along the mainstream of the lower Orinoco River to Barrancas.

Countries: Venezuela

Remarks and references: Brief redescription in Kullander (1979: 75).

Common names: Mochoroca (Venezuela)

***Apistogramma hongsloui* Kullander, 1979**

Apistogramma hongsloui Kullander, 1979b: 74, fig. 5. Type locality: Finca Boca de Guarrojo (small laguna closest to the houses of the finca), R. Guarrojo, Vichada, Colombia (4°07'N 70°45'W). Holotype: NRM 11234.

Maximum length: 3.4 cm SL

Distribution: South America: Orinoco River basin, in the Vichada River drainage and the middle Meta River drainage in Colombia, and along the middle Orinoco River basin.

Countries: Colombia, Venezuela

Common names: Viejita (Colombia)

***Apistogramma inconspicua* Kullander, 1983**

Apistogramma inconspicua Kullander, 1983b: 307, fig. 1. Type locality: Bolivia, depto. Santa Cruz, R. Paraguay system [sic!], small pool of the R. Candelaria, above bridge on road Carmen-Santa Rosa (16°00'S 61°40'W). Holotype: IRSNB 637.

Maximum length: 3.7 cm SL

Distribution: South America: Amazon River basin, in the Guaporé River drainage in Bolivia; Paraná River basin, in the upper Paraguayan River basin.

Countries: Bolivia, Brazil

***Apistogramma iniridae* Kullander, 1979**

Apistogramma iniridae Kullander, 1979b: 76, fig. 7. Type locality: Pueblo Bretania (Yuri Bajo), Caño (Río) Bocón, depto. Guainía, Colombia (3°39'N 68°05'W). Holotype: NRM 11224.

Maximum length: 3.6 cm SL

Distribution: South America: Orinoco River basin, in the Inírida River basin.

Countries: Colombia

***Apistogramma juruensis* Kullander, 1986**

Apistogramma juruensis Kullander, 1986: 177, pl. 19 (fig. 1). Type locality: Brazil, estado Acre, Rio Juruá drainage system, município do Cruzeiro do Sul, riachos near Igarapé Formoso. Holotype: ZUEC 1374.

Maximum length: 2.4 cm SL

Distribution: South America: Amazon River basin, in the upper Juruá River basin.

Countries: Brazil

***Apistogramma linkei* Koslowski, 1985**

Apistogramma linkei Koslowski, 1985: 151, fig. 5. Type locality: Bolivia, northwest of the town Santa Cruz, Lagunen entlang der Strasse zwischen den Orten Portachuelo und Bella Vista, 76 km nordwestlich von Santa Cruz, Wasseransammlungen entlang der Strasse und kleiner flacher Wasserlauf der die Strasse kreuzt und Lagune an der Strasse ca. 2 km östlich vor dem Ort Japacani am Rio Japacani", sta. B1 und B2, about 68°25'W--16°20'S and 68°50'W--16°15'S. Holotype: ZFMK 13323.

Maximum length: 3.9 cm SL

Distribution: South America: Amazon River basin, in the Mamoré and Beni River basins.

Countries: Bolivia

***Apistogramma luelingi* Kullander, 1976**

Apistogramma luelingi Kullander, 1976: 259, fig. 1. Type locality: Kleine Quebrada unterhalb Todos Santos (Bolivien) [incorrect: corrected to Quebrada mit Altwasser unterhalb San Francisco seitlich des Rio Chiripiri by Kullander, 1986: 177]. Holotype: ZFMK (I) 66/2283.

Maximum length: 3.3 cm SL

Distribution: South America: Amazon River basin, in the Madre de Dios and Mamoré River basins.

Countries: Bolivia, Peru

***Apistogramma macmasteri* Kullander, 1979**

Apistogramma macmasteri Kullander, 1979b: 70, fig. 1. Type locality: Finca La Ponderosa (on the road to Restrepo), Villaviciencia, depto Meta, Colombia. Stream... at the foot of the Cordillera (4°15'N 73°35'W). Holotype: NRM 11240.

Maximum length: 5.5 cm SL

Distribution: South America: Orinoco River basin, in the upper Meta River drainage (Guaytiquía River, Metica River).

Countries: Colombia

***Apistogramma meinkeni* Kullander, 1980**

Apistogramma meinkeni Kullander, 1980a: 118, fig. 15. Type locality: Igarapé affluent de la rive droite des Uaupés (environ 20 km en amont de l'embouchure des Uaupés), Trovao, État d'Amazonas, Brésil. (0°02'N 67°26'W). Holotype: IRSNB 567.

Maximum length: 3.5 cm SL

Distribution: South America: Amazon River basin, in the Uaupés River basin.

Countries: Brazil

***Apistogramma mendezi* Römer, 1994**

Apistogramma mendezi Römer, 1994: 1, fig. 1. Type locality: Small igarapé (forest stream) near airfield of Barcelos do Rio Negro, Dept. Amazonas, Brazil (aprox. 63.04'W/0.01'S), sometimes called "Rio Salgado" by local people. Holotype: ZFMK 17458.

Distribution: South America: Amazon River basin, in the Negro River basin.

Countries: Brazil

Remarks and references: The species name is a misspelling for mendesi, after Francisco Mendes, but cannot be corrected (International Code of Zoological Nomenclature, 4th edition, article 32.5).

***Apistogramma moae* Kullander, 1980**

Apistogramma moae Kullander, 1980a: 61, fig. 9. Type locality: Igarapé São Salvador, affluent rive gauche du Rio Moa, Cruzeiro-do-Sul. État de Acre. Brésil. (7°38'S 72°36'W). Holotype: IRSNB 586.

Maximum length: 5 cm SL

Distribution: South America: Amazon River basin, in the upper Juruá River basin.

Countries: Brazil

Remarks and references: Brief redescription with illustration in Kullander (1986: 169).

***Apistogramma nijsseni* Kullander, 1979**

Apistogramma nijsseni Kullander, 1979a: 938, fig. 1. Type locality: Perú (Loreto), R. Ucayali system, Jenaro Herrera, R. Copal, "marigots des Tupacs". Holotype: MHNG 1595.82.

Maximum length: 3.9 cm SL

Distribution: South America: Amazon River basin, in the Carahuayte River drainage, a tributary to the Ucayali River.

Countries: Peru

***Apistogramma norberti* Staeck, 1991**

Apistogramma norberti Staeck, 1991: 140, fig. 1. Type locality: Peru, Dept. Loreto, in die Quebrada Nuevo Horizonte mündender Urwaldbach im Einzugsgebiet des Rio Tahuayo (etwa 73°05'W, 4°05'S). Holotype: ZMB 32002.

Maximum length: 3.9 cm SL

Distribution: South America: Amazon River basin, in the Tahuayo River basin.

Countries: Peru

***Apistogramma ortmanni* (Eigenmann, 1912)**

Heterogramma ortmanni Eigenmann, 1912: 506, pl. 68 (fig. 1). Type locality: Erukin, Guyana. Holotype: FMNH 53801 [ex CM 2306].

Maximum length: 4.1 cm SL

Distribution: South America: Essequibo River drainage, including the Potaro and Rupununi rivers, Corantijn and Cuyuni River basins.

Countries: Guyana, Suriname, Venezuela

***Apistogramma panduro* Römer, 1997**

Apistogramma panduro Römer, 1997: 12, 4 figs. Type locality: Per (Loreto), Rio Ucayali drainage... Small forest brooks east of Jenaro Herrera at kilometer markers 26 and 27 on the road to the Brazilian border. Holotype: ZFMK 18610.

Maximum length: 4.9 cm SL

Distribution: South America: Amazon River basin, Peru, not precisely known.

Countries: Peru

***Apistogramma paucisquamis* Kullander & Staeck, 1988**

Apistogramma paucisquamis Kullander & Staeck, 1988: 190, fig. 1. Type locality: Brazil, Estado do Amazonas, Rio Negro drain-

nage... Arquipélago das Anavilhanas, small shallow bay on the right bank of Rio Negro. Holotype: MZUSP 36952.

Maximum length: 3.4 cm SL

Distribution: South America: Amazon River basin, in the middle and lower Negro River from Daraá River to Anavilhanas Archipelago.

Countries: Brazil

***Apistogramma payaminonis* Kullander, 1986**

Apistogramma payaminonis Kullander, 1986: 184, fig. 64, pl. 20 (fig. 2). Type locality: Ecuador, provincia del Napo, Río Napo drainage system, Río Payamino drainage, Quebrada Ahuano, just above Ahuanopaccha (a 42 m vertical waterfall); in headwaters of the Río Tutapishcu, few km southwest of San José de Payamino (a village at confluence of Río Tutapishcu and Río Payamino (approx. 0°31.2'S, 77°20.7'W). Holotype: FMNH 96564.

Maximum length: 4 cm SL

Distribution: South America: Amazon River basin, in the Payamino River basin in Napo River drainage.

Countries: Ecuador

***Apistogramma personata* Kullander, 1980**

Apistogramma personata Kullander, 1980a: 111, fig. 14. Type locality: Rio Uaupés á Assai, État d'Amazonas, Brésil (0°02'N 67°27'W). Holotype: IRSNB 575.

Maximum length: 4.9 cm SL

Distribution: South America: Amazon River basin, in the Uaupés River basin.

Countries: Brazil

***Apistogramma pertensis* (Haseman, 1911)**

Heterogramma taeniatum pertense Haseman, 1911: 359, pl. 66. Type locality: Manaus. Holotype: FMNH 54171 [ex CM 2741].

Maximum length: 3.9 cm SL

Distribution: South America: Amazon River basin, in the lower Negro River and from Manacapuru to Monte Alegre along the Amazon-Solimões River.

Countries: Brazil

Remarks and references: Redescription in Kullander (1980a: 126), with bibliography, diagnosis, description, distribution.

***Apistogramma piauiensis* Kullander, 1980**

Apistogramma piauiensis Kullander, 1980a: 79, fig. 11. Type locality: Brazil: Piauí, Lagoa Seca, about 1 km from camp on Rio Parnaíba at Barra do Longa (near Buriti dos Lopes). (3°08'S 41°54'W). Holotype: MCZ 46831.

Maximum length: 2.3 cm SL

Distribution: South America: Parnaíba River basin.

Countries: Brazil

***Apistogramma pleurotaenia* (Regan, 1909)**

Heterogramma pleurotaenia Regan, 1909a: 270. Type locality: La Plata. Holotype: BMNH 1909.2.25.61.

Maximum length: 2.8 cm SL

Distribution: South America: Possibly Argentina, only holotype known.

Countries: Argentina (?)

***Apistogramma pulchra* Kullander, 1980**

Apistogramma pulchra Kullander, 1980a: 135, fig. 18. Type locality: Rio Preto, affluent de la rive gauche du Rio Candeias à 25 km de Porto-Velho, Territoire du Rondonia, Brésil. (8°46'S 63°45'W). Holotype: IRSNB 584.

Maximum length: 3.2 cm SL

Distribution: South America: Amazon River basin, in the Madeira River basin.

Countries: Brazil

***Apistogramma regani* Kullander, 1980**

Apistogramma regani Kullander, 1980a: 65, fig. 10. Type locality: Igarapé affluent de la rive gauche du Rio Negro, dans l'Archipel das Anavilhanas, État d'Amazonas, Brésil. (3°00'S 60°45'W). Holotype: IRSNB 577.

Maximum length: 4.9 cm SL

Distribution: South America: Amazon River basin, in the lower Negro River basin.

Countries: Brazil

***Apistogramma resticulosa* Kullander, 1980**

Apistogramma resticulosa Kullander, 1980b: 158, fig. 1. Type locality: Brasil, Estado do Amazonas, R. Madeira drainage system, Igarapé Xicanga, about 5 km W of Humaitá (07°31'S 63°04'W). Holotype: ZMA 116177.

Maximum length: 2.7 cm SL

Distribution: South America: Amazon River basin, in the Madeira River drainage near Huamitá.

Countries: Brazil

***Apistogramma rubrolineata* Hein, Zarske & Zapata, 2002.**

Apistogramma rubrolineata Hein, Zarske & Zapata, 2002: 16, fig. 3. Type locality: Bolivien, Departamento Pando, Rio Manuripi, nahe der Ortschaft Puerto Cardenas (11°20'083" S, 67°44'576" W). Holotype: MTD F 26477.

Maximum length: 4 cm SL

Distribution: South America: Manuripi River basin, Pando Department.

Countries: Bolivia

***Apistogramma rupununi* Fowler, 1914**

Apistogramma ortmanni rupununi Fowler, 1914: 277, fig 19. Type locality: Rupununi River, British Guiana. Holotype: ANSP 39347.

Maximum length: 3.8 cm SL

Distribution: South America: Amazon River basin, in the Branco River; Rupununi River basin.

Countries: Brazil, Guyana

***Apistogramma staecki* Koslowski, 1985**

Apistogramma staecki Koslowski, 1985: 146, fig. 1. Type locality: Bolivia, south of the town Trinidad, "Lagunen beiderseits der Strasse von Trinidad ca. 10 km südlich in Richtung El Colegio und Loreto", sta. B11, about 64°51'W--14°57'S. Holotype: ZFMK 13400.

Maximum length: 2.1 cm SL

Distribution: South America: Amazon River basin, in the Mamoré and Guaporé River basins.

Countries: Bolivia, Brazil

***Apistogramma steindachneri* (Regan, 1908)**

Heterogramma steindachneri Regan, 1908b: 370, fig. on p. 371. Type locality: Georgetown, Demerara. Syntypes: BMNH 1909.4.30: 31-32 (2).

Apistogramma ornatipinnis Ahl, 1936a: 141. Type locality: Britisch-Guiana. Holotype: ZMB 21147.

Apistogramma wickleri Meinken, 1960b: 655, fig. 1. Type locality: Anzunehmen ist, daß die Tiere aus den Guayana-Ländern eingeführt wurden. Holotype: ZMH H5682.

Maximum length: 6.5 cm SL

Distribution: South America: Essequibo, Demerara and Mahaica River drainages, and from the Marowijne River to the Corantijn River basin.

Countries: Guyana, Suriname

Remarks and references: Redescription, based in Surinamese material, in Kullander & Nijssen (1989: 74), with bibliography, diagnosis, description, distribution.

***Apistogramma taeniata* (Günther, 1862)**

Mesops taeniatus Günther, 1862: 312. Type locality: River Cupai (800 miles from the sea). Holotype: BMNH 1853.3.19.71.
Maximum length: 4.2 cm SL
Distribution: South America: Amazon River basin, in the lower Tapajós River basin.

Countries: Brazil

Remarks and references: Redescription of the holotype in Kullander (1980a: 142).

***Apistogramma trifasciata* (Eigenmann & Kennedy, 1903)**

Biotodoma trifasciatus Eigenmann & Kennedy, 1903: 536. Type locality: Arroyo Chagalalina [Paraguay]. Holotype: CAS 33721.

Heterogramma trifasciatum maciliense Haseman, 1911: 360, pl. 62 (fig. 2). Type locality: São Antonio de Guaporé. Syntypes: CAS 33722 (1), FMNH 54177 (2), one missing. Spelled *maciense* on p. 360.

Apistogramma trifasciatum haraldschultzi Meinken, 1960a: 291, fig. 1. Type locality: Oberer Guaporé, auch Itenes genannt, im Norden des Staates Matto Grosso. Holotype: ZMH H1209. Originally as *harald schultzi* as a subspecies of *trifasciatum*; here regarded as one name to be combined.

Maximum length: 3.8 cm SL

Distribution: South America: Amazon River basin, in the Guaporé drainage in Brazil; Paraná River basin, in the Paraguay River drainage in Brazil and Paraguay, and in the middle Paraná River drainage in Argentina.

Countries: Argentina, Brazil, Paraguay

***Apistogramma uaupesi* Kullander, 1980**

Apistogramma uaupesi Kullander, 1980a: 122, fig. 16. Type locality: Igarapé affluent de la rive droite des Uaupés (environ 20 km en amont de l'embouchure des Uaupés), Trovao, État d'Amazonas, Brésil. (0°02'N 67°26'W.) Holotype: IRSNB 594.

Maximum length: 2.8 cm SL

Distribution: South America: Amazon River basin, in the Rio Uaupés and nearby Negro River basin.

Countries: Brazil

***Apistogramma urteagai* Kullander, 1986**

Apistogramma urteagai Kullander, 1986: 163, pl. 17 fig. 1. Type locality: Peru, departamento Madre de Dios, Río Madre de Dios drainage system, Lago Túpac Amaru, near Puerto Maldonado. Holotype: NRM 16659.

Maximum length: 4.1 cm SL

Distribution: South America: Amazon River basin, in the Rio Madre de Dios basin.

Countries: Peru

***Apistogramma viejita* Kullander, 1979**

Apistogramma viejita Kullander, 1979b: 73, fig. 3. Type locality: Caño, affluent of Rio Yucao, depto Meta, Colombia. About 500 m westwards along the road Puerto Gaitán-Puerto López from a laguna midway between Rio Yucao and Rio Manacacías, 300 m from the road (4°20'N 72°09'W). Holotype: NRM 11231.

Maximum length: 3 cm SL

Distribution: South America: Orinoco River basin, in the upper Rio Meta basin.

Countries: Colombia

Common names: Viejita (Colombia)

Species inquirenda

Geophagus amoenus Cope, 1872: 250. Type locality: River Ambyiacu [=Ampiyacu River, Peru]. Holotype: ANSP (not found). Species not recognized since original description, usually interpreted as an *Apistogramma* species. See Kullander (1980a: 142) for review.

APISTOGRAMMOIDES

Apistogrammoides Meinken, 1965b: 48. Type species: *Apistogrammoides pucallpaensis* Meinken, 1965. Type by original designation. Gender: masculine.

***Apistogrammoides pucallpaensis* Meinken, 1965**

Apistogrammoides pucallpaensis Meinken, 1965b: 48, fig. 1. Type locality: Bach kurz außerhalb der Vorstadt von Pucallpa, Peru, der in den Ucayali mündet. Holotype: SMF 7565.

Maximum length: 2.7 cm SL

Distribution: South America: Amazon River basin, from Pucallpa on the Ucayali River in Peru, to Santa Sofía Island in the Amazon River in Colombia.

Countries: Colombia, Peru

Remarks and references: Kullander (1986: 194), with diagnosis, bibliography, and redescription, distribution map, and illustrations.

ARCHOCENTRUS

Archocentrus Gill in Gill & Bransford, 1877: 186. Type species: *Heros centrarchus* Gill in Gill & Bransford, 1877. Type by monotypy. Gender: masculine. First described as subgenus of *Heros* (*Archocentrus*).

Cryptoheros Allgayer, 2001: 14. Type species: *Heros spilurus* Günther, 1862. Type species by original designation. Gender: masculine.

***Archocentrus altoflavus* (Allgayer, 2001)**

Cryptoheros altoflavus Allgayer, 2001: 16, fig. p. 16. Type locality: Panama, Province de Bocas del Toro, Rio Cañaveral (Rio Caña). Holotype: MNHN 2001/1163.

Maximum length: 9 cm SL

Distribution: Central America: Atlantic slope, in the Cañaveral River basin.

Countries: Panama

***Archocentrus centrarchus* (Gill, 1877)**

Heros centrarchus Gill in Gill & Bransford, 1877: 185. Type locality: Lake Nicaragua. Holotype: USNM 16878.

Maximum length: 11 cm SL

Distribution: Central America: Pacific slope, in tributaries of Fonseca Gulf in Honduras and Nicaragua; Atlantic slope in the San Juan River basin, including Lakes Managua, Nicaragua, Jiloá and Apoyo.

Countries: Costa Rica, Honduras, Nicaragua

Remarks and references: Reviewed by Bussing (1998: 336), with key, diagnosis, geographical distribution, and figures.

Common names: Mojarra (Costa Rica), Mojarra rayada (Nicaragua), Mojarrita (Nicaragua), Viejita (Nicaragua)

***Archocentrus myrnae* Loiselle, 1997**

Archocentrus myrnae Loiselle, 1997: 3, fig. p. 3. Type locality: Río Cocolis, a tributary of the Río Sixaola, 3.5 km SE of Shiroles, on the Bratsí-Shiroles road, Limon Province, Costa Rica. Holotype: AMNH 59079.

Maximum length: 8 cm SL

Distribution: Central America: Atlantic slope, in Costa Rica and Panama, from Estrella River to Guarumo River.

Countries: Costa Rica, Panama

Remarks and references: Reviewed by Bussing (1998: 340), with key, diagnosis, geographical distribution, and figures.

Common names: Mojarra (Costa Rica)

***Archocentrus nanoluteus* Allgayer, 1994**

Archocentrus nanoluteus Allgayer, 1994: 9. Type locality: Panama, Province de Bocas del Toro, District de Chiriqui Grande, rio Guarumo. 82°13' Ouest; 9°55' à 9°52' Nord. Holotype: MNHN 1993-260.

Maximum length: 6.4 cm SL

Distribution: Central America: Atlantic slope, in the Guarumo River basin.

Countries: Panama

***Archocentrus nigrofasciatus* (Günther, 1867)**

Heros nigrofasciatus Günther, 1867: 601. Type locality: Lakes of Amatitlan and Atitlan. Syntypes: BMNH

1865.4.19.76-77 (2) and .78 (1, skeleton); ZMB 6882 (1).

Maximum length: 10 cm SL

Distribution: Central America: Pacific slope, from Guatemala to Costa Rica (Tárcoles River); Atlantic slope from Aguan River (Honduras) to Guarumo River (Panama).

Countries: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama

Remarks and references: *Heros nigrofasciatus* described in more detail in Günther (1868: 452, pl. 74, fig. 3). Reviewed by Bussing (1998: 342), with key, diagnosis, geographical distribution, and figures.

Common names: Achiba (El Salvador), Burra (Costa Rica), Burro (El Salvador), Carate (Costa Rica, Nicaragua), Chamarra (El Salvador), Chincoyo (El Salvador), Conga (El Salvador), Congo (Costa Rica, Honduras), Mojarra (El Salvador), Punto naranja (Costa Rica), Punto rojo (Nicaragua), Serica (Guatemala)

***Archocentrus panamensis* (Meek & Hildebrand, 1913)**

Neetroplus panamensis Meek & Hildebrand, 1913: 90. Type locality: Rio Mandingo, Bas Obispo, Canal Zone, Panama. Holotype: FMNH 7601.

Maximum length: 13 cm TL

Distribution: Central America: Atlantic slope of Panama (Canal Zone, including Chagres River).

Countries: Panama

Common names: Chogorro (Panama), Peje motete (Panama)

***Archocentrus sajica* (Bussing, 1974)**

Cichlasoma sajica Bussing, 1974: 30, fig. 1. Type locality: Costa Rica, Puntarenas Province, tributary (20 m) of Río Sierpe 2 km S of Palmar Sur at Interamerican Highway (IH). Holotype: LACM 33902-1.

Maximum length: 9 cm SL

Distribution: Central America: Pacific slope of Costa Rica.

Countries: Costa Rica

Remarks and references: Reviewed by Bussing (1998: 346), with key, diagnosis, geographical distribution, and figures.

Common names: Mojarra (Costa Rica), T-Bar Cichlid (USA)

***Archocentrus septemfasciatus* (Regan, 1908)**

Cichlosoma septemfasciatum Regan, 1908a: 461. Type locality: Rio Iroquois. Syntypes: (14) BMNH 1909.3.13.82-90 (9), 1909.3.13.91 (1, skeleton).

Maximum length: 10 cm SL

Distribution: Central America: Atlantic slope of Costa Rica, from the San Juan River drainage to the Banano River.

Countries: Costa Rica

Remarks and references: Reviewed by Bussing (1998: 348), with key, diagnosis, geographical distribution, and figures.

***Archocentrus spilurus* (Günther, 1862)**

Heros spilurus Günther, 1862: 289. Type locality: Guatemala. Syntypes: (at least 2) BMNH 1864.1.26.52-55 (4?).

Cichlasoma cutteri Fowler, 1932: 380, fig. p. 381. Type locality: Lancetilla, Honduras. Holotype: ANSP 53930.

Maximum length: 12 cm TL

Distribution: Central America: Atlantic slope from Belize to Nicaragua.

Countries: Belize, Guatemala, Honduras, Nicaragua

Common names: Blue-eye cichlid (Belize), Congo (Nicaragua)

***Archocentrus spinosissimus* (Vaillant & Pellegrin, 1902)**

Heros (Cichlasoma) spinosissimus Vaillant & Pellegrin, 1902: 87 [3]. Type locality: Rio Polochic (Guatemala). Syntypes: MNHN A.352 (4).

Cichlasoma spinosissimum var. *immaculata* Pellegrin, 1904: 225. Type locality: Rio Polochic [Guatemala]. Syntypes: MNHN 9846 (2).

Maximum length: 11 cm SL

Distribution: Central America: Atlantic slope, in the Lake Izabal basin.

Countries: Guatemala

ASTRONOTUS

Astronotus Swainson, 1839: 173. Type species: *Lobotes ocellatus* Agassiz, 1831. Type by monotypy. Gender: masculine.

Acara Heckel, 1840: 338. Type species: *Acara crassipinnis* Heckel, 1840. Type by subsequent designation by Eigenmann & Bray (1894: 616). Gender: masculine.

Hyrogonus Günther, 1862: 303. Type species: *Lobotes ocellatus* Agassiz, 1829. Type by monotypy. Gender: masculine.

***Astronotus crassipinnis* (Heckel, 1840)**

Acara crassipinnis Heckel, 1840: 357, pl. 29 (fig. 5). Type locality: ..Rio-Paraguay... in Buchten... bei Villa Maria und Caiçara...Rio-Guaporè bei Matogrosso, im Rio-negro und im Rio-branco. Syntypes: (at least 5) NMW 58776 (1); NMW 24261 (1), 92455 (1); SMF 2926 [ex NMW in 1844] (1).

Maximum length: 24 cm SL

Distribution: South America: Amazon River basin, in the Bolivian Amazon and Madre de Dios River drainage in Peru; Paraná River basin in the Paraguay drainage in Paraguay and Brazil.

Countries: Bolivia, Brazil, Paraguay, Peru

Common names: Apaiari (Brazil)

***Astronotus ocellatus* (Agassiz, 1831)**

Lobotes ocellatus Agassiz in Spix & Agassiz, 1831: 129, pl. 66. Type locality: Oceano Atlantico. Types in ZSM, lost.

Cychla rubro-ocellata Jardine, 1843: 153, pl. 10. Type locality: Rio Negro and tributaries. No types known.

Acara compressus Cope, 1872: 256. Type locality: the Ambyiacu [=Ampiyacu River, Peru]. Lectotype: ANSP 9180.

Acara hyposticta Cope, 1878: 697. Type locality: [Amazonian Peru]. Holotype: ANSP 21286.

Astronotus ocellatus zebra Pellegrin, 1904: 183. Type locality: Santarem. Holotype: MNHN 1902-46.

Astronotus orbiculatus Haseman, 1911: 331, pl. 53. Type locality: Santarem. Holotype: FMNH 53992 [ex CM 2515].

Maximum length: 21 cm SL

Distribution: South America: Amazon River basin in Peru, Colombia, Brazil; French Guiana

Countries: Brazil, Colombia, Côte d'Ivoire (introduced), French Guiana, Peru, Puerto Rico (introduced)

Remarks and references: Redescription of Peruvian material in Kullander (1986: 61), with diagnosis, description, distribution, and illustrations. The species is reported from the Orinoco River drainage and numerous localities in the Amazon River basin, but apparently several species are confused under the name, and names in the synonymy may represent valid species.

Common names: Acará-açu (Brazil), Acarahuzú (Peru), Apaiari (Brazil), Carahuzú (Peru), Corró-baiano (Brazil), Corró-chinês (Brazil), Crombier (French Guiana), Dorminhoco (Brazil), Krobíé rouj (French Guiana), Paya (French Guiana)

BIOTODOMA

Mesops Günther, 1862: 311. Type species: *Geophagus cupido* Heckel, 1840. Type by subsequent designation by Eigenmann &

Bray (1894: 621). Gender: masculine. Preoccupied by *Mesops* Audinet-Serville 1831 in Orthoptera; replaced by *Biotoma* Eigenmann & Kennedy 1903.

Biotodoma Eigenmann & Kennedy, 1903: 533. Type species: *Geophagus cupido* Heckel, 1840. Type by being a replacement name. Gender: neuter. Replacement for *Mesops* Günther 1862, preoccupied by *Mesops* Audinet-Serville 1831.

***Biotodoma cupido* (Heckel, 1840)**

Geophagus Cupido Heckel, 1840: 399. Type locality: Rio-negro...Rio-Guaporè und dessen Morästen in der Umgegend von Matogrosso. Syntypes: NMW 23094 (1), 23122 (1), 23414 (1).

Maximum length: 9.7 cm SL

Distribution: South America: Amazon River basin in Peru, Bolivia and Brazil; Essequibo River in Guyana.

Countries: Bolivia, Brazil, Guyana, Peru

Remarks and references: Redescription of Peruvian material in Kullander (1986: 239), with diagnosis, description, distribution, and illustrations. Kullander (1986) considered that the widespread *B. cupido* of authors may consist of several similar species.

Common names: Bujurqui (Peru)

***Biotodoma wavrini* (Gosse, 1963)**

Geophagus wavrini Gosse, 1963: 2, pl. 1 (fig. 1). Type locality: Haut Orénoque, entre San Fernando de Atabapo et le Casiquiare. Holotype: IRSNB 457.

Maximum length: 10 cm SL

Distribution: South America: Amazon River basin, in the middle and upper Negro River drainage in Brazil and Venezuela; Orinoco River basin in Colombia and Venezuela.

Countries: Brazil, Venezuela

BIOTOECUS

Saraca Steindachner, 1875: 125. Type species: *Saraca opercularis* Steindachner, 1875. Type by monotypy. Gender: feminine. Preoccupied by *Saraca* Walker 1865 in Lepidoptera, replaced by *Biotoeus* Eigenmann & Kennedy 1903.

Biotoeus Eigenmann & Kennedy, 1903: 533. Type species: *Saraca opercularis* Steindachner, 1875. Type by being a replacement name. Gender: masculine. Replacement for *Saraca* Steindachner 1875, preoccupied by *Saraca* Walker 1865 in Lepidoptera.

***Biotoeus dicentrarchus* Kullander, 1989**

Biotoeus dicentrarchus Kullander, 1989: 227, fig. 1. Type locality: Colombia, Comisaría Vichada, Caño Alisal, tributary to Rio Bitá a few km S Puerto Carreño. Holotype: ICNMHN 1400.

Maximum length: 3.8 cm SL

Distribution: South America: Orinoco River basin, from the Inírida River (Colombia) to Maripa (Venezuela).

Countries: Colombia, Venezuela

Common names: Rebeca (Venezuela)

***Biotoeus opercularis* (Steindachner, 1875)**

Saraca opercularis Steindachner, 1875: 125. Type locality: See *Saraca* und Ausstände des Amazonenstromes bei Villa bella. Syntypes: NMW 38419 (1), 77814 (8).

Maximum length: 3.8 cm SL

Distribution: South America: Amazon River basin, in the Branco River, the middle and lower Negro River, Urubu River, Lake Saracá, Parintins, Lake Carauaçú, lower Trombetas River.

Countries: Brazil

Remarks and references: Discussed by Kullander (1989), with distribution map.

BUJURQUINA

Bujurquina Kullander, 1986: 244. Type species: *Bujurquina moriorum* Kullander, 1986. Type by original designation. Gender:

feminine.

***Bujurquina apoparuana* Kullander, 1986**

Bujurquina apoparuana Kullander, 1986: 280, pl. 29 (fig. 3). Type locality: Perú, departamento Ucayali, Río Ucayali drainage system, 3.4 km from Pucallpa on road to Lima, first bridge over stream. Holotype: FMNH 84269 (1 of 14).

Maximum length: 7.7 cm SL

Distribution: South America: Amazon River basin, in Ucayali River tributaries between Pucallpa and Shahuaya.

Countries: Peru

***Bujurquina cordemadi* Kullander, 1986**

Bujurquina cordemadi Kullander, 1986: 261, pl. 28 (fig. 1). Type locality: Perú, departamento de Madre de Dios, R. Madre de Dios drainage system, quebrada 8 km from airport road on sideroad to Lago Túpac Amaru. Holotype: NRM 17581.

Maximum length: 6.2 cm SL

Distribution: South America: Amazon River basin, in the Madre de Dios drainage at Puerto Maldonado.

Countries: Peru

***Bujurquina eurhinus* Kullander, 1986**

Bujurquina eurhinus Kullander, 1986: 269, pl. 28 (fig. 3). Type locality: Perú, departamento de Cuzco, R. Madre de Dios drainage system, R. Hospital at 71°27'W, 12°53'S. Holotype: ANSP 158173.

Maximum length: 8.9 cm SL

Distribution: South America: Amazon River basin, in the Madre de Dios drainage in Peru (Pilcopata, upper Madre de Dios, Manú, Colorado, Marcapata Rivers).

Countries: Peru

***Bujurquina hophrys* Kullander, 1986**

Bujurquina hophrys Kullander, 1986: 283, pl. 30 (fig. 2). Type locality: Perú, departamento Huánuco, Río Pachitea drainage system, 2-3 km downstream of Tournavista, right bank quebrada near its mouth into the Río Pachitea. Holotype: NRM 17585.

Maximum length: 8.5 cm SL

Distribution: South America: Amazon River basin, in the Pachitea and Aguaytía River basins.

Countries: Peru

***Bujurquina huallagae* Kullander, 1986**

Bujurquina huallagae Kullander, 1986: 290, pl. 31 (fig. 2). Type locality: Peru, departamento Huánuco, Río Huallaga drainage system, vicinity of Tingo María, c. 1/4 mi above Río Huallaga. Holotype: ANSP 158171.

Maximum length: 8.3 cm SL

Distribution: South America: Amazon River basin, in the Huallaga River basin at Tarapoto and Tingo María.

Countries: Peru

***Bujurquina labiosa* Kullander, 1986**

Bujurquina labiosa Kullander, 1986: 277, pl. 29 (fig. 2). Type locality: Perú, departamento Ucayali, Río Ucayali drainage system, Río Chinipo drainage within farm Bella Vista c. 10 km south of Chicosa. Holotype: NRM 17589.

Maximum length: 5.5 cm SL

Distribution: South America: Amazon River basin, in the upper Ucayali River basin (near Chinipo River).

Countries: Peru

***Bujurquina mariae* (Eigenmann, 1922)**

Aequidens mariae Eigenmann, 1922a: 240, pl. 30 (fig. 1). Type locality: Barrigón; Eigenmann, 1922b: 197: Type locality: Barigona; Cmaral, Llanos; Caño Caricería; Río Negro, Villcio; Oriente de Bogotá; Q. Gramalote Villcia. Holotype: CAS 34711 [ex IU 15011].

Maximum length: 15 cm TL

Distribution: South America: Orinoco River basin, in the Meta River basin.

Countries: Colombia

Remarks and references: Eigenmann (1922a) and (1922b) appeared both in October 1922 and it cannot be decided with available evidence which publication should have priority.

***Bujurquina megalospilus* Kullander, 1986**

Bujurquina megalospilus Kullander, 1986: 287, fig. 125, pl. 31 (fig. 1). Type locality: Perú, departamento Huánuco, Río Pachitea drainage system, drying pool c. 100 m from the left margin of the Río Pachitea and c. 1 km upstream from Tournavista. Holotype: NRM 17591.

Maximum length: 7.1 cm SL

Distribution: South America: Amazon River basin, in the Pachitea and Aguaytía River basins.

Countries: Peru

***Bujurquina moriorum* Kullander, 1986**

Bujurquina moriorum Kullander, 1986: 304, pl. 33 (fig. 3). Type locality: Perú, departamento Loreto, Río Ucayali drainage system, Quebrada Carahuayte at first bend downstream of km 20 on road Jenaro Herrera-Colonia Angamos. Holotype: NRM 17572.

Maximum length: 9.7 cm SL

Distribution: South America: Amazon River basin, in the Carahuayte, Mazán and lower Napo River basins.

Countries: Peru

***Bujurquina oenolaemus* Kullander, 1987**

Bujurquina oenolaemus Kullander, 1987b: 196, fig. 1. Type locality: Bolivie, dép. Santa Cruz. Rio Aguas Calientes à Aguas Calientes, à 25 km à l'est de Roboré, sur le rail. (Bassin du Paraguay.). Holotype: IRSNB 666.

Maximum length: 6.7 cm SL

Distribution: South America: Paraná River basin, in the Aguas Calientes River basin (Paraguay River drainage).

Countries: Bolivia

***Bujurquina ortegai* Kullander, 1986**

Bujurquina ortegai Kullander, 1986: 294, pl. 32 (fig. 1). Type locality: Perú, departamento San Martín, Río Huallaga drainage system, Moyobamba, Puerto Juan Antonio, Río Mayo. Holotype: MHNG 2205.27.

Maximum length: 11 cm SL

Distribution: South America: Amazon River basin, in the Mayo River basin (Huallaga River drainage).

Countries: Peru

***Bujurquina peregrinabunda* Kullander, 1986**

Bujurquina peregrinabunda Kullander, 1986: 301, pl. 33 (fig. 1). Type locality: Perú, departamento Loreto, Río Ampiyacu system, quebrada tributary to Río Yaguasyacu, just below the village Esperanza. Holotype: NRM 17596.

Maximum length: 10.7 cm SL

Distribution: South America: Amazon River basin, in the lower Ampiyacu River basin and at Codajás (Brazil).

Countries: Brazil, Peru

***Bujurquina robusta* Kullander, 1986**

Bujurquina robusta Kullander, 1986: 273, pl. 29 (fig. 1). Type locality: Perú, departamento Ucayali, R. Ucayali drainage system, R. Chinipo drainage within farm Bella Vista c. 10 km south of Chicosa. Holotype: NRM 17583.

Maximum length: 8.8 cm SL

Distribution: South America: Amazon River basin, in the Chinipo River basin (upper Ucayali River drainage).

Countries: Peru

***Bujurquina sypilus* (Cope, 1872)**

Acara sypilus Cope, 1872: 255, pl. 11 (fig. 3). Type locality: Ambyiacu River [Ampiyacu River, Peru]. Syntypes: ANSP 21430-21433 (4).

Maximum length: 10.3 cm SL

Distribution: South America: Amazon River basin, from the Pacaya River basin (Ucayali River drainage) to the lower Yavarí River.

Countries: Peru

***Bujurquina tambopatae* Kullander, 1986**

Bujurquina tambopatae Kullander, 1986: 266, pl. 28 (fig. 2). Type locality: Perú, departamento de Madre de Dios, R. Tambopata drainage system, Quebrada San Roque at Km 11 on Puerto Maldonado-Cuzco road. Holotype: NRM 17580.

Maximum length: 8.2 cm SL

Distribution: South America: Amazon River basin, in the Tambopata River basin (Madre de Dios River drainage).

Countries: Peru

***Bujurquina vittata* (Heckel, 1840)**

Acara vittatus Heckel, 1840: 346. Type locality: Sümpfen um Cujabá, der Hauptstadt in der Provinz Matagrosso. Holotype: NMW 33879.

Aequidens paraguayensis Eigenmann & Kennedy, 1903: 534.

Type locality: Asuncion. Holotype: CAS 34716 [ex IU 10066].

Maximum length: 7 cm SL

Distribution: South America: Paraná River basin, in the Paraguay River drainage, and in the middle Paraná River basin.

Countries: Argentina, Brazil, Paraguay

Common names: Acará-pirambocaia (Brazil)

***Bujurquina zamorensis* (Regan, 1905)**

Acara zamorensis Regan, 1905b: 339. Type locality: Rio Zamora. Holotype: BMNH 1898.12.31.35.

Maximum length: 7.4 cm SL

Distribution: South America: Amazon River basin, in the Zamora River basin.

Countries: Ecuador

CAQUETAIA

Caquetaia Fowler, 1945: 133. Type species: *Caquetaia amploris* Fowler, 1945. Type by original designation. Gender: feminine.

***Caquetaia kraussii* (Steindachner, 1879)**

Petenia Kraussii Steindachner, 1879b: 28, pl. 2. Type locality: grossen, seeartig ausgebreiteten Cienega, welche der Magdalena-Strom mit einem seiner östlich gelegenen Hauptarme kurz vor seiner Mündung in das Meer bildet. Syntypes: NMW 75391(4), NMW 24552(1), NMW 24553 (1), NMW 24545-24551 (8), NMW 24544 (1), NMW uncat.

Maximum length: 26 cm SL

Distribution: South America: Atrato, Cauca, and Magdalena River basins; Lake Maracaibo basin. Introduced in the Orinoco River drainage in Venezuela.

Countries: Colombia, Venezuela (introduced)

Common names: Mojarra (Venezuela), Mojarra, Mojarra amarilla (Colombia)

***Caquetaia myersi* (Schultz, 1944)**

Petenia myersi Schultz, 1944: 410, fig. 1. Type locality: Río Dedo, tributary of the Río Ortegua, near Florencia (Amazon system, Colombia). Holotype: USNM 120533.

Caquetaia amploris Fowler, 1945: 133, fig. 47. Type locality: Morelia, Río Caquetá drainage, Colombia. Holotype: ANSP 71722.

Maximum length: 19 cm SL

Distribution: South America: Amazon River basin, in the Putu-

mayo and Napo River basins.
Countries: Colombia, Ecuador

***Caquetaia spectabilis* (Steindachner, 1875)**

Acara (Petenia) spectabilis Steindachner, 1875: 96, pl. 4. Type locality: Amazonenstrom bei Gurupa und Obidos. Syntypes: 76430 (2).

Maximum length: 16.5 cm SL

Distribution: South America: Amazon River basin, along the Amazon River in Brazil from the Madeira and Uatumã River drainages to Gurupá, also in the Araguari River in Amapá, Brazil; in the Branco River drainage in Brazil and Guyana.

Countries: Brazil, Guyana

***Caquetaia umbrifera* (Meek & Hildebrand, 1913)**

Cichlasoma umbriferum Meek & Hildebrand, 1913: 88. Type locality: Rio Cupe, Cituro, Panama. Holotype: FMNH 7598.

Maximum length: 47.5 cm SL

Distribution: South America: Atrato and Magdalena River drainages in Colombia, Tuíra and Chucunaque River drainages in Panama.

Countries: Colombia, Panama

CHAETOBANCHOPSIS

Chaetobranchopsis Steindachner, 1875: 133. Type species: *Chaetobranchus orbicularis* Steindachner, 1875. Type by monotypy. Gender: feminine. Originally as *Chaetobranchus* (*Chaetobranchopsis*).

***Chaetobranchopsis australis* Eigenmann & Ward, 1907**

Chaetobranchopsis australe Eigenmann & Ward in Eigenmann, McAtee & Ward, 1907: 144, pl. 44 (fig. 1). Type locality: Bahía Negra [Paraguay]. Holotype: CAS 66954 [ex IU 10157].

Maximum length: 12 cm SL

Distribution: South America: Paraná River basin, in the Paraguay River in Brazil and Paraguay, and the Paraná River close to the mouth of the Paraguay River in Argentina; probably in the Amazon River basin in Bolivia and Brazil.

Countries: Argentina, Bolivia (?), Brazil, Paraguay

***Chaetobranchopsis orbicularis* (Steindachner, 1875)**

Chaetobranchus orbicularis Steindachner, 1875: 133, pl. 8 (fig. 1). Type locality: Amazonenstrom bei Para, Santarem, Gurupa, Rio Xingu bei Porto do Moz, Rio negro und R. Hyavary. Syntypes: NMW 32942-32948 (7), 32956-32960 (5), 32961-32964 (4), 58202 (2), 74045 (1).

Chaetobranchopsis bitaeniatus Ahl, 1936a: 139. Type locality: Amazonas. Syntypes: ZMB 32381 (2).

Maximum length: 12 cm SL

Distribution: South America: Amazon River basin, along the Amazon River from the mouth of the Negro River to Marajó Island, and in Amapá, Brazil.

Countries: Brazil

Common names: Acará cascudo (Brazil), Acará tucuma (Brazil)

CHAETOBANCHUS

Chaetobranchus Heckel, 1840: 401. Type species: *Chaetobranchus flavescens* Heckel, 1840. Type by subsequent designation by Eigenmann. Gender: masculine.

***Chaetobranchus flavescens* Heckel, 1840**

Chaetobranchus flavescens Heckel, 1840: 402. Type locality: Fluss Guaporè und die in der Nähe seiner Ufer gelegenen Moräste, auch am Ausflusse des Rio-negro. Syntypes: NMW 16172 (1), 16428 (1), 32922 (1), 32931 (1), 32932 (1), 32933 (1), 58856 (1), 76431 (1); SMF 5410 [ex NMW] (1).

Chaetobranchus bruneus Heckel, 1840: 405, pl. 29 (fig. 17-20).

Type locality: Rio-negro, unweit von seiner Mündung. Holotype: NMW 32941.

Centrarchus cyanopterus Jardine, 1843: 165, pl. 16. Type locality: Essequibo.

Chromys ucayalensis Castelnau, 1855: 15, pl. 6 (fig. 2). Type locality: Sarayacu (Pérou). Holotype: MNHN A.9487.

Chaetobranchus robustus Günther, 1862: 310. Type locality: Guiana. Holotype: BMNH 1961.12.18: 1.

Geophagus badiipinnis Cope, 1872: 251, pl. 11 (fig. 1). Type locality: Ambyiacu River [=Ampiyacu River, Peru]. Holotype: ANSP 9038.

Maximum length: 21 cm SL

Distribution: South America: Amazon River basin, in Peru and Brazil; Orinoco River basin in Venezuela (Rio Apure); rivers of Guyana, Suriname, French Guiana, and Amapá State. Widespread.

Countries: Brazil, French Guiana, Guyana, Peru, Suriname, Venezuela

Common names: Acará prata (Brazil), Bujurqui vaso (Peru), Camarapaca (Guyana), Kamara paru (Suriname), Koemapari (Suriname), Kroblié jonn (French Guiana), Kunapari (Suriname), Owroe wefi (Suriname), Paya (French Guiana), River patwa (Guyana)

***Chaetobranchus semifasciatus* Steindachner, 1875**

Chaetobranchus semifasciatus Steindachner, 1875: 130, pl. 7. Type locality: Amazonenstrom bei Obidos, Cudajas, Teffé; Rio Iça; Lago Hyanuary und Saraca bei Silva. Syntypes: NMW 10722 (1), 32966(1), 32967-32968 (2), 32969 (1), 32970 (1), 32971-32973 (3), 32974 (1), 79737 (1), RMNH 15478 (1).

Maximum length: 23 cm SL

Distribution: South America: Amazon River basin, along the Amazon-Solimões River from Tabatinga to Obidos.

Countries: Brazil

CICHLA

Cichla Bloch & Schneider, 1801: 336. Type species: *Cichla ocellularis* Bloch & Schneider, 1801. Type by subsequent designation by Eigenmann & Bray (1894, p. 611). Gender: feminine.

Acharnes Müller & Troschel, 1849: 622. Type species: *Acharnes speciosus* Müller & Troschel, 1849. Type by monotypy. Gender: masculine.

***Cichla intermedia* Machado-Allison, 1971**

Cichla intermedia Machado-Allison, 1971: 473, fig. 7-9, 10a, 11b. Type locality: río Casiquiare, Territorio Federal Amazonas. Holotype: MBUCV V-6489.

Maximum length: 37.5 cm SL

Distribution: South America: Orinoco River basin, tributaries of the Orinoco River, and the Casiquiare River in Venezuela.

Countries: Venezuela

Common names: Pavón (Venezuela)

***Cichla monoculus* Spix & Agassiz, 1831**

Cichla monoculus Spix & Agassiz, 1831: 100, pl. 63. Type locality: mari Brasiliae. Syntype or possible holotype: MHNN 2188 (1).

Cichla nigro-maculata Jardine & Schomburgk, 1843: 147, pl. 7. Type locality: [Negro and Padauri Rivers]. No types known.

Cycla toucouarai Castelnau, 1855: 17, pl. 10 (fig. 1). Type locality: le lac des Perles de la province de Goyaz; le Tocantins; l'Amazone. Syntypes: MNHN A.9490 (2).

Cichla bilineatus Nakashima, 1941: 73, fig. [3]. Type locality: los lagos y rios de Sudamérica tropical [cercañas del Puerto de Iquitos]. No types known.

Maximum length: 33 cm SL

Distribution: South America: Amazon River basin in Peru, Colombia and Brazil; Oyapock River basin.

Countries: Brazil, Colombia, Peru,
 Remarks and references: Redescription based on Peruvian material in Kullander (1986: 51), with diagnosis, description, distribution and illustrations.
 Common names: Kounanni (French Guiana), Toukounaré (French Guiana), Tucunare (Peru), Tucunaré-açu (Brazil), Tucunari (Peru)

***Cichla ocellaris* Bloch & Schneider, 1801**

Cichla ocellaris Bloch & Schneider, 1801: 340, pl. 66. Type locality: India orientali. Holotype: ZMB 2839.

Acharnes speciosus Müller & Troschel, 1849: 622. Type locality: Küste; Mündung des Essequibo.

Maximum length: 41 cm SL

Distribution: South America: Guianan rivers from the Marowijne drainage in Suriname and French Guiana to the Essequibo drainage in Guyana.

Countries: French Guiana, Guyana, Suriname

Common names: Kounanni (French Guiana), Lukanani (Guyana), Pavón (Venezuela), Toukounaré (French Guiana), Tucunaré açu (Brazil)

***Cichla orinocensis* Humboldt, 1821**

Cichla orinocensis Humboldt in Humboldt & Valenciennes, 1821: 167, pl. 45 (fig. 3). Type locality: les rives de l'Orénoque et du Guainia ou Rio Negro. No types preserved.

Cichla argus Valenciennes in Humboldt & Valenciennes, 1821: 169. Type locality: [Not stated]. Holotype: MNHN A.1042.

Maximum length: 61.7 cm SL

Distribution: South America: Orinoco River basin, in tributaries of the Orinoco River in Colombia and Venezuela; Amazon River basin, in the Negro River basin.

Countries: Brazil, Colombia, Venezuela

Remarks and references: Redescription based on Venezuelan material in Machado-Allison (1971), as *C. ocellaris*.

***Cichla temensis* Humboldt, 1821**

Cichla temensis Humboldt in Humboldt & Valenciennes, 1821: 169. Type locality: Temi. No types known.

Cichla atabapensis Humboldt in Humboldt & Valenciennes, 1821: 168. Type locality: l'Orénoque; Rio Atabapo. No types known.

Cichla tucunare Heckel, 1840: 409. Type locality: Rio-branco. Types in NMW, not found.

Cichla flavo-maculata Jardine, 1843: 145, pl. 6. Type locality: Rio Negro and Padauri. No types known.

Cichla trifasciata Jardine, 1843: 151, pl. 9. Type locality: Rio Negro; Padauri. No types known.

Cichla unitaeniatus Magalhães, 1931: 225. Type locality: Rio Negro e do Purus. No types preserved.

Maximum length: 75 cm TL

Distribution: South America: Amazon River basin in the Negro and Uatumã River drainages; Orinoco River basin in tributaries of the Orinoco River in Venezuela and Colombia.

Countries: Brazil, Colombia, Venezuela

Remarks and references: Redescription based on Venezuelan material in Machado-Allison (1971).

Common names: Pavón (Venezuela), Tucunaré (Brazil)

CICHLASOMA

Cichlasoma Swainson, 1839: 230. Type species: *Labrus bimaculatus* Linnaeus, 1758. Under the plenary power of the International Commission on Zoological Nomenclature (2000: 131). Gender: neuter. As *Cichlaurus* on p. 173; Swain (1882: 284) acts as first reviser selecting *Cichlasoma* (see Bailey 1957: 303). Originally as *Plesiops* (*Cichlasoma*).

Cichlaurus Swainson, 1839: 173. Type species: *Labrus bimaculatus* Linnaeus, 1758. Type by being a replacement name. Gender: masculine. Without species but clear from text that this was

another name for *Cichlasoma* Swainson (1839: 230); Swain (1882: 284), acts as first reviser selecting *Cichlasoma*.

Cichlosoma Regan, 1905a: 61. Type species: *Labrus bimaculatus* Linnaeus, 1758. Type by being a replacement name. Gender: neuter.

'*Cichlasoma*' *aguadae* Hubbs, 1936

Cichlasoma urophthalmus aguadae Hubbs, 1936: 270, pl. 14 (fig. 7). Type locality: Aguada at Tuxpeña, interior Campeche, about 90 km. south, and 40 km. east of Champoton. Holotype: UMMZ 64477.

Maximum length: 9.5 cm SL

Distribution: North America: Atlantic slope, Tuxpeña, Mexico.

Countries: Mexico

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

'*Cichlasoma*' *alborum* Hubbs, 1936

Cichlasoma urophthalmus alborum Hubbs, 1936: 268, pl. 13 (fig. 3). Type locality: Rio Usumacinta at Montecristo, Tobasco, Mexico. Holotype: USNM 50501.

Maximum length: 18.6 cm SL

Distribution: North America: Atlantic slope, in the Usumacinta River, Mexico.

Countries: Mexico

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

'*Cichlasoma*' *amarum* Hubbs, 1936

Cichlasoma urophthalmus amarum Hubbs, 1936: 272, fig. 1. Type locality: A salt or brackish water lagoon on Mujeres Island, off the east coast of Yucatan, near the tip of the peninsula. Holotype: USNM 50504.

Maximum length: 15.8 cm SL

Distribution: North America: Caribbean coast, Isla Mujeres, off the eastern coast of Yucatán Peninsula.

Countries: Mexico

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

***Cichlasoma amazonarum* Kullander, 1983**

Cichlasoma amazonarum Kullander, 1983a: 115, pl. 5 (fig. 2). Type locality: Peru, depto Loreto, R. Ampiyacu system, little upstreams of Pebas, Sacarita del Tuyé, right bank tributary of the R. Ampiyacu, floating meadow near mouth. Holotype: NRM 39271.

Maximum length: 11.4 cm SL

Distribution: South America: Amazon River basin, from the Ucayali, Huallaga, Amazon and Yavarí River drainages in Peru, along the mainstream Amazon-Solimões River in Colombia and Brazil to the mouth; also in French Guyana and Amapá State.

Countries: Brazil, Colombia, French Guiana, Peru

Common names: Acará (Brazil), Bujurqui (Peru), Prapra (French Guiana)

***Cichlasoma araguaense* Kullander, 1983**

Cichlasoma araguaense Kullander, 1983a: 252, pl. 14 (fig. 1). Type locality: Brasil, est. Mato Grosso, R. Araguaia system, small igarapé tributary to Igarapé Sangadina, tributary to the R. das Mortes, 1 km from Xavantina. Holotype: BMNH 1980.1.9.1.

Maximum length: 9.2 cm SL
 Distribution: South America: Amazon River basin, in the Tocantins and upper Xingu River basins.
 Countries: Brazil

'Cichlasoma' atromaculatum Regan, 1912

Cichlasoma (Parapetenia) atromaculatum Regan, 1912: 507. Type locality: Tado, Rio San Juan, Choco, S.W. Colombia. Syntypes: BMNH 1910.7.11.83-88 (4 of 6).

Maximum length: 17 cm SL
 Distribution: South America: Atrato, San Juan, and Baudó River basins.
 Countries: Colombia

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

'Cichlasoma' beani (Jordan, 1889)

Heros beani Jordan, 1889: 332. Type locality: Rio Presidio, Mazatlan. Syntypes: USNM 37145 (5), 37165 (2).

Maximum length: 30 cm TL
 Distribution: North America: Pacific slope of Mexico.
 Countries: Mexico

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

Common names: Mojarra verde (Mexico)

Cichlasoma bimaculatum (Linnaeus, 1758)

Labrus bimaculatus Linnaeus, 1758: 285. Type locality: M. Mediterraneo [erroneous, probably from Surinam]. Holotype: NRM 7. *Acara gronovii* Heckel, 1840: 361. Type locality: Flüsse in Surinam. Syntypes: NMW 33651-52 (2).

Sparus filamentosus Gronow in Gray, 1854: 60. Type locality: Surinami. No types known.
 Maximum length: 12.3 cm SL

Distribution: South America: Orinoco River basin, in the Caroni River in Venezuela; Guianas, from the Essequibo River to the Sinnamary River; Amazon River basin, in the upper Branco River basin.

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela
 Remarks and references: Redescribed by Kullander (1983a: 65), with bibliography, diagnosis, description, distribution and illustrations.

Common names: Acará (Brazil), Common patwa (Guyana), Congo patwa (Guyana), Krobia (Suriname), Owroe fisi (Suriname), Prapra (French Guiana)

'Cichlasoma' bocourti (Vaillant & Pellegrin, 1902)

Neotroplus bocourti Vaillant & Pellegrin, 1902: 85. Type locality: Lac d'Isabal (Guatemala). Holotype: MNHN 1894-241.

Maximum length: 20 cm SL
 Distribution: Central America: Atlantic slope of Guatemala and Belize.

Countries: Belize, Guatemala
 Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

Common names: Chisel-tooth cichlid (Belize)

Cichlasoma boliviense Kullander, 1983

Cichlasoma boliviense Kullander, 1983a: 165, pl. 8 (fig. 2). Type locality: Bolivia, depto Santa Cruz, R. Guaporé system, R. Uru-

guaito, tributary of the R. Quizer, 13 km S San Xavier. Holotype: IRSNB 677.

Maximum length: 10.7 cm SL
 Distribution: South America: Amazon River basin, in the Madre de Dios drainage in Peru, and the Mamoré and Guaporé River basins.

Countries: Bolivia, Peru

'Cichlasoma' cienagae Hubbs, 1936

Cichlasoma urophthalmus cienagae Hubbs, 1936: 271, pl. 12 (fig.4). Type locality: Slightly brackish pool, 3 km. south of Progreso. Holotype: UMMZ 102135.

Maximum length: 11.3 cm SL
 Distribution: North America: Atlantic slope, Progreso, Yucatán, Mexico.

Countries: Mexico

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

'Cichlasoma' conchitae Hubbs, 1936

Cichlasoma urophthalmus conchitae Hubbs, 1936: 274, pl. 12 (fig. 3). Type locality: Conchita Cenote, Merida. Holotype: UMMZ 102109.

Maximum length: 6.4 cm SL
 Distribution: North America: Atlantic slope, Conchita Cenote, Merida, Yucatán, Mexico.

Countries: Mexico

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

Cichlasoma dimerus (Heckel, 1840)

Acara dimerus Heckel, 1840: 351. Type locality: Cujabà-Fluss. Holotype: NMW 33620.

Acara marginatus Heckel, 1840: 350. Type locality: der Nähe von Cujabà. Holotype: NMW 33673.

?*Heros centralis* Holmberg, 1891: 183. Type locality: República Argentina, Provincia de Santiago del Estero. Type lost.

Maximum length: 11.7 cm SL
 Distribution: South America: Paraná River basin, in the Paraguay River drainage in Brazil, Bolivia and Paraguay, and the Paraná River drainage of Argentina.

Countries: Argentina, Bolivia, Brazil, Paraguay

Common names: Acará (Brazil)

Remarks and references: Redescribed by Kullander (1983a:193), with bibliography, diagnosis, description, distribution and illustrations.

'Cichlasoma' ericymba Hubbs, 1938

Cichlasoma urophthalmus ericymba Hubbs, 1938: 284, pl. 2 (fig. 1). Type locality: San Bulha Cenote (or Cave) at Merida, Yucatán. Holotype: UMMZ 116091.

Maximum length: 12.2 cm SL
 Distribution: North America: Atlantic slope, San Bulha cenote, Mexico.

Countries: Mexico

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

Common names: Mojarra de Bulha (Mexico)

'Cichlasoma' facetum (Jenyns, 1842)

Chromis facetus Jenyns, 1842: 104. Type locality: Maldonado, Rio Plata. Types in Cambridge University Museum.

Heros autochthon Günther, 1862: 299. Type locality: Brazil. Syntypes: (4) ?BMNH uncat. (1).

Heros jenynsii Steindachner, 1869: 149. Type locality: Montevideo. Syntypes: NMW 17324-27 (4), 58722 (1).

Heros acaroides Hensel, 1870: 54. Type locality: Bei Porto Alegre in stagnirenden Gewässern. Syntypes: ZMB 7455 (2).

Maximum length: 18 cm TL

Distribution: South America: Coastal drainages of Uruguay and Rio Grande do Sul State; Paraná River basin, lower part of Paraná River in Argentina.

Countries: Argentina, Brazil, Chile (introduced), Uruguay

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

Common names: Castañeta (Argentina), Chanchita (Argentina), Chanchito (Argentina), Palometa (Argentina), Palometa Negra (Argentina), Peine (Argentina)

'*Cichlasoma*' festae (Boulenger, 1899)

Heros festae Boulenger, 1899: 6. Type locality: Rio Guayas, Guayaquil. Syntypes: BMNH 1898.12.31.36 (1), MZUT 1504 (1).

Maximum length: 25 cm TL

Distribution: South America: Pacific drainages from Esmeraldas River in Ecuador to Tumbes River in Peru.

Countries: Ecuador, Peru

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

'*Cichlasoma*' geddesi (Regan, 1905)

Herichthys geddesi Regan, 1905a: 436. Type locality: Southern Mexico. Syntypes: BMNH 1880.4.7.40-45 (6).

Maximum length: 6.5 cm TL

Distribution: North America: Southern Mexico.

Countries: Mexico

Remarks and references: The validity of this taxon needs further research. The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

'*Cichlasoma*' gephyrum Eigenmann, 1922

Cichlasoma ornatum gephyrum Eigenmann, 1922: 205, pl. 31 (fig. 4). Type locality: Cordova, Rio Dagua.

Holotype: FMNH 58614 [ex CM 7639].

Maximum length: 12 cm SL

Distribution: South America: Dagua and San Juan Rivers on the Pacific slope of Colombia.

Countries: Colombia

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

'*Cichlasoma*' grammodes Taylor & Miller, 1980

Cichlasoma grammodes Taylor & Miller, 1980: 2, fig. 1. Type locality: Río Grande de Chiapa, about 1 km above bridge between Tuxtla Gutiérrez and Chiapa de Corzo, lat.16°44'N, long. 93°02'W, elevation ca. 500 m, Chiapas, Mexico. Holotype: UMMZ 204200.

Maximum length: 20.3 cm SL

Distribution: North and Central America: Atlantic slope, in the Grijalva River basin from the Grande de Chiapa River drainage in Mexico to Lagartero River in Guatemala.

Countries: Guatemala, Mexico

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

'*Cichlasoma*' istlanum (Jordan & Snyder, 1899)

Heros istlanus Jordan & Snyder, 1899: 144, fig. 21. Type locality: Rio Ixtla at Puente de Ixtla, Río Balsa basin, Morelos, Mexico. Holotype: SU 6150.

Heros mento Vaillant & Pellegrin, 1902: 88. Type locality: Rio Négro (Mexique sud). Syntypes: MNHN 94-283-286 (3), UMMZ 203326.

Cichlasoma (Parapetenia) leonhard-schultzei Ahl, 1935: 109. Type locality: Tlapa, Guerrero, Mexico. Holotype: ZMB (not found).

Cichlasoma istlana fusca de Buen, 1946: 121. Type locality: Río Huámito en La Huacana. Syntypes: not located.

Maximum length: 30 cm TL

Distribution: North America: Pacific slope of Mexico.

Countries: Mexico

Remarks and references: Taylor & Miller (1980: 7) suggested that the type series of *Heros mento* may not have been from the Usamacinta River, and that it may be a synonym of *Cichlasoma istlanum*. The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

Common names: Mojarra (Mexico), Mojarra criolla (Mexico)

'*Cichlasoma*' mayorum Hubbs, 1936

Cichlasoma urophthalmus mayorum Hubbs, 1936: 277, pl. 13 (fig. 1). Type locality: Xtolok Cenote, Chichen Itza. Holotype: UMMZ 92098.

Maximum length: 9.6 cm SL

Distribution: North America: Atlantic slope, Xtolok Cenote, Chichen Itza, Yucatán, Mexico.

Countries: Mexico

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

'*Cichlasoma*' microlepis Dahl, 1960

Cichlasoma microlepis Dahl, 1960: 480, fig. on p. 481. Type locality: Pavarandó, Baudó. Holotype: ICNMHN 95.

Maximum length: 18.7 cm SL

Distribution: South America: Baudó River basin, Pacific slope of Colombia.

Countries: Colombia

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

Common names: Mojarra rosada (Colombia)

'*Cichlasoma*' octofasciatum (Regan, 1903)

Heros octofasciatus Regan, 1903a: 417, pl. 13 (fig. 1). Type locality: Mexique. Holotype: MHNG 665.55 (1 of 9, 50 mm TL).

Cichlasoma hedricki Meek, 1904: 208, fig. 66. Type locality: Obispo, Vera Cruz. Holotype: FMNH 4673.

Cichlosoma biocellatum Regan, 1909b: 234. Type locality:

Mañaos, Rio Negro [obviously incorrect]. Holotype: BMNH 1908.12.5.30.

Maximum length: 25 cm TL

Distribution: North and Central America: Atlantic slope from Papaloapán River (southern Mexico) to Uluá River (Honduras).

Countries: Belize, Guatemala, Honduras, Mexico

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an *Incertae Sedis* species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

Common names: Jack dempsey (Belize), Riquiraqui (Mexico)

***Cichlasoma orientale* Kullander, 1983**

Cichlasoma orientale Kullander, 1983a: 177, pl. 9 (fig. 1). Type locality: Brasil, est. Ceará, R. Curu system, Pentecoste, reservoir. Holotype: USNM 258642.

Maximum length: 13.6 cm SL

Distribution: South America: Atlantic coast rivers of Ceará, Pernambuco, Rio Grande do Norte and Paraíba States.

Countries: Brazil

Common names: Acará (Brazil), Acará comum (Brazil)

***Cichlasoma orinocense* Kullander, 1983**

Cichlasoma orinocense Kullander, 1983a: 106, pl. 4 (fig. 2-3), 5 (fig. 1). Type locality: Colombia, depto Meta, R. Meta system, Laguna Mozambique, at shoreline on N side of lake. Holotype: ANSP 127364.

Maximum length: 10.9 cm SL

Distribution: South America: Orinoco River basin, in left bank tributaries of the Orinoco River from the Meta River in Colombia to about Ciudad Bolívar in Venezuela.

Countries: Colombia, Venezuela

Common names: Mochoroça (Venezuela)

'*Cichlasoma*' *ornatum* Regan, 1905

Cichlosoma ornatum Regan, 1905a: 330. Type locality: Rio Durango. Syntypes: (3) BMNH.

Maximum length: 26 cm SL

Distribution: South America: Patía River basin in Colombia, Durango and St. Javier Rivers in Ecuador, all draining to the Pacific Ocean.

Countries: Colombia, Ecuador

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an *Incertae Sedis* species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

***Cichlasoma paranaense* Kullander, 1983**

Cichlasoma paranaense Kullander, 1983a: 241, pl. 13 fig. 1. Type locality: Brasil, Est. Mato Grosso do Sul, R. Paraná superior system, mun. Tres Lagoas, varzea on the left bank of the R. Sucuriú, at Fazenda Santa Luzia, near Urubupungá dam. Holotype: MZUSP 13927.

Maximum length: 7.4 cm SL

Distribution: South America: Paraná River basin, upper Paraná River drainage above Guaíra.

Countries: Brazil

'*Cichlasoma*' *pearsei* (Hubbs, 1936)

Herichthys pearsei Hubbs, 1936: 279, pl. 10 (fig. 2). Type locality: Río Champoton, Campeche, 7 leagues (34 km.) east of Champoton. Holotype: UMMZ 102212.

Maximum length: 20 cm SL

Distribution: North and Central America: Atlantic slope of southeastern Mexico and northern Guatemala.

Countries: Guatemala, Mexico

Remarks and references: The generic allocation of this species is

still uncertain. It belongs to the tribe Heroini, but is maintained as an *Incertae Sedis* species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

Common names: Zacatera (Mexico)

***Cichlasoma portalegrense* (Hensel, 1870)**

Acara portalegrensis Hensel, 1870: 52. Type locality: bei Porto Alegre in stagnirenden Gewässern. Lectotype: ZMB 25107, designated by Kullander (1983a: 211).

Maximum length: 10.3 cm SL

Distribution: South America: Laguna dos Patos basin and Tramadá River basin in Rio Grande do Sul State.

Countries: Brazil

Remarks and references: Redescribed by Kullander (1983a: 209), with bibliography, diagnosis, description, distribution and illustrations.

Common names: Cará (Brazil)

***Cichlasoma pusillum* Kullander, 1983**

Cichlasoma pusillum Kullander, 1983a: 221, pl. 12 (fig. 1). Type locality: Paraguay, depto Alto Paraná, R. Alto Paraná system, Puerto Palma. Holotype: MHNG 2131.94.

Maximum length: 6.6 cm SL

Distribution: South America: Paraná River basin, Acaray River, Paraguay.

Countries: Paraguay

Remarks and references: Specimens identified by Kullander (1983a) from Uruguay, do not belong to this species.

'*Cichlasoma*' *ramsdeni* Fowler, 1938

Cichlasoma ramsdeni Fowler, 1938: 145. Type locality: Arroyo Hondo, Jamaica, Yateras, Guantánamo, Cuba. Holotype: ANSP 68454.

Maximum length: 24 cm SL

Distribution: Caribbean Islands: Eastern Cuba Island.

Countries: Cuba

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an *Incertae Sedis* species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

Common names: Joturo (Cuba)

'*Cichlasoma*' *salvini* (Günther, 1862)

Heros salvini Günther, 1862: 294. Type locality: River de Santa Isabel; Lake Peten. Syntypes: (at least 5) BMNH 1864.1.26.67-69 (3), 1864.1.26.70-73 (4?).

Heros triagramma Steindachner, 1864: 70, pl. 3 (fig. 2). Type locality: Central-Amerika. Holotype: NMW 76584.

Cichlasoma tenue Meek, 1906: 94. Type locality: Achotal, Vera Cruz, Mexico. Holotype: FMNH 3781.

Maximum length: 22 cm SL

Distribution: North and Central America: Atlantic slope, from southern Mexico to Guatemala and Belize.

Countries: Belize, Guatemala, Mexico

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an *Incertae Sedis* species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

Common names: Mango pinto (Mexico), Peine (Mexico), Yellow-belly cichlid (Belize)

***Cichlasoma sanctifranciscense* Kullander, 1983**

Cichlasoma sanctifranciscense Kullander, 1983a: 227, pl. 12 (fig. 2). Type locality: Brasil, Est. Bahia, R. São Francisco system, Lagoa Viana. Holotype: NMW 32714.

Maximum length: 7.9 cm SL

Distribution: South America: São Francisco River basin, also Parnaíba and Capivara River basins.

Countries: Brazil

'Cichlasoma' stenozonum Hubbs, 1936

Cichlasoma urophthalmus stenozonum Hubbs, 1936: 263. Type locality: Central America. Type based on description of *Heros urophthalmus*, Steindachner 1864: 66, p. 5 fig. 3.

Maximum length: 11 cm TL

Distribution: North America: Probably Atlantic slope of southern Mexico.

Countries: Mexico?

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

Cichlasoma taenia (Bennett, 1831)

Chromis taenia Bennett, 1831: 112. Type locality: apud Trinidad. Holotype: BMNH 1852.9.13.123 [ex Zool. Soc.].

Maximum length: 12.8 cm SL

Distribution: South America: Trinidad Island, and adjacent northeastern Venezuela.

Countries: Trinidad and Tobago, Venezuela

Remarks and references: Redescribed by Kullander (1983a: 90) with bibliography, diagnosis, description, distribution, and illustrations.

Common names: Brown coscarob (Trinidad and Tobago), Large coscarob (Trinidad and Tobago)

'Cichlasoma' tembe Casciotta, Gómez & Toresani, 1995

Cichlasoma tembe Casciotta, Gómez & Toresani, 1995: 194, fig. 1. Type locality: Argentina, arroyo Uruguay-í, above Salto del Uruguay-í, at 'Alto Paraná' company fields. Holotype: MLP 9059.

Maximum length: 13.4 cm SL

Distribution: South America: Paraná River basin, known only from the Arroyo Uruguay-í, above Salto del Uruguay-í, Misiones Province.

Countries: Argentina

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

'Cichlasoma' trimaculatum (Günther, 1867)

Heros trimaculatus Günther, 1867: 602. Type locality: Chiapas and Huamuchal. Syntypes: BMNH 1864.1.26.256 (?).

Cichlasoma mojarra Meek, 1904: 217, fig. 71. Type locality: San Geronimo, Oaxaca. Holotype: FMNH 4719 [not 4718].

Cichlasoma centrale Meek, 1906: 94. Type locality: Caballo Blanco, Guatemala. Holotype: FMNH 5510.

Cichlasoma gordon-smithi Fowler, 1936: 529, fig. 44. Type locality: Small lake at Moco, 3050 feet elevation at foot of volcano of Atitlan. Holotype: ANSP 64153.

Cichlasoma cajali Alvarez & Gutierrez, 1953: 232, fig. 1. Type locality: Laguna de Coyuca, próxima al Puerto de Acapulco, Gro. Holotype: Originally in personal collection of J. Alvarez, searched in IPN, not found.

Maximum length: 36.5 cm SL

Distribution: North and Central America: Pacific slope rivers of the Pacific slope from Mexico to El Salvador.

Countries: El Salvador, Guatemala, Mexico

Remarks and references: *Heros trimaculatus* is described in more detail in Günther (1868: 461, pl. 76). The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a

revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

'Cichlasoma' troschelii (Steindachner, 1867)

Heros Troschelii Steindachner, 1867a: 64. Type locality: Mexico.

Syntypes: (2) not found at NMW.

Maximum length: 16 cm SL

Distribution: North America: Probably Atlantic slope of southern Mexico.

Countries: Mexico

Remarks and references: Species also appeared in more detail in Steindachner (1867b: 528, pl. 4). The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

Common names: Guapote (El Salvador), Mojarra (El Salvador)

'Cichlasoma' ufermanni (Allgayer, 2002)

Vieja ufermanni Allgayer, 2002a: 14, fig. p. 17. Type locality: Guatemala, Rio Pucté, bassin du Rio de La Pasión, sur la route de Florès à Sayache. Holotype: MNHN 2002-1090.

Maximum length: 25 cm SL

Distribution: North and Central America: Atlantic slope, in the Usumacinta River basin.

Countries: Guatemala, Mexico

'Cichlasoma' urophthalmus (Günther, 1862)

Heros urophthalmus Günther, 1862: 291. Type locality: Peten. Syntypes: (3) BMNH 1864.1.26.74-77.

Cichlasoma urophthalmus trispilum Hubbs, 1935: 18, pl. 4 (fig. 2). Type locality: Río San Pedro de Mártir, tributary of Río Usumacinta, at El Paso de los Caballos, Department of Petén, Guatemala. Holotype: UMMZ 95520.

Maximum length: 30 cm TL

Distribution: North and Central America: Atlantic drainages from Mexico to Nicaragua.

Countries: Belize, Guatemala, Honduras, Mexico, Nicaragua

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

Common names: Castarrica (Mexico), Mayan cichlid (Belize)

'Cichlasoma' zebra Hubbs, 1936

Cichlasoma urophthalmus zebra Hubbs, 1936: 275, pl. 13 (fig.2).

Type locality: Xlaka Cenote, about 13 km. north of Merida. Holotype: UMMZ 102123.

Maximum length: 10.4 cm SL

Distribution: North America: Atlantic slope, Xlaka Cenote, Merida, Yucatán, Mexico.

Countries: Mexico

Remarks and references: The generic allocation of this species is still uncertain. It belongs to the tribe Heroini, but is maintained as an Incertae Sedis species of *Cichlasoma* pending a revision of heroin cichlids traditionally assigned to the cichlasomatin genus *Cichlasoma*.

Species inquirenda

Chromys oblonga Castelnau, 1855: 14. Type locality: le Tocantins (Province de Goyaz). Holotype: MNHN A.9485. [Species similar to *Cichlasoma facetum*, not found since in the Tocantins River drainage].

CLEITHRACARA

Cleithracara Kullander & Nijssen, 1989: 173. Type species: *Acara maronii* Steindachner, 1882. Type by original designation. Gender: feminine.

***Cleithracara maronii* (Steindachner, 1881)**

Acara Maronii Steindachner, 1881a: 141, pl. 2 (fig. 4). Type locality: Maroni-Fluss in Guiana. Holotype: NMW 33683.

Maximum length: 7.1 cm SL

Distribution: South America: Trinidad Island (impersistent); Orinoco River basin (delta), Guianan rivers from Barima River (Guyana) to Ouanary River (French Guyana).

Countries: French Guiana, Guyana, Suriname, Trinidad and Tobago, Venezuela

Remarks and references: Redescription in Kullander & Nijssen (1989: 175) with bibliography, diagnosis, description, distribution, and illustration.

CRENICARA

Crenicara Steindachner, 1875: 99. Type species: *Crenicara elegans* Steindachner, 1875. Type by monotypy. Gender: neuter.

Crenacara Regan, 1905c: 152. Type species: *Crenicara elegans* Steindachner, 1875. Type by being a replacement name (unjustified emendation of *Crenicara*). Gender: feminine.

***Crenicara latruncularium* Kullander & Staeck, 1990**

Crenicara latruncularium Kullander & Staeck, 1990: 163, figs. 1-3. Type locality: Brazil, state of Rondônia, Rio Mamoré drainage, Igarapé do 13 on road Palheta-Guajarã-Mirim. Holotype: MZUSP 40290.

Maximum length: 8.9 cm SL

Distribution: South America: Amazon River basin, in the Guaporé and Mamoré (near Guajarã-Mirim) drainages.

Countries: Bolivia, Brazil

***Crenicara punctulatum* (Günther, 1863)**

Acara punctulata Günther, 1863: 441. Type locality: Essequibo. Lectotype: BMNH 1864.1.21.26.

Crenicara elegans Steindachner, 1875: 99, pl. 1 (fig. 1). Type locality: Amazonenstrome bei Gurupa, Cudajas und Curupira. Syntypes: (several) NMW 33026 (1), 33031-35 (?), 76428 (3), 33027-33028 (?), 33029-30 (2).

Aequidens madeirae Fowler, 1913: 576, fig. 25. Type locality: Igarapé de Candelaria, tributary of the Madeira River, approximately two miles distant in Lat. S. 8°45', W. Long., 63°54', Brazil. Holotype: ANSP 39315.

Aequidens hercules Allen in Eigenmann & Allen, 1942: 394, pl. 22 (fig. 7). Type locality: creek, Rio Morona. Holotype: CAS 66926 [ex IU 17736].

Maximum length: 10 cm SL

Distribution: South America: Amazon River basin in Ecuador Peru, Colombia and Brazil, in tributaries of the rivers Ucayali, Maraón, Solimões and Amazon from about the Pachitea River on the Ucayali River to about Gurupá; upper Mamoré River in Bolivia, and Madre de Dios River drainage in Peru; Essequibo River drainage in Guyana; Amapá Grande River in Amapá State.

Countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru

Remarks and references: Redescription based on Peruvian material in Kullander (1986: 140), with bibliography, diagnosis, description, distribution, and illustrations. Compared with *C. latruncularium* in Kullander & Staeck (1990).

CRENICICHLA

Crenicichla Heckel, 1840: 416. Type species: *Crenicichla macrophthalmia* Heckel, 1840. Type by subsequent designation (Eigenmann & Bray 1894: 620). Gender: feminine.

Batrachops Heckel, 1840: 432. Type species: *Batrachops reticulatus* Heckel, 1840. Type by subsequent designation (Eigenmann & Bray 1894: 620). Gender: masculine.

Boggiana Perugia, 1897: 148. Type species: *Boggiana ocellata* Perugia, 1897. Type by original designation. Gender: feminine.

***Crenicichla acutirostris* Günther, 1862**

Crenicichla acutirostris Günther, 1862: 307. Type locality: River Cupai (800 miles from the sea) [Brazil, Cupari River]. Holotype: BMNH 1853.3.19.46.

Maximum length: 23 cm TL

Distribution: South America: Amazon River basin, in the Tapajós and Aripuanã River basins.

Countries: Brazil

***Crenicichla adspersa* Heckel, 1840**

Crenicichla adspersa Heckel, 1840: 421. Type locality: Rio-Guaporé. Types in NMW, not found.

Crenicichla funebris Heckel, 1840: 424. Type locality: Matogrosso am Rio-Guaporé. Syntypes: NMW 16406, 16451.

Maximum length: 29 cm SL

Distribution: South America: Amazon River basin, in the Guaporé River basin.

Countries: Brazil

Remarks and references: Ploeg 1991: 64 acted as first reviser in placing *C. funebris* in the synonymy of *C. adspersa*.

***Crenicichla albopunctata* Pellegrin, 1904**

Crenicichla saxatilis var. *albopunctata* Pellegrin, 1904: 374. Type locality: Guyane française (originally also Surinam, Guyane anglaise). Lectotype: MNHN 1898-59, designated by Ploeg (1986c: 224).

Maximum length: 14 cm SL

Distribution: South America: From the Approuague River in French Guiana to the Demerara River in Guyana.

Countries: French Guiana, Guyana, Suriname

Common names: Angoumot (French Guiana), Marane (French Guiana), Matalé (French Guiana), Mataouri (French Guiana), Ngoumote (French Guiana), Poisson-madame (French Guiana)

***Crenicichla alta* Eigenmann, 1912**

Crenicichla alta Eigenmann, 1912: 516, pl. 68 (fig. 3). Type locality: Gluck island. Holotype: FMNH 53777.

Crenicichla pterogramma Fowler, 1914: 281, fig. 20. Type locality: Rupununi River, British Guiana. Holotype: ANSP 39349.

Crenicichla cardiostigma Ploeg, 1991: 26, fig. 18. Type locality: Brazil, State of Roraima, Rio Negro system, Rio Branco, Igarapé Traíra Montante, at Cachoeira Peudas. Holotype: INPA 2916.

Maximum length: 16 cm SL

Distribution: South America: Amazon River basin, in the Branco River basin; Essequibo River basin.

Countries: Brazil, Guyana

***Crenicichla anthurus* Cope, 1872**

Crenicichla anthurus Cope, 1872: 252, pl. 10 (fig. 1). Type locality: the Ambyiacu [=Ampiyacu River, Peru]. Syntypes: ANSP 9074-76 (3).

Maximum length: 22.4 cm SL

Distribution: South America: Amazon River basin, in the Ucayali, Huallaga, Putumayo, Napo and Amazon River basins.

Countries: Ecuador, Peru

Remarks and references: Redescription in Kullander (1986: 117) with bibliography, diagnosis, description, distribution, and illustrations.

***Crenicichla brasiliensis* (Bloch, 1792)**

Perca brasiliensis Bloch, 1792: 84, pl. 110 (fig. 2). Type locality: Flüssen Brasiliens. No types known.

Sparus Nhoquunda La Cepède, 1802: 156. Type locality: [Flüssen Brasiliens]. No types known. Substitute name for *Perca brasiliensis* Bloch 1792.

Maximum length: 7.8 cm SL

Distribution: South America: Northeastern Brazil, states of Ceará, Paraíba, Rio Grande do Norte, and Pernambuco.

Countries: Brazil

Remarks and references: Species included in *Crenicichla menezesi* by Ploeg (1991: 46); additional research needed to clarify its diagnosis.

***Crenicichla britskii* Kullander, 1982**

Crenicichla britskii Kullander, 1982c: 642, fig. 7. Type locality: Brasil, Estado de São Paulo, mun. Promissão, R. Tietê system, km 143 on BR-153, above road in small brook. Holotype: MZUSP 16004.

Maximum length: 11.8 cm SL

Distribution: South America: Paraná River basin, in the Paraná River drainage upstream from Guaíra.

Countries: Brazil

***Crenicichla cametana* Steindachner, 1911**

Crenicichla cametana Steindachner, 1911: 369. Type locality: Tocantins bei Cameté. Lectotype: NMW 32816, designated by Ploeg (1986b: 63).

Crenicichla astroblepa Ploeg, 1986b: 58, pl. 3 (upper & middle). Type locality: Tucuruí, residual pools downstream of stowage, after closing of the stowage. Holotype: INPA 856.

Maximum length: 18.3 cm SL

Distribution: South America: Amazon River basin, in the Tocantins River basin.

Countries: Brazil

***Crenicichla celidochilus* Casciotta, 1987**

Crenicichla celidochilus Casciotta, 1987: 883, fig. 1. Type locality: Arroyo de la Invernada, Picada de la Negra Muerta, Dpto. Artigas, Uruguay. Holotype: ZVC P94.

Maximum length: 18.1 cm SL

Distribution: South America: Uruguay River drainage, in tributaries of the middle and upper Uruguay River basin.

Countries: Argentina (?), Brazil, Uruguay

Remarks and references: Redescription in Lucena & Kullander (1992: 107), with bibliography, diagnosis, description, distribution and illustrations.

***Crenicichla cincta* Regan, 1905**

Crenicichla brasiliensis fasciata Pellegrin, 1904: 383, fig. 42 (3). Type locality: Marajó (Brésil). Holotype: MNHN 1902-95.

Crenicichla cincta Regan, 1905c: 166. Type locality: [Marajó (Brésil)]. Holotype: MNHN 1902-95. Type by being a replacement name. Replacement name for *Crenicichla brasiliensis fasciata* Pellegrin, preoccupied in *Crenicichla* by *Cychna fasciata* Jardine, 1843.

Maximum length: 19.5 cm SL

Distribution: South America: Amazon River basin in Brazil, Peru, and Ecuador, from the Napo River to Marajó Island.

Countries: Brazil, Ecuador, Peru

Common names: Añashua (Peru)

Remarks and references: Redescription based on Peruvian material in Kullander (1986: 94).

***Crenicichla compressiceps* Ploeg, 1986**

Crenicichla compressiceps Ploeg, 1986b: 63, pl. 4 (upper). Type locality: rapids downstream of Jatobal. Holotype: INPA 855.

Maximum length: 5.5 cm SL

Distribution: South America: Amazon River basin, in the lower Tocantins River basin.

Countries: Brazil

***Crenicichla coppenamensis* Ploeg, 1987**

Crenicichla coppenamensis Ploeg, 1987: 77, pl. 1 (second & middle). Type locality: Surinam, left bank tributary to Linker Coppenname River. Holotype: ZMA 107841.

Maximum length: 17.9 cm SL

Distribution: South America: Coppename and Saramacca River basins.

Countries: Suriname

***Crenicichla cyanonotus* Cope, 1870**

Crenicichla cyanonotus Cope, 1870: 569. Type locality: Upper Marañon, near Pebas. Holotype: ANSP 9078.

Maximum length: 14.8 cm SL

Distribution: South America: Amazon River basin, in Peru and western Brazil.

Countries: Brazil, Peru

Remarks and references: Redescription in Kullander (1986: 89) with bibliography, diagnosis, description, distribution, and illustrations.

***Crenicichla cyclostoma* Ploeg, 1986**

Crenicichla cyclostoma Ploeg, 1986b: 65, pl. 4 (middle & lower). Type locality: Tucuruí, residual pools downstream of stowage, after closing the stowage. Holotype: INPA 854.

Maximum length: 9.6 cm SL

Distribution: South America: Amazon River basin, in the lower Tocantins River basin.

Countries: Brazil

***Crenicichla frenata* Gill, 1858**

Crenicichla frenata Gill, 1858: 386. Type locality: [western portion of the Island of Trinidad]. Holotype: USNM 1111.

Maximum length: 11.6 cm SL

Distribution: South America: Trinidad Islands and northeastern Venezuela.

Countries: Trinidad and Tobago, Venezuela

***Crenicichla gaucho* Lucena & Kullander, 1992**

Crenicichla gaucho Lucena & Kullander, 1992: 137, fig. 29. Type locality: Brazil, State of Rio Grande do Sul, arroio Passo do Alto, near Mineral, município of São Nicolau. Holotype: MCP 14328.

Maximum length: 12.7 cm SL

Distribution: South America: Uruguay River drainage, in the tributaries of the middle Uruguay River (Comandáí, Ijuí, and Piratinim Rivers).

Countries: Brazil

***Crenicichla geayi* Pellegrin, 1903**

Crenicichla geayi Pellegrin, 1903: 123. Type locality: Vénézuéla. Holotype: MNHN 1898-47.

Maximum length: 13 cm SL

Distribution: South America: Orinoco River basin, in the Portuguesa River basin.

Countries: Venezuela

***Crenicichla haroldoi* Luengo & Britski, 1974**

Crenicichla haroldoi Luengo & Britski, 1974: 554, fig. 1. Type locality: río Paraná frente a Jupia, Mato Grosso. Holotype: MZUSP 4022b.

Maximum length: 9.8 cm SL

Distribution: South America: Paraná River basin, in the upper Paraná River basin.

Countries: Brazil

***Crenicichla heckeli* Ploeg, 1989**

Crenicichla heckeli Ploeg, 1989: 163, fig. 1. Type locality: Brasilien, Staat Pará, Trombetas-System, Cachoeira Porteira. Holotype: IRSNB 768.

Maximum length: 5.2 cm SL

Distribution: South America: Amazon River basin, in the Trombetas River close to Cachoeira Porteira.

Countries: Brazil

***Crenicichla hemera* Kullander, 1990**

Crenicichla hemera Kullander, 1990a: 214, fig. 1. Type locality: Brazil, State of Mato Grosso, Rio Aripuanã drainage, headwater

stream tributary to the Rio Cinta Larga where crossed by the road BR-174, 41 km from Juína. Holotype: MZUSP 40292.

Crenicichla guentheri Ploeg, 1991: 33, fig. 30. Type locality: Brazil, State of Mato Grosso, Madeira River system, Rio Aripuanã, Igarapé do Aeroporto, Humboldt. Holotype: INPA 2884.

Maximum length: 9.7 cm SL

Distribution: South America: Amazon River basin, in the upper Aripuanã River in the Madeira River drainage.

Countries: Brazil

***Crenicichla hummelincki* Ploeg, 1991**

Crenicichla hummelincki Ploeg, 1991: 35, fig. 33. Type locality: Brazil, State of Pará, Trombetas River system, Igarapé Jaramacuru, tributary to Rio Cuminá. Holotype: MZUSP 40135.

Maximum length: 10.8 cm SL

Distribution: South America: Amazon River basin, in the upper Trombetas River basin.

Countries: Brazil

***Crenicichla igara* Lucena & Kullander, 1992**

Crenicichla igara Lucena & Kullander, 1992: 125, fig. 23. Type locality: Brazil, State of Santa Catarina, município Campos Novos, rio Canoas at Passo do Canoas, (road SC-458), on the road Tupitinga-Celso Ramos. Holotype: MCP 12906.

Maximum length: 22.3 cm SL

Distribution: South America: Uruguay River drainage, in tributaries of the upper Uruguay River.

Countries: Brazil

***Crenicichla iguassuensis* Haseman, 1911**

Crenicichla iguassuensis Haseman, 1911: 352, pl. 61. Type locality: Porto União da Victoria, Rio Iguassú. Holotype: FMNH 54159.

Maximum length: 14 cm SL

Distribution: South America: Paraná River basin, in the Iguaçu River basin.

Countries: Brazil

***Crenicichla inpa* Ploeg, 1991**

Crenicichla inpa Ploeg, 1991: 37, fig. 35. Type locality: Brazil, State of Amazonas, Rio Amazonas system, Ilha do Careiro. Holotype: INPA 1427.

Maximum length: 16.8 cm SL

Distribution: South America: Amazon River basin, reported from a large area of the Amazon River basin in Brazil.

Countries: Brazil

***Crenicichla isbrueckeri* Ploeg, 1991**

Crenicichla isbrueckeri Ploeg, 1991: 39, fig. 37. Type locality: Brazil, State of Mato Grosso, Madeira River system, Rio Aripuanã, 3 km from Cachoeira de Dardanelos Humboldt (59°27'W, 10°10'S). Holotype: INPA 2883.

Maximum length: 9.5 cm SL

Distribution: South America: Amazon River basin, in the Aripuanã River basin.

Countries: Brazil

***Crenicichla jaguarensis* Haseman, 1911**

Crenicichla jaguarensis Haseman, 1911: 351, pl. 60. Type locality: Jaguará, Rio Grande of the Paraná, Minas. Holotype: FMNH 54157.

Maximum length: 14.8 cm SL

Distribution: South America: Paraná River basin, in the upper Paraná River basin.

Countries: Brazil

***Crenicichla jegui* Ploeg, 1986**

Crenicichla jegui Ploeg, 1986b: 67, pl. 5 (upper). Type locality: Itupiranga. Holotype: INPA 857.

Maximum length: 20 cm SL

Distribution: South America: Amazon River basin, in the lower Tocantins basin.

Countries: Brazil

***Crenicichla johanna* Heckel, 1840**

Crenicichla johanna Heckel, 1840: 425. Type locality: Rio-Guaporè. Holotype: NMW 16431.

Cychla fasciata Jardine, 1843: 141, pl. 4. Type locality: No locality given [probably Guyana]. No types known. Primary homonym of *Cychla fasciata* Swainson, 1839 = *Badis badis* Hamilton, 1822.

Crenicichla obtusirostris Günther, 1862: 305. Type locality: River Capin. Holotype: BMNH 1849.11.8.57.

Crenicichla johanna carsevennensis Pellegrin, 1905: 168. Type locality: Entre les rivières Carsevenne et Cachipour (contesté franco-brésilien). Holotype: MNHN 1899-113.

Maximum length: 28.3 cm SL

Distribution: South America: Amazon River basin, widespread in Peru, Brazil and Bolivia; in the Orinoco basin in Colombia and Venezuela; Essequibo drainage in Guyana; Oyapock and Approuague drainages in French Guiana; Amapá State.

Countries: Bolivia, Brazil, Colombia, French Guiana, Guyana, Peru, Venezuela

Remarks and references: Redescription based on Peruvian material in Kullander (1986: 98) with bibliography, diagnosis, description, distribution, and illustrations. Ploeg (1991: 68) claimed that *C. johanna* is based on more than one specimen, and designated the only specimen found at NMW as lectotype (NMW 16431).

Common names: Angoumot (French Guiana), Marane (French Guiana), Matalé (French Guiana), Mataouri (French Guiana), Ngoumote (French Guiana), Poisson-madame (French Guiana)

***Crenicichla jupiaensis* Britski & Luengo, 1968**

Crenicichla jupiaensis Britski & Luengo, 1968: 171, fig. 1. Type locality: Rio Paraná, no Salto de Urubupungá, entre os Estados de Mato Grosso e São Paulo. Holotype: MZUSP 4363.

Maximum length: 8.2 cm SL

Distribution: South America: Paraná River basin, in the upper Paraná River basin.

Countries: Brazil

***Crenicichla jurubi* Lucena & Kullander, 1992**

Crenicichla jurubi Lucena & Kullander, 1992: 128, fig. 25. Type locality: Brazil, State of Rio Grande do Sul, rio Marombas at bridge Irineu Bornhausen. Holotype: MCP 14326.

Maximum length: 17.8 cm SL

Distribution: South America: Uruguay River basin, in tributaries of the upper Uruguay River.

Countries: Brazil

***Crenicichla labrina* (Spix & Agassiz, 1831)**

Cychla labrina Spix & Agassiz, 1831: 99, pl. 62 (fig. 1, as *Cichla labrina*). Type locality: mare Brasiliae. Lectotype: MHNN 599, designated by Ploeg (1986b: 69).

Maximum length: 16 cm SL

Distribution: South America: Amazon River basin, in the lower Tocantins River basin.

Countries: Brazil

***Crenicichla lacustris* (Castelnau, 1855)**

Cyca lacustris Castelnau, 1855: 19, pl. 8 (fig. 3). Type locality: Dique, ou étang près de Bahia. Syntypes: MNHN A9501 (2).

Crenicichla dorsocellata Haseman, 1911: 355, pl. 63. Type locality: Campos, R. Parahyba. Holotype: FMNH 54155.

Crenicichla biocellata Ihering, 1914: 333. Type locality: Rio Doce, Est. do Espírito Santo. Holotype: MZUSP 1167.

Maximum length: 29 cm SL

Distribution: South America: Coastal drainages of southeastern

and eastern Brazil.

Countries: Brazil

***Crenicichla lenticulata* Heckel, 1840**

Crenicichla lenticulata Heckel, 1840: 419. Type locality: Rio-negro, bei Marabitanas. Holotype: NMW 59417.

Crenicichla ornata Regan, 1905c: 167, pl. 15 (fig. 2). Type locality: Rio Negro. Lectotype: BMNH 1893.4.24.6, designated by Ploeg (1991: 71).

Maximum length: 30 cm SL

Distribution: South America: Amazon River basin, in the Negro River basin.

Countries: Brazil

Remarks and references: Redescription in Ploeg (1991: 70). Ploeg places the type locality in Venezuela, Orinoco River system, although all known evidence suggests that it is the Negro River. The correct catalog number for the lectotype is BMNH 1893.4.24.6 (not 1893.2.24.6 as stated in Ploeg, 1970: 70, fig. 81) and the correct number for the paralectotypes is BMNH 1893.4.24: 7-8 (not 1893.4.34: 7-8, as stated in Ploeg, 1970: 72).

***Crenicichla lepidota* Heckel, 1840**

Crenicichla lepidota Heckel, 1840: 429, pl. 30 (fig. 13). Type locality: Rio-Guaporè. Lectotype: NMW 33101, designated by Ploeg (1991: 42).

Crenicichla edithae Ploeg, 1991: 29, fig. 24. Type locality: Paraguay, Río Paraguai system, Arroyo Itabu-Guazu. Holotype: MHNG 2028.45.

Maximum length: 18 cm SL

Distribution: South America: Paraná River basin, widespread in the Paraguay River drainage in Brazil and Paraguay and the lower Paraná (below Guaíra) in Paraguay and Argentina, and also along the coast of Rio Grande do Sul State. Also found in the middle and lower Uruguay River in Brazil and Uruguay. Amazon River basin in the Guaporé River drainage in Brazil and Bolivia.

Countries: Argentina, Bolivia, Brazil, Paraguay, Uruguay

Remarks and references: Species monograph in Kullander (1982c); description of material from Uruguay River in Lucena & Kullander (1992: 101).

Common names: Guensa-verde (Brazil)

***Crenicichla lucius* Cope, 1870**

Crenicichla lucius Cope, 1870: 570. Type locality: Perú, R. Ucayali drainage: Loreto, Quebrada Abrahancillo, left bank tributary of R. Aucayacu, 4 km S. Supay Cocha [originally tributaries of the Upper Marañon, in Ecuador]. Neotype: NRM 25662, designated by Kullander (1986: 116).

Maximum length: 16.8 cm SL

Distribution: South America: Amazon River basin, in Peru and western Brazil.

Countries: Brazil, Peru

Remarks and references: Redescription in Kullander (1986: 112), with bibliography, diagnosis, description, distribution, and illustrations.

***Crenicichla lugubris* Heckel, 1840**

Crenicichla lugubris Heckel, 1840: 422. Type locality: Rio-negro. Holotype: NMW 61148.

Cychla ? rutilans Jardine, 1843: 142, pl. 5. Type locality: Rio Branco. No types known.

Maximum length: 24 cm SL

Distribution: South America: Amazon River basin, in the Branco, Negro, and Uatumã Rivers in Brazil; Essequibo River and Branco River in Guyana; Corantijn River in Suriname.

Countries: Brazil, Guyana, Suriname

***Crenicichla macrophthalma* Heckel, 1840**

Crenicichla macrophthalma Heckel, 1840: 427, pl. 30 (fig. 9). Type locality: Rio-negro. Syntypes: NMW 33082 (1) and NMW

77820 (1)

Crenicichla santaremensis Haseman, 1911: 354, pl. 62 (fig. 1).

Type locality: lagoon along the margin of the Amazon, three miles above Santarém. Holotype: FMNH 54153.

Maximum length: 20 cm SL

Distribution: South America: Amazon River basin, in the Negro, Uatumã, Tapajós, Xingu, and Trombetas River basins.

Countries: Brazil

Common names: Jacundá (Brazil)

***Crenicichla marmorata* Pellegrin, 1904**

Crenicichla brasiliensis marmorata Pellegrin, 1904: 383, fig. 42 (4). Type locality: [No locality]. Holotype: MNHN A.9496.

Maximum length: 28 cm SL

Distribution: South America: Amazon River basin, in southern tributaries of the Amazon River in Brazil, from the Madeira River to Tocantins River.

Countries: Brazil

***Crenicichla menezesi* Ploeg, 1991**

Crenicichla menezesi Ploeg, 1991: 45, fig. 47. Type locality: Brazil, State of Maranhão, Caieira. Holotype: NMW 33292.

Maximum length: 14.6 cm SL

Distribution: South America: Rivers of the state of Maranhão State.

Countries: Brazil

***Crenicichla minuano* Lucena & Kullander, 1992**

Crenicichla minuano Lucena & Kullander, 1992: 116, fig. 12.

Type locality: Brazil, State of Rio Grande do Sul, rio Comandá, on the road Porto Xavier-Porto Lucena. Holotype: MCP 14321.

Maximum length: 17.2 cm SL

Distribution: South America: Uruguay River drainage, in tributaries of the middle and upper Uruguay River.

Countries: Brazil

***Crenicichla missioneira* Lucena & Kullander, 1992**

Crenicichla missioneira Lucena & Kullander, 1992: 113, fig. 9.

Type locality: Brazil, State of Rio Grande do Sul, rio Comandá, on the road Porto Xavier-Porto Lucena. Holotype: MCP 14324.

Maximum length: 20.9 cm SL

Distribution: South America: Uruguay River drainage, in tributaries of the upper and middle Uruguay River basin.

Countries: Brazil

***Crenicichla mucuryna* Ihering, 1914**

Crenicichla mucuryna Ihering, 1914: 335. Type locality: Theophilo Ottoni, rio Todos os Santos, afl. do Mucury, Est. de Minas Geraes. Lectotype: MZUSP 2526, designated by Britski (1969: 210).

Maximum length: 11.3 cm SL

Distribution: South America: Mucuri River basin in eastern coast of Brazil.

Countries: Brazil

***Crenicichla multispinosa* Pellegrin, 1903**

Crenicichla multispinosa Pellegrin, 1903: 124 [5]. Type locality: Guyane française. Lectotype: MNHN 9542, designated by Ploeg (1986c: 230).

Maximum length: 22.5 cm SL

Distribution: South America: Maroni and Mana River basins of Suriname and French Guiana.

Countries: French Guiana, Suriname

Common names: Angoumot (French Guiana), Marane (French Guiana), Matalé (French Guiana), Mataouri (French Guiana), Poson madanm (French Guiana)

***Crenicichla nickeriensis* Ploeg, 1987**

Crenicichla nickeriensis Ploeg, 1987: 81, pl. 1 (fourth & lower).

Type locality: Surinam, right bank tributary to Nickerie River, 12 km W.S.W. of Stondansie Fall. Holotype: ZMA 107843.
Maximum length: 19.1 cm SL
Distribution: South America: Nickerie and Corantijn River basins.
Countries: Suriname

***Crenicichla niederleinii* (Holmberg, 1891)**

Acharnes niederleinii Holmberg, 1891: 181. Type locality: Rio Pequirí, en Misiones, y en otros inmediatos. Holotype: Museo de la Escuela Normal de Profesoras de la Capital, lost.
Maximum length: 23.5 cm SL
Distribution: South America: Paraná River basin, in tributaries of the upper Paraná River in Argentina, Brazil and Paraguay.
Countries: Argentina, Brazil, Paraguay
Remarks and references: Brief review with illustration in Kullander (1981b: 684).

***Crenicichla notophthalmus* Regan, 1913**

Crenicichla notophthalmus Regan, 1913a: 502. Type locality: the Amazon at Manaus. Lectotype: BMNH 1913.4.15.4, designated by Ploeg (1989: 166).
Maximum length: 7.6 cm SL
Distribution: South America: Amazon River basin, in the lower Negro River basin.
Countries: Brazil

***Crenicichla pellegrini* Ploeg, 1991**

Crenicichla pellegrini Ploeg, 1991: 48, fig. 53. Type locality: Brazil, State of Mato Grosso, Madeira River system, Rio Aripuanã, Igarapé do Porto. Holotype: INPA 2885.
Maximum length: 15.7 cm SL
Distribution: South America: Amazon River basin, in the Aripuanã River basin.
Countries: Brazil

***Crenicichla percna* Kullander, 1991**

Crenicichla percna Kullander, 1991a: 356, fig. 4. Type locality: Brazil, State of Pará, Rio Xingu drainage, Cachoeira do Espelho. Holotype: MZUSP 36880.
Maximum length: 22 cm SL
Distribution: South America: Amazon River basin, in the Xingu River at Cachoeira do Espelho and Altamira, Brazil.
Countries: Brazil

***Crenicichla phaiospilus* Kullander, 1991**

Crenicichla phaiospilus Kullander, 1991a: 353, fig. 1. Type locality: Brazil, State of Pará, Rio Xingu drainage, município de São Felix do Xingu, Rio Fresco, Aldeia Gorotire. Holotype: MZUSP 35997.
Maximum length: 24 cm SL
Distribution: South America: Amazon River basin, in the Xingu River drainage at Cachoeira von Martius and Gorotire.
Countries: Brazil

***Crenicichla prenda* Lucena & Kullander, 1992**

Crenicichla prenda Lucena & Kullander, 1992: 140, fig. 32. Type locality: Brazil, State of Santa Catarina, rio Jacutinga, on the road BR 283 Seara-Concórdia. Holotype: MCP 13016.
Maximum length: 8.7 cm SL
Distribution: South America: Upper Uruguay River basin.
Countries: Brazil

***Crenicichla proteus* Cope, 1872**

Crenicichla proteus Cope, 1872: 252. Type locality: Ambyiacu River [=Ampiyacu River, Peru]. Lectotype: ANSP 9050, designated by Kullander (1986: 110).
Crenicichla proteus argynnis Cope, 1872: 253. Type locality: Ambyiacu River [=Ampiyacu River, Peru]. Syntypes: ANSP 9059 (1), 14375 (1).

Batrachops nemopterus Fowler, 1940: 283, fig. 64. Type locality: Ucayali River basin, Contamana, Peru. Holotype: ANSP 68684.
Crenicichla nijsseni Ploeg, 1991: 47, fig. 41. Type locality: Brazil, State of Acre, Río Japurá system, Río Branco, Açude Carlos Simão. Holotype: MZUSP 40163.
Maximum length: 15.5 cm SL
Distribution: South America: Amazon River basin, in the Napo and Putumayo drainages in Ecuador, in the Ucayali-Amazon drainage from Chicosa to Pebas in Peru, and upper Purus basin.
Countries: Brazil, Ecuador, Peru
Remarks and references: Redescription in Kullander (1986: 107), with bibliography, diagnosis, distribution, and illustrations. Synonymy of *Crenicichla nijsseni* based on unpublished observation (Kullander, MS).

***Crenicichla punctata* Hensel, 1870**

Crenicichla punctata Hensel, 1870: 57. Type locality: aus dem Guahyba bei Porto Alegre [originally also: Bächen des Urwaldes.. Waldbächen von der deutschen Colonie Sta. Cruz in Rio Grande do Sul]. Lectotype: ZMB 7459, designated by Lucena & Azevedo (1989: 90).
Crenicichla polysticta Hensel, 1870: 58. Type locality: Rio Cadea des Urwaldes von Rio Grande do Sul. Syntypes: ZMB 7461(1), uncat. (3) not found.
Maximum length: 22.3 cm SL
Distribution: South America: Laguna dos Patos and Lagoa Mirim basins in Rio Grande do Sul State and Uruguay.
Countries: Brazil, Uruguay
Remarks and references: Species revised by Lucena & Azevedo (1989).

***Crenicichla pydanielae* Ploeg, 1991**

Crenicichla pydanielae Ploeg, 1991: 52, fig. 57. Type locality: Brazil, State of Pará, Trombetas River system, Igarapé at km 10 of BR 163 at level of bridge. Holotype: INPA 3078.
Maximum length: 17.8 cm SL
Distribution: South America: Amazon River basin, in the Trombetas River drainage above Cachoeira Porteira.
Countries: Brazil

***Crenicichla regani* Ploeg, 1989**

Crenicichla regani Ploeg, 1989: 164, fig. 2. Type locality: Brasilien, Staat Pará, Trombetas-System, linksseitiger Zufluss bei Cachoeira Porteira. Holotype: IRSNB 766.
Maximum length: 7.9 cm SL
Distribution: South America: Amazon River basin, in the Trombetas River at Cachoeira Porteira.
Countries: Brazil

***Crenicichla reticulata* (Heckel, 1840)**

Batrachops reticulatus Heckel, 1840: 433, pl. 30 (fig. 17). Type locality: Rio-negro. Holotype: NMW 35783.
Crenicichla elegans Steindachner, 1881b: 15. Type locality: Hoch-Peru. Syntypes: NMW 32835 (2).
Batrachops punctulatus Regan, 1905c: 156, pl. 14 (fig. 1). Type locality: R. Essequibo. Holotype: BMNH 1864.1.21.24.
Maximum length: 21.6 cm SL
Distribution: South America: Amazon River basin in Colombia, Peru, and Brazil; Essequibo River in Guyana.
Countries: Brazil, Colombia, Guyana, Peru
Common names: Añashua (Peru), Jacundá (Brazil), Peixe sabão (Brazil)

***Crenicichla rosemariae* Kullander, 1997**

Crenicichla rosemariae Kullander, 1997b: 280, fig. 1. Type locality: Brazil, State of Pará, Rio Xingu drainage, Córrego do Gato. Holotype: MZUSP 40300.
Maximum length: 24.4 cm SL
Distribution: South America: Amazon River basin, upper Xingu

River drainage (Suiá-Missu River).
Countries: Brazil
Common names: Rubanana (Brazil)

***Crenicichla santosi* Ploeg, 1991**

Crenicichla santosi Ploeg, 1991: 53, fig. 59. Type locality: Brazil, State of Rondônia, Rio Madeira system, Rfo Machado, Jiparaná: Rfo Urupa. Holotype: INPA 2889.
Maximum length: 12 cm SL
Distribution: South America: Amazon River basin, in the Machado River of Rondônia State.
Countries: Brazil

***Crenicichla saxatilis* (Linnaeus, 1758)**

Sparus saxatilis Linnaeus, 1758: 278. Type locality: Surinam. Lectotype: NRM 5583, designated by Ploeg (1986a: 49).
Sparus biocellatus Walbaum, 1792: 298. Type locality: Surinam. Holotype: Based on Gronovius (1763, *Sparus rufescens*; 1754, *Sparus rostro plagiplateo*); represented by BMNH 1853.11.2.24.
Sparus Pavo La Cépède, 1802: 49, 151. Type locality: [Suriname]. Unnecessary replacement name for *Sparus saxatilis* Linnaeus.
Scarus pavoninus Gray, 1854: 63. Type locality: Surinam. Holotype: BMNH 1853.11.2.24.
Maximum length: 20 cm SL
Distribution: South America: Atlantic coast drainages of Suriname, French Guiana, Guyana, Venezuela and Trinidad Island.
Countries: French Guiana, Guyana, Suriname, Trinidad and Tobago, Venezuela
Common names: Angoumot (French Guiana), Booto (Suriname), Marann (French Guiana), Matalé (French Guiana), Mataouri (French Guiana), Ngoumote (French Guiana), Poisson-madame (French Guiana)

***Crenicichla scottii* (Eigenmann, 1907)**

Batrachops scottii Eigenmann, 1907: 455, pl. 23 (fig. 8). Type locality: Buenos Aires. Holotype: in Princeton University, apparently lost.
Crenicichla (Batrachops) multidentis Steindachner, 1915: 347. Type locality: La Plata. Holotype: NMW, not found.
Labrus amarus Larrañaga, 1923: 383. Type locality: Uruguay. No types known.
Crenicichla lacustris semifasciata Devincenzi, 1939: 34, fig. 11 (no. 3). Type locality: Rio Uruguay (Paysandú). No types known. Maximum length: 16.9 cm SL
Distribution: South America: Uruguay River drainage, middle and lower parts, in Argentina, Uruguay and Brazil.
Countries: Argentina, Brazil, Uruguay
Remarks and references: Redescription in Lucena & Kullander (1992: 131), with bibliography, diagnosis, description, distribution and illustrations.

***Crenicichla sedentaria* Kullander, 1986**

Crenicichla sedentaria Kullander, 1986: 83, pl. 4-6 (fig. 3). Type locality: Peru, departamento Pasco, Rfo Pachitea drainage system, in Rfo Yamushimas, tributary to Rfo Palcazú, near San Pedro de Longin. Holotype: USNM 229057.
Maximum length: 22.1 cm SL
Distribution: South America: Amazon River basin, in the upper Ucayali River drainage, upper Huallaga River drainage (Tingo María) in Peru, and the Napo and Putumayo River drainages in Ecuador.
Countries: Ecuador, Peru

***Crenicichla semicineta* Steindachner, 1892**

Crenicichla saxatilis var. *semicineta* Steindachner, 1892: 376 [20]. Type locality: Bolivia, Provinz Yuracares, im oberen Chaparé bei Puerto de San Mateo. Syntypes: NMW 33482-84 (3).
Crenicichla clancularia Ploeg, 1991: 27, fig. 20. Type locality: Bolivia, State of Mato Grosso[sic], Rfo Mamore system, Sta.

Cruz, Buenavista. Holotype: BMNH 1927.10.4.49.
Maximum length: 17.1 cm SL
Distribution: South America: Amazon River basin, in the Madre de Dios River drainage in Peru, and in the Mamoré River basin.
Countries: Bolivia, Peru
Remarks and references: Redescription based on Peruvian material in Kullander (1986: 101), with bibliography, diagnosis, description, distribution, and illustrations. The synonymy of *C. clancularia* is based on unpublished observations (Kullander, MS).

***Crenicichla semifasciata* (Heckel, 1840)**

Batrachops semifasciatus Heckel, 1840: 436. Type locality: Flusse Paraguay bei Caiçara. Types in NMW, not found.
Acharnes chacoensis Holmberg, 1891: 182. Type locality: Formosa. No types known.
Boggiana ocellata Perugia, 1897: 148. Type locality: Puerto 14 de Mayo, departamento di Bahia Negra, nel Chaco boreale. Holotype: MSNG 33700.
Crenicichla simoni Haseman, 1911: 345, pl. 59. Type locality: Rio Paraguay at São Luiz de Caceres. Holotype: FMNH 54097.
Maximum length: 15 cm SL
Distribution: South America: Paraná River basin, in the Paraguay River in Paraguay and Brazil, and the Paraná drainage in Argentina.
Countries: Argentina, Brazil, Paraguay

***Crenicichla sipaliwini* Ploeg, 1987**

Crenicichla sipaliwini Ploeg, 1987: 90, pl. 2 (upper). Type locality: Corantijn River system, Sipaliwini River near Sipaliwini airstrip. Holotype: RMNH 30561.
Maximum length: 17.3 cm SL
Distribution: South America: Sipaliwini River, upper Corantijn basin.
Countries: Suriname

***Crenicichla stocki* Ploeg, 1991**

Crenicichla stocki Ploeg, 1991: 108, fig. 141. Type locality: Brazil, State of Pará, Rfo Tocantins system, Capuaraná. Holotype: INPA 2851.
Maximum length: 25 cm TL
Distribution: South America: Amazon River basin, in the Tocantins River basin.
Countries: Brazil

***Crenicichla strigata* Günther, 1862**

Crenicichla johanna strigata Günther, 1862: 306. Type locality: River Capin; River Cupai (800 miles from the sea). Lectotype: BMNH 1849.11.8.79-82 (1 of 4), designated by Ploeg (1991: 78).
Maximum length: 30 cm SL
Distribution: South America: Amazon River basin, in southern tributaries of the Amazon River basin.
Countries: Brazil, Guyana

***Crenicichla sveni* Ploeg, 1991**

Crenicichla sveni Ploeg, 1991: 58, fig. 68. Type locality: Colombia, Rfo Orinoco system, Rfo Meta, along road Villavicencio-Puerto López, Puerto Gaintán. Holotype: RMNH 31622.
Maximum length: 15 cm SL
Distribution: South America: Orinoco River basin, in the Llanos of Venezuela and Colombia.
Countries: Colombia, Venezuela

***Crenicichla tendybaguassu* Lucena & Kullander, 1992**

Crenicichla tendybaguassu Lucena & Kullander, 1992: 121, figs. 19-20. Type locality: Brazil, State of Rio Grande do Sul, município Santo Angelo, rio Piratinim, Fazenda dos Hinz, Coímbra. Holotype: MCP 10876.

Maximum length: 15.2 cm SL
 Distribution: South America: Uruguay River drainage, in tributaries of the middle and upper Uruguay River basin.
 Countries: Brazil

***Crenicichla ternetzi* Norman, 1926**

Crenicichla ternetzi Norman, 1926: 97. Type locality: Oyapock River at "Sant" Cafesoca, French Guiana. Lectotype: BMNH 1926.3.2.860, designated by Ploeg (1986c: 228).

Maximum length: 24.5 cm SL
 Distribution: South America: Oyapock River drainage in French Guiana and Brazil.
 Countries: French Guiana
 Common names: Angoumot (French Guiana), Marann (French Guiana), Matalé (French Guiana), Mataouri (French Guiana), Poson madanm (French Guiana)

***Crenicichla tigrina* Ploeg, Jégu & Ferreira, 1991**

Crenicichla tigrina Ploeg, Jégu & Ferreira, 1991: 3, fig. 2. Type locality: Brésil, Est. Pará, Rio Trombetas, au niveau de l'embouchure de l'Igarapé Caxipacoré. Holotype: INPA 1800.

Maximum length: 28 cm SL
 Distribution: South America: Amazon River basin, in the Trombetas River near Cachoeira Porteira.
 Countries: Brazil

***Crenicichla urosema* Kullander, 1990**

Crenicichla urosema Kullander, 1990c: 86, fig. 1. Type locality: Brazil, State of Pará, Rio Tapajós, rocky pool at São Luiz upstream of Itaituba. Holotype: MZUSP 40289.

Maximum length: 6.8 cm SL
 Distribution: South America: Amazon River basin, in the lower Tapajós River at São Luiz.
 Countries: Brazil

***Crenicichla vaillanti* Pellegrin, 1903**

Crenicichla vaillanti Pellegrin, 1903: 124. Type locality: La Mana (Guyane française); Essequibo (Guyane anglaise). Syntypes: MNHN 4050, 2993.

Maximum length: 12.6 cm SL
 Distribution: South America: Essequibo and Mana River basins.
 Countries: French Guiana, Guyana
 Remarks and references: The type series of *Crenicichla vaillanti* is a composite, and the species must be treated as valid until a lectotype is designated.

***Crenicichla virgatula* Ploeg, 1991**

Crenicichla virgatula Ploeg, 1991: 94, fig. 119. Type locality: Brazil, State of Roraima, Rio Negro, Rio Branco, Rio Uraricoera, Ilha de Maracá. Holotype: INPA 2909.

Maximum length: 6.6 cm SL
 Distribution: South America: Amazon River basin, in the upper Branco River basin.
 Countries: Brazil

***Crenicichla vittata* Heckel, 1840**

Crenicichla vittata, Heckel 1840: 417. Type locality: Flusse Cuyaba; Flusse Paraguay. Lectotype: NMW 77815, designated by Ploeg (1991: 81). Status as syntype is, however, not supported by collection data. NMW 77770 probable holotype.

Maximum length: 26 cm SL
 Distribution: South America: Paraná River basin, in the Paraguay River in Brazil and Paraguay, and in the Paraná River drainage in Argentina; also in the middle Uruguay River drainage in Brazil.
 Countries: Argentina, Brazil, Paraguay, Uruguay
 Remarks and references: Brief review by Lucena & Kullander (1992: 105), based on material from Uruguay River.

***Crenicichla wallacii* Regan, 1905**

Crenicichla wallacii Regan, 1905c: 163, pl. 14 (fig. 2). Type locality: Essequibo. Holotype: BMNH 1864.1.21.93.

Crenicichla nanus Regan, 1913a: 502. Type locality: British Guiana. Syntypes: BMNH 1911.10.31.125-126 (2).
 Maximum length: 8.5 cm TL
 Distribution: South America: Essequibo River basin.
 Countries: Guyana

Species inquirendae

Cycla conibos Castelnau, 1855: 18, pl. 10 (fig. 3). Type locality: l'Ucayale. No types known.

Cycla multifasciata Castelnau, 1855: 18, pl. 10 (fig. 2). Type locality: l'Ucayale. No types known.

DICROSSUS

Dicrossus Steindachner, 1875: 102. Type species: *Dicrossus maculatus* Steindachner, 1875. Type by monotypy. Gender: masculine.

***Dicrossus filamentosus* (Ladiges, 1958)**

Crenicara filamentosa Ladiges, 1958: 204, fig. p. 204. Type locality: möglicherweise vom Amazonas. Lectotype: ZMH 343, designated by (Wilkens 1977: 160); also by Kullander (1978: 268).

Maximum length: 3.8 cm SL
 Distribution: South America: Amazon River basin, in the Negro River drainage; Orinoco River basin from the Inírida River in Colombia to Maripa in Venezuela.

Countries: Brazil, Colombia, Venezuela
 Remarks and references: Species monograph in Kullander (1978); also described by Ladiges (1959).

***Dicrossus maculatus* Steindachner, 1875**

Dicrossus maculatus Steindachner, 1875: 102. Type locality: Lago maximo und José Assu sowie in Nebenarmen des Amazonenstromes bei Tocantins, im Rio Hyauary und im Rio Tajapurú. Syntypes: NMW 77916 (3).

Crenicara praetoriusi Weise in Praetorius, 1935: 179, fig. 4. Type locality: [No locality].

Crenicara praetoriusi Ahl, 1936b: 265. Type locality: Igarapé-Irurá-Mapiry. Syntypes: (3) ZMB 32383-84 (2).

Maximum length: 5.3 cm SL
 Distribution: South America: Amazon River basin, in the Tapajós River drainage, Maués River, and near Parintins.
 Countries: Brazil

GEOPHAGUS

Geophagus Heckel, 1840: 383. Type species: *Geophagus altifrons* Heckel, 1840. Type by subsequent designation by Eigenmann & Bray (1894: 621). Gender: masculine.

***Geophagus altifrons* Heckel, 1840**

Geophagus altifrons Heckel, 1840: 385, pl. 29 (fig. 21-25). Type locality: Manaus, Brazil. Syntypes: NMW 17007-08 (2).

Maximum length: 22.5 cm SL
 Distribution: South America: Amazon River basin, in tributaries of the Amazon River.
 Countries: Brazil

***Geophagus argyrostictus* Kullander, 1991**

Geophagus argyrostictus Kullander, 1991b: 130, fig. 1. Type locality: Brazil, State of Pará, Rio Xingu drainage, Belo Monte, rocky pool near cachoeira. Holotype: MZUSP 32906.

Maximum length: 18 cm SL
 Distribution: South America: Amazon River basin, in the Xingu River from Cachoeira von Martius to Belo Monte, and in the Curuá River basin.
 Countries: Brazil

- Geophagus brachybranchus*** Kullander & Nijssen, 1989
Geophagus brachybranchus Kullander & Nijssen, 1989: 48, fig. 26. Type locality: Suriname, Distr. Nickerie, Nickerie R. system, rocky pool just above Blanche Marie Vallen. Holotype: RMNH 30974.
 Maximum length: 13.8 cm SL
 Distribution: South America: Corantijn and Nickerie River drainages in Suriname; probably ranges westward to the Essequibo River basin.
 Countries: Guyana, Suriname
- Geophagus brasiliensis*** (Quoy & Gaimard, 1824)
Chromis brasiliensis Quoy & Gaimard, 1824: 286. Type locality: baie de Rio de Janeiro. Holotype: MNHN A.9503.
Chromys unimaculata Castelnau, 1855: 13, pl. 7 (fig. 2). Type locality: eaux douces des environs de Rio-de-Janeiro. Holotype: MNHN A.9506.
Acara gymnopoma Günther, 1862: 278. Type locality: [None stated]. Holotype: BMNH 1842.8.18.8.
Geophagus brasiliensis Kner, 1865: 266, pl. 10 (fig. 3). Type locality: Rio Janeiro. Syntypes: NMW 23044-45 (2).
Acara minuta Hensel, 1870: 53. Type locality: Kleinen Tümpeln bei Porto Alegre. Syntypes: (5) ZMB 7453.
 Maximum length: 28 cm TL
 Distribution: South America: Coastal drainages of eastern and southern Brazil and Uruguay.
 Countries: Brazil, Uruguay
 Common names: Acará-topete (Brazil)
- Geophagus brokopondo*** Kullander & Nijssen, 1989
Geophagus brokopondo Kullander & Nijssen, 1989: 41, figs. 23-25. Type locality: Suriname, Distr. Brokopondo, Suriname R. system, Brokopondomeer along N shore at Afobaka. Holotype: ZMA 119530.
 Maximum length: 12.3 cm SL
 Distribution: South America: Suriname River basin.
 Countries: Suriname
- Geophagus camopiensis*** Pellegrin, 1903
Geophagus camopiensis Pellegrin, 1903: 123. Type locality: Riv. Camopi (Guyane française). Lectotype: MNHN 1901-456.
 Maximum length: 12 cm SL
 Distribution: South America: Oyapock and Approuague River basins.
 Countries: Brazil, French Guiana
 Common names: Prapra soléy (French Guiana), Prapra-roche (French Guiana), Prapra-saut (French Guiana)
- Geophagus crassilabris*** Steindachner, 1876
Geophagus (Satanoperca) crassilabris Steindachner, 1876: 65, pl. 7. Type locality: einem Bache des Isthmus von Panama, wahrscheinlich in der Nähe von Candelaria. Holotype: NMW 58794.
 Maximum length: 24 cm SL
 Distribution: Central America: Pacific and Atlantic slopes of central and eastern Panama.
 Countries: Panama
- Geophagus grammepareius*** Kullander & Taphorn, 1992
Geophagus grammepareius Kullander & Taphorn in Kullander, Royero & Taphorn, 1992: 366, fig. 7. Type locality: Venezuela, Bolivar State, Río Caroní drainage, middle Río Claro in Vuelta El Susto, ca 5 km downstream from Quebrada Mojacasabe (7°40'40"N, 63°08'05"W). Holotype: MCNG 25480.
 Maximum length: 10.3 cm SL
 Distribution: South America: Orinoco River basin, in the upper Caura and lower Caroní River basins.
- Countries: Venezuela
- Geophagus harreri*** Gosse, 1976
Geophagus harreri Gosse, 1976: 88, fig. 21. Type locality: rivière Ouaiqui à Saut Bali (Affluent du Tampok, bassin du Maroni), Guyane française. Holotype: IRSNB 525.
 Maximum length: 18.3 cm SL
 Distribution: South America: Marowijne River basin.
 Countries: French Guiana, Suriname
 Common names: Prapra roche (French Guiana), Prapra so (French Guiana)
- Geophagus iporangensis*** Haseman, 1911
Geophagus brasiliensis iporangensis Haseman, 1911: 364, pl. 71.
 Type locality: Iporanga ... a mountain stream of the Rio Ribeira da Iguapé. Holotype: FMNH 54202 [ex CM 2792a].
 Maximum length: 10 cm SL
 Distribution: South America: Ribeira de Iguape River basin.
 Countries: Brazil
- Geophagus itapicuruensis*** Haseman, 1911
Geophagus brasiliensis itapicuruensis Haseman, 1911: 365, pl. 72.
 Type locality: Queimadas, Rio Itapicuru. Holotype: FMNH 54365 [ex CM 2793a].
 Distribution: South America: Itapicuru River, on the coast of Bahia State.
 Countries: Brazil
- Geophagus megasema*** Heckel, 1840
Geophagus megasema Heckel, 1840: 388. Type locality: einer grossen Lache Juquiã genannt, bei Mattogrosso am Fluss Guaporè. Syntypes: NMW 16246 (1), 90309 (1), 92453 (1); SMF 3125 [ex NMW in 1844] (1).
 Maximum length: 17.5 cm SL
 Distribution: South America: Amazon River basin, in the Guaporé River basin.
 Countries: Bolivia, Brazil
- Geophagus obscurus*** (Castelnau, 1855)
Chromys unipunctata Castelnau, 1855: 13, pl. 8 (fig. 2). Type locality: rio Paraguassu, dans la province de Bahia. Syntypes: MNHN A.9505 (3).
Chromys obscura Castelnau, 1855: 14, pl. 6 (fig. 3). Type locality: rio Paraguassu, province de Bahia. Syntypes: MNHN A.9511 (2).
 Maximum length: 10 cm SL
 Distribution: South America: Paraguaçu River, on the coast of Bahia State.
 Countries: Brazil
- Geophagus pellegrini*** Regan, 1912
Geophagus pellegrini Regan, 1912: 505. Type locality: Tado, Río San Juan, Chocó, S.W. Colombia. Lectotype: BMNH 1910.4.11.89.
 Maximum length: 15.2 cm SL
 Distribution: South America: Atrato, San Juan, and Baudó River basins.
 Countries: Colombia
- Geophagus proximus*** (Castelnau, 1855)
Chromys proxima Castelnau, 1855: 14, pl. 7 (fig. 1). Type locality: un lac près de l'Ucayale, dans la mission de Sarayacu, au Pérou. Syntypes: MNHN A.9510 (1), B.3001 [ex MNHN A.9510] (1).
 Maximum length: 22.5 cm SL
 Distribution: South America: Amazon River basin, in the Ucayali River drainage of Peru, and along the Solimões-Amazon River to the Trombetas River.
 Countries: Brazil, Peru
 Remarks and references: Redescription in Kullander (1986: 122), with bibliography, description, diagnosis, distribution, and illu-

stration.

Common names: Acará roi roi (Brazil), Acará tinga (Brazil)

***Geophagus steindachneri* Eigenmann & Hildebrand, 1910**

Geophagus steindachneri Eigenmann & Hildebrand in Eigenmann, 1910: 478. Type locality: Magdalena basin. Holotype: NMW 23289-90 (larger specimen) [from Cauca River, Colombia].

Geophagus honda Regan, 1912: 506. Type locality: Honda, Colombia. Lectotype: BMNH 1909.7.23.51.

Geophagus magdalena Brind, 1943: 42. Type locality: Lake at El Banco, Columbia. Syntypes: USNM 120207 (1), 120299 (1). Also spelt *G. Magdalena* in same paper.

Maximum length: 19.8 cm TL

Distribution: South America: Magdalena, Cauca, and Sinú River basins in Colombia, Limón River (Lake Maracaibo drainage) in Venezuela.

Countries: Colombia, Venezuela

Remarks and references: Gosse & Kullander (1981) clarified the nomenclature of the species.

Common names: Mojarra (Colombia), Mula (Colombia)

***Geophagus surinamensis* (Bloch, 1791)**

Sparus surinamensis Bloch, 1791: 112, pl. 277 (fig. 2). Type locality: Surinam. Holotype: ZMB 2825.

Sparus trimaculatus Shaw in Shaw & Nodder, 1809: pl. 867. Type locality: American Seas.

Maximum length: 14.8 cm SL

Distribution: South America: Saramacca and Suriname Rivers in Suriname; Marowijne River in Suriname and French Guiana.

Countries: French Guiana, Suriname

Remarks and references: Redescription in Kullander & Nijssen (1986: 31), with bibliography, diagnosis, description, distribution, and illustrations.

Common names: Prapra roche (French Guiana), Prapra soléy (French Guiana)

***Geophagus taeniopareius* Kullander & Royero, 1992**

Geophagus taeniopareius Kullander & Royero in Kullander, Royero & Taphorn, 1992: 360, fig. 1. Type locality: Venezuela, Territorio Federal Amazonas, Río Orinoco, Raudales de Ature, eastern shore (5°36'N, 67°37'W). Holotype: MBUCV-V 21744.

Maximum length: 14.3 cm SL

Distribution: South America: Orinoco River basin, in the lower Caura River and along the middle and upper Orinoco River basin.

Countries: Venezuela

GUIANACARA

Guianacara Kullander & Nijssen, 1989: 90. Type species: *Guianacara owroewefi* Kullander & Nijssen, 1989. Type by original designation. Gender: feminine.

Oelemaria Kullander & Nijssen, 1989: 92. Type species: *Guianacara oelemariensis* Kullander & Nijssen, 1989. Type by original designation. Gender: feminine. Originally as *Guianacara (Oelemaria)*.

***Guianacara (Guianacara) geayi* (Pellegrin, 1902)**

Acara geayi Pellegrin, 1902: 417. Type locality: Rivière Camopi (Guyane française).

Maximum length: 8.5 cm SL

Distribution: South America: Approuague River in French Guiana, Oyapock River drainage in French Guiana and Brazil.

Countries: Brazil, French Guiana

Common names: Prapra (French Guiana)

***Guianacara (Oelemaria) oelemariensis* Kullander & Nijssen, 1989**

Guianacara oelemariensis Kullander & Nijssen, 1989: 126, fig. 70. Type locality: Suriname, Distr. Marowijne, Marowijne R. drainage, small right bank tributary to the upper Oelemari R. Holotype: IRSNB 750.

Maximum length: 8.1 cm SL

Distribution: South America: Marowijne River drainage, in the Oelemari River in Suriname.

Countries: Suriname

***Guianacara (Guianacara) owroewefi* Kullander & Nijssen, 1989**

Guianacara owroewefi Kullander & Nijssen, 1989: 97, fig. 43. Type locality: Guyane française, R. Maroni system, R. Marouini below first rapids. Holotype: IRSNB 749.

Maximum length: 10.7 cm SL

Distribution: South America: Marowijne, Suriname, Saramacca, and Coppename River basins in Suriname, and Marowijne River basin in French Guiana.

Countries: French Guiana, Suriname

Common names: Krobia (Suriname), Krobia (Suriname), Ooroe wefi (Suriname), Ooru muje (Suriname), Ooru wefee (Suriname), Owroe wefi (Suriname), Owroe wiffi (Suriname), Prapra (French Guiana)

***Guianacara (Guianacara) sphenozona* Kullander & Nijssen, 1989**

Guianacara sphenozona Kullander & Nijssen, 1989: 120, fig. 66. Type locality: Suriname, Distr. Nickerie, Corantijn R. drainage, Sipaliwini. Holotype: RMNH 31047.

Maximum length: 8.5 cm SL

Distribution: South America: Sipaliwini and middle Corantijn River drainages, Suriname; probably the Essequibo River basin.

Countries: Guyana, Suriname

Common names: Ooru muje (Suriname), Ooruwefee (Suriname)

GYMNOGEOPHAGUS

Gymnogeophagus Miranda Ribeiro, 1918a: 790. Type species: *Gymnogeophagus cyanopterus* Miranda Ribeiro, 1918. Type by monotypy. Gender: masculine.

***Gymnogeophagus australis* (Eigenmann, 1907)**

Geophagus australe Eigenmann, 1907: 454, p. 23 (fig. 7). Type locality: Buenos Aires. Holotype: Princeton University (whereabouts unknown).

Maximum length: 15.5 cm TL

Distribution: South America: Lower Paraná River basin, in Argentina.

Countries: Argentina

Remarks and references: Redescription in Reis & Malabarba (1988).

***Gymnogeophagus balzanii* (Perugia, 1891)**

Geophagus balzanii Perugia, 1891: 623. Type locality: Villa Maria (Matto Grosso), Rio Paraguay a 15°. Holotype: MSNG 7683.

Geophagus duodecimspinosus Boulenger, 1895: 524. Type locality: Paraguay. Holotype: BMNH 1895.5.17.12.

Gymnogeophagus cyanopterus Miranda Ribeiro, 1918a: 790. Type locality: Itaquí, Rio Grande do Sul. Holotype: MZUSP 2549.

Maximum length: 12 cm SL

Distribution: South America: Paraná River basin, in the Paraguay drainage in Brazil and Paraguay, the Paraná drainage in Argentina; the lower Uruguay drainage in Uruguay and Brazil.

Countries: Argentina, Brazil, Paraguay, Uruguay

Remarks and references: Redescription in Reis & Malabarba (1988).

***Gymnogeophagus che* Casciotta, Gómez & Toresanni, 2000**

Gymnogeophagus che Casciotta, Gómez & Toresanni, 2001: 55, fig. 1. Type locality: Arroyo Urugua-í y ruta provincial 19 frente a la pasarela en parque provincial Islas Malvinas [Misiones, Argentina]. Holotype MLP.

Maximum length: 11.6 cm SL

Distribution: South America: Paraná River basin, in the Paraná River drainage in Argentina, known only from the Arroyo Urugua-í.

Countries: Argentina

***Gymnogeophagus gymnogenys* (Hensel, 1870)**

Geophagus pygmaeus Hensel, 1870: 68. Type locality: Rio Guayba bei Porto Alegre. Syntypes: ZMB 7469 (2).

Geophagus gymnogenys Hensel, 1870: 61. Type locality: Gebirgsbach des Urwaldes von Rio Grande do Sul. Lectotype: ZMB 7465.

Geophagus camurus Cope, 1894: 104, pl. 9 (fig. 17). Type locality: Jacuhy river. Syntypes: (7) ANSP 21749-50 (2), 21885-88 (4).

Maximum length: 15 cm SL

Distribution: South America: Laguna dos Patos and Lagoa Mirim drainages in Brazil and Uruguay.

Countries: Brazil, Uruguay

Remarks and references: Redescription in Reis & Malabarba (1988). Type locality of *Geophagus camurus* restricted to Laguna dos Patos system by Malabarba (1989).

***Gymnogeophagus labiatus* (Hensel, 1870)**

Geophagus bucephalus Hensel, 1870: 63. Type locality: Rio Cadea und seinen Zuflüssen. Lectotype: ZMB 31373 [ex ZMB 7466], designated by Reis & Malabarba (1988: 280).

Geophagus labiatus Hensel, 1870: 64. Type locality: Rio Santa Maria des Urwaldes von Rio Grande do Sul. Holotype: ZMB 7467.

Geophagus scymnophilus Hensel, 1870: 65. Type locality: [None stated]. Lectotype: ZMB 22293, designated by Reis & Malabarba (1988: 280).

Maximum length: 12 cm SL

Distribution: South America: Laguna dos Patos and Lagoa Mirim drainages in Brazil.

Countries: Brazil

Remarks and references: Redescription in Reis & Malabarba (1988). Type locality of *Geophagus scymnophilus* restricted to Laguna dos Patos system by Malabarba (1989).

***Gymnogeophagus lacustris* Reis & Malabarba, 1988**

Gymnogeophagus lacustris Reis & Malabarba, 1988: 282, fig. 24. Type locality: Lagoa da Cerquinha at Pinhal, Tramandai, RS, Brazil. Holotype: MZUSP 28462.

Maximum length: 14.6 cm SL

Distribution: South America: Coastal drainages in northern Rio Grande do Sul State.

Countries: Brazil

***Gymnogeophagus meridionalis* Reis & Malabarba, 1988**

Gymnogeophagus meridionalis Reis & Malabarba, 1988: 273, fig. 19. Type locality: Headwaters of Rio Negro at road at BR-153, (Uruguay River system), Bagé, Rio Grande do Sul, Brazil. Holotype: MZUSP 28461.

Maximum length: 8.8 cm SL

Distribution: South America: Uruguay River drainage in Uruguay and Brazil, and smaller drainages in nearby Argentina.

Countries: Argentina, Brazil, Uruguay

***Gymnogeophagus rhabdotus* (Hensel, 1870)**

Geophagus rhabdotus Hensel, 1870: 60. Type locality: Cadea. Lectotype: ZMB 7461.

Geophagus brachyurus Cope, 1894: 105, pl. 9 (fig. 18). Type

locality: Jacuhy River. Syntypes: ANSP 21751 (1), 21880-83 (4). Maximum length: 12 cm SL

Distribution: South America: Uruguay River drainage in Uruguay, and the Laguna dos Patos basin.

Countries: Brazil, Uruguay

Remarks and references: Redescription in Reis & Malabarba (1988). Type locality of *Geophagus brachyurus* restricted to Laguna dos Patos system by Malabarba (1989).

***Gymnogeophagus setequedas* Reis, Malabarba & Pavanelli, 1992**

Gymnogeophagus setequedas Reis, Malabarba & Pavanelli, 1992: 267, fig. 2. Type locality: Río Iguazú reservoir at Juan E. O'Leary, Rio Paraná drainage, Province of Alto Paraná, Paraguay (approximately 55°30'S 25°20'W). Holotype: MHNG 2518.19.

Maximum length: 9.8 cm SL

Distribution: South America: Paraná River basin, in tributaries of the Paraná River between the Monday River and Guairá, Paraguay and Brazil.

Countries: Brazil, Paraguay

HERICHTHYS

Herichthys Baird & Girard, 1854: 25. Type species: *Herichthys cyanoguttatus* Baird & Girard, 1854. Type by monotypy. Gender: masculine.

***Herichthys bartoni* (Bean, 1892)**

Acara bartoni Bean, 1892: 286, pl. 44 (fig. 3). Type locality: Hauzteca Potosina, a region situated north of the State of Guanajuato, in the State of San Luis Potosi, Mexico. Lectotype: USNM 43765, designated by Jordan & Evermann (1900, pl. 232, p. 3281).

Maximum length: 18 cm SL

Distribution: North America: Atlantic slope, endemic to the upper Verde River and the Laguna de la Media Luna systems of the Panuco River basin, San Luis Potosi, Mexico.

Countries: Mexico

Common names: Mojarra caracolera (Mexico)

***Herichthys carpintis* (Jordan & Snyder, 1899)**

Neetroplus carpintis Jordan & Snyder, 1899: 146, fig. 22. Type locality: Laguna del Carpinte, near Tampico, Tamaulipas, Mexico. Holotype: SU 6162.

Heros teporatus Fowler, 1903: 321. Type locality: Victoria, Victoria Río, trib. of the Río Soto la Marina, Tamaulipas, Mexico. Holotype: ANSP 24242.

Cichlosoma laurae Regan, 1908c: 223. Type locality: Tampico. Syntypes: BMNH 1908.7.6.20-21 (2).

Maximum length: 17 cm SL

Distribution: North America: Atlantic slope, Panuco River drainage, and Soto La Marina River.

Countries: Mexico

Remarks and references: Reviewed by Taylor & Miller (1983). The status of *Heros teporatus* needs further analysis.

***Herichthys cyanoguttatus* Baird & Girard, 1854**

Herichthys cyanoguttatus Baird & Girard, 1854: 25. Type locality: Brownsville, Texas (freshwater). Syntypes: ANSP 9097 (1); MCZ 15415 [ex USNM 852]; UMMZ 92113 (1); USNM 851 (?), 852 (now 4).

Heros pavonaceus Garman, 1881: 93. Type locality: Spring near Monclova, Coahuila, Mexico. Syntypes: MCZ 24877 (5), UMMZ 95837 (1).

Parapetenia cyanostigma Hernández-Rolón, 1990: 4, fig. p. 7. Type locality: Playa Bruja, Tequesquitengo [Mexico]. Holotype: MNHN 1990-465.

Maximum length: 30 cm TL

Distribution: North America: Originally restricted to the lower Rio Grande drainage in Texas, USA and south to northeastern Mexico. Introduced on Edwards Plateau of central Texas and central peninsular Florida, USA, and Verde River basin (La Media Luna region), Mexico

Countries: Mexico, USA

Remarks and references: Reviewed by Taylor & Miller (1983).

***Herichthys deppii* (Heckel, 1840)**

Heros Montezuma Heckel, 1840: 383. Type locality: Mexico. Holotype: NMW 17359.

Heros Deppii Heckel, 1840: 382. Type locality: Mexico. Holotype: NMW, lost.

Maximum length: 12 cm TL

Distribution: North America: Atlantic slope, in the Nautla and Misantla River basins.

Countries: Mexico

Remarks and references: Implied identification of material in ZMB collected with the holotype, suggests that *H. deppii* is valid, according to Stawikowski & Werner (1998: 333). The status of *Heros montezuma* is uncertain, pending examination of the holotype.

***Herichthys labridens* (Pellegrin, 1903)**

Heros (Cichlasoma) labridens Pellegrin, 1903: 122. Type locality: Huasteca Potosina (Mexico). [=Verde River drainage near Rioverde, San Luís Potosí]. Syntypes: MNHN 1889-19-20.

Maximum length: 25 cm SL

Distribution: North America: Atlantic slope, in the Panuco River basin.

Countries: Mexico

Remarks and references: See Miller (1956: 15) for information on type locality.

Common names: Mojarra (Mexico)

***Herichthys minckleyi* (Kornfield & Taylor, 1983)**

Cichlasoma minckleyi Kornfield & Taylor, 1983: 254, fig. 1. Type locality: Posos de la Becerra, 15.7 km by road SSW of Cuatro Ciénegas de Carranza, Coahuila, Mexico. Holotype: UMMZ 209434.

Maximum length: 17.5 cm SL

Distribution: North America: Atlantic slope, endemic to Cuatro Ciénegas.

Countries: Mexico

Common names: Mojarra caracolera de Cuatro Cienegas (Mexico)

***Herichthys pantostictus* (Taylor & Miller, 1983)**

Cichlasoma pantostictum Taylor & Miller, 1983: 15, fig. 5. Type locality: Laguna de Chairal at the mouth of the Río Tamesí, Tampico, lat. 22°15'N., long. 96°04'W., elevation ca. 2 m near Tampico, Tamaulipas, Mexico.

Holotype: UMMZ 207699.

Maximum length: 12.6 cm SL

Distribution: North America: Atlantic slope of northern Mexico, in the Panuco River drainage from the Sabinas River to the coastal Laguna Tamiahua.

Countries: Mexico

Common names: Mojarra (Mexico)

***Herichthys steindachneri* (Jordan & Snyder, 1899)**

Cichlasoma steindachneri Jordan & Snyder, 1899: 143, fig. 20. Type locality: Rio Verde, near Rascon, San Luis Potosi, Mexico. Holotype: SU 6164.

Maximum length: 40 cm SL

Distribution: North America: Atlantic slope of northern Mexico, endemic to the Tamasopo, Gallinas, and Ojo Frio Rivers in the Panuco River basin.

Countries: Mexico

Common names: Mojarra (Mexico)

***Herichthys tamasopoensis* Artigas Azas, 1993**

Herichthys tamasopoensis Artigas Azas, 1993: 66, fig. p. 67. Type locality: Type locality: "Las Cascadas" (99°23'47" W. Long., 21°56'47" N. Lat.) in the Río Tamasopo. Holotype: UMMZ 221577.

Maximum length: 18 cm TL

Distribution: North America: Atlantic slope, in the Tamasopo River of Panuco River basin.

Countries: Mexico

HEROINA

Heroina Kullander, 1996b: 151. Type species: *Heroina isonycterina* Kullander, 1996. Type by original designation. Gender: feminine.

***Heroina isonycterina* Kullander, 1996**

Heroina isonycterina Kullander, 1996b: 153, fig. 3. Type locality: Ecuador, Provincia Napo, Río Napo drainage, upper Río Tiputini upstream of bridge on road to Coca (0°44.5'S 76°53'W). Holotype: FMNH 105181.

Maximum length: 10.2 cm SL

Distribution: South America: Amazon River basin, in the Napo (Ecuador), Caquetá (Colombia), and Tigre, Corrientes, and Pastaza (Peru) River basins.

Countries: Colombia, Ecuador, Peru

HEROS

Heros Heckel, 1840: 362. Type species: *Heros severus* Heckel, 1840. Type by subsequent designation by Jordan & Gilbert 1883: 608. Gender: masculine.

***Heros efasciatus* Heckel, 1840**

Heros efasciatus Heckel, 1840: 372. Type locality: Rio-negro. Holotype: NMW 33341.

Chromys appendiculata Castelnau, 1855: 15, pl. 7 (fig. 3). Type locality: l'Ucayali, (Pérou). Holotype: MNHN A.9483.

Chromys fasciata Castelnau, 1855: 17, pl. 9 (fig. 2). Type locality: l'Araguay. No types known.

Uarus centrarchoides Cope, 1872: 253, pl. 11 (fig. 2). Type locality: Ambyiacu River [=Ampiyacu River, Peru]. Holotype: ANSP 9049.

Cichlasoma severum perpunctatum Miranda Ribeiro, 1918b: 18, pl. 16. Type locality: Manáos. Holotype: MNRJ 1263.

Maximum length: 14 cm SL

Distribution: South America: Amazon River basin, in tributaries of the Ucayali and Amazon Rivers in Peru, and Solimões-Amazon River in Brazil.

Countries: Brazil, Peru

Remarks and references: Redescription, as *Heros appendiculatus*, in Kullander (1986: 219), based on Peruvian material, with bibliography, diagnosis, description, distribution and illustration. Oldest available name now applied. Status of the included nominal species needs further analysis.

Common names: Acará-peba (Brazil), Acará-preto (Brazil), Burjurqui acha vieja (Peru)

***Heros notatus* Jardine, 1843**

Centrarchus notatus Jardine in Schomburgk, 1843: 160, pl. 13. Type locality: [Locality not stated]. No types known.

Maximum length: 15 cm SL

Distribution: South America: Amazon River basin, in the Negro River basin.

Countries: Brazil

***Heros severus* Heckel, 1840**

Heros severus Heckel, 1840: 362. Type locality: bei Marabitanas im Rio-negro. Syntypes: ?NMW 17354 (1), ?17638 (1), ?17656 (1).

Maximum length: 20 cm SL
 Distribution: South America: Orinoco River basin, in the upper Orinoco River drainage in Colombia and Venezuela; Amazon River basin, in the upper Negro River basin.
 Countries: Brazil, Colombia, Venezuela

***Heros spurius* Heckel, 1840**

Heros spurius Heckel, 1840: 368. Type locality: Rio Guaporè ... Sümpfen. Syntypes: ?NMW 17656 (1), 17939 (1).
Heros coryphaeus Heckel, 1840: 364. Type locality: Rio-Guaporè ... Morästen um Matogrosso. Holotype: NMW 17358.
Heros modestus Heckel, 1840: 366. Type locality: Rio Guaporé. Syntypes: NMW 17354 (1), ?92454 (1).
 Maximum length: 12 cm SL
 Distribution: South America: Amazon River basin, in the Guaporé River drainage, Brazil and Bolivia.
 Countries: Bolivia, Brazil

HEROTILAPIA

Herotilapia Pellegrin, 1904: 247. Type species: *Heros multispinosus* Günther, 1869. Type by monotypy. Gender: feminine.

***Herotilapia multispinosa* (Günther, 1867)**

Heros multispinosus Günther, 1867: 601. Type locality: Lake of Managua. Holotype: BMNH 1865.7.20.34.
 Maximum length: 9 cm SL
 Distribution: Central America: Atlantic slope, from the Patuca River (Honduras) to the Matina River (Costa Rica); Pacific slope, from the Guasaule River (Nicaragua) to the Tempisque and Bebedero Rivers (Costa Rica).
 Countries: Costa Rica, Honduras, Nicaragua
 Remarks and references: Described in more detail in Günther (1868: 453, pl. 74, fig. 2). Reviewed by Bussing (1998: 351), with key, diagnosis, geographical distribution, and figures.
 Common names: Cholesca (Costa Rica), Mojarrita (Costa Rica), Zarpapala (Costa Rica)

HOPLARCHUS

Hoplarchus Kaup, 1860: 128. Type species: *Hoplarchus pentacanthus* Kaup, 1860. Type by subsequent designation. Gender: masculine.

***Hoplarchus psittacus* (Heckel, 1840)**

Heros psittacus Heckel, 1840: 369. Type locality: Rio-negro, nördlich von Marabitanas am Fusse des Berges Cocui. Syntypes: ?NMW 17641-42 (1, 1).
Centrarchus cychla Jardine in Schomburgk, 1843: 157, pl. 11. Type locality: Rio Negro. No types known.
Hoplarchus pentacanthus Kaup, 1860: 129, pl. 6 (fig. 1). Type locality: ? Südamerika. Holotype in ZSM, lost.
 Maximum length: 23.5 cm SL
 Distribution: South America: Amazon River basin, in the Negro, Preto da Eva, Urubu, and Jamari Rivers in Brazil; Orinoco River basin, in tributaries of the upper Orinoco River basin.
 Countries: Brazil, Venezuela

HYPSELECARA

Hypselecara Kullander, 1986: 232. Type species: *Heros temporalis* Günther, 1862. Type by original designation. Gender: feminine.

***Hypselecara coryphaenoides* (Heckel, 1840)**

Heros coryphaenoides Heckel, 1840: 373, pl. 29 (fig. 9-12). Type locality: Rio-negro ... bei Maribitana. Holotype: NMW 17376.
Heros niger Heckel, 1840: 375. Type locality: Rio-negro. Holotype: NMW 17358.
Centrarchus niger Jardine in Schomburgk, 1843: 159, pl. 12. Type

locality: Rio Negro. No types known.
Cichlasoma arnoldi Ahl, 1936a: 138. Type locality: Amazonas. Holotype: ZMB 32382.
Chuco axelrodi Fernández-Yépez, 1972: 15, fig. 16. Type locality: Aguaro River, Venezuela. Holotype: USNM 206097.
 Maximum length: 16 cm SL
 Distribution: South America: Amazon River basin, in the Negro, Trombetas, Tapajós, Maués, and Uatumã Rivers; Orinoco River basin in tributaries of the upper Orinoco River, and in the Aguaro River basin.
 Countries: Brazil, Venezuela

***Hypselecara temporalis* (Günther, 1862)**

Heros temporalis Günther, 1862: 286. Type locality: No locality. Holotype: BMNH 1855.12.26.638 [ex Zool. Soc.].
Acara (Heros) crassa Steindachner, 1875: 88, pl. 5. Type locality: Amazonenstrom bei Teffé, Tonantins, Cudajas, Coary, Villa bella und Obidos, im See Hyuanary und Saraca, so wie im Rio Hyutay. Syntypes: (several) NMW 17373-17374 (2) Codajás, 33617 (1) Silves, 33618 (1) Villa Bella.
Heros goeldii Boulenger, 1897: 298. Type locality: Upper Cunani River, French Guiana, south of the Oyapok River. Syntypes: BMNH 1897.7.17.9 (1), NMB 2488 (1).
Cichlasoma Hellabrunni Ladiges, 1942: 199, fig. 1. Type locality: Gefangenschaftsnachzucht Hellabrunn (originally: entweder die Umgebung von Rockstone am Essequibo in Britisch-Guiana oder aber die Umgebung von Leticia. Lectotype: ZMH H70, designated by Ladiges et al. (1958: 164).
 Maximum length: 15 cm SL
 Distribution: South America: Amazon River basin, in the Ucayali and Amazon River drainages in Peru, the Amazon River drainage in Colombia, the Solimões-Amazon River in Brazil, east to Cametá, also rivers of Amapá State and the Oyapock River basin in Brazil.
 Countries: Brazil, Colombia, Peru
 Common names: Acará açai (Brazil), Bufurque (Peru), Bujurqui (Peru)

HYP SOPHRYS

Hypsophrys Agassiz, 1859: 408. Type species: *Hypsophrys unimaculatus* Agassiz, 1859. Type by monotypy. Gender: feminine.
Copora Fernández-Yépez, 1969: [4]. Type species: *Heros nicaraguensis* Günther, 1864. Type species by original designation. Gender: feminine.

***Hypsophrys nicaraguensis* (Günther, 1864)**

Hypsophrys unimaculatus Agassiz, 1859: 408. Type locality: Lake Nicaragua. Types in MCZ, not found.
Heros nicaraguensis Günther, 1864c: 153. Type locality: Lake of Nicaragua. Holotype: BMNH 1867.9.23.37.
Heros balteatus Gill in Gill & Bransford, 1877: 184. Type locality: Lake Nicaragua. Syntypes: BMNH 1905.3.27.3 [ex USNM] (1).
Cichlasoma spilotum Meek, 1912: 73. Type locality: Victoria, Costa Rica. Holotype: FMNH 7686.
 Maximum length: 16.5 cm SL
 Distribution: Central America: Atlantic slope, from the San Juan drainage, including Lake Nicaragua, in Costa Rica and Nicaragua, to the Matina River drainage in Costa Rica.
 Countries: Costa Rica, Nicaragua
 Remarks and references: Species monograph by López (1974), well illustrated. Kullander & Hartel (1997) discussed the nomenclature of *Hypsophrys unimaculatus*. Reviewed by Bussing (1998: 354), with key, diagnosis, geographical distribution, and figures.
 Common names: Moga amarilla (Costa Rica)

KROBIA

Krobia Kullander & Nijssen, 1989: 148. Type species: *Acara guianensis* Regan, 1905. Type by original designation. Gender: feminine.

***Krobia guianensis* (Regan, 1905)**

Acara guianensis Regan, 1905b: 340. Type locality: Guiana. Holotype: BMNH 1851.5.2.8 [ex ZMB].

Maximum length: 12.8 cm SL

Distribution: South America: Guianan coastal drainages, from the Demerara River in Guyana, eastward to the Cottica River in Suriname.

Countries: Guyana, Suriname

Remarks and references: Redescribed by Kullander & Nijssen (1989: 151), with bibliography, diagnosis, description, distribution, and illustrations.

Common names: Krobia (Suriname), Ooroe wefi (Suriname), Ouwe wefi (Suriname)

***Krobia itanyi* (Puyo, 1943)**

Aequidens itanyi Puyo, 1943: 146, fig. 4. Type locality: Suriname, Distr. Marowijne, Marowijne R. system, kreek on left bank of Marowijne R., W Manbari Val, 6 km N Stoelmanseiland (originally: crique du haut Itany). Neotype: ZMA 119531, designated by Kullander & Nijssen (1989: 166).

Maximum length: 12.5 cm SL

Distribution: South America: Marowijne River drainage in Suriname and French Guiana.

Countries: French Guiana, Suriname

Remarks and references: Redescribed by Kullander & Nijssen (1989: 166), with bibliography, diagnosis, description, distribution, and illustrations.

Common names: Prapra (French Guiana)

LAETACARA

Laetacara Kullander, 1986: 321. Type species: *Acara flavilabris* Cope, 1870. Type by original designation. Gender: feminine.

***Laetacara curviceps* (Ahl, 1923)**

Acara curviceps Ahl, 1923: 44, fig. 5. Type locality: Amazonenstrom. Holotype: ZMB 31324.

Maximum length: 4.6 cm SL

Distribution: South America: Amazon River basin, in lower portions of tributaries of the Amazon River in Brazil.

Countries: Brazil

***Laetacara dorsigera* (Heckel, 1840)**

Acara dorsiger Heckel, 1840: 348. Type locality: Sümpfe in der Nähe des Paraguay-Flusses bei Villa Maria. Holotype: NMW 33669.

Maximum length: 4.5 cm SL

Distribution: South America: Amazon River basin, in the Guaporé River drainage; Paraná River basin, in the Paraguay River drainage in Brazil and Paraguay, middle Paraná River drainage in Argentina.

Countries: Argentina, Bolivia, Brazil, Paraguay

***Laetacara flavilabris* (Cope, 1870)**

Acara flavilabris Cope, 1870: 570. Type locality: Near Pebas, Ecuador [currently Peru]. Holotype: ANSP 9156.

Acara freniferus Cope, 1872: 255. Type locality: the Ambyiacu [=Ampiyacu River, Peru]. Lectotype: ANSP 9157.

Maximum length: 8.2 cm SL

Distribution: South America: Amazon River basin, in the Napo and Putumayo river drainages in Ecuador, in the Huallaga, Ucayali, Amazon, Putumayo and Yavarí River basins in Peru, and in the upper Solimões and Juruá River basins in Brazil.

Countries: Brazil, Ecuador, Peru

Remarks and references: Redescription in Kullander (1986: 328), with bibliography, diagnosis, description, distribution, and illustrations.

Common names: Bujurqui (Peru)

***Laetacara thayeri* (Steindachner, 1875)**

Acara thayeri Steindachner, 1875: 68, pl. 1 (fig. 2). Type locality: Im Amazonenstrom und dessen Ausständen bei Cudajas, in den See Hyanuary bei Manaos und im Lago Maximo bei Alemquer. Syntypes: (many) NMW 33723 (3), 33726-38 (13), 33739-45 (15), 33746 (?), 33752 (1).

Maximum length: 6.5 cm TL

Distribution: South America: Amazon River basin, in the Tigre, Ucayali, Yavarí and Amazon River basins in Peru, and along the Solimões, Amazon (to lower Trombetas River), and lower Negro River basins.

Countries: Brazil, Peru

MAZARUNIA

Mazarunia Kullander, 1990b: 4. Type species: *Mazarunia mazarunii* Kullander, 1990. Type by original designation. Gender: feminine.

***Mazarunia mazarunii* Kullander, 1990**

Mazarunia mazarunii Kullander, 1990b: 5, fig. 1. Type locality: Guyana: Upper Mazaruni River near Kamarang. Holotype: MHNG 1553.96.

Maximum length: 5.3 cm SL

Distribution: South America: Essequibo River drainage, in the upper Mazaruni River near Kamarang.

Countries: Guyana

MESONAUTA

Mesonauta Günther, 1862: 300. Type species: *Heros insignis* Heckel, 1840. Type by monotypy. Gender: masculine.

***Mesonauta acora* (Castelnau, 1855)**

Chromys acora Castelnau, 1855: 17, pl. 9 (fig. 1). Type locality: lacs de l'Araguay. No types known.

Maximum length: 7.1 cm SL

Distribution: South America: Amazon River basin, in the Tocantins and Xingu River basins.

Countries: Brazil

Remarks and references: Redescription by Kullander & Silfvergrip (1991: 424), with bibliography, diagnosis, description, distribution, and illustrations.

***Mesonauta egregius* Kullander & Silfvergrip, 1991**

Mesonauta egregius Kullander & Silfvergrip, 1991: 429, fig. 21. Type locality: Colombia, Departamento Vichada, Rio Vichada drainage, laguna no. 1 on Finca Boca de Guarrojo at the mouth of the Rio Guarrojo. Holotype: ICN-MNH 1686.

Maximum length: 8.2 cm SL

Distribution: South America: Orinoco River basin, in the Meta and Vichada River basins.

Countries: Colombia

***Mesonauta festivus* (Heckel, 1840)**

Heros festivus Heckel, 1840: 376. Type locality: Fluss Guaporé und dessen nahe gelegenen Moräste. No types known.

Maximum length: 8.2 cm SL

Distribution: South America: Paraná River basin, in the Paraguay River drainage in Brazil and Paraguay; Amazon River basin, in the Guaporé (Brazil and Bolivia), Madre de Dios (Peru), Mamoré (Bolivia), Jamari and Tapajós (Brazil) River drainages.

Countries: Bolivia, Brazil, Paraguay, Peru

Remarks and references: Redescription by Kullander & Silfvergrip (1991: 420), with bibliography, diagnosis, description, distribu-

tion, and illustrations.

Mesonauta guyanae Schindler, 1998

Mesonauta guyanae Schindler, 1998: 5, fig. 2. Type locality: Rockstone, Essequibo River, Guyana. Holotype: ZMB 32779.

Maximum length: 10 cm SL

Distribution: South America: Amazon River basin, in the Negro River drainage, Brazil; Essequibo River drainage in Guyana.

Countries: Brazil, Guyana

Mesonauta insignis (Heckel, 1840)

Heros insignis Heckel, 1840: 379. Type locality: waldlache bei Marabitanas am Rio-negro. Lectotype: NMW 24415, designated by Kullander & Silfvergrip (1991: 420).

Maximum length: 9.4 cm SL

Distribution: South America: Amazon River basin, in the upper Negro River drainage in Brazil; Orinoco River basin, along the Orinoco River in Colombia and Venezuela.

Countries: Brazil, Colombia, Venezuela

Remarks and references: Redescription by Kullander & Silfvergrip (1991: 418), with bibliography, diagnosis, description, distribution, and illustrations.

Mesonauta mirificus Kullander & Silfvergrip, 1991

Mesonauta mirificus Kullander & Silfvergrip, 1991: 430, fig. 22.

Type locality: Peru, Departamento Loreto, Rio Napo, Cayapoza, small laguna on left bank island. Holotype: NRM 20001.

Maximum length: 9.7 cm SL

Distribution: South America: Amazon River basin in Peru and Colombia, in tributaries of the Ucayali and Amazon Rivers, from Yarina Cocha to Mocagua Island near Leticia.

Countries: Colombia, Peru

Common names: Bufurqui (Peru), Bujurqui (Peru)

MIKROGEOPHAGUS

Mikrogeophagus Meulengracht-Madsen in Schiötz & Christensen, 1968: 370. Type species: *Apistogramma ramirezi* Myers & Harry, 1948. Type by monotypy. Gender: masculine.

Papiliochromis Kullander, 1977: 253. Type species: *Apistogramma ramirezi* Myers & Harry, 1948. Type by original designation. Gender: feminine.

Mikrogeophagus altispinosus (Haseman, 1911)

Crenicara altispinosa Haseman, 1911: 344, pl. 58. Type locality: Along a sand-bank in the Río Mamoré, below the mouth of the Río Guaporé. Holotype: FMNH 54090.

Maximum length: 5.6 cm SL

Distribution: South America: Amazon River basin, in the Guaporé River drainage in Brazil and Bolivia, and in the Mamoré River drainage in Bolivia.

Countries: Bolivia, Brazil

Remarks and references: Species reviewed by Kullander (1981c).

Mikrogeophagus ramirezi (Myers & Harry, 1948)

Apistogramma ramirezi Myers & Harry, 1948a: 77. Type locality: evidently from one of the tributaries of the Rio Apuré or Rio Meta in the states of Guárico, Portuguesa, or Apuré. Syntypes: CAS-SU 14845(2), 14846(1), 14847(1).

Maximum length: 3.4 cm SL

Distribution: South America: Orinoco River basin, in the llanos of Venezuela and Colombia.

Countries: Colombia, Venezuela

Remarks and references: Species monographed by Kullander (1980c); also described by Myers & Harry (1948b).

NANDOPSIS

Nandopsis Gill, 1862: 238. Type species: *Chromis tetracanthus* Poey [= *Centrarchus tetracanthus* Valenciennes, 1831]. Type by

monotypy. Gender: feminine.

Parapetenia Regan, 1905a: 324. Type species: *Acara adspersa* Günther, 1862. Type by subsequent designation. Type designated by Eigenmann (1910: 476). Gender: feminine.

Nandopsis haitiensis (Tee-Van, 1935)

Cichlasoma haitiensis Tee-Van, 1935: 294, fig. 270. Type locality: Étang Saumâtre, near Maneville, Cul-de-Sac Plain, Haiti, West Indies. Holotype: USNM 170907 [ex NYZS 7302].

Maximum length: 21.5 cm SL

Distribution: Caribbean Islands: Hispaniola Island.

Countries: Dominican Republic, Haiti

Nandopsis tetracanthus (Valenciennes, 1831)

Centrarchus tetracanthus Valenciennes in Cuvier & Valenciennes, 1831: 460. Type locality: Havane [=Habana, Cuba]. No types known; based on a drawing.

Chromis fusco-maculatus Guichenot, 1853: 78, pl. 2 (fig. 3). Type locality: Cuba. Holotype: MNHN A.9482.

Acara adspersa Günther, 1862: 282. Type locality: Barbadoes. Holotype: BMNH 1961.7.7.1.

Heros tetracanthus cinctus Eigenmann, 1903: 234, fig. 16. Type locality: Paso Real. Holotype: CAS 78971 [ex IU 9671].

Heros tetracanthus latus Eigenmann, 1903: 234, fig. 15. Type locality: San Juan. Holotype: CAS 78972 [ex IU 9669].

Heros tetracanthus griseus Eigenmann, 1903: 233, fig. 14. Type locality: San Antonio. Holotype: CAS 78974 [ex IU 9670].

Heros tetracanthus torralbasi Eigenmann, 1903: 230, fig. 11. Type locality: Calabazar. Holotype: CAS 78975 [ex IU 9672] (1 of 2).

Heros nigricans Eigenmann, 1903: 235, fig. 17. Type locality: Pinar del Rio. Holotype: CAS 78973 [ex IU 9668].

Maximum length: 20 cm SL

Distribution: Caribbean Islands: Cuba Island.

Countries: Cuba

Remarks and references: Hubbs (1920) presented a nomenclatural revision establishing the present synonymy.

Nandopsis vombergi (Ladiges, 1938)

Cichlosoma Vombergi Ladiges, 1938: 18, fig. 1. Type locality: Unterlauf des Rio Yague del Sur. Holotype: ZMH H401.

Maximum length: 19.4 cm SL

Distribution: Caribbean Islands: Eastern Hispaniola, in the Yaqui River basin.

Countries: Dominican Republic

NANNACARA

Nannacara Regan, 1905b: 344. Type species: *Nannacara anomala* Regan, 1905. Type by monotypy. Gender: feminine.

Nannacara adoketa Kullander & Prada-Pedrerros, 1993

Nannacara adoketa Kullander & Prada-Pedrerros, 1993: 359, fig. 1. Type locality: Brazil, State of Amazonas, Igarapé do Cumaru, a tributary of Paran Atau, in the middle Rio Negro. Holotype: MZUSP 44685.

Maximum length: 4.9 cm SL

Distribution: South America: Amazon River basin, in the middle Negro River basin.

Countries: Brazil

Nannacara anomala Regan, 1905

Nannacara anomala Regan, 1905b: 344. Type locality: R. Essequibo [Guyana]. Syntypes: BMNH 1864.1.21.27-28 (2).

Maximum length: 5.6 cm SL

Distribution: South America: Guianan rivers from the Aruka River in Guyana east to the lower Marowijne River in Suriname.

Countries: Guyana, Suriname

Remarks and references: Redescribed in Kullander & Nijssen (1989: 199), based on Surinamese material, with bibliography, diagnosis, description, distribution, and illustrations.

***Nannacara aureocephalus* Allgayer, 1983**

Nannacara aureocephalus Allgayer, 1983: 13. Type locality: "Carière Chambaut" localité A. [French Guiana]. Holotype: MNHN 1983-523.

Maximum length: 6.7 cm SL

Distribution: South America: Approuague River basin.

Countries: French Guiana

Common names: Ti prapra (French Guiana)

***Nannacara bimaculata* Eigenmann, 1912**

Nannacara bimaculata Eigenmann, 1912: 488, pl. 66 (fig. 1). Type locality: Erukin [Guyana]. Holotype: FMNH 53799 [ex CM 2304].

Maximum length: 4.5 cm SL

Distribution: South America: Potaro River and nearby in the Essequibo River basin.

Countries: Guyana

***Nannacara taenia* Regan, 1912**

Nannacara taenia Regan, 1912: 505. Type locality: the Amazon at Manaos. Holotype: BMNH 1912.2.2.15.

Maximum length: 5 cm SL

Distribution: South America: Near Belém, Pará State.

Countries: Brazil

NEETROPLUS

Neetroplus Günther, 1867: 603. Type species: *Neetroplus nematopus* Günther, 1867. Type by monotypy. Gender: masculine.

***Neetroplus nematopus* Günther, 1867**

Neetroplus nematopus Günther, 1867: 603. Type locality: Lake Managua [Nicaragua]. Holotype: BMNH 1865.7.20.35.

Neetroplus nicaraguensis Gill in Gill & Bransford, 1877: 186. Type locality: Lake Nicaragua. Syntypes: (3).

Neetroplus fluviatilis Meek, 1912: 74. Type locality: Costa Rica River near Guapilis, Costa Rica. Holotype: FMNH 7685 [not 7585].

Maximum length: 14 cm SL

Distribution: Central America: Atlantic slope of Nicaragua and western Costa Rica, in the San Juan River drainage, including Lake Nicaragua and Lake Managua.

Countries: Costa Rica, Nicaragua

Remarks and references: *Neetroplus nematopus* described in more detail in Günther (1868: 470, pl. 74 (fig. 4)). Reviewed by Bussing (1998: 357), with key, diagnosis, geographical distribution, and figures.

Common names: Moga (Costa Rica)

PARACHROMIS

Parachromis Agassiz, 1859: 408. Type species: *Parachromis gulosus* [= *Heros managuensis* Günther, 1867]. Agassiz, 1859. Type by monotypy. Gender: masculine.

***Parachromis dovii* (Günther, 1864)**

Heros dovii Günther, 1864c: 154. Type locality: Lake of Nicaragua. Syntypes: BMNH 1864.1.26.195-196 (2).

Maximum length: 50 cm SL

Distribution: Central America: Atlantic slope, from the Aguan River (Honduras) to the Moín River (Costa Rica); Pacific slope from the Yeguaré River (Honduras) to the Bebedero River (Costa Rica).

Countries: Costa Rica, Honduras, Nicaragua

Remarks and references: Reviewed by Bussing (1998: 360), with key, diagnosis, geographical distribution, and figures.

Common names: Guapote (Costa Rica), Guapote blanco (Honduras), Lagunero (Nicaragua)

***Parachromis friedrichsthalii* (Heckel, 1840)**

Heros Friedrichsthalii Heckel, 1840: 381. Type locality: Central-Amerika. Holotype: NMW 35322.

Cichlosoma multifasciatum Regan, 1905a: 335. Type locality: Lake Peten. Syntypes: BMNH 1864.1.26.65-66 (2).

Maximum length: 28 cm SL

Distribution: North and Central America: Atlantic slope, in Mexico (Usumacinta River), Belize, Honduras and Guatemala.

Countries: Belize, Guatemala, Honduras, Mexico

Common names: Castarrica (Mexico), Guapote (Belize), Molula (Mexico), Mus mus (Belize), Yellowjacket cichlid (Belize)

***Parachromis loisellei* (Bussing, 1989)**

Cichlasoma loisellei Bussing, 1989: 153, fig. 1. Type locality: Río San Miguel, a tributary of Río Matina on road to Puerto Limón, Limón (elevation 12 m), Limón Province, Costa Rica. Holotype: LACM 44405-1 [ex UCR 1126-8].

Maximum length: 18.5 cm SL

Distribution: Central America: Atlantic slope from the Ulua River (Honduras) to the Cricamola River (Panama); Pacific slope, in the Tamarindo River (Nicaragua).

Countries: Costa Rica, Guatemala, Honduras, Nicaragua, Panama

Remarks and references: Reviewed by Bussing (1998: 364), with key, diagnosis, geographical distribution, and figures.

Common names: Guapote amarillo (Guatemala)

***Parachromis managuensis* (Günther, 1867)**

Parachromis gulosus Agassiz, 1859: 408. Type locality: Lake Nicaragua. Lectotype: MCZ 16086, designated by Kullander & Hartel (1997: 196).

Heros managuensis Günther, 1867: 602. Type locality: Lake of Managua. Holotype: BMNH 1865.7.20.32.

Maximum length: 22 cm SL

Distribution: Central America: Atlantic slope from the Ulua River (Honduras) to the Matina River (Costa Rica).

Countries: Costa Rica, Cuba (introduced), El Salvador (introduced), Guatemala (introduced), Honduras, Mexico (introduced), Nicaragua, Panama (introduced)

Remarks and references: Reviewed by Kullander & Hartel (1997), with redescription and photo, and lectotype designation of *P. gulosus*. *Heros managuensis* described in more detail in Günther (1868: 463, pl. 77 (fig. 3)). Reviewed by Bussing (1998: 367), with key, diagnosis, geographical distribution, and figures.

Common names: Guapote barcino (Costa Rica, Nicaragua), Guapote tigre (Costa Rica), Pinta (Mexico)

***Parachromis motaguensis* (Günther, 1867)**

Heros motaguensis Günther, 1867: 602. Type locality: Río Motagua. Syntypes: (5) BMNH 1865.4.29.68-70 (3 or 4), 1865.6.10.12 (1).

Maximum length: 30 cm TL

Distribution: Central America: Atlantic slope of Guatemala and Honduras in the Motagua River basin; Pacific slope from Naranjo River (Guatemala) to Choluteca River (Honduras).

Countries: El Salvador, Guatemala, Honduras

Remarks and references: Described in more detail in Günther (1868: 462, pl. 77 (fig. 2)).

Common names: False yellowjacket cichlid (Belize), Guapote (El Salvador), Moro (El Salvador), Pando (El Salvador)

PARANEETROPLUS

Paraneetroplus Regan, 1905a: 436. Type species: *Paraneetroplus bulleri* Regan, 1905. Type by monotypy. Gender: masculine.

***Paraneetroplus bulleri* Regan, 1905**

Paraneetroplus Bulleri Regan, 1905a: 436. Type locality: Rio de

Sarabia, Mexico. Holotype: BMNH 1890.10.10.94.
 Maximum length: 25.5 cm SL
 Distribution: North America: Atlantic slope, in the Coatzacoalcos River drainage.
 Countries: Mexico
 Common names: Corrientero (Mexico)

***Paraneetroplus gibbiceps* (Steindachner, 1864)**

Heros gibbiceps Steindachner, 1864: 66, pl. 5 (fig. 1-2). Type locality: Mejico, im Teapa-Flusse (Staat Tabasco). Syntypes: NMW 17360-61 (2), 17367 (1), 58799 (1).

Cichlasoma teapae Evermann & Goldsborough, 1902: 156, fig. 6. Type locality: Rio Teapa at Teapa, Tabasco, Mexico. Holotype: USNM 50005.

Paraneetroplus omonti Allgayer, 1988: 13, fig. p. 15. Type locality: près du pont, sur le Rio Tulija traversé par la route Palenqué-Ocotingo, Chiapas, Mexique. Holotype: MNHN 1987-1474.

Maximum length: 23 cm SL
 Distribution: North America: Atlantic slope, in the Usumacinta River basin.
 Countries: Mexico
 Common names: Corrientero verde (Mexico), Roquera (Mexico)

***Paraneetroplus nebuliferus* (Günther, 1860)**

Chromis nebulifera Günther, 1860a: 318. Type locality: Fresh waters of Mexico. Syntypes: BMNH 1860.6.17.31-33 (3).

Cichlasoma eigenmanni Meek, 1902: 119, pl. 30. Type locality: Rio Tehuacan, Venta Salada, Pueblo, Mexico. Holotype: FMNH 3712.

Maximum length: 20 cm TL
 Distribution: North America: Atlantic slope, in the Papaloapán River basin.
 Countries: Mexico
 Common names: Chonga (Mexico), Playero (Mexico)

PETENIA

Petenia Günther, 1862: 301. Type species: *Petenia splendida* Günther, 1862. Type by monotypy. Gender: feminine.

***Petenia splendida* Günther, 1862**

Petenia splendida Günther, 1862: 301. Type locality: Lake Peten. Syntypes: BMNH 1864.1.26.103-105 (3).

Maximum length: 50 cm SL
 Distribution: North and Central America: Atlantic slope of Grijalva River to Usumacinta River (Mexico), Usumacinta River (Guatemala), and Belize.
 Countries: Belize, Guatemala, Mexico
 Common names: Bay snook (Belize), Blanco (Belize), Tenguajagua (Mexico), Tenguayaca (Mexico)

PTEROPHYLLUM

Pterophyllum Heckel, 1840: 334. Type species: *Platax scalaris* Cuvier, 1831. Type by monotypy. Gender: neuter.

Plataxoides Castelnau, 1855: 21. Type species: *Plataxoides dumerilii* Castelnau, 1855. Type by monotypy. Gender: masculine.

***Pterophyllum altum* Pellegrin, 1903**

Pterophyllum altum Pellegrin, 1903: 125. Type locality: Atabapo (Orénoque). Syntypes: BMNH 1904.6.28.2-3 [ex MNHN] (2 spms.); MHNLR P.261 (1); MNHN 1887-571 to 574 (4), 1887-579 and 580 (14 spms.)

Maximum length: 6.5 cm SL
 Distribution: South America: Amazon River basin, in the upper Negro River drainage; Orinoco River basin, in tributaries of the upper Orinoco River (Infrida and Atabapo Rivers) to Puerto Ayacucho.
 Countries: Colombia, Venezuela

***Pterophyllum leopoldi* (Gosse, 1963)**

Plataxoides leopoldi Gosse, 1963: 4, pl. 1 (fig. 2). Type locality: Furo du village de Cuia (rive gauche du Solimões à environ 90 km en amont de Manacapuru). Holotype: IRSNB 459.

Maximum length: 5 cm SL
 Distribution: South America: Amazon River basin, along the Solimões-Amazon River between about Manacapuru and Santarém; Rupununi River in the Essequibo River drainage in Guyana.
 Countries: Brazil, Guyana

***Pterophyllum scalare* (Schultze, 1823)**

Zeus scalaris Schultze in Lichtenstein, 1823: 114. Type locality: Or. Brazil. Types: No types located with certainty, ZMB 1347 possibly part of type series; ZMB 2833 selected as lectotype by Paepke & Schindler (2002: 181).

Platax scalaris Cuvier in Cuvier & Valenciennes, 1831: 237. Type locality: None stated. Holotype: ZMB 1347.

Plataxoides dumerilii Castelnau, 1855: 21, pl. 11 (fig. 3). Type locality: Para. Holotype: MNHN A.254.

Pterophyllum eimekei Ahl, 1928: 31, fig. p. 31. Type locality: Mündung des Rio Negro in den Amazonenstrom. Syntypes: ZMB uncatalogued (4) and MNHN 29-12 (1).

Maximum length: 7.5 cm SL
 Distribution: South America: Amazon River basin, in Peru, Colombia, and Brazil, along the Ucayali, Solimões and Amazon rivers; rivers of Amapá State, Oyapock River in French Guiana; Essequibo River in Guyana.

Countries: Brazil, Colombia, French Guiana, Guyana, Peru, Suriname (introduced)
 Remarks and references: Redescription based on Peruvian material in Kullander (1986: 210), with bibliography, diagnosis, description, distribution, and illustrations. Paepke & Schindler (2002) discuss the authorship and putative types of *Z. scalaris* Schultze.
 Common names: Acará bandeira (Brazil), Cara bandeira (Brazil), Pez angel (Peru), Poson lavwèl (French Guiana)

RETROCULUS

Retroculus Eigenmann & Bray, 1894: 614. Type species: *Retroculus boulengeri* Eigenmann & Bray, 1894. Type by monotypy. Gender: masculine.

***Retroculus lapidifer* (Castelnau, 1855)**

Chromys lapidifera Castelnau, 1855: 16, pl. 12 (fig.1). Type locality: Rio das Mortes, Xaventina Island Matto Grosso Brazil (originally: la grande cascade de l'Araguay (Caxoeira grande)). Holotype: MNHN A.8321 (dry, lost). Name spelled *lapidifera* in text (pp. viii and 16) and index (p. 108); *lapidifer* in figure caption and list of figures (p. xi). Neotype BMNH 1970.10.28:58, designated by (Gosse 1971: 5).

Retroculus boulengeri Eigenmann & Bray, 1894: 614. Type locality: Brazil. Holotype: USNM 152111.

Maximum length: 20.3 cm SL
 Distribution: South America: Amazon River basin, in the Tocantins and Capim River basins.
 Countries: Brazil

Remarks and references: Redescription in Gosse (1971) with bibliography, diagnosis, description, and illustration.

***Retroculus septentrionalis* Gosse, 1971**

Retroculus septentrionalis Gosse, 1971: 11, p. 5. Type locality: Guyane française dans le fleuve Oyapock à Saut-Alikoto (en amont du village de Camopi). Holotype: IRSNB 515.

Maximum length: 19 cm SL
 Distribution: South America: Oyapock River drainage in Brazil and French Guiana, Araguari River drainage in Brazil.
 Countries: Brazil, French Guiana
 Common names: Prapra (French Guiana)

***Retroculus xinguensis* Gosse, 1971**

Retroculus xinguensis Gosse, 1971: 7, pl. 4. Type locality: Brésil dans le Rio Xingu aux Cachoeira von Martius (à la limite Nord de l'Etat du Mato Grosso). Holotype: IRSNB 512.

Maximum length: 14.4 cm SL

Distribution: South America: Amazon River basin, in the Xingu and Tapajós River basins.

Countries: Brazil

SATANOPERCA

Satanoperca Günther, 1862: 312. Type species: *Geophagus daemon* Heckel, 1840. Type by subsequent designation by Jordan & Evermann (1898, p. 1542). Gender: feminine.

***Satanoperca acuticeps* (Heckel, 1840)**

Geophagus acuticeps Heckel, 1840: 394. Type locality: Barra do Rio-negro [=Manaus]. Holotype: NMW 23429.

Maximum length: 17 cm SL

Distribution: South America: Amazon River basin, in the Branco River, lower Negro River, and along the Solimões-Amazon River in Brazil between Tonantins and the lower Trombetas River.

Countries: Brazil

Common names: Acará bicudo (Brazil), Acará papa terra (Brazil)

***Satanoperca daemon* (Heckel, 1840)**

Geophagus daemon Heckel, 1840: 389, pl. 29 (fig. 26-29). Type locality: Rio-Negro. Holotype: NMW 23123.

Maximum length: 17 cm SL

Distribution: South America: Amazon River basin, in the upper Negro River in Brazil and Venezuela; Orinoco River basin, in Colombia and Venezuela.

Countries: Brazil, Colombia, Venezuela

***Satanoperca jurupari* (Heckel, 1840)**

Geophagus jurupari Heckel, 1840: 392. Type locality: an der Mündung des Rio-negro in den Amazonenstrom. Syntypes: NMW 23580-81 (2).

Maximum length: 18.5 cm SL

Distribution: South America: Amazon River basin, from Peru, Ecuador and Colombia to the mouth of Amazon River in Brazil, in Amapá State and eastern French Guiana, also in the Bolivian Amazon drainage except Guaporé River.

Countries: Bolivia, Brazil, Colombia, Ecuador, French Guiana, Peru

Remarks and references: Redescription, based on Peruvian material, in Kullander (1986: 147), with bibliography, diagnosis, description, distribution and illustration.

Common names: Acará-chibante (Brazil), Cara bicudo (Brazil), Prapra djab (French Guiana), Prapra roch (French Guiana), Prapra so (French Guiana)

***Satanoperca leucosticta* (Müller & Troschel, 1849)**

Geophagus leucostictus Müller & Troschel, 1849: 625. Type locality: See Amucu; Sümpfen der Savanne. Holotype: ZMB 2331.

Satanoperca macrolepis Günther, 1862: 314. Type locality: Demerara, British Guiana. Syntypes: (3) BMNH 1962.1.8.1 (1).

Maximum length: 15 cm SL

Distribution: South America: Essequibo River in Guyana and Nickerie River in Suriname.

Countries: Guyana, Suriname

Remarks and references: Redescription based on Surinamese material in Kullander & Nijssen (1989: 66), with bibliography, diagnosis, description, distribution, and illustration.

***Satanoperca lilith* Kullander & Ferreira, 1988**

Satanoperca lilith Kullander & Ferreira, 1988: 344, fig. 1. Type locality: Brazil, Estado do Amazonas, Rio Negro drainage, Uru-

mari, praia (0°03'S, 63°30'W). Holotype: MZUSP 33003.

Maximum length: 25.5 cm SL

Distribution: South America: Amazon River basin, along the Solimões-Amazon River from the Japurá River to the Trombetas River, also Negro River from the Curicuriari River to the mouth, and in the Branco River basin.

Countries: Brazil

***Satanoperca mapiritensis* (Fernández-Yépez, 1950)**

Geophagus mapiritensis Fernández-Yépez, 1950: 117, fig. p. 117.

Type locality: Río Mapirito al Sur de Maturín, Estado Monagas, Venezuela. Holotype: MHNLS 153 [ex AFY 49422].

Maximum length: 14 cm SL

Distribution: South America: Orinoco River basin, along the lower Orinoco River and in rivers north of the lower Orinoco River.

Countries: Venezuela

***Satanoperca pappaterra* (Heckel, 1840)**

Geophagus pappaterra Heckel, 1840: 396. Type locality: Rio-Guapore. Syntypes: 23684-23685 (2).

Maximum length: 17.4 cm SL

Distribution: South America: Amazon River basin, in the Guaporé River in Brazil and Bolivia; Paraná River basin, in the Paraguay River drainage in Brazil and northern Paraguay (to the Aquidabán River).

Countries: Bolivia, Brazil, Paraguay

SYMPHYSODON

Symphysodon Heckel, 1840: 332. Type species: *Symphysodon discus* Heckel, 1840. Type by monotypy. Gender: masculine.

***Symphysodon aequifasciatus* Pellegrin, 1904**

Symphysodon discus var. *aequifasciata* Pellegrin, 1904: 250. Type locality: Teffé (Brésil); Santarém (Bresil). Syntypes: MNHN 1902-130 (1) Santarém, 1902-134 (1) and 1902-135 (1) Teffé.

Symphysodon discus tarzoo Lyons, 1959: 6, fig. p. 7. Type locality: Leticia, Columbia. No types known.

Symphysodon aequifasciata axelrodi Schultz, 1960: 14, fig. (p. 9). Type locality: Belem, Brazil, Amazon River. Holotype: USNM 179831.

Symphysodon aequifasciata haraldi Schultz, 1960: 11, fig. (p. 8). Type locality: Benjamin Constant, Brazil in the Amazon. Holotype: USNM 179829.

Maximum length: 13.7 cm SL

Distribution: South America: Amazon River basin in tributaries along the Solimões-Amazon River from the Putumayo River in Colombia and Peru to the Tocantins River basin.

Countries: Brazil, Colombia, Peru

Remarks and references: Popular review in Kullander (1996a).

***Symphysodon discus* Heckel, 1840**

Symphysodon discus Heckel, 1840: 333, pl. 30 (fig. 21). Type locality: bei Barra do Rio Negro [=Manaus], im Flusse selbst. Holotype: NMW 35612.

Symphysodon discus willischwartzi Burgess, 1981: 37, fig. p. 37. Type locality: Rio Abacaxis (a tributary of the Rio Madeira), Brazil. Holotype: MZUSP 15375.

Maximum length: 12.3 cm SL

Distribution: South America: Amazon River basin in Brazil, near the mouth of the Negro River, in the lower Abacaxis River, and in the lower Trombetas River.

Countries: Brazil

Remarks and references: Popular review in Kullander (1996a).

Common names: Acará-moreré (Brazil)

TAENIACARA

Taeniacara Myers, 1935: 11. Type species: *Taeniacara candidi* Myers, 1935. Type by original designation. Gender: feminine.

***Taeniacara candidi* Myers, 1935**

Taeniacara candidi Myers, 1935: 11. Type locality: in the Amazon (middle). Holotype: USNM 93579.
Apistogramma weisei Ahl, 1936b: 268. Type locality: Santarem. Holotype: ZMB 32385.
 Maximum length: 3.3 cm SL
 Distribution: South America: Amazon River basin, in the lower Negro River, and along the Amazon River to the Tapajós River.
 Countries: Brazil

TAHUANTINSUYOA

Tahuantinsuyoa Kullander, 1986: 308. Type species: *Tahuantinsuyoa macantzatza* Kullander, 1986. Type by original designation. Gender: feminine.

***Tahuantinsuyoa chipi* Kullander, 1991**

Tahuantinsuyoa chipi Kullander, 1991c: 4, fig. 2. Type locality: Perú, departamento Huánuco, pools of unnamed creek close to lower Río Lullapichis, 1.8 km east of Panguana station (9°37'90"S, 74°55'90"W), 260 masl. Holotype: ROM 58275.
 Maximum length: 8.2 cm SL
 Distribution: South America: Amazon River basin, in the Pachitea River basin in Peru.
 Countries: Peru

***Tahuantinsuyoa macantzatza* Kullander, 1986**

Tahuantinsuyoa macantzatza Kullander, 1986: 309, pl. 34 (fig. 1). Type locality: Perú, departamento Ucayali, Río Aguaytía drainage system, Río Huacamayo. Holotype: MZUSP 16212.
 Maximum length: 7.4 cm SL
 Distribution: South America: Amazon River basin, in the Aguaytía River basin in Peru.
 Countries: Peru

TELEOCICHLA

Teleocichla Kullander, 1988: 196. Type species: *Teleocichla centrarchus* Kullander, 1988. Type by original designation. Gender: feminine.

***Teleocichla centisquama* Zuanon & Sazima, 2002**

Teleocichla centisquama Zuanon & Sazima, 2002: 374, fig. 1. Type locality: Brazil: Pará: rio Xingu: Furo do Zé Pinheiro (3°27'26"S 51°55'03"W). Holotype: INPA 14934.
 Maximum length: 4 cm SL
 Distribution: South America: Amazon River basin, in the Xingu River drainage around Altamira.
 Countries: Brazil

***Teleocichla centrarchus* Kullander, 1988**

Teleocichla centrarchus Kullander, 1988: 198, fig. 2. Type locality: Brésil, Rio Xingù, Cachoeira von Martius, Haut Xingù. État du Mato Grosso. Holotype: IRSNB 649.
 Maximum length: 6 cm SL
 Distribution: South America: Amazon River basin, in the Xingu River drainage at Cachoeira von Martius.
 Countries: Brazil

***Teleocichla cinderella* Kullander, 1988**

Teleocichla cinderella Kullander, 1988: 204, fig. 6. Type locality: Brazil, State of Pará: R. Tocantins, Tucurui, jusante de represa, poços. Holotype: INPA 802.
 Maximum length: 5.4 cm SL
 Distribution: South America: Amazon River basin, in the lower Tocantins River basin.
 Countries: Brazil

***Teleocichla gephyrogramma* Kullander, 1988**

Teleocichla gephyrogramma Kullander, 1988: 205, fig. 7. Type

locality: Brésil, Rio Xingù, Cachoeira von Martius, Haut Xingù. État du Mato Grosso. Holotype: IRSNB 647.
 Maximum length: 4.6 cm SL
 Distribution: South America: Amazon River basin, in the Xingu River drainage at Cachoeira von Martius.
 Countries: Brazil

***Teleocichla monogramma* Kullander, 1988**

Teleocichla monogramma Kullander, 1988: 207, figs. 1, 8. Type locality: Brésil, Rio Xingù, Cachoeira von Martius, Haut Xingù. État du Mato Grosso. Holotype: IRSNB 646.
 Maximum length: 6.3 cm SL
 Distribution: South America: Amazon River basin, in the Xingu River drainage at Cachoeira von Martius.
 Countries: Brazil

***Teleocichla prionogenys* Kullander, 1988**

Teleocichla prionogenys Kullander, 1988: 203, fig. 5. Type locality: Brazil, State of Pará: Rio Tapajós, São Luis, acima de Itaituba, pedral. Holotype: MZUSP 36951.
 Maximum length: 5.7 cm SL
 Distribution: South America: Amazon River basin, in the Tapajós River at São Luis.
 Countries: Brazil

***Teleocichla proselytus* Kullander, 1988**

Teleocichla proselytus Kullander, 1988: 201, fig. 4. Type locality: Brazil, State of Pará: Rio Tapajós, São Luis, acima de Itaituba, pedral. Holotype: MZUSP 33065.
 Maximum length: 5.7 cm SL
 Distribution: South America: Amazon River basin, in the Tapajós River at São Luis.
 Countries: Brazil

THERAPS

Theraps Günther, 1862: 284. Type species: *Theraps irregularis* Günther, 1862. Type by monotypy. Gender: masculine.

***Theraps coeruleus* Stawikowski & Werner, 1987**

Theraps coeruleus Stawikowski & Werner, 1987: 499, fig. p. 499. Type locality: einem kleinen Zufluss zum Rio Mizol Há bei Francesco Madero westlich der Strasse von Palenque nach Ocosingo, etwa 30 Kilometer südlich von Palenque. Holotype: ZFMK 15501.
 Maximum length: 12 cm SL
 Distribution: North America: Atlantic slope, upper Tulija River in the Usumacinta River drainage.
 Countries: Mexico

***Theraps irregularis* Günther, 1862**

Theraps irregularis Günther, 1862: 284. Type locality: Guatemala. Holotype: BMNH 1861.8.12.15.
Theraps belone Allgayer, 1989: 6, fig. p. 7. Type locality: "La Culebra" sur le Rio Chocolja, Chiapas (Mexique). Holotype: MNHN 1989-581.
 Maximum length: 19 cm SL
 Distribution: North and Central America: Atlantic slope of Mexico and Guatemala (Usumacinta, Sarstun, and Dulce River basins).
 Countries: Guatemala, Mexico

***Theraps lentiginosus* (Steindachner, 1864)**

Heros lentiginosus Steindachner, 1864: 62, pl. 3 (fig. 1). Type locality: Mejico. Syntypes: NMW 17381-82 (2).
Theraps rheophilus Seegers & Staeck, 1985: 500, fig. p. 500-504. Type locality: etwa sechs Kilometer südlich von Palenque im Rio Nututun unter der Brücke der Strasse nach Ocosingo in Chiapas, Mexico. Holotype: ZFMK 13928.
 Maximum length: 25 cm TL
 Distribution: North and Central America: Atlantic slope, in the

Grijalva and Usumacinta River drainages in Mexico and Guatemala.

Countries: Guatemala, Mexico

***Theraps wesseli* Miller, 1996**

Theraps wesseli Miller, 1996: 180, fig. 1. Type locality: Río Belaire at CA 13 bridge (near Entelina), 8 km south of the Río Jutiapa crossing, in the Río Papaloteca drainage, Departamento de Atlantida; 15° 41' 30" W. Lat., 86° 30' N. Long. Holotype: UMMZ 231103.

Maximum length: 8 cm SL

Distribution: Central America: Atlantic slope, in the Papaloteca River basin.

Countries: Honduras

THORICHTHYS

Thorichthys Meek, 1904: 222. Type species: *Thorichthys ellioti* Meek, 1904. Type by original designation. Gender: masculine.

***Thorichthys affinis* (Günther, 1862)**

Heros affinis Günther, 1862: 292. Type locality: Lake Peten. Syntypes: BMNH 1864.1.26.83-86 (4).

Maximum length: 14 cm SL

Distribution: Central America: Atlantic slope, in the upper Usumacinta River basin in Guatemala, and Belize.

Countries: Belize, Guatemala

***Thorichthys aureus* (Günther, 1862)**

Heros aureus Günther, 1862: 292. Type locality: Guatemala. Holotype: BMNH 1864.1.26.51.

Maximum length: 15 cm SL

Distribution: Central America: Atlantic slope from Golden Creek (Belize) to Motagua River basin (Honduras).

Countries: Belize, Guatemala, Honduras

Common names: Golden firemouth cichlid (Belize)

***Thorichthys callolepis* (Regan, 1904)**

Heros (Heros) callolepis Regan, 1904: 258. Type locality: Santo Domingo de Guzman, Mexico. Syntypes: BMNH 1890.10.10.112-113 (2).

Maximum length: 14 cm SL

Distribution: North America: Atlantic slope, in the Coatzacoalcos River drainage, Mexico.

Countries: Mexico

***Thorichthys ellioti* Meek, 1904**

Heros maculipinnis Steindachner, 1864: 69, pl. 4 (fig. 2). Type locality: Mejico im Xamapa-Flusse. Syntypes: NMW 17368-17370 (3).

Thorichthys ellioti Meek, 1904: 223, fig. 72. Type locality: Motzorong, Vera Cruz. Holotype: FMNH 4627 [not 4727].

Maximum length: 15 cm SL

Distribution: North America: Atlantic slope, in the Papaloapán River basin.

Countries: Mexico

Remarks and references: Identity of *Heros maculipinnis* and *T. ellioti* requires further analysis; whereas *T. maculipinnis* has priority, *T. ellioti* may be in prevailing usage.

***Thorichthys helleri* (Steindachner, 1864)**

Heros helleri Steindachner, 1864: 64, pl. 4 (fig. 1). Type locality: Mejico, im Teapa-Flusse (Staat Tabasco). Syntypes: NMW 17344-17349 (6).

Cichlasoma champotonis Hubbs, 1936: 257, pl. 11 (fig. 1). Type locality: Río Champoton, Janateya, Campeche, 7 leagues (34 km) east of the mouth, Yucatán, Mexico. Holotype: UMMZ 102203.

Maximum length: 14.5 cm SL

Distribution: North America: Atlantic slope, from the Coatzacoalcos River to the Usumacinta River drainage.

Countries: Mexico

***Thorichthys meeki* Brind, 1918**

Thorichthys helleri meeki Brind, 1918: 119. Type locality: Near Progreso, Yucutan, Mexico. Holotype: USNM 79243.

Cichlasoma hyorhynchum Hubbs, 1935: 15, pl. 3 (fig. 2). Type locality: Río San Pedro de Mártir, a tributary of Río Usumacinta, at El Paso de los Caballos, Department of Petén, Guatemala. Holotype: UMMZ 95519.

Maximum length: 17 cm TL

Distribution: North and Central America: Atlantic slope, in the Usumacinta River drainage, the Belize River drainage, and near Progreso, in Mexico, Guatemala and Belize.

Countries: Belize, Colombia (introduced), Guatemala, Mexico

Common names: Castarrica (Mexico), Firemouth cichlid (Belize), Panya gial (Belize), Rojita (Mexico)

***Thorichthys pasionis* (Rivas, 1962)**

Cichlasoma pasionis Rivas, 1962: 148, fig. 1. Type locality: Río de la Pasión, of the Río Usumacinta system, at Sayaxche, Department of El Petén, Guatemala. Holotype: USNM 203156 [ex UMMZ 4872].

Maximum length: 17 cm SL

Distribution: North and Central America: Atlantic slope, in the Usumacinta River drainage in Mexico and Guatemala.

Countries: Guatemala, Mexico

Common name: Mojarra amarilla (Mexico)

***Thorichthys socolofi* (Miller & Taylor, 1984)**

Cichlasoma socolofi Miller & Taylor, 1984: 933, fig. 1. Type locality: Río Misalá (tributary to R. Tulija of R. Grijalva basin) below bridge at Adolfo Ruiz Cortines (17°23' N lat., 92°01' W long.), on highway from Palenque to Agua Azul, 19.6 km S of the "Maya Head" turnoff to Palenque, Chiapas, Mexico. Holotype: UMMZ 210819.

Maximum length: 7.9 cm SL

Distribution: North America: Atlantic slope, in the Grijalva River basin.

Countries: Mexico

TOMOCICHLA

Tomocichla Regan, 1908a: 463. Type species: *Tomocichla underwoodi* Regan, 1908. Type by monotypy. Gender: feminine.

***Tomocichla asfraci* Allgayer, 2002**

Tomocichla asfraci Allgayer, 2002b: 32, fig. p. 33. Type locality: Panama, Boca-del-Toro, Rio Guarumo. Holotype MNHN 2002-1093).

Maximum length: 25 cm SL

Distribution: Central America: Atlantic slope, Laguna de Chiriqui basin in the Guarumo River.

Countries: Panama

***Tomocichla sieboldii* (Kner, 1863)**

Heros sieboldii Kner, 1863: 223. Type locality: Panama an der Südseeseite. Syntypes: (11) NMW 22012 (1).

Herichthys underwoodi Regan, 1906a: 30, pl. 3 (fig. 5). Type locality: Costa Rica. Holotype: BMNH 1907.6.28.48.

Cichlasoma punctatum Meek, 1909: 210. Type locality: Buenos Aires de Terraba, Costa Rica. Holotype: FMNH 6478.

Cichlasoma frontale Meek, 1909: 210. Type locality: Turrubales, Costa Rica. Holotype: FMNH 6358.

Theraps terrabae Jordan & Evermann, 1927: 507. Type locality: [Buenos Aires de Terraba.] Holotype: FMNH 6478. Replacement for *Cichlasoma punctatum* Meek, preoccupied in *Cichlasoma* by *Labrus punctatus* Bloch.

Maximum length: 25 cm SL

Distribution: Central America: Pacific slope, from Esparza (Costa Rica) to Río Sta María (Panama).

Countries: Costa Rica, Panama

Remarks and references: Redescription by Bussing (1975), as *Cichlasoma sieboldii*. Reviewed by Bussing (1998: 372), as *Theraps sieboldii*, with key, diagnosis, geographical distribution, and figures. Molecular analysis suggests that *T. sieboldii* is not closely related to *T. tuba* (Martin & Bermingham, 1998), but the species is maintained in *Tomocichla* pending a more general revision of heroin cichlids.

Common names: Mojarra (Costa Rica)

***Tomocichla tuba* (Meek, 1912)**

Tomocichla underwoodi Regan, 1908a: 463. Type locality: Rio Iroquois [Costa Rica]. Syntypes: (13) BMNH 1909.3.13.99-108 (10), UMMZ 167297 [ex BMNH] (1).

Cichlasoma tuba Meek, 1912: 73. Type locality: Victoria, Costa Rica. Holotype: FMNH 7681 (missing).

Maximum length: 30 cm TL

Distribution: Central America: Atlantic slope, from the Escondido River (Nicaragua) to the Cricamola River (Panama).

Countries: Costa Rica, Nicaragua, Panama

Remarks and references: Redescription by Bussing (1975), as *Cichlasoma tuba*. Reviewed by Bussing (1998: 376, as *Theraps underwoodi*), with key, diagnosis, geographical distribution, and figures.

UARU

Uaru Heckel, 1840: 330. Type species: *Uaru amphiacanthoides* Heckel, 1840. Type by monotypy. Gender: masculine.

Uarus Cope, 1872: 254. Type species: *Uaru amphiacanthoides* Heckel, 1840. Gender: masculine. Unjustified emendation of spelling of *Uaru* Heckel.

***Uaru amphiacanthoides* Heckel, 1840**

Uaru amphiacanthoides Heckel, 1840: 331, pl. 29 (fig. 13-16). Type locality: Rio-negro oberhalb Airao. Holotype: NMW 24808.

Pomotis ? fasciatus Jardine, 1843: 169, p. 17. Type locality: Rios Padauri and Negro. No types known.

Uaru obscurum Günther, 1862: 302. Type locality: River Cupai [=Cupari River, Brazil]. Holotype: BMNH 1853.3.19.39.

Acara (Heros) imperialis Steindachner, 1879a: 161. Type locality: Ausstände des Amazonenstromes zunächst der Mündung des Rio Negro. Syntypes: (several) NMW 79185-86 (7).

Maximum length: 25 cm SL

Distribution: South America: Amazon River basin, along the Amazon-Solimões River drainage from the Japurá River to the Tapajós River, and in the middle and lower Negro River basin.

Countries: Brazil

***Uaru fernandezyepezi* Stawikowski, 1989**

Uaru fernandezyepezi Stawikowski, 1989: 21, fig. 1. Type locality: Seitenarm des Río Atabapo, fünf Kilometer oberhalb dessen Mündung in den Rio Orinoco. Holotype: ZFMK 15757.

Maximum length: 19 cm SL

Distribution: South America: Orinoco River basin, in the Atabapo River basin.

Countries: Venezuela

Common names: Run Runá (Venezuela)

VIEJA

Vieja Fernández-Yépez, 1969: [4]. Type species: *Vieja panamensis* Fernández-Yépez, 1969. Type by original designation. Gender: feminine.

Chuco Fernández-Yépez, 1969: [4]. Type species: *Cichlasoma milleri* Meek, 1907. Type species by original designation. Gender: neuter.

Paratheraps Werner & Stawikowski, 1989: 10. Type species: *Paratheraps breidohri* Werner & Stawikowski, 1987. Type spe-

cies by original designation. Gender: masculine.

***Vieja argentea* (Allgayer, 1991)**

Cichlasoma (Theraps) argentea Allgayer, 1991: 3. Type locality: Rio San Roman à l'embouchure avec le Rio Salinas, Chiapas, Mexique. Holotype: MNHN 1991-6831.

Maximum length: 27 cm TL

Distribution: North America: Atlantic slope, in the Usumacinta River basin.

Countries: Mexico

***Vieja bifasciata* (Steindachner, 1864)**

Heros bifasciatus Steindachner, 1864: 60, pl. 2. Type locality: Mejico. Holotype: NMW 74138.

Maximum length: 30 cm SL

Distribution: North and Central America: Atlantic slope, in the Grijalva and Usumacinta River basins, Mexico and Guatemala.

Countries: Guatemala, Mexico

Common names: Colorada (Mexico)

***Vieja breidohri* (Werner & Stawikowski, 1987)**

Paratheraps breidohri Werner & Stawikowski, 1987: 20, fig. p. 20. Type locality: Presa von Angostura, unterhalb der Staumauer, in Chiapas/Südmexiko. Holotype: ZFMK 15524.

Maximum length: 16.8 cm SL,

Distribution: North America: Atlantic slope, in the Grijalva River basin.

Countries: Mexico

***Vieja fenestrata* (Günther, 1860)**

Chromis fenestrata Günther, 1860a: 318. Type locality: Rio de la Lana (Mexico). Syntypes: BMNH 1857 [or 1887].7.31.13-14 (2).

Heros parma Günther, 1862: 285. Type locality: Mexico, Guatemala. Syntypes: BMNH (7).

Cichlosoma sexfasciatum Regan, 1905a: 230. Type locality: Guapote, Mexico. Holotype: BMNH 1894.12.19.2.

Cichlosoma gadovii Regan, 1905a: 232. Type locality: Motozongongo. Syntypes: BMNH 1906.6.1.402-403 (2).

Maximum length: 25 cm SL

Distribution: North America: Atlantic slope, from the Papaloapán River to the Chachalacas River basin.

Countries: Mexico

Remarks and references: Regan (1905a) removed 4 syntypes of *Heros parma* to become syntypes of his *Cichlosoma maculicauda*; remaining 3 syntypes were referred to the synonymy of *Vieja fenestrata*; no lectotype has been selected.

Common names: Mojarra negra (Mexico), Testa colorada (Mexico)

***Vieja godmanni* (Günther, 1862)**

Heros godmanni Günther, 1862: 296. Type locality: River of Cahabon [=Cajabon River, Guatemala]. Syntypes: BMNH 1864.1.26 [or 2].49-50 (2).

Maximum length: 30 cm TL

Distribution: Central America: Atlantic slope, in the Polochic River basin.

Countries: Guatemala

***Vieja guttulata* (Günther, 1864)**

Heros guttulatus Günther, 1864c: 152. Type locality: Pacific coast of Guatemala. Syntypes: BMNH 1864.1.26.348 (1), MSNG 13009 [ex BMNH] (1, poor condition, not found in 1995).

Maximum length: 30 cm TL

Distribution: Central America: Pacific slope of Guatemala.

Countries: Guatemala

***Vieja hartwegi* (Taylor & Miller, 1980)**

Cichlasoma hartwegi Taylor & Miller, 1980: 8, fig. 2. Type locality: Río Grande de Chiapa, between Tuxtla Gutiérrez and Chiapa

de Corzo, lat. 16°44'N, long. 93°02'W, elevation ca. 500 m, Chiapas, Mexico. Holotype: UMMZ 207701.

Maximum length: 13.1 cm SL

Distribution: North America: Atlantic slope, in the Grijalva River basin.

Countries: Mexico

***Vieja heterospila* (Hubbs, 1936)**

Cichlasoma heterospilum Hubbs, 1936: 255, pl. 10, (fig. 3). Type locality: Rio Usumacinta at Montecristo, in southern Mexico. Holotype: USNM 52959.

Maximum length: 24 cm SL

Distribution: North and Central America: Atlantic slope, in the Candelaria and Usumacinta Rivers, Mexico and Guatemala.

Countries: Guatemala, Mexico

Common names: Colorado (Mexico), Pozolera (Mexico)

***Vieja intermedia* (Günther, 1862)**

Heros intermedius Günther, 1862: 298. Type locality: Guatemala. Syntypes: (orig. at least 3) BMNH 1864.1.26.87-91.

Heros angulifer Günther, 1862: 298. Type locality: River de Santa Isabel, Guatemala. Syntypes: BMNH 1864.1.26.60-61 (2).

Acara rectangularis Steindachner, 1864: 57, pl. 1 (fig. 1). Type locality: Mejico. Holotype: NMW 33346.

Maximum length: 20 cm SL

Distribution: North and Central America: Atlantic slope, in the Grijalva and Usumacinta drainages in Mexico, Guatemala and Belize.

Countries: Belize, Guatemala, Mexico

Remarks and references: Pellegrin (1904), as first reviser, gave priority to *Heros intermedius* over *H. angulifer*.

Common names: Northern checkmark cichlid (Belize)

***Vieja maculicauda* (Regan, 1905)**

Cichlosoma maculicauda Regan, 1905a: 227. Type locality: Lake Yzabal. Syntypes: BMNH 1864.1.26.56-69 (4).

Cichlasoma globosum Miller, 1907: 114, fig. 4. Type locality: brackish water, Puerto Barrios. Holotype: CAS [ex IU 11382] not present in 1995.

Cichlasoma nigratum Meek, 1907b: 128. Type locality: Lago Nicaragua, Granada, Nicaragua. Holotype: FMNH 5979.

Cichlasoma mañana Miller, 1907: 115, fig. 5. Type locality: Tenedores River, Tenedores. Holotype: CAS 78970 [ex IU 11385].

Vieja panamensis Fernández-Yépez, 1969: [5], fig. 9. Type locality: Panama. Holotype: MCZ 33281.

Maximum length: 25 cm SL

Distribution: Central America: Atlantic slope, from the Usumacinta River drainage in Guatemala to the Chagres River in Panama.

Countries: Belize, Costa Rica, Guatemala, Honduras, Nicaragua, Panama

Remarks and references: Reviewed by Bussing (1998: 380), with key, diagnosis, geographical distribution, and figures.

Common names: Blackbelt cichlid (Belize), Boca colorada (Honduras), Machaca (Honduras), Palometa (Nicaragua), Pis pis (Costa Rica), Vieja (Costa Rica)

***Vieja melanurus* (Günther, 1862)**

Heros melanurus Günther, 1862: 288. Type locality: Lake Peten. Syntypes: BMNH 1864.1.26.78-82 (5).

Heros melanopogon Steindachner, 1864: 72, pl. 1 (fig. 3). Type locality: Central-Amerika. Syntypes: NMW 17351 (1), 17353 (1).

Maximum length: 19 cm TL

Distribution: Central America: Atlantic slope, in the De la Pasión River and Lake Petén basins.

Countries: Guatemala

***Vieja microphthalmus* (Günther, 1862)**

Heros microphthalmus Günther, 1862: 295. Type locality: Río

Motagua, Guatemala. Syntypes: BMNH 1864.1.26.275 (1), 1865.6.10.8-9 (2); ZMB 6839 (1).

Heros oblongus Günther, 1867: 602. Type locality: Río Motagua. Syntypes: (2) ?BMNH 1865.6.10.11 (1), 1865.4.29.71-72 (2).

Cichlasoma Güntheri Pellegrin, 1904: 215. Type locality: As for *Heros oblongus* Günther, 1867. Syntypes: (2) ?BMNH 1865.6.10.11 (1), 1865.4.29.71-72 (2). Replacement name for *Heros oblongus* Günther 1869 [= *H. oblongus* Günther, 1867], secondarily preoccupied in *Heros* by *Chromys oblonga* Castelnau 1855.

Cichlasoma milleri Meek, 1907a: 142. Type locality: El Rancho, Guatemala. Holotype: FMNH 5529.

Cichlasoma caeruleogula Fowler, 1936: 525, fig. 43. Type locality: Tributary of Río Motagua about 20 miles west of El Rancho. Holotype: ANSP 64148.

Maximum length: 25 cm SL

Distribution: Central America: Atlantic slope, in the Motagua River basin in Guatemala and Honduras.

Countries: Guatemala, Honduras

***Vieja regani* (Miller, 1974)**

Cichlasoma regani Miller, 1974: 466, fig. 1. Type locality: Río Almoloya where crossed by the Trans-Isthmian Highway about 33 km north of southern terminus of that road, at 95°01' long., 16°45'N lat., Oaxaca, Mexico. Holotype: UMMZ 184756.

Maximum length: 23 cm SL

Distribution: North America: Atlantic slope, in the Coatzacoalcos River basin.

Countries: Mexico

Common names: Mojarra pinto (Mexico)

***Vieja synspila* (Hubbs, 1935)**

Cichlasoma synspilum Hubbs, 1935: 13, pl. 3 (fig. 1). Type locality: Río San Pedro de Mártir, a tributary of Río Usumacinta, at El Paso de Caballos, Department of Petén, Guatemala. Holotype: UMMZ 95518.

Cichlaurus hicklingi Fowler, 1956: 1, fig. 1. Type locality: Central Farm, Baking Pot, Belize River, British Honduras. Holotype: ANSP 73891.

Maximum length: 35 cm TL

Distribution: North and Central America: Atlantic slope, in the Usumacinta River drainage in Mexico, Guatemala and Belize.

Countries: Belize, Guatemala, Mexico

Common names: Redhead cichlid (Belize)

***Vieja tuyrensis* (Meek & Hildebrand, 1913)**

Cichlasoma tuyrense Meek & Hildebrand, 1913: 89. Type locality: Río Tuyra, Boca de Cupe, Panama. Holotype: FMNH 7599.

Maximum length: 23.5 cm SL

Distribution: Central America: Pacific slope of Panama (Tuíra and Bayano River basins).

Countries: Panama

Common names: Mojarra (Panama)

***Vieja zonata* (Meek, 1905)**

Cichlasoma zonatum Meek, 1905: 245. Type locality: Nilttepec, Oaxaca. Holotype: FMNH 3776.

Maximum length: 25 cm TL

Distribution: North America: Pacific slope, Tehuantepec River basin.

Countries: Mexico

Remarks and references: Listed as a synonym of *Vieja guttulata* (as *Cichlasoma guttulatum*) by Miller (1966). The validity of *V. zonata* rests uncertain.

Common names: Mojarra prieta (Mexico)

GENUS INQUIRENDUM

Baiodon Agassiz, 1859: 408. Type species by monotypy: *Baiodon fasciatus* Agassiz, 1859.

SPECIES INQUIRENDAE

Perca bimaculata Bloch, 1792: 82, pl. 310, fig. 1. Type locality: Flüßsen von Brasilien [rivers of Brazil]. Types: No types known, based on '*Acara brasiliensibus*' in Marcgravius (1648)

Sparus acara La Cèpède, 1802: 156. Substitute name for *Perca bimaculata* Bloch

Acara margarita Heckel, 1840: 338. Substitute name for *Perca bimaculata* Bloch

Pomotis ? bono Jardine, 1843: 171 [pl. 18; apparently not published]. Type locality: all the rivers of Guiana, and in pools and marshes. Types: No types known.

Baiodon fasciatus Agassiz, 1859: 408. Type locality: Lake Nicaragua. Types lost. Kullander & Hartel (1997) examined Agassiz' description and searched in vain for type material. The name is available but the species cannot be identified on the basis of the description.

Hoplarchus planifrons Kaup, 1860: 131. Type locality: [unknown]. Holotype: ZSM, probably lost.

References

- Agassiz, L. 1859. [Remarks on new fishes from Lake Nicaragua.]. Proceedings of the Boston Society of Natural History, 6 (1856-1859): 407-408.
- Ahl, E. 1923. Eine neue Cichlidenart aus dem Amazonenstrom, In: Ichthyologische Mitteilungen, V. Mitteilungen aus dem Zoologischen Museum in Berlin, 11: 44-45.
- Ahl, E. 1928. Übersicht über die Fische der südamerikanischen Cichliden-Gattung *Pterophyllum*. Zoologischer Anzeiger, 76: 251-255.
- Ahl, E. 1931. Neue Süßwasserfische aus dem Stromgebiet des Amazonenstromes. Sitzungsberichte der Gesellschaft Naturforschender Freunde zu Berlin, 1931: 206-211.
- Ahl, E. 1935. Ueber eine Fische Sammlung aus Mexiko. Sitzungsberichte der Gesellschaft Naturforschender Freunde zu Berlin, 1935: 107-112.
- Ahl, E. 1936a. Beschreibung dreier neuer Fische der Familie Cichlidae aus Südamerika. Sitzungsberichte der Gesellschaft Naturforschender Freunde zu Berlin, 1936: 138-142.
- Ahl, E. 1936b. Ueber eine kleine Sammlung von Süßwasserfischen aus dem Gebiet des Amazonas. Mitteilungen aus dem Zoologischen Museum in Berlin, 21: 264-269.
- Ahl, E. 1938. Über einen neuen südamerikanischen Fisch der Familie Cichlidae. Zoologischer Anzeiger, 123: 246-247.
- Ahl, E. 1939. Über zwei neue Fische der Familie Cichlidae aus dem Zoologischen Museum Berlin. Zoologischer Anzeiger, 127: 80-82.
- Allgayer, R. 1983. *Nannacara aureocephalus*, espèce nouvelle de Guyane française (Pisces, Cichlidae). Revue Française des Cichlidophiles, 1983 (33): 13-16.
- Allgayer, R. 1988. Redescription du genre *Paraneotroplus* Regan 1905, et description d'une espèce nouvelle du Mexique. Revue Française des Cichlidophiles, 9 (75): 4-22.
- Allgayer, R. 1989. Révision et redescription du genre *Theraps* Günther 1862. Description de deux espèces nouvelles du Mexique (Pisces, Perciformes, Cichlidae). Revue Française des Cichlidophiles, 10 (90): 4-30.
- Allgayer, R. 1991. *Vieja argentea* (Pisces, Teleostei, Cichlidae) une espèce nouvelle d'Amérique centrale. Revue Française des Cichlidophiles, 1991 (114): 2-15.
- Allgayer, R. 1994. Description d'une espèce nouvelle du genre *Archocentrus* Gill & Bransford 1877 (Pisces: Cichlidae) du Panama. Revue Française des Cichlidophiles, 135 (1): 6-24.
- Allgayer, R. 2001. Description d'un genre nouveau, *Cryptoheros*, d'Amérique centrale et d'une espèce nouvelle du Panama (Pisces: Cichlidae). L'an Cichlidé, 1: 13-20.
- Allgayer, R. 2002a. *Vieja ufermanni* sp. nov., un Cichlidé nouveau du bassin du rio Usamacinta et du Rio de la Pasiòn, Amérique centrale (Pisces: Perciformes). l'An Cichlidé, 2: 14-17.
- Allgayer, R. 2002b. Un Cichlidé nouveau du genre *Tomocichla* du Rio Guarumo, Panama. l'An Cichlidé, 2: 32-36.
- Alvarez, J. and T. Gutierrez. 1953. Nuevo *Cichlasoma* del grupo *Parapetenia* procedente de Acapulco, Gro. (Pisc. Cichlidae). Ciencia (Mexico City), 12: 232-234.
- Antonio-C., M.E., S.O. Kullander and C.A. Lasso A. 1989. Description of a new *Apistogramma* species (Teleostei-Cichlidae) from the Morichal River Slong in Venezuela. Acta Biologica Venezuelica, 12: 131-139.
- Artigas-Azas, J.M. 1993. *Herichthys tamasopoensis* n. sp., a new cichlid from México (Pisces, Cichlidae). Cichlids Yearbook, 3: 65-70.
- Bailey, R.M. 1957. *Cichlaurus* versus *Cichlasoma* as the name for a genus of perciform fishes. Copeia 1957: 303-304.
- Baird, S.F. and C.F. Girard. 1854. Descriptions of new species of fishes collected in Texas, New Mexico and Sonora, by Mr. John H. Clark, on the U. S. and Mexican Boundary Survey, and in Texas by Capt. Stewart Van Vliet, U. S. A. Proceedings of the Academy of Natural Sciences of Philadelphia, 7: 24-29.
- Barlow, G.W. 2000. The cichlid fishes. Nature's grand experiment in evolution. Perseus Publishing, Cambridge, Massachusetts, 335 pp.
- Barlow, G.W. and J.W. Munsey. 1976. The red devil-midas-arrow cichlid species complex in Nicaragua. Pp. 359-369 in: Thorson, T.B. (ed.). Investigations of the ichthyofauna of Nicaraguan lakes. University of Nebraska.
- Bean, T.H. 1892. Notes on fishes collected in Mexico by Prof. Alfredo Dugès, with descriptions of new species. Proceedings of the U. S. National Museum, 15: 283-287, pl. 44.
- Bennett, E.T. 1831. [Observations on a collection of fishes, formed during the voyage of H. M. S. "Chanticleer," with characters of two new species.]. Proceedings of the Zoological Society, London, 1830-31: 112.
- Bloch, M.E. 1791. Naturgeschichte der ausländischen Fische. Berlin. i-viii + 1-152, pls. 253-288.
- Bloch, M.E. 1792. Naturgeschichte der ausländischen Fische. Berlin. i-xii + 1-126, pls. 289-323.
- Boulenger, G.A. 1895. [Abstract of a report on a large collection of fishes formed by Dr. C. Ternetz in Matto Grosso and Paraguay, with descriptions of new species.]. Proceedings of the Zoological Society, London, 1895: 523-529.
- Boulenger, G.A. 1897. On a collection of fishes from the island of Marajo, Brazil. Annals and Magazine of Natural History (6), 20: 294-299.
- Boulenger, G.A. 1899. Viaggio del Dr. Enrico Festa nell'Ecuador e regioni vicine. Poissons de l'Équateur. [Deuxième Partie] (1). Boll. Mus. Zool. Anat. Comp. Torino, 14 (335): 1-8.
- Brind, W.L. 1918. A new subspecies of *Thorichthys helleri*. Aquatic Life, 3: 119-120.
- Brind, W.L. 1943. A new species of *Geophagus*. *Geophagus Magdalena* - Brind, 1943. "The Magdalena Mouthbreeder". All-Pets Magazine, 14: 42-43.
- Britski, H.A. 1969. Lista dos tipos de peixes das coleções do Departamento de Zoologia da Secretaria da Agricultura de São Paulo. Papéis Avulsos, Departamento de Zoologia (São Paulo), 22: 197-215.
- Britski, H.A. and J.A. Luengo. 1968. Sobre *Crenicichla jupiaensis* sp. n., espécie aberrante, do Rio Paraná (Pisces, Cichlidae). Papéis Avulsos, Departamento de Zoologia (São Paulo), 21: 169-182.
- de Buen, F. 1946. Ictiogeografía continental mexicana (I, II, y III). Revista de la Sociedad Mexicana de Historia Natural, 7: 87-138.

Check List of the Freshwater Fishes of South and Central America

- Burgess, W.E. 1981. Studies on the family Cichlidae: 10. New information on the species of the genus *Symphysodon* with the description of a new subspecies of *S. discus* Heckel. *Tropical Fish Hobbyist*, 29 (7): 32-42.
- Bussing, W.A. 1974. Two new species of cichlid fishes, *Cichlasoma sajica* and *C. diquis*, from southeastern Costa Rica. *Revista de Biología Tropical*, 22: 29-49.
- Bussing, W.A. 1989. *Cichlasoma loisellei*, a new *nandopsis* group cichlid fish from Central America. *Revista de Biología Tropical*, 37: 153-161.
- Bussing, W.A. 1998. Peces de las aguas continentales de Costa Rica/Freshwater fishes of Costa Rica [Segunda edición]. *Revista de Biología Tropical*, 46, suplemento 2: 1-468.
- Cabrera-Peña, J., F. Rosales L. and M. Mora-J. 1983. Aspectos biológicos de *Cichlasoma macracanthum* (Pisces: Cichlidae) en el Canal de Chiguimulilla, Guatemala. *Revista de Biología Tropical*, 31: 167-174.
- Carr, A.F., Jr. and L. Giovannoli. 1950. The fishes of the Choloteca drainage of Southern Honduras. *Occasional Papers of the Museum of Zoology, The University of Michigan*, 523: 1-38.
- Casciotta, J.R. 1987. *Crenicichla celidochilus* n. sp. from Uruguay and a multivariate analysis of the *lacustris* group (Perciformes, Cichlidae). *Copeia*, 1987: 883-891.
- Casciotta, J.R., S.E. Gómez and N.I. Toresani. 1995. '*Cichlasoma tembe*', a new cichlid species from the río Paraná, Argentina (Osteichthyes: Labroidae). *Ichthyological Exploration of Freshwaters*, 6: 193-200.
- Casciotta, J.R., S.E. Gómez & N.I. Toresani. 2000. *Gymnogeophagus che*, una nueva especie de la familia Cichlidae de la cuenca del río Paraná (Perciformes, Labroidae). *Revista Museo Argentino de Ciencias Naturales, nueva série*, 1: 53-59.
- Castelnau, F.L. 1855. Poissons, In: Animaux nouveaux or rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro à Lima, et de Lima au Para; exécutée par ordre du gouvernement Français pendant les années 1843 a 1847 sous la direction du Comte Francis de Castelnau. Poissons. Paris, XII + 112 pp.
- Cichocki, F.P. 1976. Cladistic history of cichlid fishes and reproductive strategies of the American genera *Acarichthys*, *Biotodoma* and *Geophagus*. Vol. I. Unpublished PhD dissertation, Univ. Michigan, Ann Arbor, USA.
- Cope, E.D. 1870. Contribution to the ichthyology of the Marañon. *Proceedings of the American Philosophical Society*, 11: 559-570.
- Cope, E.D. 1872. On the fishes of the Ambyiacu River. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 23: 250-294.
- Cope, E.D. 1878. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. *Proceedings of the American Philosophical Society*, 17: 673-701.
- Cope, E.D. 1894. On the fishes obtained by the Naturalist Expedition in Rio Grande do Sul. *Proceedings of the American Philosophical Society*, 33: 84-108.
- Cuvier, G. and A. Valenciennes. 1831. Histoire naturelle des poissons. Tome septième. Livre septième. Des Squamipennes. Livre huitième. Des poissons à pharyngiens labyrinthiformes. Ch. Pitois & V. Levrault, Paris & Strasbourg, xxix + 531 p.
- Dahl, G. 1960. New fresh-water fishes from western Colombia. *Caldasia*, 8: 451-484.
- Devincenzi, G.J. 1939. Peces del Uruguay. Notas complementarias, III. *Anales del Museo Nacional de Montevideo* (2), 4: 1-37 +1 + table 1.
- Eigenmann, C.H. 1903. The fresh-water fishes of western Cuba. *Bulletin of the United States Fish Commission*, 22 [1902]: 211-236.
- Eigenmann, C.H. 1907. On a collection of fishes from Buenos Aires. *Proceedings of the Washington Academy of Science*, 8: 449-458.
- Eigenmann, C.H. 1909. The fresh-water fishes of Patagonia and an examination of the Archiplata-Archhelenis theory, In: Reports of the Princeton University expeditions to Patagonia 1896-1899. *Zoology*. 225-374.
- Eigenmann, C.H. 1910. Catalogue of the fresh-water fishes of tropical and south temperate America, In: Reports of the Princeton University expeditions to Patagonia 1896-1899. *Zoology*. 375-511.
- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. *Memoirs of the Carnegie Museum*, 5: i-xxii + 1-578.
- Eigenmann, C.H. 1922a. The fishes of western South America, Part I. The fresh-water fishes of northwestern South America, including Colombia, Panama, and the Pacific slopes of Ecuador and Peru, together with an appendix upon the fishes of the Rio Meta in Colombia. *Memoirs of the Carnegie Museum*, 9: 1-346.
- Eigenmann, C.H. 1922b. Peces colombianos de las cordilleras y de los llanos al oriente de Bogotá (continuación). *Boletín de la Sociedad Colombiana de Ciencias Naturales*, 9: 191-199.
- Eigenmann, C.H. and W.R. Allen. 1942. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II.- The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. University of Kentucky, Lexington, i-xv + 1-494.
- Eigenmann, C.H. and W.L. Bray. 1894. A revision of the American Cichlidae. *Annals of the N. Y. Academy of Science*, 7 (art. 4): 607-624.
- Eigenmann, C.H. and C.H. Kennedy. 1903. On a collection of fishes from Paraguay, with a synopsis of the American genera of cichlids. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 55: 497-537.
- Eigenmann, C.H., W.L. McAtee and D.P. Ward. 1907. On further collections of fishes from Paraguay. *Annals of the Carnegie Museum*, 4: 110-157.
- Evermann, B.W. and E.L. Goldsborough. 1902. A report on fishes collected in Mexico and Central America, with notes and descriptions of five new species. *Bulletin of the U. S. Fish Commission*, 21 [1901]: 137-159.
- Farias, I.P., G. Ortí, I. Sampaio, H. Schneider and A. Meyer 1999. Mitochondrial DNA phylogeny of the family Cichlidae: monophyly and fast molecular evolution of the Neotropical assemblage. *Journal of Molecular Evolution*, 48: 703-711.
- Fernández-Yépez, A. 1950. Notas sobre la fauna ictiológica de Venezuela. *Memorias, Sociedad de Ciencias Naturales La Salle*, 10: 111-118.
- Fernández-Yépez, A. 1969. Contribucion al conocimiento de los cichlidos. *Evencias No. 22: 7 unnum. pp., pls. 1-10.*
- Fernández-Yépez, A. 1971. The black cichlid, *Chuco axelrodi* sp. nov. a new cichlid from Venezuela. *Tropical Fish Hobbyist*, 20: 14-19.
- Ferreira, E.J.G., J.A.S. Zuanon & G.M. Santos 1998. Peixes comerciais do Médio Amazonas: Região de Santarém, Pará. IBAMA, Brasília.
- Fowler, H.W. 1903. Life colors of *Poecilia limantouri*, and description of a new *Heros* from Mexico. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 55: 320-323.
- Fowler, H.W. 1911. New fresh-water fishes from western Ecuador. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 63: 493-520.
- Fowler, H.W. 1913. Fishes from the Madeira River, Brazil. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 65: 517-579.
- Fowler, H.W. 1914. Fishes from the Rupununi River, British Guiana. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 66: 229-284.
- Fowler, H.W. 1923. Fishes from Nicaragua. *Proceedings of the*

Check List of the Freshwater Fishes of South and Central America

- Academy of Natural Sciences of Philadelphia, 75: 23-32.
- Fowler, H.W. 1932. Notes on fresh water fishes from Central America. Proceedings of the Academy of Natural Sciences of Philadelphia, 84: 379-385.
- Fowler, H.W. 1936. Fresh-water fishes obtained in Guatemala by Mr. Rodolphe Meyer de Schauensee in 1935. Proceedings of the Academy of Natural Sciences of Philadelphia, 87 (for 1935): 515-531.
- Fowler, H.W. 1938. A small collection of fresh-water fishes from eastern Cuba. Proceedings of the Academy of Natural Sciences of Philadelphia, 90: 143-147.
- Fowler, H.W. 1940. A collection of fishes obtained by Mr. William C. Morrow in the Ucayali River Basin, Peru. Proceedings of the Academy of Natural Sciences of Philadelphia, 91 (for 1939): 219-289.
- Fowler, H.W. 1945. Colombian Zoological survey. Part I.- The fresh-water fishes obtained in 1945. Proceedings of the Academy of Natural Sciences of Philadelphia, 97: 93-135
- Fowler, H.W. 1954. Os peixes de água doce do Brasil. Volume II. Arquivos de Zoologia, São Paulo, 9: 1-400.
- Fowler, H.W. 1956. Description of a new species of *Cichla* from the Belize River of British Honduras. Notulae Naturae, 288: 1-4.
- Garman, S. 1881. New and little-known reptiles and fishes in the museum collections. Bulletin of the Museum of Comparative Zoölogy, 8: 85-93.
- Gaemers, P.A.M. 1985. Taxonomic position of the Cichlidae as demonstrated by the morphology of their otoliths. Netherlands Journal of Zoology, 34: 566-595.
- Gill, T.N. 1858. Synopsis of the fresh water fishes of the western portion of the island of Trinidad. W. I. Annals of the Lyceum of Natural History of New York, 6: 363-430.
- Gill, T.N. and J.F. Bransford. 1877. Synopsis of the fishes of Lake Nicaragua. Proceedings of the Academy of Natural Sciences of Philadelphia, 29: 175-191.
- Gosse, J.-P. 1963. Description de deux cichlides nouveaux de la region amazonienne. Bulletin, Institut royal des Sciences naturelles de Belgique, 39 (35): 1-7, pl. 1.
- Gosse, J.-P. 1966. Poisson d'eau douce du versant pacifique du Costa Rica et de Panama récoltes par sa Majesté le Roi Léopold de Belgique. Bulletin, Institut royal des Sciences naturelles de Belgique, 42 (28): 1-24.
- Gosse, J.-P. 1971. Révision du genre *Retroculus* (Castelnau, 1855) (Pisces, Cichlidae) désignation d'un néotype de *Retroculus lapidifer* (Castelnau, 1855) et description de deux espèces nouvelles. Bulletin, Institut royal des Sciences naturelles de Belgique, 47 (43): 1-13.
- Gosse, J.-P. 1976. Révision du genre *Geophagus*. Mémoires, Académie royale des Sciences d'Outre-Mer, Classe des Sciences Naturelles et Médicales, N.S., 19 (3): 1-172.
- Gosse, J.P. and S.O. Kullander. 1981. The zoological name of the Red-Hump *Geophagus* (Teleostei: Cichlidae). Buntbarsche Bulletin, 83: 12-17.
- Gray, J.E. 1854. Catalogue of fish collected and described by Laurence Theodore Gronow, now in the British Museum. London. i-vii + 1-196.
- Greenfield, D.W. and J.E. Thomerson. 1997. Fishes of the continental waters of Belize. University Press of Florida, Gainesville, iii-xxii + 1-311.
- Guichenot, A. 1853. Histoire physique, politique et naturelle de l'île de Cuba. Poissons, In: de la Sagra, Ramón. Histoire physique, politique et naturelle de l'île de Cuba, 12 vols 1838-1857. Arthus Bertrand, Éditeur, Paris, 206 pp.
- Günther, A. 1860a. On new reptiles and fishes from Mexico. Proceedings of the Zoological Society, London, 1860: 316-319.
- Günther, A. 1860b. Second list of cold-blooded vertebrata collected by Mr. Fraser in the Andes of western Ecuador. Proceedings of the Zoological Society, London, 1859: 402-420.
- Günther, A. 1862. Catalogue of the fishes in the British Museum. Catalogue of the Acanthopterygii Pharyngognathi and Anacanthini in the collection of the British Museum. London, i-xxi + 1-534.
- Günther, A. 1863. On new species of fishes from the Essequibo. Annals and Magazine of Natural History (3), 12: 441-443.
- Günther, A. 1864a. On some new species of Central-American fishes. Proceedings of the Zoological Society, London, 1864: 23-27.
- Günther, A. 1864b. On some new species of Central-American fishes. Annals and Magazine of Natural History (3), 14: 227-232.
- Günther, A. 1864c. Report of a collection of fishes made by Messrs. Dow, Godman, and Salvin in Guatemala. Proceedings of the Zoological Society, London, 1864: 144-154.
- Günther, A. 1867. On the fishes of the states of Central America, founded upon specimens collected in fresh and marine waters of various parts of that country by Messrs. Salvin and Godman and Capt. J. M. Dow. Proceedings of the Zoological Society, London, 1866: 600-604.
- Günther, A. 1868. An account of the fishes of the states of Central America, based on collections made by Capt. J.M. Dow, F. Godman, Esq., and O. Salvin, Esq. Transactions of the Zoological Society, London, 6: 377-494.
- Haseman, J.D. 1911. An annotated catalog of the cichlid fishes collected by the expedition of the Carnegie Museum to central South America, 1907-10. Annals of the Carnegie Museum, 7: 329-373.
- Heckel, J. 1840. Johann Natterer's neue Flussfische Brasilien's nach den Beobachtungen und Mittheilungen des Entdeckers beschrieben. (Erste Abtheilung, die Labroiden.) Annalen des wiener Museums der Naturgeschichte, 2: 327-470.
- Hein, G. A. Zarske and J. Zapata. 2002. *Apistogramma rubrolineata* sp. n., ein neuer Buntbarsch (Teleostei: Perciformes: Cichlidae) aus dem Rio Manuripi, Departamento Pando, in Bolivien. Das Aquarium, 402: 15-15-19.
- Hensel, R.F. 1870. Beiträge zur Kenntniss der Wirbelthiere Südbrasilien. (Fortsetzung). Archiv für Naturgeschichte, 36: 50-91.
- Hernández-Rolón, A. 1990. Un nouveau cichlidé du système du Rio Balsas, Mexique (Pisces, Teleostei). Revue Française des Cichlidophiles, 11 (101): 4-13.
- Hildebrand, S.F. 1925. Fishes of the Republic of El Salvador, Central America. Bulletin of the Bureau of Fisheries, 41: 237-287.
- Hildebrand, S.F. 1934. A preoccupied name in *Cichlasoma*. Copeia, 1934: 192.
- Hoedeman, J.J. 1951. Notes on the fishes of the cichlid family I. *Apistogramma cactuoides* sp. n. Beaufortia, 4: 1-4.
- Holmberg, E.L. 1891. Sobre algunos peces nuevos ó poco conocidos de la República Argentina. Revista Argentina de Historia Natural, 1: 180-193.
- Hubbs, C.L. 1920. A note on the synonymy of the cichlid fish of Cuba and Barbadoes, *Cichlasoma tetracanthus*. Occasional Papers, Museum of Zoology, University of Michigan, 90: 1-5.
- Hubbs, C.L. 1935. Fresh-water fishes collected in British Honduras and Guatemala. Miscellaneous Publications, Museum of Zoology, University of Michigan, 28: 1-22.
- Hubbs, C.L. 1936. XVII. Fishes of the Yucatan Peninsula. Carnegie Institution of Washington. Publication, 457: 157-287.
- Hubbs, C.L. 1938. Fishes from the caves of Yucatan. Carnegie Institution of Washington. Publication, 491: 261-295.
- Humboldt, F.H.A. von and A. Valenciennes. 1821. Recherches sur les poissons fluviatiles de l'Amérique Équinoxiale. Pp. 145-216 in: Voyage de Humboldt et Bonpland, Deuxième partie. Observations de Zoologie et d'Anatomie comparée. Paris.
- Ihering, R. von. 1914. Duas especies novas de Peixes da Fam. Cichlidae. Revista do Museu Paulista, 9: 333-337.

Check List of the Freshwater Fishes of South and Central America

- Inger, R.F. 1956. Notes on a collection of fishes from southeastern Venezuela. *Fieldiana Zoology*, 34: 425-440.
- Jardine, W. (ed.). 1843. The naturalist's library [vol. 38]. Ichthyology Vol. V. Fishes of Guiana. Part II. Edinburgh, 214 pp.
- Jenyns, L. 1840-42. Fish, In: The zoology of the voyage of H. M. S. Beagle, under the command of Captain Fitzroy, R. N., during the years 1832 to 1836. London: Smith, Elder, and Co. Issued in 4 parts. i-xvi + 1-172.
- Jordan, D.S. 1889. List of fishes collected by Alphonse Forrer about Mazatlan, with descriptions of two new species - *Heros beani* and *Poecilia butleri*. *Proceedings of the U. S. National Museum*, 11: 329-334.
- Jordan, D.S. and B.W. Evermann. 1900. The fishes of North and Middle America: a descriptive catalogue of the species of fish-like vertebrates found in the waters of North America, north of the Isthmus of Panama. Part IV. *Bulletin of the U. S. National Museum*, 47: i-ci + 3137-3313.
- Jordan, D.S. and B.W. Evermann. 1927. New genera and species of North American Fishes. *Proceedings of the California Academy of Sciences* (4), 16: 501-507.
- Jordan, D.S. and J.O. Snyder. 1899. Notes on a collection of fishes from the rivers of Mexico, with description of twenty new species. *Bulletin of the U. S. Fish Commission*, 19 [1899]: 115-147.
- Kelber, D. 1999. Tucunaré uma paixão internacional. Coleção pescarte 02, Editora Arte & Ciencia, São Paulo, 96 pp.
- Kaup, J.J. 1860. *Hoplarchus*, neues Genus der Familie Labridae. *Archiv für Naturgeschichte*, 26: 128-133.
- Keenleyside, M.H.A. (ed.). 1991. Cichlid fishes. Behaviour, ecology and evolution. Chapman & Hall, Fish and Fisheries Series 2, London & other cities, xxi+378 pp.
- Keith, P., P.-Y. Le Bail & P. Planquette. 2000. Atlas des poissons d'eau douce de Guyane, 2 (1). Muséum National de Histoire Naturelle, Paris, Patrimoines Naturelles, 43 (1): 1-286.
- Kner, R. 1863. [Eine Uebersicht der ichthyologischen Ausbeute des Herrn Professors Dr. Mor. Wagner in Central-Amerika]. *Sitzungsberichte der königl. Bayer. Akademie der Wissenschaften zu München*, 2: 220-230.
- Kner, R. and F. Steindachner. 1864. Neue Gattungen und Arten von Fischen aus Central-Amerika; gesammelt von Prof. Moritz Wagner. *Abhandlungen der Bayerischen Akademie der Wissenschaften*, 10: 1-61.
- Kornfield, I. and J.N. Taylor. 1983. A new species of polymorphic fish *Cichlasoma minckleyi*, from Cuatro Ciénegas, Mexico (Teleostei: Cichlidae). *Proceedings of the Biological Society of Washington*, 96: 253-269.
- Kosłowski, I. 1985. Descriptions of new species of *Apistogramma* (Teleostei: Cichlidae) from the Rio Mamoré system in Bolivia. *Bonner Zoologische Beiträge*, 36: 145-162.
- Kullander, S.O. 1976. *Apistogramma luelingi* sp. nov., a new cichlid fish from Bolivia (Teleostei: Cichlidae). *Bonner Zoologische Beiträge*, 27: 258-266.
- Kullander, S.O. 1979a. Description of a new species of the genus *Apistogramma* (Teleostei, Perciformes, Cichlidae) from Peru. *Revue Suisse de Zoologie*, 86: 937-945.
- Kullander, S.O. 1979b. Species of *Apistogramma* (Teleostei, Cichlidae) from the Orinoco drainage basin, South America, with descriptions of four new species. *Zoologica Scripta*, 8: 69-79.
- Kullander, S.O. 1980a. A taxonomical study of the genus *Apistogramma* Regan, with a revision of Brazilian and Peruvian species (Teleostei: Perciformes: Cichlidae). *Bonner Zoologische Monographien*, 14: 1-152.
- Kullander, S.O. 1980b. Description of a new species of *Apistogramma* from the Rio Madeira system in Brazil (Teleostei, Cichlidae). *Bulletin. Zoologisch Museum, Universiteit van Amsterdam*, 7: 157-164.
- Kullander, S.O. 1980c. A redescription of the South American cichlid fish *Papiliochromis ramirezi* (Myers & Harry, 1948). *Studies on the Neotropical Fauna and Environment*, 15: 91-108.
- Kullander, S.O. 1981a. Description of a new species of *Apistogramma* (Teleostei: Cichlidae) from the upper Amazonas basin. *Bonner Zoologische Beiträge*, 32: 183-194.
- Kullander, S.O. 1981b. Cichlid fishes from the La Plata basin. Part I. Collections from Paraguay in the Muséum d'Histoire naturelle de Genève. *Revue Suisse de Zoologie*, 88: 675-692.
- Kullander, S.O. 1981c. The Bolivian ram: a zoogeographical problem and its taxonomic solution. *DCG-Informationen*, 12: 61-79.
- Kullander, S.O. 1982a. Cichlid fishes from the La Plata basin. Part II. *Apistogramma commbrae* (Regan, 1906). *Revue Suisse de Zoologie*, 89: 33-48.
- Kullander, S.O. 1982b. Beschreibung einer neuen *Apistogramma* - Art aus Zentral-Amazonien (Teleostei: Cichlidae). *DCG-Info*, 13: 181-193.
- Kullander, S.O. 1982c. Cichlid fishes from the La Plata basin. Part III. The *Crenicichla lepidota* species group (Teleostei: Cichlidae). *Revue Suisse de Zoologie*, 89: 627-661.
- Kullander, S.O. 1982d. Description of a new species of *Apistogramma* Regan from the Oyapock and Approuague River systems (Teleostei: Cichlidae). *Cybium* (Ser. 3), 6: 65-72.
- Kullander, S.O. 1983a. A revision of the South American cichlid genus *Cichlasoma* (Teleostei: Cichlidae). *Naturhistoriska Riksmuseet, Stockholm*, 296 pp.
- Kullander, S.O. 1983b. Cichlid fishes from the La Plata basin. Part IV. Review of the *Apistogramma* species, with description of a new species (Teleostei, Cichlidae). *Zoologica Scripta*, 11: 307-313.
- Kullander, S.O. 1984a. Cichlid fishes from the La Plata basin. Part V. Description of *Aequidens plagiozonatus* sp. n. (Teleostei, cichlidae) from the Paraguay River system. *Zoologica Scripta*, 13: 155-159.
- Kullander, S.O. 1984b. Une nouvelle espèce d'*Aequidens* des bassins des Rios Aguaytia et Pachitea au Pérou: *Aequidens patricki* n. sp. (Teleostei: Cichlidae). *Revue Française d'Aquariologie*, 11: 1-6.
- Kullander, S.O. 1986. Cichlid fishes of the Amazon River drainage of Peru. *Swedish Museum of Natural History, Stockholm*, 431 pp.
- Kullander, S.O. 1987a. A new *Apistogramma* species (Teleostei, Cichlidae) from the Rio Negro in Brazil and Venezuela. *Zoologica Scripta*, 16: 259-270.
- Kullander, S.O. 1987b. Cichlid fishes from the La Plata Basin. Part VI. Description of a new *Bujurquina* species from Bolivia. *Cybium*, 11: 195-205.
- Kullander, S.O. 1988. *Teleocichla*, a new genus of South American rheophilic cichlid fishes with six new species (Teleostei: Cichlidae). *Copeia*, 1988: 196-230.
- Kullander, S.O. 1989a. *Biotococcus* Eigenmann and Kennedy (Teleostei: Cichlidae): description of a new species from the Orinoco Basin and revised generic diagnosis. *Journal of Natural History*, 23: 225-260.
- Kullander, S.O. 1989b. Description of a new *Acaronia* species (Teleostei: Cichlidae) from the Rio Orinoco and Rio Negro drainages. *Zoologica Scripta*, 18: 447-452.
- Kullander, S.O. 1990a. *Crenicichla hemera* (Teleostei: Cichlidae), a new cichlid species from the Rio Aripuanã drainage, Mato Grosso, Brazil. *Ichthyological Exploration of Freshwaters*, 1: 213-218.
- Kullander, S.O. 1990b. *Mazarunia mazarunii* (Teleostei: Cichlidae), a new genus and species from Guyana, South America. *Ichthyological Exploration of Freshwaters*, 1: 3-14.
- Kullander, S.O. 1990c. A new species of *Crenicichla* from the Rio Tapajós, Brazil, with comments on interrelationships of the small crenicichline cichlids. *Ichthyological Exploration of Freshwaters*, 1: 85-93.
- Kullander, S.O. 1991a. *Crenicichla phaiospilus* and *C. percna*,

Check List of the Freshwater Fishes of South and Central America

- two new species of pike cichlids (Teleostei: Cichlidae) from the Rio Xingu, Brazil. *Ichthyological Exploration of Freshwaters*, 1: 351-360.
- Kullander, S.O. 1991b. *Geophagus argyrostictus*, a new species of cichlid fish from the Rio Xingu, Brazil. *Cybiurn*, 15: 129-138.
- Kullander, S.O. 1991c. *Tahuantinsuyoa chipi*, a new species of cichlid fish from the Rio Pachitea drainage in Peru. *Cybiurn*, 15: 3-13.
- Kullander, S.O. 1995. Three new cichlid species from southern Amazonia: *Aequidens gerciliae*, *A. epae* and *A. michaeli*. *Ichthyological Exploration of Freshwaters*, 6: 149-170.
- Kullander, S.O. 1996a. Eine weitere Übersicht der Diskusfische, Gattung *Symphysodon* Heckel. Pp 10-19 in R. Stawikowski (ed.). DATZ Sonderheft Diskusfische. Verlag Eugen Ulmer, Stuttgart.
- Kullander, S.O. 1996b. *Heroina isonycterina*, a new genus and species of cichlid fish from western Amazonia, with comments on cichlasomine systematics. *Ichthyological Exploration of Freshwaters*, 7: 149-172.
- Kullander, S.O. 1997a. *Aequidens mauesianus*, a new species of cichlid fish from the Amazon basin, Brazil. *Ichthyological Exploration of Freshwaters*, 7: 377-383.
- Kullander, S.O. 1997b. *Crenicichla rosemariae*, a new species of pike cichlid (Teleostei, Cichlidae) from the upper Rio Xingu drainage, Brazil. *Ichthyological Exploration of Freshwaters*, 7: 279-287.
- Kullander, S.O. 1998. A phylogeny and classification of the South American Cichlidae (Teleostei: Perciformes). Pp. 461-498, In: L.R. Malabarba, R.E. Reis, R.P. Vari, Z.M.S. Lucena and C.A.S. Lucena (eds.). *Phylogeny and classification of Neotropical fishes*. Edipucrs, Porto Alegre.
- Kullander, S.O. and E.J.G. Ferreira. 1988. A new *Satanoperca* species (Teleostei, Cichlidae) from the Amazon River basin in Brazil. *Cybiurn*, 12: 343-355.
- Kullander, S.O. and E.J.G. Ferreira. 1991. A new *Aequidens* species from the Rio Trombetas, Brasil [sic], and redescription of *Aequidens pallidus* (Teleostei, Cichlidae). *Zoologica Scripta*, 19: 425-433.
- Kullander, S.O. and K.E. Hartel. 1997. The systematic status of cichlid genera described by Louis Agassiz in 1859: *Amphilophus*, *Baiodon*, *Hypsophrys* and *Parachromis* (Teleostei: Cichlidae). *Ichthyological Exploration of Freshwaters*, 7: 193-202.
- Kullander, S.O. and H. Nijssen. 1989. The cichlids of Surinam. Teleostei: Labroidi. E. J. Brill, Leiden. i-xxxii + 1-256.
- Kullander, S.O. and S. Prada-Pedreiros. 1993. *Nannacara adoketa*, a new species of cichlid fish from the Rio Negro in Brazil. *Ichthyological Exploration of Freshwaters*, 4: 357-366.
- Kullander, S.O., R. Royero and D.C. Taphorn. 1992. Two new species of *Geophagus* (Teleostei: Cichlidae) from the Rio Orinoco drainage in Venezuela. *Ichthyological Exploration of Freshwaters*, 3: 359-375.
- Kullander, S.O. and A.M.C. Silfvergrip. 1991. Review of the South American cichlid genus *Mesonauta* Günther (Teleostei, Cichlidae) with descriptions of two new species. *Revue Suisse de Zoologie*, 98: 407-448.
- Kullander, S.O. and W. Staack. 1988. Description of a new *Apistogramma* species (Teleostei, Cichlidae) from the Rio Negro in Brazil. *Cybiurn*, 12: 189-201.
- Kullander, S.O. and W. Staack. 1990. *Crenicara latruncularium* (Teleostei, Cichlidae), a new cichlid species from Brazil and Bolivia. *Cybiurn*, 14: 161-173.
- Kullander, S.O. & R. Stawikowski. 1997a. Jardines Cichliden (Teil 1). DCG-Informationen, 28: 112-119.
- Kullander, S.O. & R. Stawikowski. 1997b. Jardines Cichliden (Schluss). DCG-Informationen, 28: 121-137.
- La Cepède, B.G.E. 1802. *Histoire naturelle des Poissons*. Tome quatrième. Plassan, Paris, xlvii+728 pp.
- Ladiges, W. 1938. *Cichlosoma Vombergi* sp. n. eine zweite rezente Cichliden-Art von Santo Domingo. *Zoologischer Anzeiger*, 123: 18-20.
- Ladiges, W. 1942. *Cichlasoma Hellabrunni* spec. nov. *Zoologischer Anzeiger*, 140: 199-202.
- Ladiges, W. 1958. Bemerkungen zu einigen Neuimporten. *Aquarien- und Terrarien-Zeitschrift*, 11: 203-204.
- Ladiges, W. 1959. *Crenicara filamentosa* spec. nov. ein neuer seltener Cichlide aus Südamerika. *Internationale Revue der gesamten Hydrobiologie*, 44: 299-302.
- Ladiges, W., G. von Wahlert and E. Mohr. 1958. Die Typen und Typoide der Fischeammlung des Hamburgischen Zoologischen Staatsinstituts und Zoologischen Museums. *Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut*, 56: 155-167.
- Larrañaga, D.A. 1923. *Escritos de Don Dámaso Antonio Larrañaga*, Tomo II. Instituto Histórico y Geográfico del Uruguay, Montevideo, 512pp
- Lichtenstein, M.H.C. 1823. Verzeichniss der Doubletten des zoologischen Museums der Königl. Universität zu Berlin nebst Beschreibung vieler bisher unbekannter Arten von Säugethieren, Vögeln, Amphibien und Fischen. Berlin. i-x + 1-118.
- Liem, K.F. & P.H. Greenwood. 1981. A functional approach to the phylogeny of the pharyngognath teleosts. *American Zoologist*, 21: 83-101.
- Linnaeus, C. 1758. *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis*. Tomus I. Editio decima, reformata. Holmiae. i-ii + 1-824.
- Loiselle, P.V. 1997. Diagnoses of two new cichlids from the Rio Sixaola Drainage, Costa Rica. *Buntbarsche Bulletin*, 180: 1-8.
- López S., M.I. 1983. A new species of cichlid fish, *Cichlasoma rhytisma* from the Río Sixaola drainage, Costa Rica. *Revista de Biología Tropical*, 31: 133-138.
- Lucena, C.A.S. and P.V. Azevedo. 1989. *Crenicichla punctata* Hensel, 1870 uma espécie válida de ciclídeo para o sul do Brasil (Perciformes, Cichlidae). *Comunicações do Museu de Ciências e Tecnologia da PUCRS, Série Zoologia*, 2: 87-105.
- Lucena, C.A.S. and S.O. Kullander. 1992. The *Crenicichla* (Teleostei: Cichlidae) species of the Uruguai River drainage in Brazil. *Ichthyological Exploration of Freshwaters*, 3: 97-160.
- Luengo, J.A. and H.A. Britski. 1974. Una *Crenicichla* nueva del río Paraná, Brasil (Osteichthyes, Cichlidae). *Acta Biologica Venezuelica*, 8: 553-565.
- Machado-Allison, A. 1971. Contribución al conocimiento de la taxonomía del genero *Cichla* (Perciformes: Cichlidae) en Venezuela. Parte I. *Acta Biologica Venezuelica*, 7: 459-497.
- Magalhães, A.C. de. 1931. *Monographia brasileira de peixes fluviais*. São Paulo, 260 pp.
- Malabarba, L.R. 1989. Histórico sistemático e lista comentada das espécies de peixes de água doce do sistema da Laguna dos Patos, Rio Grande do Sul, Brasil. *Comum. Mus. Cienc. PUCRS, sér. Zool.*, 2: 107-179.
- Meek, S.E. 1902. A contribution to the ichthyology of Mexico. *Field Columbian Museum Publication, Zoological Series*, 3: 63-128.
- Meek, S.E. 1904. The fresh-water fishes of Mexico north of the isthmus of Tehuantepec. *Field Columbian Museum Publication, Zoological Series*, 5: i-lxiii + 1-252.
- Meek, S.E. 1905. A collection of fishes from the Isthmus of Tehuantepec. *Proceedings of the Biological Society of Washington*, 18: 243-246.
- Meek, S.E. 1906. Description of three new species of fishes from middle America. *Field Columbian Museum Publication, Zoological Series*, 7: 91-95.
- Meek, S.E. 1907a. Notes on fresh-water fishes from Mexico and Central America. *Field Columbian Museum Publication, Zoological Series*, 7: 133-157.
- Meek, S.E. 1907b. Synopsis of the fishes of the great lakes of

- Nicaragua. Field Columbian Museum Publication, Zoological Series, 7: 97-132.
- Meek, S.E. 1909. New species of fishes from tropical America. Field Columbian Museum Publication, Zoological Series, 7: 207-211.
- Meek, S.E. 1912. New species of fishes from Costa Rica. Field Museum of Natural History Publication, Zoological Series, 10: 69-75.
- Meek, S.E. and S.F. Hildebrand. 1913. New species of fishes from Panama. Field Museum of Natural History Publication, Zoological Series, 10: 77-91.
- Meinken, H. 1960a. *Apistogramma trifasciatum herald schultzi* subsp. nov. (Mitteilungen der Fischbestimmungsstelle des VDA XXXIV). *Aquarien Terrarien*, 7: 291-294.
- Meinken, H. 1960b. Eine neue *Apistogramma* -Art (Pisces; Percoidea, Cichlidae). *Internationale Revue der gesamten Hydrobiologie*, 45: 655-661.
- Meinken, H. 1961. Mitteilungen der Fischbestimmungsstelle des VDA XXXVII. Drei neu eingeführte *Apistogramma* -Arten aus Peru, eine davon wissenschaftlich neu. *DATZ*, 14: 135-139.
- Meinken, H. 1962. Eine neue *Apistogramma* -Art aus dem mittleren Amazonas-Gebiet, zugleich mit dem Versuch einer Übersicht über die Gattung (Pisces, Percoidea, Cichlidae). *Senckenbergiana Biologica*, 43: 137-143.
- Meinken, H. 1964. Mitteilungen der Fischbestimmungsstelle des VDA XLVII. *Apistogramma kleei* spec. nov., der Querbinder-Zwergbarsch (Pisces, Teleostei, Cichlidae). *DATZ*, 17: 293-297.
- Meinken, H. 1965a. Eine neue *Apistogramma* -Art aus Venezuela (Pisces, Percoidea, Cichlidae). *Senckenbergiana Biologica*, 46: 257-263.
- Meinken, H. 1965b. Über eine neue Gattung und Art der Familie Cichlidae aus Peru (Pisces, Percoidea, Cichlidae). *Senckenbergiana Biologica*, 46 (1): 47-53.
- Meinken, H. 1969. *Apistogramma gibbiceps* n. sp. aus Brasilien (Pisces, Teleostei, Cichlidae). *Senckenbergiana Biologica*, 50: 91-96.
- Meinken, H. 1971. *Apistogramma geisleri* n. sp. und *Apistogramma borellii* (Regan) aus dem Amazonas-Becken (Pisces: Teleostei: Cichlidae). *Senckenbergiana Biologica*, 52: 35-40.
- Miller, N. 1907. The fishes of the Montagua River, Guatemala. *Bulletin of the American Museum of Natural History*, 23: 95-123.
- Miller, R.R. 1974. *Cichlasoma regani*, a new species of cichlid fish from the Rio Coatzacoalcos Basin, Mexico. *Proceedings of the Biological Society of Washington*, 87: 465-472.
- Miller, R.R. 1996. *Theraps wesseli*, a new species of cichlid fish from the Caribbean slope of northern Honduras. *Tropical Fish Hobbyist*, 44 (10): 179-183.
- Miller, R.R. and J.N. Taylor. 1984. *Cichlasoma socolofi*, a new species of cichlid fish of the *Thorichthys* group from northern Chiapas, Mexico. *Copeia*, 1984: 933-940.
- Miranda Ribeiro, A. 1918a. Dous generos e tres especies novas de peixes Brasileiros determinados nas collecções do Museu Paulista. *Revista do Museu Paulista*, 10: 787-791.
- Miranda Ribeiro, A. 1918b. Historia Natural. Zoologia. Cichlidae. In: *Comissão de Linhas Telegraphicas Estrategicas de Matto-Grosso ao Amazonas*, 1-18.
- Miranda Ribeiro, P. 1953. Tipos das espécies e subespécies do Prof. Alipio de Miranda Ribeiro depositados no Museu Nacional. *Arquivos do Museu Nacional*, 42: 389-417.
- Mitsch, H. 1938. Die Zwergcichliden. *Das Aquarium*, 1938: 180-181.
- Müller, J. and F.H. Troschel. 1849. Fische. Pp. 618-644 in: *Reisen in Britisch-Guiana in den Jahren 1840-44. Im Auftrag Sr. Majestat des Königs von Preussen ausgeführt von Richard Schomburgk. [Versuch einer Fauna und Flora von Britisch-Guiana.]* 3. Berlin.
- Myers, G.S. 1935. Four new fresh-water fishes from Brazil, Venezuela and Paraguay. *Proceedings of the Biological Society of Washington*, 48: 7-14.
- Myers, G.S. and R.R. Harry. 1948a. The Ramirez dwarf cichlid identified. *The Aquarium*, Philadelphia, 17: 77.
- Myers, G.S. and R.R. Harry. 1948b. *Apistogramma ramirezi*, a cichlid fish from Venezuela. *Proceedings of the California Zoological Club*, 1 (1): 1-8.
- Nakashima, S. 1941. Algunos peces del Oriente peruano. *Boletín del Museo de Historia Natural "Javier Prado"*, 5: 61-78.
- Norman, J.R. 1926. Descriptions of nine new freshwater fishes from French Guiana and Brazil. *Annals and Magazine of Natural History* (9), 18: 91-97.
- Paepke, H.-J. & I. Schindler. 2002. Zur Erstbeschreibung von *Pterophyllum scalare* Schultze in Lichtenstein, 1823 (Pisces, Cichlidae). *Mitteilungen der Museum für Naturkunde Berlin, Zoologischer Reihe*, 78: 177-182.
- Pellegrin, J. 1902. Cichlidé nouveau de la Guyane française. *Bulletin du Muséum National d'Histore Naturelle*, 8: 417-418.
- Pellegrin, J. 1903. Description de Cichlidés nouveaux de la collection du Muséum. *Bulletin du Muséum National d'Histore Naturelle*, 9: 120-125.
- Pellegrin, J. 1904. Contribution à l'étude anatomique, biologique et taxinomique des poissons de la famille des Cichlidés. *Mémoires de la Société zoologique de France*, 16: 41-399.
- Pellegrin, J. 1905. Sur deux poissons du genre *Crenicichla* de la collection du muséum de Paris. *Bulletin de la Société zoologique de France*, 30: 167-169.
- Pellegrin, J. 1936. Un poisson d'aquarium nouveau du genre *Apistogramma*. *Bulletin de la Société Nationale d'Acclimatation de France*, 1936: 56-58.
- Perugia, A. 1891. Appunti sopra alcuni pesci sud-americani conservati nel Museo Civico di Storia Naturale di Genova. *Annali del Museo Civico di Storia Naturale Giacomo Doria* (Ser. 2a), 10: 605-657.
- Perugia, A. 1897. Di alcuni pesci raccolti nell' alto Paraguay dal Cav. Guido Boggiani. *Annali del Museo Civico di Storia Naturale Giacomo Doria* (Ser. 2a), 18: 147-150.
- Ploeg, A. 1986a. Occurrence and variability of *Crenicichla saxatilis* (Linnaeus, 1758) in Surinam, and restriction of its type locality. *Bijdragen tot de Dierkunde*, 56: 47-59.
- Ploeg, A. 1986b. The cichlid genus *Crenicichla* from the Tocantins River, state of Para, Brazil, with descriptions of four new species (Pisces, Perciformes, Cichlidae). *Beaufortia*, 36: 57-80.
- Ploeg, A. 1986c. The fishes of the cichlid genus *Crenicichla* in French Guiana. (Pisces, Perciformes, Cichlidae). *Bijdragen tot de Dierkunde*, 56: 221-231.
- Ploeg, A. 1987. Review of the cichlid genus *Crenicichla* Heckel, 1840 from Surinam, with descriptions of three new species (Pisces, Perciformes, Cichlidae). *Beaufortia*, (5): 73-98.
- Ploeg, A. 1989. Zwei neue Arten der Gattung *Crenicichla* Heckel, 1840 aus dem Amazonasbecken, Brasilien (Pisces, Perciformes, Cichlidae). *DATZ*, 42: 163-167.
- Ploeg, A. 1991. Revision of the South American cichlid genus *Crenicichla* Heckel, 1840, with descriptions of fifteen new species and consideration on species groups, phylogeny and biogeography (Pisces, Perciformes, Cichlidae). *Academisch Proefschrift, Universiteit van Amsterdam*, 153pp.
- Ploeg, A., M. Jegu and E. Ferreira. 1991. *Crenicichla tigrina*, une nouvelle espèce de Cichlidae (Pisces, Perciformes) du Rio Trombetas, Pará, Brésil. *Bulletin Zoologisch Museum Universiteit van Amsterdam*, 13: 1-11.
- Puyo, J. 1943. Nouveaux poissons d'eau douce de la Guyane française. *Bull. Soc. Hist. Nat. Toulouse*, 78: 141-149.
- Quoy, J.R.C. and J.P. Gaimard. 1824-25. Description des Poissons. Chapter IX, In: Freycinet, L. de, *Voyage autour du Monde...exécuté sur les corvettes de L. M. "L'Uranie" et "La Physicienne," pendant les années 1817, 1818, 1819 et 1820.*

Check List of the Freshwater Fishes of South and Central America

- Paris. 192-401 [1-328 in 1824; 329-616 in 1825], Atlas pls. 43-65.
- Regan, C.T. 1903a. Descriptions de poissons nouveaux faisant partie de la collection du Musée d'Histoire Naturelle de Genève. *Revue Suisse de Zoologie*, 11: 413-418.
- Regan, C.T. 1903b. Descriptions of new South-American fishes in the collection of the British Museum. *Annals and Magazine of Natural History* (7), 12: 621-630.
- Regan, C.T. 1904. Descriptions of new or little-known fishes from Mexico and British Honduras. *Annals and Magazine of Natural History* (7), 13: 255-259.
- Regan, C.T. 1905a. A revision of the fishes of the American cichlid genus *Cichlasoma* and of the allied genera. *Annals and Magazine of Natural History* (7), 16: 60-77, 225-243, 316-340, 433-445.
- Regan, C.T. 1905b. A revision of the fishes of the South-American cichlid genera *Acara*, *Nannacara*, *Acaropsis*, and *Astronotus*. *Annals and Magazine of Natural History* (7), 15: 329-347.
- Regan, C.T. 1905c. A revision of the fishes of the South-American cichlid genera *Crenacara*, *Batrachops*, and *Crenicichla*. *Proceedings of the Zoological Society, London*, 1905, 1: 152-168.
- Regan, C.T. 1906-1908a. Pisces. In Godman, F.D. & O. Salvin (eds.). *Biologia Centrali-Americana*. London, xxxii+203 pp. (published in parts, 1906 (pp. 1-32), 1907 (pp. 33-160), 1908, pp. i-xxxii, 161-203).
- Regan, C.T. 1906b. Revision of the South-American cichlid genera *Retroculus*, *Geophagus*, *Heterogramma*, and *Biotocetus*. *Annals and Magazine of Natural History* (7), 17: 49-66.
- Regan, C.T. 1906c. A revision of the fishes of the South-American cichlid genera *Cichla*, *Chaetobranchius*, and *Chaetobranchopsis*, with notes on the genera of American Cichlidae. *Annals and Magazine of Natural History* (7), 17: 230-239.
- Regan, C.T. 1908a. A collection of freshwater fishes made by Mr. C. F. Underwood in Costa Rica. *Annals and Magazine of Natural History* (8), 2: 455-464.
- Regan, C.T. 1908b. Description of a new cichlid fish of the genus *Heterogramma* from Demerara. *Annals and Magazine of Natural History* (8), 1: 370-371.
- Regan, C.T. 1908c. Description of a new fish of the genus *Cichlosoma* from Tampico, with notes on some other fishes from Mexico and the Caribbean Sea. *Annals and Magazine of Natural History* (8), 2: 222-223.
- Regan, C.T. 1909a. Description of a new cichlid fish of the genus *Heterogramma* from La Plata. *Annals and Magazine of Natural History* (8), 3: 270.
- Regan, C.T. 1909b. Descriptions of three new freshwater fishes from South America, presented to the British Museum by Herr J. Paul Arnold. *Annals and Magazine of Natural History* (8), 3: 234-235.
- Regan, C.T. 1912. Descriptions of new cichlid fishes from South America in the British Museum. *Annals and Magazine of Natural History* (8), 9: 505-507.
- Regan, C.T. 1913a. A synopsis of the cichlid fishes of the genus *Crenicichla*. *Annals and Magazine of Natural History* (8), 11: 498-504.
- Regan, C.T. 1913b. The fishes of the San Juan River, Colombia. *Annals and Magazine of Natural History* (8), 12: 462-473.
- Regan, C. T. 1913c. Fishes from the River Ucayali, Peru, collected by Mr. Mounsey. *Annals and Magazine of Natural History* (8), 12: 281-283.
- Reis, R.E. and L.R. Malabarba. 1988. Revision of the Neotropical cichlid genus *Gymnogeophagus* Ribeiro, 1918, with descriptions of two new species (Pisces, Perciformes). *Revista Brasileira de Zoologia* 4: 259-305.
- Reis, R.E., L.R. Malabarba and C.S. Pavanelli. 1992. *Gymnogeophagus setequedas*, a new cichlid species (Teleostei: Labroidi) from middle rio Paraná system, Brazil and Paraguay. *Ichthyological Exploration of Freshwaters*, 3: 265-272.
- Riedl-Dorn, C. 2000. Johann Natterer und die österreichische Brasilienexpedition. Editora Index, Petrópolis, 192 pp.
- Rivas, L.R. 1962. *Cichlasoma pastonis*, a new species of cichlid fish of the *Thorichthys* group, from the Rio de la Pasion, Guatemala. *Quaternary Journal of the Florida Academy of Sciences*, 25: 148-156.
- Römer, U. 1994. *Apistogramma mendezi* nov. sp. (Teleostei: Perciformes; Cichlidae): description of a new dwarf cichlid from the Rio Negro system, Amazonas State, Brazil. *Aqua*, 1 (1): 1-12.
- Römer, U. 1997. Diagnoses of two new dwarf cichlids (Teleostei; Perciformes) from Peru, *Apistogramma atahualpa* and *Apistogramma panduro* n. spp. *Buntbarsche Bulletin*, 182: 9-14.
- Römer, U. 1998. Cichliden Atlas Band I Naturgeschichte der Zwergbuntbarsche Südamerikas. Mergus Verlag, Melle, 1311p.
- Schneider, J.G. 1801. M. E. Blochii, *Systema Ichthyologiae iconibus cx illustratum*. Post obitum auctoris opus inchoatum absolvit, correxit, interpolavit Jo. Gottlob Schneider. Saxo. Berolini. Sumtibus Auctoris Impressum et Bibliopolio Sanderiano Commisum. i-lx + 1-584 pp.
- Schultz, L.P. 1960. A review of the pompadour or discus fishes, genus *Symphysodon* of South America. *Tropical Fish Hobbyist*, 8 (10): 5-17.
- Seegers, L. and W. Staeck. 1985. *Theraps rheophilus* nov. spec., ein ungewöhnlicher Cichlide Mexikos aus der *Cichlasoma* - Verwandtschaft. *DATZ*, 38: 499-505.
- Shaw, G. and F.P. Nodder. 1789-1813. *The Naturalist's Miscellany*, or coloured figures of natural objects; drawn and described from nature. London, unnumbered pages.
- Spix, J.B. von and L. Agassiz. 1829-31. *Selecta genera et species piscium quos in itinere per Brasiliam annos MDCCCXVII-MDCCCXX jussu et auspiciis Maximiliani Josephi I... collegit et pingendos curavit Dr J. B. de Spix.... Monachii*. Part 1: i-xvi + i-ii + 1-82, pls. 1-48; part 2: 83-138, pls. 49-101.
- Staeck, W. 1991. Eine neue *Apistogramma* - Art (Teleostei: Cichlidae) aus dem peruanischen Amazonasgebiet. *Ichthyological Exploration of Freshwaters*, 2 (2): 139-149.
- Stauffer, Jr., J.R. and K.R. McKaye. 2002. Descriptions of three new species of cichlid fishes (Teleostei: Cichlidae) from Lake Xiloá, Nicaragua. *Cuadernos de la Investigación de la U.C.A.*, 12: 1-18.
- Stawikowski, R. 1989. Ein neuer Cichlide aus dem oberen Orinoco-Einzug: *Uaru fernandezyepezi* n. sp. (Pisces: Perciformes: Cichlidae). *Bonner Zoologische Beiträge*, 40: 19-26.
- Stawikowski, R. and U. Werner. 1987. Neue Erkenntnisse über die Buntbarsche um *Theraps lentiginosus* mit der Beschreibung von *Theraps coeruleus* spec. nov. *DATZ*, 40: 499-504.
- Stawikowski, R. & U. Werner 1998. *Die Buntbarsche Amerikas Band 1*. Verlag Eugen Ulmer, Stuttgart, 540 pp.
- Steindachner, F. 1864. Beiträge zur Kenntniss der Chromiden Mejico's und Central-Amerika's. *Denkschriften der kaiserlichen Akademie der Wissenschaften, Mathematisch-naturwissenschaftlichen Classe*, 23: 57-74.
- Steindachner, F. 1867a. Ichthyologische Notizen, vierte Folge. *Anzeiger der kaiserlichen Akademie der Wissenschaften, Mathematisch-naturwissenschaftliche Classe*, 4: 63-64.
- Steindachner, F. 1867b. Ichthyologische Notizen (IV). *Sitzungsberichte der kaiserlichen Akademie der Wissenschaften, Mathematisch-naturwissenschaftliche Classe*, 55: 517-534.
- Steindachner, F. 1869. Eine Abhandlung über einige neue Fischarten aus den Sammlungen des Wiener-Museums. *Anzeiger der kaiserlichen Akademie der Wissenschaften, Mathematisch-naturwissenschaftliche Classe*, 6: 149-150.
- Steindachner, F. 1870. Ichthyologische Notizen (IX). *Sitzungsberichte der kaiserlichen Akademie der Wissenschaften, Mathematisch-naturwissenschaftliche Classe*, 60: 290-318.
- Steindachner, F. 1875. Beiträge der Kenntniss der Chromiden des Amazonenstromes. *Sitzungsberichte der kaiserlichen Akademie der Wissenschaften, Mathematisch-naturwissenschaftliche*

Check List of the Freshwater Fishes of South and Central America

- Classe, 71: 61-137.
- Steindachner, F. 1876. Ichthyologische Beiträge (V). Sitzungsberichte der kaiserlichen Akademie der Wissenschaften, Mathematisch-naturwissenschaftliche Classe, 74: 49-240.
- Steindachner, F. 1878. Zur Fischfauna des Magdalenen-Stromes. Anzeiger der kaiserlichen Akademie der Wissenschaften, Mathematisch-naturwissenschaftliche Classe, 15: 88-91.
- Steindachner, F. 1879a. Ichthyologische Beiträge (VIII). Sitzungsberichte der kaiserlichen Akademie der Wissenschaften, Mathematisch-naturwissenschaftliche Classe, 80: 119-191.
- Steindachner, F. 1879b. Zur Fisch-fauna des Magdalenen-Stromes. Denkschriften der kaiserlichen Akademie der Wissenschaften, Mathematisch-naturwissenschaftliche Classe, 39: 19-78.
- Steindachner, F. 1881a. Beiträge zur Kenntniss der Flussfische Südamerika's. II. Denkschriften der kaiserlichen Akademie der Wissenschaften. Mathematisch-naturwissenschaftliche Classe, 43: 103-146.
- Steindachner, F. 1881b. Beiträge zur Kenntniss der Flussfische Südamerika's. III. Denkschriften der kaiserlichen Akademie der Wissenschaften. Mathematisch-naturwissenschaftliche Classe, 44 [for 1882]: 1-18.
- Steindachner, F. 1892. Über einige neue und seltene Fischarten aus der ichthyologischen sammlung des k. k. naturhistorischen Hofmuseums. Denkschriften der kaiserlichen Akademie der Wissenschaften. Mathematisch-naturwissenschaftliche Classe, 59: 357-384.
- Steindachner, F. 1911. Über einige neue und seltene südamerikanische Süßwasserfische. Anzeiger der kaiserlichen Akademie der Wissenschaften, Mathematisch-naturwissenschaftliche Klasse, 48: 369-376.
- Steindachner, F. 1915. Ichthyologische Beiträge (XVIII). Anzeiger der kaiserlichen Akademie der Wissenschaften, Mathematisch-naturwissenschaftliche Klasse, 52: 346-349.
- Stiassny, M.L.J. 1981. The phyletic status of the family Cichlidae: a comparative anatomical investigation. Netherlands Journal of Zoology, 31: 275-314.
- Swain, J. 1883. A review of Swainson's genera of fishes. Proceedings of the Academy of Natural Sciences of Philadelphia, 34: 272-284.
- Swainson, W. 1839. The natural history of fishes, amphibians, & reptiles, or monocardian animals. Vol. II.. Lardner's Cabinet Cyclopaedia, Longman, Orme, Brown, Green & Longmans, London, 452 pp.
- Taylor, J.N. and R.R. Miller. 1980. Two new cichlid fishes, genus *Cichlasoma*, from Chiapas, Mexico. Occasional Papers Museum of Zoology The University of Michigan, 693: 1-16.
- Taylor, J.N. and R.R. Miller. 1983. Cichlid fishes (genus *Cichlasoma*) of the Rio Panuco basin, eastern Mexico, with description of a new species. Occasional Papers Museum of Natural History University of Kansas, 104: 1-24.
- Tee-Van, J. 1935. Cichlid fishes in the West Indies with especial reference to Haiti, including the description of a new species of *Cichlasoma*. Zoologica (N. Y.), 10: 281-300.
- Vaillant, L.L. and J. Pellegrin. 1902. Cichlidés nouveaux de l'Amérique Centrale. Bulletin du Muséum National d'Histore Naturelle, 8: 84-88.
- Walbaum, J.J. 1792. Petri Artedi Sueci Genera piscium. In quibus systema totum ichthyologiae proponitur cum classibus, ordinibus, generum characteribus, specierum differentiis, observationibus plurimis. Redactis speciebus 242 ad genera 52. Ichthyologiae, pars iii, 723 pp.
- Werner, U. and R. Stawikowski. 1987. Ein neuer Buntbarsch aus Südmexiko: *Paratheraps breidohri* gen. nov., spec. nov. DATZ, 41: 20-23.
- Wilkens, H. 1977. Die Typen der Ichthyologischen Sammlung des Zoologischen Instituts und Zoologischen Museums der Universität Hamburg (ZMH). Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut, 74: 155-163.
- Zihler, F. 1982. Gross morphology and configuration of digestive tracts of Cichlidae: phylogenetic and functional significance. Netherlands Journal of Zoology, 32: 544-571.
- Zuanon, J & I. Sazima. 2002. *Teleocichla centisquama*, a new species of rapids-dwelling cichlid from Xingu River, Amazonia (Perciformes: Cichlidae). Ichthyol. Explor. Freshwaters, 13 (4): 373-378.

Family Mugilidae (Mulletts)

Carl J. Ferraris, Jr.

The family Mugilidae consists of 62 species in 14 genera (Thomson, 1997). Mulletts are readily distinguished from nearly all other fishes by the presence of two widely separated, short-based, dorsal fins, the absence of a lateral stripe on the body, an anal fin with three spines, and no thread-like filaments associated with the pectoral fin.

Species of the family inhabit brackish water and coastal marine environments of all tropical and temperate seas. Some species stray into river mouths but are not generally considered to be freshwater inhabitants. A few species inhabit fresh waters for much or all of their life cycle.

In the Neotropical region, only two species, representing two different genera, are reported to be primarily freshwater species. In addition, several species of the genus *Mugil* occasionally enter into inland waters; however, these species are not treated here.

Mullet are often found in schools or small groups, feeding in shallow waters either from the surface of the water or just off the bottom. Through much of their distributional range, these fishes are highly prized food fishes.

Taxonomy presented here follows Thomson (1997).

AGONOSTOMUS

Agonostomus Bennett, 1832:166. Type species: *Agonostomus telfairii* Bennett, 1832. Type by monotypy. Gender: masculine.

Dajaus Valenciennes, in Cuvier & Valenciennes, 1836:164 [116 in Strasbourg deluxe ed.]. Type species: *Mugil monticola* Bancroft, 1834. Type by monotypy. Gender: masculine.

Nestis Valenciennes, in Cuvier & Valenciennes, 1836:164 [117 in Strasbourg deluxe ed.]. Type species: *Nestis cyprinoides* Valenciennes, 1836. Type by subsequent designation by Jordan & Evermann (1896:818). Gender: feminine.

Agonostoma by Günther, 1861:461. Type species: *Agonostomus telfairii* Bennett, 1832. Unjustified emendation of *Agonostomus* Bennett, 1832. Type by monotypy. Gender: feminine.

Neomugil Vaillant, 1894:72. Type species: *Neomugil digueti* Vaillant, 1894. Type by monotypy. Gender: masculine.

Agonostomus monticola (Bancroft, 1834)

Mugil monticola Bancroft, in Griffith & Smith, 1834: 367, Fish pl. 36. Type locality: Jamaica. No types known.

Mugil irretitus Gosse, 1851: 84. Type locality: Jamaica. Holotype: BMNH 1847.12.27.59.

Agonostoma microps Günther, 1861: 462. Type locality: Probably West Indies. Syntypes: BMNH 1855.12.26.639-640 (2).

Agonostoma nasutum Günther, 1861: 463. Type locality: River of San Geronimo [Guatemala]. Holotype: BMNH 1861.8.12.14.

Agonostoma percoides Günther, 1861: 464. Type locality: Freshwaters of San Domingo and probably Jamaica. Syntypes: (6) BMNH 1848.1.12.1083, 1850.6.7.16 (1), 1861.11.7.2 (1).

Dajaus elongatus Kner, 1863: 222, fig. 2. Type locality: Panama. Syntypes: probably NMW, but not located.

Neomugil digueti Vaillant, 1894: 73. Type locality: Streams in Santa Cruz Arroyo, Sierra de las Cacachilas, Baja California, Mexico. Syntypes: BMNH 1907.1.18.3-4; MNHN 1894-0044 to 0047 (4), 1894-0054 to 58 (5).

Agonostomus macracanthus Regan, 1907: 65. Type locality: Rio Guacalate, Guatemala. Syntypes: BMNH 1864.1.26.361-362 (2).

Agonostomus salvini Regan, 1907: 66. Type locality: Nacasil, Guatemala. Syntypes: BMNH 1875.6.9.3-4 (3).

Joturus daguae Eigenmann, 1918: 681. Type locality: Rio Dagua at Caldas, Colombia. Holotype: FMNH 58457 [ex CM 7458].

Agonostoma squamipinne Mohr, 1927: 178, fig. 1. Type locality: Ponce, Puerto Rico. Lectotype: ZMH H176, designated by Ladiges et al. (1958:162).

Agonostomus hancocki Seale, 1932: 467. Type locality: Ca. 1/2 mi. up freshwater stream emptying into freshwater bay on s. side of San Cristóbal I. [Chatham I.], Galápagos Is. Holotype: CAS 838.

Maximum length: 20 cm SL

Distribution: North, Central, and South America: Atlantic, Caribbean, and Pacific Ocean draining coastal rivers.

Countries: Jamaica, Barbados, Dominica, Dominican Republic, Puerto Rico, Trinidad and Tobago, Mexico, Guatemala, El Salvador, Nicaragua, Costa Rica, Panama, Colombia, Venezuela.

JOTURUS

Joturus Poey, 1860:263. Type species: *Joturus pichardi* Poey, 1860. Type by monotypy. Gender: masculine.

Xenorhynchichthys Regan, 1908:461. Type species: *Joturus stipes* Jordan & Gilbert, 1882. Type by original designation. Gender: masculine.

Joturus pichardi Poey, 1860

Joturus pichardi Poey, 1860: 263, pl. 18 (figs. 4-5). Type locality: Río Almendares, near Havana, Cuba. Holotype: MCZ 23886.

Agonostoma globiceps Günther, 1874: 370. Type locality: Myzantla, Veracruz, Mexico. Holotype: BMNH 1873.6.5.1.

Joturus stipes Jordan & Gilbert, 1882: 373. Type locality: Rio Bayano [Panama]. Holotype: USNM 31010.

Maximum length: 23 cm SL

Distribution: North and Central America: Caribbean and Pacific Ocean draining coastal rivers.

Countries: Mexico, Guatemala, El Salvador, Nicaragua, Costa Rica, Panama.

References

- Bennett, E.T. 1832. Observations on a collection of fishes from the Mauritius with characters of new genera and species. Proc. Zool. Soc. London, 1830-31 (1): 165-169.
- Cuvier, G. and A. Valenciennes 1836. Histoire naturelle des poissons. Tome onzième. Livre treizième. De la famille des Mugiloides. Livre quatorzième. De la famille des Gobioides. Pitois & Levrault, Paris & Strasbourg. xx + 508 pp., pls. 307-343.
- Eigenmann, C.H. 1918. Eighteen new species of fishes from northwestern South America. Proc. American Philos. Soc., 56 (7)[for 1917]: 673-689.
- Gosse, P.H. 1851. A naturalist's sojourn in Jamaica. London. xxiv + 508 p.
- Griffith, E. and C.H. Smith. 1834. The class Pisces, arranged by the Baron Cuvier, with supplementary additions. London. 680 p., 65 pl.
- Günther, A. 1861. Catalogue of the fishes in the British Museum. Catalogue of the acanthopterygian fishes in the collection of the British Museum. Vol. 3. London. xxv + 586 + x p.
- Günther, A. 1874. Descriptions of new species of fishes in the British Museum. Ann. Mag. Nat. Hist. (Ser. 4), 14 (83): 368-371.
- Jordan, D.S. and B.W. Evermann. 1896. The fishes of North and Middle America: a descriptive catalogue of the species of fish-like vertebrates found in the waters of North America, north of the Isthmus of Panama. Part I. Bull. U. S. Natl. Mus., no. 47: i-lx + 1-1240.
- Jordan, D.S. and C.H. Gilbert. 1882. List of fishes collected at Panama by Captain John M. Dow, now in the United States National Museum. Proc. U. S. Natl. Mus., 5 (292): 373-378.
- Ladiges, W., G. von Wahlert and E. Mohr. 1958. Die Typen und Typoide der Fischesammlung des Hamburgischen Zoologischen Staatsinstituts und Zoologischen Museums. Mitt. Hamburg Zool. Inst., 56: 155-167.
- Kner, R. 1863. Eine Uebersicht der ichtthyologischen Ausbeute des Herrn Professors Dr. Mor. Wagner in Central-Amerika. Sitzungsber. Königl. Bayer. Akad. Wiss. Muenchen, 2: 220-230.
- Mohr, E. 1927. Mugiliden-Studien. Zool. Jahrb., Syst. (Jena), 54: 177-201.
- Poey, F. 1860. Memorias sobre la historia natural de la Isla de Cuba, acompañadas de sumarios Latinos y extractos en Francés. Tomo 2. La Habana. 442 p, 19 pl. [Volume issued in parts: 1-96 (1858), 97-336 (1860), 337-442, (1861)].
- Regan, C.T. 1907. Diagnoses of new Central-American freshwater fishes of the families Cyprinodontidae and Mugilidae. Ann. Mag. Nat. Hist. (Ser. 7), 19 (109): 64-66.
- Regan, C.T. 1908. A collection of freshwater fishes made by Mr. C. F. Underwood in Costa Rica. Ann. Mag. Nat. Hist. (Ser. 8), 2 (11): 455-464.
- Seale, A. 1932. *Agonostomus hancocki* Seale sp. nov. Proc. California Acad. Sci. (Ser. 4), 20 (10): 467-469.
- Thomson, J.M. 1997. The Mugilidae of the World. Mem. Queensland Mus., 41 (3): 457-562.
- Vaillant, L.L. 1894. Sur une collection de poissons recueillie en Basse-Californie et dans le Golf par M. Léon Diguët. Bull. Soc. Philomath. Paris (Ser. 8), 6: 69-75.

Family Gobiidae (Gobies)

Sven O. Kullander

Following the analytical revision of Hoese & Gill (1993), the gobies and related fishes comprising the suborder Gobioidae are distributed over eight families, viz., the Gobiidae with subfamilies Butidinae, Eleotridinae (sleepers), and Gobiinae, the Kraemeriidae, the Microdesmidae with subfamilies Microdesminae and Ptereleotridinae, the Odontobutididae, the Xenisthmidae, and the Rhyacichthyidae. Other authors recognize the Eleotrididae as a separate family, including the Butinae, and distinguish other subfamilies of the Gobiidae, viz. Oxudercinae (mudskippers), Amplyopinae, Sicydiinae, Gobiellinae, and Gobiinae (e.g. Nelson, 1994).

Neotropical genera of Eleotridinae are *Dormitator*, *Eleotris*, *Gobiomorus*, *Hemieleotris*, *Leptophilypnus*, and *Microphilypnus*; remaining taxa listed below belong to the Gobiinae.

Worldwide there are over 2000 species of gobiids, of which about 150 are sleepers (Nelson, 1994). Most of the gobioid species are shallow water coastal or marine species of relatively small size, but particularly in the tropical regions freshwater species are also common. Only eleotridin and some gobiin species enter freshwater in the Neotropical region, but remain coastal or confined to short, coastal rivers. Only *Microphilypnus*, from the central Amazon and Orinoco basins, are strictly freshwater species, and also constitute an endemic freshwater genus of eleotridins. There are numerous marine, shallow water species of gobiids along the Neotropical coasts, and species other than those recorded here may be encountered in tidal zones, e.g., the widespread *Gobionellus oceanicus* (Pallas) and *Guavina guavina* (Schneider), and species listed as peripheral in Central America by Miller (1966), viz. gobiins *Bathygobius mystacium* Ginsburg, *Ctenogobius boleosoma* (Jordan & Gilbert), *C. shufeldti* (Jordan & Eigenmann), *Gobionellus daguae* (Eigenmann), *G. hastatus* Girard, *G. sagittula* (Günther), *G. microdon* (Gilbert), *Gobiosoma hildebrandi* (Ginsburg), *G. homochroma* (Ginsburg), *G. spes* (Ginsburg), *Microgobius miraflorensis* Gilbert & Starks, and eleotridins *Erotelis armiger* (Jordan), *Erotelis smaragdus* (Valenciennes), *Guavina micropus* Ginsburg.

Gobies are small to medium-sized fishes, the smallest Neotropical species being *Microphilypnus*, with about 2 cm SL maximum length, and the largest Neotropical species are found in *Gobiomorus* (60 cm TL) and *Dormitator* (ca 40 cm TL). Gobies possess two dorsal fins, the anterior with 2-8 weak spines, the posterior with soft rays. The lateral line system is obvious only on the head, and the arrangement of sensory pores and neuromasts is important for identification and phylogenetic analysis. The gill membranes are joined to the isthmus. All Neotropical species are benthic. Gobiins have the pelvic fins united and modified into a single median sucking disk, whereas in eleotridins the pelvic fins are separate. Particularly gobiins are sexually dimorphic, with males larger and more colorful, often with the gape much larger than the female. Gobies typically have an elaborate courtship behavior and spawn in pairs. The male guards the eggs, commonly in shelter like in a natural crevice or empty mollusk shell. Among Neotropical gobiins, *Sicydium* and *Awaous* species are found in fast running waters.

Neotropical gobies are covered in national species monographs, such as Bussing (1998), Greenfield & Thomerson (1997), Keith et al. (2000). Recent generic revisions by Murdy (1998) and Watson (1996) have been radical; species level systematics of particularly *Sicydium*, *Microphilypnus*, and *Leptophilypnus* remains highly unsatisfactory. *Ctenogobius* is recognized as distinct below, but is usually synonymized with *Gobionellus*.

AWAOUS

Gobius (Awaous) Valenciennes in Cuvier & Valenciennes, 1837: 97. Type species: *Gobius ocellaris* Broussonet, 1782. Type by subsequent designation by Bleeker (1874: 320). If *Awaous* regarded as used in a vernacular sense, then name dates to Steindachner (1861: 289).

Euctenogobius Gill, 1859: 45. Type species: *Euctenogobius badius* Gill, 1859. Type by monotypy. Gender: masculine.

Chonophorus Poey, 1860: 274. Type species: *Chonophorus bucculentus* Poey, 1860. Type by monotypy. Gender: masculine.

Platygobius Bleeker, 1874: 316. Type species: *Gobius macrorhynchus* Bleeker, 1867. Type by original designation. Gender: masculine.

Trichopharynx Ogilby, 1898: 769. Type species: *Gobius crassilabris* Günther, 1861. Type by original designation. Gender: masculine.

Suiboga Pinto, 1960: 1. Type species: *Suiboga travassosi* Pinto, 1960. Type by original designation. Gender: feminine.

Chiramenu Rao, 1971: 183. Type species: *Chiramenu fluviatilis* Rao, 1971. Type by original designation. Gender: masculine.

Awaous banana (Valenciennes, 1837)

Gobius banana Valenciennes in Cuvier & Valenciennes, 1837: 103. Type locality: Santo Domingo. Lectotype: MNHN A.1265, designated by Watson (1996:3).

Gobius martinicus Valenciennes in Cuvier & Valenciennes, 1837:

105. Type locality: Martinique I., West Indies. Syntypes: MNHN A-1266 (1), A-1327 (2).

Chonophorus bucculentus Poey, 1860: 275. Type locality: Cuba. Syntypes and/or Poey specimens: MCZ 13330 (1), 13375 (1), 13379-80 (1, 1); USNM 4772 (1), 4774 (1).

Chonophorus contractus Poey, 1861: 424. Type locality: Cuba. Holotype (?): MCZ 31220. Types?: MCZ 13247 (1), 13260 (1); ZMB 5963 (1).

Gobius mexicanus Günther, 1861: 61. Type locality: Mexico. Syntypes: BMNH 1856.3.17.41-42 (2).

Gobius transandeanus Günther, 1861: 62. Type locality: Fresh waters of Western Ecuador. Syntypes: (4) BMNH 1860.6.16.135-136.

Gobius dolichocephalus Cope, 1867: 403. Type locality: Near Orizaba, Veracruz, Mexico. No types known.

Awaous nelsoni Evermann, 1898: 2. Type locality: Río Rosario at Rosario, Sinaloa, Mexico. Holotype: USNM 48836.

Gobius (Awaous) guentheri Regan, 1903: 629. Type locality: W. Ecuador. Syntypes: BMNH 1860.6.16.133-134 (2).

Maximum length: 26.4 cm SL

Distribution: North, Central, and South America and Caribbean Islands: Pacific slope, from coastal drainages of Baja California to the Tumbes River, Peru; Atlantic localities in Florida, Cuba, Hispaniola, Jamaica, Puerto Rico, lesser Antillean islands, in Central America from Mexico through Panama, northern coastal rivers of Venezuela, and Trinidad, W.I.; mainly freshwater, occasionally brackish water

Countries: Barbados, Belize, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Guatemala, Haiti, Honduras, Jamaica, Martinique, Mexico, Nicaragua, Panama, Peru, Puerto Rico, Saint Vincent, Trinidad and Tobago, Venezuela, USA

Common names: River goby (Belize), Lamearena (Costa Rica), Oliva, Guavina (Puerto Rico)

Remarks and References: Species revised by Watson (1996: 3), who included *A. transandeanus* (Günther), recognized as a distinct species by Bussing (1998: 398)

Awaous tajasica Lichtenstein, 1822

Gobius tajasica Lichtenstein, 1822: 273. Type locality: Brazil. Neotype: ANSP 84175, designated by Watson (1996:13), but a syntype or holotype may exist as ZMB 2036 (1).

Euctenogobius latus O'Shaughnessy, 1875: 146. Type locality: Bahia, Brazil. Holotype: BMNH 1862.11.23.42.

Suiboga travassosi Pinto, 1960: 2, fig. 1. Type locality: Rio Pituaçu, cidade de Salvador, estado da Bahia, Brasil. Holotype: MNRJ 6196.

Maximum length: 16.2 cm SL

Distribution: South America: Coastal rivers of Brazil from Piauí to Santa Catarina States; fresh and brackish water.

Countries: Brazil

Remarks and References: Species revised by Watson (1996: 13).

Awaous flavus Valenciennes, 1837

Gobius flavus Valenciennes in Cuvier & Valenciennes, 1837: 60. Type locality: Suriname. Holotype: MNHN A-1344.

Euctenogobius badius Gill, 1859: 47. Type locality: Amazon R., South America. Holotype: USNM 6091.

Euctenogobius strigatus O'Shaughnessy, 1875: 145. Type locality: Surinam. Holotype: BMNH 870.3.10.54.

Gobius kraussii Steindachner, 1879: 134, pl. 2 (figs. 2-2a). Type locality: Mouth of Maroni R., Suriname. Neotype: MNHN A.1334, designated by Watson & Horsthemke (1995: 84).

Awaous decemlineatus Eigenmann, 1918: 686. Type locality: Quibdo [Colombia]. Holotype: FMNH 58476 [ex CM 7478].

Maximum length: 8.2 cm SL

Distribution: South America: Atrato, and Magdalena Rivers, Orinoco River delta, Essequibo River, Maroni River, and near Belém; in coastal streams under tidal influence.

Countries: Brazil, Colombia, Guyana, Suriname, Venezuela

Remarks and References: Species monographed by Watson & Horsthemke (1995).

CTENOGOBIUS

Ctenogobius Gill, 1858: 374. Type species: *Ctenogobius fasciatus* Gill, 1858. Type by original designation. Gender: masculine.

Ctenogobius claytonii (Meek, 1902)

Gobius claytonii Meek, 1902: 121, pl. 31 lower. Type locality: Rio San Francisco, La Antigua, Vera Cruz, Mexico. Holotype: FMNH 3740.

Maximum length: 5.8 cm SL

Distribution: North, Central, and South America: Atlantic coast from Veracruz, Mexico to Venezuela

Countries: Belize, Colombia, Costa Rica, Guatemala, Honduras, Mexico, Nicaragua, Panama, Venezuela

Remarks and references: Considered a synonym of *Ctenogobius fasciatus* Gill, by Robins & Lachner (1966).

Ctenogobius fasciatus Gill, 1858

Ctenogobius fasciatus Gill, 1858: 376. Type locality: [Trinidad Island, West Indies]. Lectotype: USNM 7549, designated by Robins & Lachner (1966: 868).

Maximum length: 5.2 cm SL

Distribution: South America: Trinidad Island, probably fresh water.

Countries: Trinidad and Tobago

Remarks and references: The status of *Ctenogobius* is uncertain pending revision. The genus is treated as a synonym of *Gobionellus* Girard, 1858, but as a valid subgenus, by Robins & Lachner (1966), arguing that Gill (1858) was likely published after Girard (1858). The name *Ctenogobius* is used for numerous species in the Pacific and Indian Oceans and Asian freshwater.

Ctenogobius pseudofasciatus (Gilbert & Randall, 1971)

Gobionellus pseudofasciatus Gilbert & Randall in Gilbert & Kelso, 1971: 44, fig. 6A. Type locality: West side of Tortuguero Lagoon, Limón Prov., Costa Rica. Holotype: UF 13516.

Maximum length: 5.3 cm SL

Distribution: Central America: Atlantic slope of Costa Rica, in marine, brackish, and fresh water.

Countries: Costa Rica

DORMITATOR

Dormitator Gill, 1861: 44. Type species: *Eleotris somnulentus* Girard, 1858. Type by monotypy. Gender: masculine.

Lophodormitator Hoedeman, 1952: 197. Type species: *Dormitator lophocephalus* Hoedeman, 1951. Type by monotypy. Gender: masculine. Proposed originally as a subgenus of *Dormitator*.

Dormitator cubanus (Ginsburg, 1953)

Dormitator cubanus Ginsburg, 1953: 19. Type locality: San Cristobál, Cuba. Holotype: USNM 55668.

Maximum length: 9.4 cm SL

Distribution: Caribbean Islands: Cuba Island, in freshwater.

Countries: Cuba

Dormitator latifrons (Richardson, 1844)

Eleotris latifrons Richardson, 1844: 57, pl. 35 (figs. 4-5). Type locality: Pacific Ocean [e. Pacific]. Syntypes: (2) BMNH.

Hemieleotris carmenensis Nichols, 1952: 4. Type locality: Carmen I., Gulf of California, Mexico. Holotype: AMNH 18724.

Dormitator latifrons mexicanus Ginsburg, 1953: 20. Type locality: San Lucas, Lower California, Mexico. Holotype: USNM 7350.

Maximum length: 26 cm SL

Distribution: North, South and Central America: Along the Pacific

slope from California to Peru, in freshwater
 Countries: Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Mexico, Nicaragua, Panama, Peru, USA
 Common names: Pocoyo, Dormilón (Costa Rica).

***Dormitator maculatus* (Bloch, 1792)**

Sciaena maculata Bloch, 1792: 44, pl. 299 (fig. 2). No locality.
 Holotype: ZMB 2149.

Eleotris grandisquama Valenciennes in Cuvier & Valenciennes, 1837: 229. Type locality: America. Holotype: MNHN A-1564.

Eleotris mugiloides Valenciennes in Cuvier & Valenciennes, 1837: 226. Type locality: Martinique I., West Indies; Suriname; Mexico. Syntypes: MNHN A- 1596 (1) Martinique, A-1678 (1) Suriname, 2631 (1) Suriname; ZMB 2150 (1).

Eleotris sima Valenciennes in Cuvier & Valenciennes, 1837: 232. Type locality: Veracruz, Mexico. Syntypes: MNHN A-1666 (2).

Eleotris somnulentus Girard, 1858: 169. Type locality: Mouth of Rio Grande del Norte (Rio Bravo), Texas, U.S.A. Syntypes: MCZ 35971 [ex USNM 641] (5), USNM 641 (33).

Eleotris omocyanus Poey, 1860: 269. Type locality: Havana, Cuba. Syntypes: MCZ 13371-72 (1, 1).

Eleotris gundlachi Poey, 1860: 272. Type locality: Santiago, Cuba (fresh water). Syntypes: ?MCZ 13374 (1).

Philypnus lateralis Gill, 1860: 123. Type locality: Cabo San Lucas, Baja California, Mexico. Syntypes: USNM 2435-42 (7 or 8).

Dormitator microphthalmus Gill, 1863: 170. Type locality: (Pacific) Panama. Holotype: USNM 4953..

Dormitator lineatus Gill, 1863: 271. Type locality: Savannah, Georgia, U.S.A. Holotype: USNM (apparently lost).

Dormitator macrophthalmus Puyo, 1944: 231, fig. 2. Type locality: Tonate. Holotype: whereabouts unknown.

Dormitator lophocephalus Hoedeman, 1951: 4, fig. 2. Type locality: Dutch Guiana (a ditch, some miles south of Paramaribo). Holotype: ZMA 100061a.

Maximum length: 38 cm TL

Distribution: North, South and Central America: Along the Atlantic slope from North Carolina to southeastern Brazil, in freshwater.

Countries: Bahamas, Belize, Brazil, Colombia, Costa Rica, Cuba, French Guiana, Guatemala, Guyana, Jamaica, Martinique, Mexico, Nicaragua, Panama, Puerto Rico, Surinam, Trinidad and Tobago, USA, Venezuela

Common names: Fat sleeper (Belize), Guarasapa, Pipón (Costa Rica), Gobie (French Guiana)

Remarks and References: *Dormitator maculatus* is frequently confused with *Gobiomorus maculatus* in secondary literature, probably because of the identity in species epithet.

ELEOTRIS

Gobiomoroïdes La Cepède, 1800: 592. Type species: *Gobiomoroïdes piso* La Cepède, 1800 (= *Gobius pisonis* Gmelin, 1789). Type by monotypy. Gender: masculine.

Eleotris Schneider, 1801: 65. Type species: *Gobius pisonis* Gmelin, 1789. Type designated by ICZN by use of plenary powers; on Official List (Opinion 93, Direction 56). *Eleotris* Gronow, 1763 placed on Official Index (Direction 56) as a name published in a rejected work. Gender: feminine.

Epiptthalmus Rafinesque, 1815: 86. Type species: *Gobiomoroïdes piso* La Cepède, 1800 (= *Gobius pisonis* Gmelin, 1789). Type by being a replacement name. As “*Epiptthalmus* R. [Rafinesque] *Gobiomoroïdes* Lac. [La Cepède].” Unneeded replacement for and objective synonym of *Gobiomoroïdes* La Cepède, 1800. Gender: masculine.

Culius Bleeker, 1856: 385, 411. Type species: *Cheilodipterus culius* Hamilton, 1822. Type by absolute tautonymy, not *fuscus* = *nigra* as designated by Bleeker (1874: 303). Gender: masculine.

Eleotris (*Giuris*) Sauvage, 1880: 54. Type species: *Eleotris* (*Giuris*) *vanicolensis* Sauvage, 1880. Type by subsequent designa-

tion by Jordan (1919:401). Appeared without description with four species of *Eleotris*. Gender: masculine.

Eleotris (*Kieneria*) Maugé, 1984: 98. Type species: *Eleotris* (*Kieneria*) *vomerodontata* Maugé, 1984. Type by original designation. Gender: feminine.

***Eleotris amplyopsis* (Cope, 1871)**

Culius amplyopsis Cope, 1871: 473. Type locality: Suriname. Syntypes: ANSP 10577-79 (3).

Eleotris isthmensis Meek & Hildebrand, 1916: 359. Type locality: Mindi, Canal Zone, Panama. Holotype: FMNH 8951.

Maximum length: 8 cm SL

Distribution: North, Central, and South America: Atlantic slope, from South Carolina to French Guiana.

Countries: Belize, Costa Rica, Guyana, French Guiana, Panama, Surinam, Trinidad and Tobago, USA, Venezuela

Common names: Large-scaled spinycheek sleeper (Belize), Pez perro, Guabina, Lucia (Costa Rica).

***Eleotris picta* Kner, 1863**

Eleotris picta Kner, 1863: 223, fig. 6. Type locality: Rio Bayano, Panama. Syntypes: NMW 76866 (1).

Culius aequidens Jordan & Gilbert, 1882: 461. Type locality: Mazatlán, Sinaloa, w. Mexico. Syntypes: USNM 28268 (1, apparently lost), 29240 (2, apparently lost).

Maximum length: 32 cm SL.

Distribution: North, Central, and South America: Pacific slope, from California to Peru and the Galapagos Archipelago.

Countries: Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, USA.

Common names: Vieja (Costa Rica).

***Eleotris pisonis* (Gmelin, 1789)**

Gobius pisonis Gmelin, 1789: 1206. Type locality: America australi. No types known, based on Gronovius (1756), n. 168, and Amore pixuma in Marcgravius (in de Laet, 1648).

Gobius Amorea Walbaum, 1792: 205. Type locality: Sub zona torrida. No types known, based on Gronovius (1756), n. 168, *Gobius pisonis* Gmelin, 1789, and Amore pixuma in Marcgravius (in de Laet, 1648), may be a replacement name for *Gobius pisonis* Gmelin.

Eleotris gyrinus Valenciennes in Cuvier & Valenciennes, 1837: 220, pl. 356. Type locality: Saint Dominique; Martinique I., West Indies; Artibonite R., Suriname; Mexico. Syntypes: MNHN A-1597 (1) Martinique, MNHN A-1672 (1) Suriname, MNHN A-1673 (3) Suriname, MNHN A-1693 (1) Suriname, MNHN A-1698 (3) Saint Domingo.

Eleotris carvalhonis Starks, 1913: 65, pl. 9. Type locality: Lake Papary, Brazil. Holotype: SU 22215.

Maximum length: 12 cm SL

Distribution: North, Central, and South America: Atlantic slope, from Florida to Brazil, in fresh and brackish water.

Countries: Bahamas, Bermuda, Brazil, Dominican Republic, Colombia, Costa Rica, Ecuador, French Guiana, Guyana, Guatemala, Martinique (France), Mexico, Nicaragua, Panama, Puerto Rico, Surinam, Trinidad and Tobago, USA Common names: Small-scaled spinycheek sleeper (Belize), Pez perro (Costa Rica), Gobie (French Guiana).

***Eleotris tecta* Bussing, 1996**

Eleotris tecta Bussing, 1996: 252, fig. 1. Type locality: Quebrada Banegas, trib. of Río Rincón, 3 km southwest of Rincón, upper Golfo Dulce, 8°40'20"N, 83°31'10"W, Pacific coast of Costa Rica, below elev. of 10 m. Holotype: LACM 45893-1.

Maximum length: 8 cm SL.

Distribution: Central America: Pacific slope, from tributaries to the Golfo Dulce, Costa Rica, to Puerto Utria and Gorgona Island, Colombia.

Countries: Colombia, Costa Rica

Common names: Pez perro (Costa Rica)

GOBIOIDES

Cayennia Sauvage, 1880: 57. Type species: *Cayennia guichenoti* Sauvage, 1880. Type by monotypy. Gender: feminine.

Gobioides La Cepède, 1800:576. Type species: *Gobioides broussonnetii* La Cepède, 1800. Type by subsequent designation by Bleeker (1874: 329). Gender: masculine.

Ognichodes Swainson, 1839: 183, 278. Type species: *Gobioides broussonnetii* La Cepède, 1800. Type by monotypy. Gender: masculine.

Paratyntlastes Giltay, 1935: 11. Type species: *Paratyntlastes africanus* Giltay, 1935. Type by original designation. Gender: masculine.

Plecopodus Rafinesque, 1815: 87. Type species: *Gobioides broussonnetii* La Cepède, 1800. Type by being a replacement name. As "*Plecopodus* R. [Rafinesque] *Gobioides* Lac. [Lacepède]." An available replacement name (unnneeded) for *Gobioides* La Cepède, 1800. Gender: masculine.

Amblyopus (*Tyntlastes*) Günther, 1862: 194. Type species: *Amblyopus sagitta* Günther, 1862. Type by monotypy. Gender: masculine.

Gobioides broussonnetii La Cepède, 1800

Gobioides Broussonnetii La Cepède, 1800: 576, pl. 17 (fig. 1) Type locality: No locality stated [? Surinam]. Holotype: MNHN 4209.

Gobius brasiliensis Schneider, 1801: 69. Type locality: Brazil. No types known.

Gobius oblongus Schneider, 1801: 548. Type locality: No locality, based on La Cepède, 1800. Possible types: MNHN 4209 (1).

Cepola unicolor Gray, 1854: 188. Type locality: Indian Ocean at Ambon I., Moluccas Is., Indonesia; Mediterranean Sea. Syntypes: BMNH 1853.11.12.81 (1).

Gobioides barreto Poey, 1860: 282. Type locality: Cuba. Syntypes and/or Poey specimens: MCZ 13246 (1), ZMB 5940 (1).

Amblyopus mexicanus O'Shaughnessy, 1875: 147. Type locality: Mexico. Holotype: BMNH uncat.

Cayennia guichenoti Sauvage 1880: 57. Type locality: Cayenne, French Guiana. Holotype: MNHN 6200.

Maximum length: 46 cm SL.

Distribution: North, Central, and South America; Caribbean Islands: Along the coast of Gulf of Mexico; Cuba and Puerto Rico; coast of Colombia, Venezuela, Guyana, Surinam, French Guiana, and Brazil south to Rio Grande do Sul State; brackish and, rarely, fresh water.

Countries: Belize, Brazil, Colombia, Cuba, French Guiana, Guiana, Mexico, Puerto Rico, USA, Venezuela

Remarks and references: Species revised by Murdy (1998: 129).

Common names: Violet goby (Belize)

Gobioides grahamae (Palmer & Wheeler, 1995)

Gobioides unicolor Palmer, 1952: 53. Type locality: Marajo Island, Brazil. Holotype: BMNH 1925.10.28.465.

Gobioides grahamae Palmer & Wheeler, 1955: 68. Type locality: Marajo Island, Brazil. Holotype: BMNH 1925.10.28.465. Replacement name for *Gobioides unicolor* Palmer, 1952, preoccupied in *Gobioides* by *Cepola unicolor* Gray.

Maximum length: 17 cm SL.

Distribution: South America: Atlantic coast and river mouths from Guyana to Marajó Island, in brackish and freshwater.

Countries: Brazil, French Guiana, Guyana, Surinam

Remarks and references: Species revised by Murdy (1998: 126).

Gobioides peruanus (Steindachner, 1880)

Amblyopus (*Gobioides*) *peruanus* Steindachner, 1880: 94, pl. 2 (fig. 2). Type locality: Guayaquil, Ecuador. Holotype: NMW 76499.

Maximum length: 26 cm SL.

Distribution: North, Central, and South America: Pacific coast from southern Mexico to northern Peru, in brackish and freshwater

Countries: Costa Rica, Ecuador, Mexico, Panama, Peru.

Remarks and references: Species revised by Murdy (1998: 128).

GOBIOMORUS

Gobiomorus La Cepède, 1800: 583. Type species: *Gobiomorus dormitor* La Cepède, 1800. Type by subsequent designation. Type designated by Jordan & Gilbert (1883:572). Gender: masculine.

Philypnus Valenciennes in Cuvier & Valenciennes, 1837:255. Type species: *Platycephalus dormitator* Schneider, 1801. Type by monotypy. Gender: masculine.

Alvarius Girard, 1859: 101. Type species: *Alvarius lateralis* Girard, 1859. Type by monotypy. Gender: masculine.

Lembus Günther, 1859: 505. Type species: *Lembus maculatus* Günther, 1859. Type by monotypy. Gender: masculine.

Gobiomorus dormitor La Cepède, 1800

Gobiomorus dormitor La Cepède, 1800: 583. Type locality: Amérique méridionale. No types known.

Platycephalus dormitator Schneider, 1801: 60, pl. 12. Type locality: Martinique I., West Indies. No types known.

Alvarius lateralis Girard, 1859: 101. Mouth of Rio Grande del Norte (Rio Bravo), Texas, U.S.A. Syntypes: whereabouts unknown.

Eleotris longiceps Günther, 1864: 151. Type locality: Lake Nicaragua, Nicaragua. Holotype: BMNH 1864.1.26.207.

Maximum length: 60 cm TL

Distribution: North, Central, and South America and Caribbean Islands: Atlantic slope, from Florida to Suriname

Countries: Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Cayman Islands, Colombia, Costa Rica, Cuba, Curaçao, Dominica, Dominican Republic, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Jamaica, Martinique, Mexico, Montserrat, Nicaragua, Panama, Puerto Rico, Saint Kitts and Nevis, Saint Lucia, Saint Vincent, Surinam, Trinidad and Tobago, Turks and Caicos Islands, USA, US Virgin Islands Venezuela, Virgin Islands

Common names: Bigmouth sleeper (Belize), Guavina, Bocón (Costa Rica), Guavina (Puerto Rico), Guabine, Giant Goby (Trinidad and Tobago).

Gobiomorus maculatus (Günther, 1859)

Lembus maculatus Günther, 1859: 505. Type locality: Andes of Ecuador. Holotype: BMNH 1860.6.16.131.

Eleotris lembus Günther, 1861: 121. Type locality: Western Ecuador. Holotype: BMNH 1860.6.16.131. Replacement name for *Lembus maculatus* Günther, 1859, preoccupied in *Eleotris* by *Sciaena maculata* Bloch, 1792, now in *Dormitator*.

Philypnus lateralis Gill, 1860: 123. Type locality: Cabo San Lucas, Baja California, Mexico. Syntypes: USNM 2435-42 (7 or 8).

Maximum length: 27 cm SL.

Distribution: North, Central, and South America: Pacific slope, from the Yaquí River, Mexico, to Peru, in fresh and brackish water.

Countries: Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama

Common names: Guavina (Costa Rica)

Gobiomorus polylepis Ginsburg, 1953

Gobiomorus polylepis Ginsburg, 1953: 20. Type locality: Colima, Mexico. Holotype: USNM 130917.

Maximum length: 28 cm SL

Distribution: North and Central America: Pacific slope, from Tepic to Puerto Ángel, Mexico, and from the Pozo Salado River to the

Jicote River, Costa Rica.
Countries: Costa Rica, Mexico.

GOBIOSOMA

Gobiosoma Girard, 1858: 169. Type species: *Gobiosoma molestum* Girard, 1858. Type by subsequent designation. Type apparently designated first by Bleeker (1874: 310). Gender: neuter.

Garmannia Jordan & Evermann in Jordan, 1895: 495. Type species: *Gobius paradoxus* Günther, 1861. Type by original designation. Gender: feminine.

Gerhardinus Meek & Hildebrand, 1928: 889. Type species: *Gerhardinus nudus* Meek & Hildebrand, 1928. Type by original designation. Gender: masculine.

Gobiosoma (Dilepidion) Ginsburg, 1933: 17. Type species: *Gobiosoma ginsburgi* Hildebrand & Schroeder, 1928. Type by original designation. Gender: neuter.

Garmannia (Gobiculina) Ginsburg, 1944: 380. Type species: *Garmannia homochroma* Ginsburg, 1939. Type by original designation. Gender: feminine.

Garmannia (Gobiohelpis) Ginsburg, 1944: 380. Type species: *Garmannia spes* Ginsburg, 1939. Type by original designation. Gender: masculine.

Garmannia (Gobiolepis) Ginsburg, 1944: 379. Type species: *Garmannia hildebrandi* Ginsburg, 1939. Type by original designation. Gender: feminine.

Austrogobius de Buen, 1950: 22. Type species: *Gobiosoma parri* Ginsburg, 1933. Type by monotypy. Gender: masculine.

***Gobiosoma yucatanum* Dawson, 1971**

Gobiosoma (Garmannia) yucatanum Dawson, 1971: 433, fig. 1. Type locality: Quintana Roo, south side of harbor of Cd. Chetumal, Mexico, to 1 m. Holotype: USNM 205368.

Maximum length: 2.6 cm

Distribution: North and Central America: Atlantic slope from Quintana Roo, Mexico, south to Brus Lagoon, Honduras, mostly brackish, rarely fresh water

Countries: Belize, Honduras, Mexico

Common names: Yucatan goby (Belize)

EVORTHODUS

Evorthodus Gill, 1859:195. Type species: *Evorthodus breviceps* Gill, 1859. Type by monotypy. Gender: masculine.

Mugilostoma Hildebrand & Schroeder, 1928:327. Type species: *Mugilostoma gobio* Hildebrand & Schroeder, 1928. Type by original designation. Gender: neuter.

***Evorthodus lyricus* (Girard, 1858)**

Gobius lyricus Girard, 1858: 169. Type locality: Brazos Santiago, Texas, U.S.A. Lectotype: USNM 646, designated by Ginsburg (1931:120).

Evorthodus breviceps Gill, 1859: 195. Type locality: Near the mouth of a river near Pitch Lake, Trinidad I., West Indies. Holotype: USNM 34456

Smaragdus costalesi Poey, 1860: 280. Type locality: Havana, Cuba. Holotype: MCZ 13109.

Gobius parvus Meek, 1902: 121, pl. 31 top. Type locality: Río San Francisco at La Antigua, Veracruz, Mexico. Holotype: FMNH 3738. Permanently invalid; preoccupied by *Gobius parvus* Nardo, 1824.

Ctenogobius curtisi Fowler, 1952: 108, pl. 21 (figs. 8-9). Type locality: Port-au-Prince, Haiti, West Indies. Holotype: ANSP 72128.

Maximum length: 9 cm TL

Distribution: North, Central, and South America: Atlantic slope, from Maryland south to Suriname, mainly estuarine or brackish, also marine, rarely freshwater.

Countries: Belize, Cayman Islands, Costa Rica, Cuba, Dominican

Republic, Haiti, Jamaica, Puerto Rico, Trinidad and Tobago, Turks and Caicos Islands, US Virgin Islands, USA, Venezuela
Common names: Lyre goby (Belize)

HEMIELEOTRIS

Hemieleotris Meek & Hildebrand, 1916: 364. Type species: *Eleotris latifasciatus* Meek & Hildebrand, 1912. Type by original designation. Gender: feminine.

***Hemieleotris latifasciata* Meek & Hildebrand, 1912**

Eleotris latifasciatus Meek & Hildebrand, 1912: 68. Type locality: Río Cárdenas at Corozal, Panama. Holotype: FMNH 7575.

Maximum length: 8 cm SL

Distribution: North, Central, and South America: Pacific slope, from San Juan del Sur, Nicaragua, to southern Colombia.

Countries: Colombia, Costa Rica, Mexico, Nicaragua, Panama.

Common names: Guavinita

***Hemieleotris levis* Eigenmann, 1918**

Hemieleotris levis Eigenmann, 1918: 684. Type locality: Pools in Buenaventura [Colombia]. Holotype: CAS 78976 [ex IU 13865].

Maximum length: 4.8 cm SL

Distribution: South America: Pacific coast of Colombia, from Buenaventura north to the Baudó River, in fresh water.

Countries: Colombia

LEPTOPHILYPNUS

Leptophilypnus Meek & Hildebrand, 1916: 361. Type species: *Leptophilypnus fluviatilis* Meek & Hildebrand, 1916. Type by original designation. Gender: masculine.

Microeleotris Meek & Hildebrand, 1916: 363. Type species: *Microeleotris panamensis* Meek & Hildebrand, 1916. Type by original designation. Gender: feminine.

***Leptophilypnus fluviatilis* Meek & Hildebrand, 1916**

Leptophilypnus fluviatilis Meek & Hildebrand, 1916: 361. Type locality: Mindi, Canal Zone, Panama. Holotype: FMNH 8952.

Maximum length: 6.4 cm SL

Distribution: Central America: Atlantic slope of central Panama, in brackish water.

Countries: Panama

***Leptophilypnus mindii* (Meek & Hildebrand, 1916)**

Microeleotris mindii Meek & Hildebrand, 1916: 364. Type locality: Mindi, Canal Zone, Panama. Holotype: FMNH 8954.

Maximum length: 5.6 cm SL

Distribution: Central America: Atlantic slope of central Panama, in brackish water.

Countries: Panama.

***Leptophilypnus panamensis* (Meek & Hildebrand, 1916)**

Eleotris macrolepis Meek, 1914: 130. Type locality: Jesus María, Costa Rica. Holotype: FMNH 7775. Preoccupied in *Eleotris* by *Culius macrolepis* Bleeker, 1875.

Microeleotris panamensis Meek & Hildebrand, 1916: 363. Type locality: Río Juan Díaz, Panama. Holotype: FMNH 8953.

Maximum length: 5.8 cm SL

Distribution: Central America: Pacific slope, in the Chorrera and Juan Díaz Rivers in Panama, and Jesús María in Costa Rica, in fresh water.

Countries: Costa Rica, Panama.

Remarks and References: Composite illustration of holotype and paratype in Grey (1947: fig. 49). Synonymy follows Grey (1947:167), with *M. panamensis* replacing *E. macrolepis*, supported by the current ICZN (1999), Art. 60.2, violating Art. 59.2, but conserved by Art. 59.3.

MICROPHILYPNUS

Microphilypnus Myers, 1927:133. Type species: *Microphilypnus ternetzi* Myers, 1927. Type by original designation. Gender: masculine.

Microphilypnus amazonicus Myers, 1927

Microphilypnus amazonicus Myers, 1927: 134. Type locality: Brazil: Igarapé do Mai Joana, Manáos. Holotype: CAS 76819 [ex IU 17703].

Maximum length: 2.4 cm SL

Distribution: South America: Lower Negro River basin.

Countries: Brazil

Microphilypnus macrostoma Myers, 1927

Microphilypnus macrostoma Myers, 1927: 135. Type locality: Brazil: Igarapé do Mai Joana, Manáos. Holotype: CAS 76820 [ex IU 17704].

Maximum length: 2 cm SL

Distribution: South America: Lower Negro River basin.

Countries: Brazil

Microphilypnus ternetzi Myers, 1927

Microphilypnus ternetzi Myers, 1927: 134. Type locality: Venezuela: Caño de Quiribana, near Caicara. Syntypes: CAS 76818 [ex IU 17702] (2), MCZ 31710 [as 31582 in original description] (1), SU 18080 (2).

Maximum length: 2 cm SL

Distribution: South America: Middle Orinoco River basin.

Countries: Venezuela

SICYDIUM

Sicydium Valenciennes in Cuvier & Valenciennes, 1837: 167.

Type species: *Gobius plumieri* Bloch, 1786. Type by subsequent designation. Type designated by Gill (1861: 101). Gender: neuter
Sicya Jordan & Evermann, 1896: 456. Type species: *Sicydium gymnogaster* Ogilvie-Grant, 1884. Type by original designation. Gender: feminine. Originally proposed as a subgenus of *Cotylopus*.

Sicyosus Jordan & Evermann, 1898: 2867. Type species: *Sicydium gymnogaster* Ogilvie-Grant, 1884. Type by being a replacement name. Replacement for *Sicya* Jordan & Evermann, 1896, apparently preoccupied in Lepidoptera. Gender: masculine. Originally proposed as a subgenus of *Cotylopus*.

Oreogobius Boulenger, 1899: 125. Type species: *Oreogobius rosenbergii* Boulenger, 1899. Type by monotypy. Gender: masculine.

Sicydium adelum (Bussing, 1996)

Sicydium adelum Bussing, 1996: 820, fig. 1. Type locality: Río Schui, trib. of Río Telire, Sixalo drainage near Costa Rica-Panama border, 9°30'06"N, 83°00'04"W, elev. 90 m. Holotype: LACM 45941-1.

Maximum length: 7.5 cm SL.

Distribution: Central America: Atlantic slope of Costa Rica, in fresh water.

Countries: Costa Rica.

Remarks and References: Redescription, with illustration and map in Bussing (1998: 400).

Common names: Chupapiedra, Tití (Costa Rica).

Sicydium altum (Meek, 1907)

Sicydium altum Meek, 1907: 149. Type locality: Turrialba, Costa Rica. Holotype: FMNH 6034.

Maximum length: 14 cm SL.

Distribution: Central America: Pacific slope of Costa Rica, in fresh water.

Countries: Costa Rica.

Remarks and References: Redescription, with illustration and map

in Bussing (1998: 402).

Common names: Chupapiedra, Tití (Costa Rica).

Sicydium buscki Evermann & Clark, 1906

Sicydium buscki Evermann & Clark, 1906: 854, fig. 3. Type locality: small brook in San Francisco Mountains, Santo Domingo [Dominican Republic]. Holotype: USNM 53276.

Maximum length: 6 cm TL

Distribution: Caribbean Islands: Hispaniola Island, in fresh water.

Countries: Dominican Republic

Sicydium gilberti Watson, 2000

Sicydium gilberti Watson, 2000: 11, fig. 6. Type locality: Río Baonico, 20 m from mouth, 1.5 km northeast of La Cienaga, 15 km south Barahona, Dominican Republic. Holotype: SMNS 17309.

Distribution: Caribbean Islands: Hispaniola Island, in fresh water.

Countries: Dominican Republic

Sicydium gymnogaster Ogilvie-Grant, 1884

Sicydium gymnogaster Ogilvie-Grant, 1884: 158, pl. 11 (fig. 2). Type locality: Misantla, Veracruz, Mexico. Syntypes: BMNH 1873.6.5.2-4 (3) Vera Cruz, BMNH 1880.4.7.18-20 (3) s. Mexico.

Distribution: North and Central America: Atlantic slope rivers from Misantla, Veracruz, Mexico, to Honduras, in fresh water

Countries: Honduras, Mexico

Sicydium hildebrandi Eigenmann, 1918

Sicydium hildebrandi Eigenmann, 1918: 685. Type locality: Cisnero, Rio Dagua [Colombia]. Holotype: FMNH 58465 [ex CM 7466].

Maximum length: 11 cm SL

Distribution: South America: Dagua River basin, in fresh water.

Countries: Colombia

Sicydium multipunctatum Regan, 1905

Cotylopus punctatus Regan, 1905: 362. Type locality: Tequixistlan, Oaxaca, Mexico. Holotype: BMNH 1906.6.1.421. Secondly preoccupied in *Sicydium* by *Sicydium punctatum* Perugia, 1896, replaced by *Sicydium multipunctatum* Regan, 1906.

Sicydium multipunctatum Regan, 1906: 11, pl. 1 (fig. 1). Type locality: Tequixistlan, Oaxaca, Mexico. Holotype: BMNH 1906.6.1.421. Replacement name for *Cotylopus punctatus* Regan, 1905, secondarily preoccupied by *Sicydium punctatum* Perugia, 1896 when both are in *Sicydium*.

Distribution: North and Central America: Pacific slope, from Mazatlán, Mexico to the Choluteca River Honduras

Countries: El Salvador, Guatemala, Honduras, Mexico

Sicydium plumieri (Bloch, 1786)

Gobius plumieri Bloch, 1786: 154, pl. 178 (fig. 3). Type locality: Antilles. No types known.

Sicydium siragus Poey, 1860: 278. Type locality: Fresh waters of Santiago, Cuba. Syntypes: MCZ 13328 (2).

Sicydium antillarum Ogilvie-Grant, 1884: 157, pl. 12 (fig. 3). Type locality: Barbados, West Indies. Holotype: BMNH 1850.7.27.6.

Sicydium vincente Jordan & Evermann, 1898: 2207. Type locality: St. Vincent I., West Indies. Syntypes: (several hundred) MCZ 52287-89 (1, 1, 21), 26108 (100), 52286 (17); USNM 120292 [ex MCZ 26108] (10).

Sicydium caguitae Evermann & Marsh, 1899: 355. Type locality: Río de Caguaita at Caguas [Puerto Rico]. Holotype: USNM 49364.

Maximum length: 11 cm TL

Distribution: Caribbean Islands: Antilles south of Cuba, in fresh water

Countries: Puerto Rico, Barbados, Cuba, Jamaica, Martinique, Guadeloupe, Saint Vincent

Common names: Guavina (Puerto Rico)

***Sicydium punctatum* Perugia, 1896**

Sicydium punctatum Perugia, 1896: 18. Type locality: Martinique I., West Indies. Holotype MSNG 6821.

Sicydium montanum Hubbs, 1920: 89. Type locality: Mountain brook at Macuto, Caracas, Venezuela. Holotype: FMNH 9053.

Gobiosoma thomasi Fowler, 1949: 1, figs. Type locality: Rio Grande, Portland Parish, Jamaica. Holotype: ANSP 71841.

Maximum length: 8 cm SL

Distribution: South America and Caribbean Islands: Caribbean coast of Venezuela, Trinidad Island, West Indies; Dominica, Jamaica, Puerto Rico and Martinique, in fresh water

Countries: Dominica, Jamaica, Martinique, Puerto Rico, Trinidad and Tobago, Venezuela

***Sicydium rosenbergii* (Boulenger, 1899)**

Oreogobius rosenbergii Boulenger, 1899: 126. Type locality: Paramba, N.W. Ecuador, 3500 ft. altitude. Syntypes: BMNH 1899.6.29.26-27 (2).

Maximum length: 11 cm TL

Distribution: South America: Pacific slope of Ecuador, in the Parambas River, in fresh water.

Countries: Ecuador

***Sicydium salvini* Ogilvie-Grant, 1884**

Sicydium salvini Ogilvie-Grant, 1884: 159, pl. 12 (fig. 2). Type locality: Panama. Holotype: BMNH 1864.1.26.413.

Sicydium pittieri Regan, 1907: 260. Rio Grande de Térraba, Costa Rica. Syntypes: BMNH 1907.2.11.42-43 (2).

Maximum length: 14 cm SL.

Distribution: Central America: Pacific slope, from the Tamarindo River, Nicaragua, to the Cárdenas River, Panama, in fresh water.

Countries: Costa Rica, Nicaragua, Panama

Remarks and References: Redescription, with illustration and map in Bussing (1998: 405); synonymy of *S. pittieri* follows Bussing (1998: 405).

Common names: Chupapiedra, Tití (Costa Rica).

References

Bleeker, P. 1856. Bijdrage tot de kennis der ichthyologische fauna van het eiland Boeroe. *Natuurkundig Tijdschrift voor Nederlands Indië*, 11: 383-414.

Bleeker, P. 1874. Esquisse d'un système naturel des Gobioïdes. *Archives Néerlandaises des Sciences Naturelles*, 9: 289-331.

Bloch, M.E. 1786. *Naturgeschichte der ausländischen Fische*, vol. 2. Königl. Akademischen Kunsthändlern J. Morino & Comp Berlin. viii+ 160 p., pl. 145-180.

Bloch, M.E. 1792. *Naturgeschichte der ausländischen Fische*, vol. 6. Königl. Akademischen Kunsthändlern J. Morino & Comp., Berlin, xii +1+126 pp.

Boulenger, G.A. 1899. Description of a new genus of gobioid fishes from the Andes of Ecuador. *Annals and Magazine of Natural History* (7), 4: 125-126.

Bussing, W.A. 1998. Peces de las aguas continentales de Costa Rica/Freshwater fishes of Costa Rica. Editorial de la Universidad de Costa Rica, Ciudad Universitaria 'Rodrigo Facio', 468 pp.

Bussing, W.A. 1996. A new species of eleotridid, *Eleotris tecta*, from Pacific slope streams of tropical America (Pisces: Eleotrididae). *Revista de Biología Tropical*, 44: 251-257.

Cope, E.D. 1867. Supplement on some new species of American and African fishes. *Transactions of the American Philosophical Society*, 13: 400-407.

Cope, E.D. 1871. Contribution to the ichthyology of the Lesser Antilles. *Transactions of the American Philosophical Society (N. S.)*, 14: 445-483.

Cuvier, G. and A. Valenciennes. 1837. *Histoire naturelle des pois-*

sons. Tome douzième. Suite du livre quatorzième. Gobioïdes. Livre quinzième. Acanthoptérygiens à pectorales pédiculées. Paris, i-xxiv + 1-507 + 1 pp.

Dawson, C.E. 1971. *Gobiosoma (Garmannia) yucatanum*, a new seven-spined Atlantic goby from México. *Copeia*, 1971: 432-439.

de Buen, F. 1950. El mar de Solís y su fauna de peces. II Parte. *Publicaciones Científicas, Servicio Oceanográfico de Pesca, Ministério Industrial*, (2): 45-144.

Eigenmann, C.H. 1918. Eighteen new species of fishes from northwestern South America. *Proceedings of the American Philosophical Society*, 56: 673-689.

Evermann, B.W. 1898. Notes on fishes collected by E. W. Nelson on the Tres Marias islands and in Sinaloa and Jalisco, Mexico. *Proceedings of the Biological Society of Washington*, 12: 1-3.

Evermann, B.W. and H.W. Clark. 1906. New fishes from Santo Domingo. *Proceedings of the U.S. National Museum*, 30 (1478): 851-855

Evermann, B.W. and N.C. Marsh. 1899. Descriptions of new genera and species of fishes from Puerto Rico. *U.S. Commission Report for 1899*: 351-362,

Fowler, H.W. 1949. Description of a new species of goby (*Gobiosoma thomasi*) from Jamaica. *Notulae Naturae*, (218): 1-3.

Fowler, H.W. 1952. The fishes of Hispaniola. *Memórias de la Sociedad Cubana de Historia Natural -Felipe Poey-*, 21: 83-122

Gilbert, C.R. and D.P. Kelso. 1971. Fishes of the Tortuguero area, Caribbean Costa Rica. *Bulletin of the Florida State Museum, Biological Sciences*, 16: 1-54.

Gill, T.N. 1858. Synopsis of the fresh water fishes of the western portion of the island of Trinidad, W. I. *Annals of the Lyceum of Natural History of New York*, 6: 363-430.

Gill, T.N. 1859. Description of a new generic form of Gobinae from the Amazon River. *Annals of the Lyceum of Natural History of New York*, 7: 45-48.

Gill, T.N. 1860. Monograph of the Philypni. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 12: 120-126.

Gill, T.N. 1861. Catalogue of the fishes of the eastern coast of North America, from Greenland to Georgia. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 13 (Suppl.): 1-63.

Gill, T.N. 1863. Descriptive enumeration of a collection of fishes from the western coast of Central America, presented to the Smithsonian Institution by Captain John M. Dow. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 15: 162-174.

Giltay, L. 1935. Note sur quelques poissons marins du Congo belge. *Bulletin du Musée Royal d'Histoire Naturelle de Belgique*, 11 (36): 1-15.

Ginsburg, I. 1933. Descriptions of new and imperfectly known species and genera of gobioid and pleuronectid fishes in the United States National Museum. *Proceedings of the United States National Museum*, 82 (2961): 1-23.

Ginsburg, I. 1944. A description of a new gobioid fish from Venezuela, with notes on the genus *Garmannia*. *Journal of the Washington Academy of Sciences*, 34: 375-380.

Ginsburg, I. 1953. Ten new American gobioid fishes in the United States National Museum, including additions to a revision of *Gobionellus*. *Journal of the Washington Academy of Sciences*, 43: 18-26.

Girard, C.F. 1858. Notes upon various new genera and new species of fishes in the museum of the Smithsonian Institution, and collected in connection with the United States and Mexican Boundary Survey: Major William Emory, Commissioner. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 10: 167-171.

Girard, C.F. 1859. Ichthyological notices. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 11: 56-68, 100-104, 113-122.

Check List of the Freshwater Fishes of South and Central America

- Gmelin, G.F. 1789. Caroli a Linné Systema Naturae per regna tria naturae, secundum classes, ordines, genera, species; cum characteribus, differentiis, synonymis, locis. Editio decimo tertia, aucta, reformata. Tomus I, Pars III. Lipsiae: 1033-1516.
- Gray, J.E. 1854. Catalogue of fish collected and described by Laurence Theodore Gronow, now in the British Museum. London, vii+196 pp.
- Greenfield, D.W. and J.E. Thomerson. 1997. Fishes of the continental waters of Belize. University Press of Florida, Gainesville, iii-xxii + 1-311.
- Grey, M. 1947. Catalogue of type specimens of fishes in Chicago Natural History Museum. Fieldiana Zoology, 32: 109-205.
- Gronovius, L.T. 1756. Musei Ichthyologici tomus secundus sistens piscium indigenorum & nonnullorum exoticorum, quorum maxima pars in Museo Laurentii Theodori Gronovii, J.U.D. adservatur, nec non quorundam in aliis Museis observatorum descriptions. Published by author, Lugduni Batavorum, [6pp.+] 88pp. [Fish section 46 pp. + pp. 86-88]
- Günther, A. 1859. Catalogue of the Acanthopterygian fishes in the collection of the British Museum. Volume First. London, xxxi+1+524 pp.
- Günther, A. 1861. Catalogue of the Acanthopterygian fishes in the collection of the British Museum. Volume Third. London, x+586 pp.
- Günther, A. 1862. Descriptions of new species of reptiles and fishes in the collection of the British Museum. Proceedings of the Zoological Society of London, 1862: 188-194.
- Günther, A. 1864. Report of a collection of fishes made by Messrs. Dow, Godman, and Salvin in Guatemala. Proceedings of the Zoological Society, London, 1864: 144-154.
- Hildebrand, S.F. and W.C. Schroeder. 1928. Fishes of Chesapeake Bay. Bulletin of the Bureau of Fisheries, 43 (1927): 1-366.
- Hoedeman, J.J. 1951. Een nieuwe kleine Gobiide vis met samengegroeide buikvinnen bij de man (*Dormitator lophocephalus* sp. nov.). Beaufortia, (2): 1-6.
- Hoedeman, J.J. 1952. Importen uit Surinam. Berichten van het visdeterminatiestation van de N.B.A.T. Het Aquarium, 22: 197.
- Hoesé, D.F. & A. Gill. 1993. Phylogenetic relationships of eleotrid fishes (Perciformes, Gobioidae). Bulletin of Marine Science, 52: 415-440.
- Hubbs, C.L. 1920. *Sicydium montanum*, a new species of goby from Venezuela. Proceedings of the Biological Society of Washington, 33: 89-90.
- ICZN [International Commission for Zoological Nomenclature]. 1999. International Code of Zoological Nomenclature. Fourth Edition. The Natural History Museum, London.
- Jordan, D.S. 1895. The fishes of Sinaloa. Proceedings of the California Academy of Sciences, 5: 377-514.
- Jordan, D.S. 1919. The genera of fishes, part III, from Guenther to Gill, 1859-1880, twenty-two years, with the accepted type of each. A contribution to the stability of scientific nomenclature. Leland Stanford Jr. University Publications, University Series, 39: 285-410. [Also includes Index to Part III, i-xv.]
- Jordan, D.S. and B.W. Evermann. 1896. A check-list of the fishes and fish-like vertebrates of North and Middle America. Reports of the U. S. Fish Commission, 21 [1895] Appendix 5: 207-584.
- Jordan, D.S. and B.W. Evermann. 1898. The fishes of North and Middle America: a descriptive catalogue of the species of fish-like vertebrates found in the waters of North America north of the Isthmus of Panama. Part III. Bulletin of the U. S. National Museum, 47: i-xxiv + 2183a-3136.
- Jordan, D.S. and C.H. Gilbert. 1882. Description of five new species of fishes from Mazatlan, Mexico. Proceedings of the U. S. National Museum, 4: 458-463.
- Keith, P., P.-Y. Le Bail and P. Planquette. 2000. Atlas des poissons d'eau douce de Guyane, 2 (1). Muséum National de Histoire Naturelle, Paris, Patrimoines Naturelles, 43 (1): 1-286.
- Kner, R. 1863. [Eine Uebersicht der ichthyologischen Ausbeute des Herrn Professors Dr. Mor. Wagner in Central-Amerika]. Sitzungsberichte der königl. Bayer. Akademie der Wissenschaften zu München, 2: 220-230.
- La Cepède, B.G. 1800. Histoire naturelle des poissons. Tome second. Paris, xlv+632 pp.
- Laet, I. de (ed.). [G. Piso & G. Marcgravius de Liebstad.] Historia naturalis Brasiliae, auspicio et beneficio Illustriss. I. Mauritii Com. Nassau illius Provinciae et Maris summi praefecti adornata in qua non tantum Plantae et Animalia, sed et Indigenarum morbi, ingenia et mores describuntur et iconibus supra quingentas illustrantur. Lugduni Batavorum & Amstelodami, 293 pp + 7 pp.
- Lichtenstein, M.H.C. 1822. Die Werke von Marcgrave und Piso Über die Naturgeschichte Brasiliens, erläutert aus den wieder aufgefundenen Original-Abbildungen. Abh. Akad. Wiss. Berlin, 1820-21: 267-288.
- Meek, S.E. 1902. A contribution to the ichthyology of Mexico. Field Museum of Natural History, Publication, Zoological Series, 3: 63-128.
- Meek, S.E. 1907. Notes on fresh-water fishes from Mexico and Central America. Field Columbian Museum Publication, Zoological Series, 7: 133-157.
- Meek, S.E. 1914. An annotated list of fishes known to occur in the fresh-waters of Costa Rica. Field Museum of Natural History, Publication, Zoological Series, 10: 101-134.
- Meek, S.E. and S.F. Hildebrand. 1912. Descriptions of new fishes from Panama. Field Museum of Natural History, Publication, Zoological Series, 10: 67-68.
- Meek, S.E. & S.F. Hildebrand. 1916. The fishes of the fresh waters of Panama. Field Museum of Natural History Publication, Zoological Series, 10: 217-374.
- Meek, S.E. and S.F. Hildebrand. 1928. The marine fishes of Panama. Part III. Field Museum of Natural History, Publication, Zoological Series, 15: xxv-xxxii + 709-1045.
- Maugé, A.L. 1984. Diagnoses préliminaires d'Eleotridae des eaux douces de Madagascar. Cybium, 8: 98-100.
- Miller, R.R. 1966. Geographical distribution of Central American freshwater fishes. Copeia, 1966: 773-802.
- Murdy, E.O. 1998. A review of the gobioid fish genus *Gobioides*. Ichthyological Research, 45: 121-133.
- Myers, G.S. 1927. Descriptions of new South American freshwater fishes collected by Dr. Carl Ternetz. Bulletin of the Museum of Comparative Zoology at Harvard College, 68: 107-135.
- Nelson, J.S. 1994. Fishes of the world. 3rd edition. Wiley, New York. xv + 523 pp.
- Nichols, J.T. 1952. Four new gobies from the eastern and western Pacific. American Museum Novitates, 1594: 1-5.
- Ogilby, J.D. 1898. A contribution to the zoology of New Caledonia. Proceedings of the Linnaean Society of New South Wales, 22: 762-770.
- Ogilvie-Grant, W.R. 1884. A revision of the fishes of the genera *Sicydium* and *Lentipes*, with descriptions of five new species. Proceedings of the Zoological Society of London, 1884 (pt 2): 153-172.
- O'Shaughnessy, A.W.E. 1875. Descriptions of new species of Gobiidae in the collection of the British Museum. Annals and Magazine of Natural History (4), 15: 144-148.
- Palmer, G. 1952. Notes on the fishes of the genus *Gobioides*, with the description of a new species. Annals and Magazine of Natural History (12), 5: 50-57.
- Palmer, G. and A.C. Wheeler. 1955. Further notes on the fishes of the genus *Gobioides*. Annals and Magazine of Natural History, 8: 67-68.
- Perugia, A. 1896. Sopra alcuni pesci raccolti alle Antille dal Cap. Giuseppe Capurro. Annali del Museo Civico di Storia Naturale Giacomo Doria (Ser. 2a), 16: 14-19.

Check List of the Freshwater Fishes of South and Central America

- Pinto, S.Y. 1960. Um novo Gobiidae do estado da Bahia, Brasil (Acanthopterygii - Perciformes). Boletim do Museu Nacional, Nova Série, Zoologia (218): 1-9.
- Poey, F. 1858-1861. Memorias sobre la historia natural de la Isla de Cuba, acompañadas de sumarios Latinos y extractos en Francés. Tomo 2. La Habana, pp. 1-96 (1858), 97-336 (1860), 337-442, (1861)
- Puyo, J. 1944. Un gobiidé d'eau douce de la Guyane française. Bulletin de la Société d'Histoire Naturelle de Toulouse, 79: 231-233.
- Rafinesque, C.S. 1815. Analyse de la nature, ou tableau de l'univers et des corps organisés. Palerme, 224 pp.
- Rao, V.V. 1971. *Chiramenu fluviatilis* gen et. sp. nov. (Pisces: Gobiidae) from Godavari Estuary. Journal of the Marine Biological Association of India, 12 [1970]: 183-186.
- Regan, C.T. 1903. Descriptions of new South-American fishes in the collection of the British Museum. Annals and Magazine of Natural History (7), 12: 621-630.
- Regan, C.T. 1905. A collection of fishes made by Dr. H. Gadow in southern Mexico. Annals and Magazine of Natural History (7), 16: 361-363.
- Regan, C.T. 1906-1908. Pisces. In Godman, F.D. & O. Salvin (eds.). Biologia Centrali-Americana. London, xxxii+203 pp. (published in parts, 1906 (pp. 1-32), 1907 (pp. 33-160), 1908, pp. i-xxxii, 161-203).
- Regan, C.T. 1907. Descriptions of six new freshwater fishes from Mexico and Central America. Annals and Magazine of Natural History (7), 19: 258-260
- Richardson, J. 1844. Ichthyology – Part 1. Pp. 51-70 In: R.B. Hinds (ed.). The zoology of the voyage of H. M. S. Sulphur, under the command of Captain Sir Edward Belcher, R. N., C. B., F. R. G. S., etc., during the years 1836-42, No. 5. Smith, Elder & Co., London.
- Robins, C.R. & E.A. Lachner. 1966. The status of *Ctenogobius* Gill (Pisces: Gobiidae). Copeia, 1966: 867-869.
- Sauvage, H.E. 1880. Description des Gobioides nouveaux ou peu connus de la collection du Muséum d'histoire naturelle. Bulletin de la Société Philomatique, Paris (7), 4: 40-58
- Schneider, J.G. 1801. M. E. Blochii, Systema Ichthyologiae iconibus ex illustratum. Post obitum auctoris opus inchoatum absolvit, correxit, interpolavit Jo. Gottlob Schneider, Saxo. Berolini. Sumtibus Auctoris Impressum et Bibliopolio Sanderiano Commisum. i-lx + 1-584.
- Starks, E.C. 1913. The fishes of the Stanford expedition to Brazil. Leland Stanford Jr. University Publications, University Series, 77 pp.
- Steindachner, F. 1861. Beiträge zur Kenntniss der Gobioiden. Sitzungsberichte der kaiserlichen Akademie der Wissenschaften, Mathematisch-naturwissenschaftliche Classe, 42 [for 1860]: 283-292.
- Steindachner, F. 1879. Ichthyologische Beiträge (VIII). Sitzungsberichte der kaiserlichen Akademie der Wissenschaften, Mathematisch-naturwissenschaftliche Classe, 80: 119-191.
- Steindachner, F. 1880. Zur Fisch-Fauna des Cauca und der Flüsse bei Guayaquil. Denkschriften der kaiserlichen Akademie der Wissenschaften. Mathematisch-naturwissenschaftliche Classe, 42: 55-104
- Swainson, W. 1839. The natural history of fishes, amphibians, & reptiles, or monocardian animals. Vol. II.. Lardner's Cabinet Cyclopaedia, Longman, Orme, Brown, Green & Longmans, London, 452 pp.
- Walbaum, J.J. (ed.). 1792. Petri Artedi Sueci Genera Piscium. In quibus systema totum Ichthyologiae proponitur cum classibus, ordinibus, generum characteribus, specierum differentiis, observationibus plurimis. Ichthyologiae Pars III. Grypeswaldiae, 723 pp.
- Watson, R.E. 1996. Revision of the subgenus *Awaous* (*Chonophorus*) (Teleostei: Gobiidae). Ichthyological Exploration of Freshwaters, 7: 1-18.
- Watson, R.E. 2000. *Sicydium* from the Dominican Republic with description of a new species (Teleostei: Gobiidae). Stuttgarter Beiträge zur Naturkunde, Serie A, (608): 1-31.
- Watson, R.E. and H. Horsthemke 1995. Revision of *Euctenogobius*, a monotypic subgenus of *Awaous*, with discussion of its natural history (Teleostei: Gobiidae). Revue Française d'Aquariologie, 22: 83-92.

Family Achiridae (American soles)

Robson T. C. Ramos

The Achiridae are saltwater and freshwater flatfishes with the eyes on the right side, body rounded or ovate in lateral view in most species, including fins, and elongate in *Achiropsis nattereri*, *Apionichthys dumerili*, and one undescribed species referred to *Apionichthys*. The eyed-side lower lip has a conspicuous, variously fringed fleshy rim, which distinguish the species of this family from other sympatric flatfishes. The lower lip is internally strengthened by a cartilaginous piece positioned laterally to the dentary, the upper free half above the dentary dorsal margin; this cartilaginous piece, which is visible only by dissection or in cleared and stained preparations, is also present in other flatfish families, but clearly less developed than in achirids. The posterior nare forming a wide longitudinal slit above the posterior end of the upper lip, and hidden by the lower lip when the mouth is closed, is also a diagnostic external character for achirids. A similar character also appears in the Soleidae, but is never covered by lower lip in that family; soleids do not occur in the Neotropics. The anterior nare is tubular as in some other flatfish families. The margin of the preopercle is marked by a narrow naked area, particularly at its angle; this area is very narrow in adults and concealed by scales in juveniles of *Soleonassus*. The teeth are villiform, organized in a patch and present on the jaws only on the blind side, except for *Hypoclinemus mentalis*, which possesses teeth on the jaws of both eyed and blind sides. Dorsal fin extending forward onto the cranium up to the anterior end of the upper jaw, which is often covered by a fringed dermal flap projected from the anterior end of this fin. In *Achiropsis*, *Apionichthys*, *Pnictes*, and *Soleonassus* the anterior end of the dorsal fin and its corresponding supracranial area extend beyond and conceal the anterior margin of the mouth. The eyed-side pelvic fin is united to the anal fin by a membrane; both pelvic fins are enclosed in a single dermal envelope in *Gymnachirus* and *Soleonassus*, also united to the anal fin by a membrane; pelvic fins extending forward in *Achiropsis*, *Apionichthys*, *Pnictes*, and *Soleonassus*, the first pelvic-fin ray inserted just below the ventral end of the mandibular symphysis. The dorsal and anal fins are free from the caudal fin in most species, or united to the caudal fin by a narrow membrane in *Achiropsis*, *Apionichthys*, and *Pnictes*. Pectoral fins often minute, present on one or both sides, or absent. Lateral line frequently ornamented with dermal processes or ramified tubes, particularly on the head. Scales ctenoid, those of the head external margin larger than those on the body, and a little turned to its center; scales absent in *Gymnachirus*, except for remains of lateral line tubes on head and body. Medium size achirid species are 15 centimeters long, the largest species occurring in freshwater. Achirids are carnivores, eating fishes and benthic invertebrates. Fully developed gonads were examined in specimens 2.5 centimeters SL, from a species which grows up to 12 centimeters. Common names of these fishes include American Soles (English), Lenguado (Spanish), and Linguado (a general Portuguese word for Pleuronectiformes). In several Brazilian regions they are also known as Solha, Sôia, Sôia, Tapa, or Armaçã. Presently, nine genera and 28 species are recognized (Nelson, 1994). No recent revision is available. Chabanaud (1928a) published a review of achirids, but it is not a comprehensive work. The achirid genera are presently being reviewed by the author, and synonymization of some genera and species may be expected. Also, additional species restricted to freshwater and referred to *Apionichthys*, and marine species referred to *Trinectes* and *Achirus* will be described.

The assemblage that composes the family Achiridae was traditionally treated as part of the Soleidae, in subfamilial rank. Jordan (1923) proposed family rank to that assemblage. This view was subsequently supported by Chabanaud in several papers (e.g., 1935, 1939), but not by Greenwood et al. (1966). Recently, Chapleau and Keast (1988) proposed the monophyly of the achirids based on five osteological cranial characters, but rejected the traditional view of a monophyletic Soleidae (Soleinae + Achirinae), previously supported by other authors. A cladistic study of intergeneric relationships, also in progress by the present author, detected eight new exclusive characters to support the monophyly proposed by Chapleau and Keast (1988) for the achirids.

Achirids are mainly shore fishes restricted to both sides of Americas, including the subtropical, southern portion of Nearctic region, and all the Neotropics, except for its extreme south. The genera *Achiropsis*, *Apionichthys*, *Pnictes*, and *Soleonassus* are restricted to freshwater in northern South American rivers, except for *Apionichthys dumerili*, which occurs in estuarine areas of the Orinoco, Corantjin, Oyapock, Amazon and Grajaú basins, also entering lowland freshwaters as do some other marine achirid species, and in marine areas under the influence of those rivers. Two species of *Catathyridium* are restricted to the Paraguay-Paraná, and Uruguay systems, and one species (*C. garmani*) occurs in estuarine and marine coastal areas of Southeastern Brazil, including salt and freshwater portions of Lagoa dos Patos, coastal areas of Uruguay and northern Argentina. Some marine species of the genera *Achirus* and *Trinectes* occasionally enter freshwaters.

ACHIROPSIS

Achiropsis Steindachner, 1876: 161. Type species: *Solea (Achiropsis) nattereri* Steindachner, 1876. Type by monotypy. Gender: feminine.

***Achiropsis nattereri* Steindachner, 1876**

Solea (Achiropsis) nattereri Steindachner, 1876: 158. Type locality: Rio negro. Holotype: NMW 14001.

Achiropsis normani Chabanaud, 1928a: 641. Type locality: Rio Jurza [= Juruá River, Brazil]. Holotype: BMNH 1897.12.10.5.

Maximum length: 23.4 cm

Distribution: South America: Amazon basin; there are no records from rivers Xingu, Tapajós, and Madeira.

Countries: Brazil, Ecuador, Peru

Remarks and references: See Chabanaud (1938) for a more detailed description; for synonymization of *Achiropsis normani* see Ramos (1998)

Common names: Lenguado (Ecuador, Peru), Linguado (Brazil)

ACHIRUS

Achirus La Cepède, 1802: 658. Type species: *Pleuronectes achirus* Linnaeus, 1758. Type by absolute tautonymy; *P. achirus* included in the synonymy of *A. fasciatus* La Cepède. Gender: masculine.

***Achirus achirus* (Linnaeus, 1758)**

Pleuronectes achirus Linnaeus, 1758: 268. Type locality: Surinami. No types known.

Maximum length: 18 cm

Distribution: Western Atlantic: Probably Venezuela to northeastern Brazil.

Countries: Brazil, Suriname, Venezuela

Remarks and references: The distribution of *Achirus achirus* is stated by Chabanaud (1928b: 23) as "West coast of Americas, including West Indies. Cited from 7°N from 34°S", and Cervigon (1966: 812) as "north and east of Gulf of Mexico to Rio Grande do Sul State, Brazil" (data on both papers are coincident). Cervigón (1996: 16) states: "its distribution extends from Golfo de Paria to Amazonas." No papers dealing with Achiridae include reference to a precise collection of *A. achirus* in Gulf of Mexico or West Indies; Meek and Hildebrand (1928) do not cite this species for Panama. *Achirus achirus* was described from Suriname, and there are records from Venezuela, Suriname (the original description and other papers which refer to it), and Brazil (Figueirero & Menezes, 2000; Rosa, 1980). *Achirus achirus* certainly do not occur in southeastern South America (Figueirero & Menezes, 2000), the most southern collection was made in Paraíba State, northeastern Brazil (Rosa, 1980). The probable distribution of *A. achirus* is the coastal areas from Venezuela to northeastern Brazil, but further studies are necessary to map the distribution of this species. Like several achirid species, it is a marine species which occasionally enters freshwaters; there is at least on record of this species for freshwater (Tocantins River at Cameté, Pará State, Brazil). Ortega and Vari (1986) cite *A. achirus* for freshwaters of Peru (Amazon basin), but it is a misidentification, as this species does not occur in highland freshwaters. In this area *Hypoclinemus mentalis* occurs, which is frequently mistaken for *A. achirus*.

Common names: Lenguado (Venezuela), Linguado (Brazil), Solha (Brazil)

***Achirus novoae* Cervigón, 1982**

Achirus novoae Cervigón, 1982: 243, fig. 20. Type locality: La Lagunita Lake, near Bolívar, State of Bolívar, Venezuela. Holotype: FCLR 644.

Maximum length: 10.6 cm

Distribution: South America: Orinoco basin, including delta.

Countries: Colombia, Venezuela

Remarks and references: See Ramos (1998) for redescription and comparison with other species occurring in the same area.

Common names: Lenguado (Colombia, Venezuela)

Species inquirenda

Achirus errans Miranda Ribeiro, 1915: Heterostoma p. 23. Type locality: Rio Jaurú and Rio Paraguay. Syntypes: (2). Type not examined, literature information insufficient for assessing status of the species

APIONICHTHYS

Apionichthys Kaup, 1858: 104. Type species: *Apionichthys dumerili* Kaup, 1858. Type by monotypy. Gender: masculine.

Soleotalpa Günther, 1862: 489. Type species: *Soleotalpa unicolor* Günther, 1862. Type by monotypy. Gender: feminine.

***Apionichthys dumerili* Kaup, 1858**

Apionichthys dumerili Kaup, 1858: 104. Type locality: unknown. Syntypes: BMNH 1927.4.27.1.

Soleotalpa unicolor Günther, 1862: 489. Type locality: West Indies. Holotype: BMNH uncataloged.

Apionichthys ottonis Steindachner, 1868: 120. Type locality: Mittelmeer [Mediterranean Sea]. Syntypes: NMW 14122, NMW 14123.

Apionichthys nebulosus Peters, 1869: 709. Type locality: Suriname.

Apionichthys bleekeri Horst, 1879: 31. Type locality: unknown. Holotype: University of Utrecht (examined by Chabanaud (1928b)).

Maximum length: 12.4 cm

Distribution: South America: Estuarine areas of the Rivers Orinoco (Venezuela), Corantijn (Suriname), Oyapock, Amazon and Grajaú (Brazil), and from marine areas under influence of those rivers. Enters low land freshwaters - there are records from Jari (Brazil) and Corantijn rivers.

Countries: Brazil, French Guiana, Guyana, Suriname, Venezuela

Remarks and references: The description of the genus (Kaup, 1858) corresponds to that of the single valid species (translated to English in Günther (1862: 489), and to Portuguese in Miranda Ribeiro (1915: 30)). The type locality of *A. ottonis* is obviously in error.

Common names: Flounder (Guyana), Lenguado (Venezuela), Linguado (Brazil)

CATATHYRIDIDIUM

Catathyridium Chabanaud, 1928b: 28. Type species: *Solea jenynsii* Günther, 1862. Type by subsequent designation by Myers, 1929: 37. Gender: neuter.

***Catathyridium garmani* (Jordan, 1889)**

Achirus garmani Jordan in Jordan & Goss, 1889: 314. Type locality: Rio Grande do Sul, Brazil. Holotype: MCZ 11246.

Maximum length: 17 cm

Distribution: Southwest Atlantic: Estuarine and marine coastal areas of southeastern Brazil, including salt and freshwater portions of Laguna dos Patos basin, Uruguay, and northern Argentina.

Countries: Argentina, Brazil, Uruguay

Remarks and references: Jordan (in Jordan & Goss, 1889: 314) did not give a description, he just indicated that there was a new species and stated the number of the single type specimen (MCZ 11246). See Ramos (1998) for a description and synonymy.

Common names: Lenguado (Argentina, Uruguay), Linguado (Brazil)

***Catathyridium jenynsii* (Günther, 1862)**

Solea jenynsii Günther, 1862: 476. Type locality: Rio de la Plata. Holotype: BMNH 1917.7.25.3.

Achirus trichospilus Berg, 1895: 130. Type locality: Entre-Ríos, Argentina and Río Negro, Mercedes, Uruguay. Syntypes: MACN (2); MHNM.

Maximum length: 23.7 cm

Distribution: South America: Paraná and Uruguay River basins.

Countries: Argentina, Brazil, Paraguay, Uruguay

Remarks and references: Redescribed with synonymy in Ramos (1998).

Common names: Lenguado (Paraguay, Uruguay), Linguado (Brazil)

***Catathyridium lorentzii* (Weyenbergh, 1877)**

Achirus lorentzii Weyenbergh, 1877: 13, pl. 1. Type locality: Río Paraná, next to Santa Fé, and Río Uruguay, Argentina. Syntypes: (several) Mus. Nacional Argentina, Buenos Aires.

Hypoclinemus paraguayensis Chabanaud, 1928b: 35. Type locality: Río Paraguay, South America. Holotype: NMW.

Maximum length: 5.4 cm

Distribution: South America: Paraguay and Uruguay River basins.

Countries: Argentina, Brazil, Paraguay, Uruguay

Remarks and references: See Ramos (1988) for a redescription, synonymy, and discussion on new combination. Holotype of *Hypoclinemus paraguayensis* probably lost (pers. comm., Ernst Mikschi, NMW).

Common names: Lenguado (Argentina, Paraguay, Uruguay), Linguado (Brazil)

HYPOCLINEMUS

Hypoclinemus Chabanaud, 1928b: 32. Type species: *Solea mentalis* Günther, 1862. Type by subsequent designation by Myers (1929: 37). Gender: masculine.

***Hypoclinemus mentalis* (Günther, 1862)**

Solea mentalis Günther, 1862: 475. Type locality: River Capim (Para) [=Capim River, Pará, Brazil]. Syntypes: BMNH 1849.11.8:63-64.

Achirus hasemani Steindachner, 1915: 347. Type locality: Rio Branco at Conceição, Brazil. Holotype: NMW.

Maximum length: 21 cm

Distribution: South America: Amazon basin (there are records throughout the basin, except upper portion of Tapajós and Xingu rivers), Orinoco basin (upper tributaries: Guaviare, Casicare, Voutuari), and throughout the Essequibo River basin.

Countries: Colombia, Guyana, Peru, Venezuela

Remarks and references: See Ramos (1998) for redescription and synonymy.

Common names: Lenguado (Colombia, Peru, Venezuela), Linguado (Brazil)

PNICTES

Pnictes Jordan, 1918: 343. Type species: *Achiroopsis asphyxiatus* Jordan, 1889. Type by original designation. Gender: masculine.

***Pnictes asphyxiatus* (Jordan, 1889)**

Achiroopsis asphyxiatus Jordan in Jordan & Goss, 1889: 319. Type locality: Exact type locality unknown [probably Tocantins-Araguaia system, Goiás, Brazil]. Holotype: MCZ 11106.

Maximum length: 9.6 cm

Distribution: South America: Amazon basin (one record from Amazon River, and that of the holotype).

Countries: Brazil

Remarks and references: Original description translated into Portuguese by Miranda Ribeiro, 1915: 30). According to Higuchi (1992) the holotype was collected after the conclusion of the Thayer Expedition, for comparison with lower Tocantins River specimens. Isbrücker (1973: 174) suggests the type locality as "Rio Araguaia drainage, upper course of Rio Vermelho at Goiás (15°57'S 50°07'W)", but this has not been confirmed.

Common names: Linguado (Brazil), Sóia (Brazil)

SOLEONASUS

Soleonasmus Eigenmann, 1912: 528. Type species: *Soleonasmus finis* Eigenmann, 1912. Type by original designation. Gender: masculine.

***Soleonasmus finis* Eigenmann, 1912**

Soleonasmus finis Eigenmann, 1912: 528, pl. 70 (fig. 2). Type locality: Tumatumari [Guyana]. Holotype: FMNH 53965.

Maximum length: 8.8 cm

Distribution: South America: Potaro River basin in Essequibo River drainage, and middle to upper Amazon River basin.

Countries: Brazil, Guyana, Peru

Remarks and references: See Ramos (1998) for redescription.

Common names: Flounder (Guyana), Lenguado (Peru), Linguado (Brazil), Sóia (Brazil)

TRINECTES

Trinectes Rafinesque, 1832: 20. Type species: *Trinectes scabra* Rafinesque, 1832. Type by monotypy. Gender: masculine.

***Trinectes fluviatilis* (Meek & Hildebrand, 1928)**

Achirus fluviatilis Meek & Hildebrand, 1928: 1002, pl. 102 (fig. 2). Type locality: Rio Juan Diaz, Panama. Holotype: USNM 81667.

Maximum length: 5 cm

Distribution: Eastern Pacific: Costa Rica to Peru; enters freshwater.

Countries: Colombia, Costa Rica, Ecuador, Panama, Peru

Common names: Lenguado (Colombia, Costa Rica, Ecuador, Panama, Peru)

References

- Berg, C. 1895. Sobre peces de agua dulce nuevos ó poco conocidos de la República Argentina. An. Mus. Nac. Hist. Nat. Buenos Aires, 4: 121-165.
- Cervigón, F. 1966. Los peces marinos de Venezuela (2 vols.). Estacion de. Investigaciones Marinas de Margarita, Caracas. 951 p.
- Cervigón, F. 1982. La ictiofauna estuarina del Caño Manamo y areas adyacentes. Pp. 205-260, In: D. Novoa R. (ed.). Los recursos pesqueros del Rio Orinoco y su explotación. Corporación Venezolana de Guyana, División de Desarrollo Agrícola, Caracas. 386 p., Plates.
- Cervigón, F. 1996. Los peces marinos de Venezuela, 2nd ed., vol. 4. Editorial Ex Libris, Caracas.
- Chabanaud, P. 1928a. Sur les genres *Apionichthys*, Kp., et *Achiroopsis*, Sdr. [Pisces: Soleiformes]; description d'une espèce nouvelle. Ann. Mag. Nat. Hist. (Ser. 10), 1 (5): 638-641.
- Chabanaud, P. 1928b. Revision des poissons Hétérosomes de la sous-famille des Achirinae, d'après les types de Kaup, de Günther et de Steindachner. Bulletin de l'Institut Océanographique, 523: 1-53.
- Chabanaud, P. 1935. Position systématique d'*Achirus fluviatilis* Meek et Hildebrand (Pisces Achiridae). Bull. Mus. Hist. Nat. Paris, 7: 77-78.
- Chabanaud, P. 1938. Sur un très rare Achiridé du bassin de l'Amazone. Bull. Soc. Zool. Fr. 63: 200-211.
- Chabanaud, P. 1939. Catalogue systématique et chorologique des Téléostéens dyssymétriques du Globe. Bull. l'Institut Océanographique, 763: 1-30.
- Chapleau, F. and A. Keast. 1988. A phylogenetic reassessment of the monophyletic status of the family Soleidae, with notes on the suborder Soleoidei. Canadian J. Zool., 66: 2797-2810.
- Eigenmann, C.H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the

Check List of the Freshwater Fishes of South and Central America

- relation of the fauna of the plateau to that of the lowlands. Mem. Carnegie Mus., 5 (1): i-xxii + 1-578.
- Figueiredo, J.L. and N.A. Menezes. 2000. Manual de peixes marinhos do sudeste do Brasil. VI. Teleostei (5). Museu de Zoologia, Universidade de São Paulo. Brazil. 116 p.
- Greenwood, P.H., D.E. Rosen, S.H. Weitzman and G.S. Myers. 1966. Phyletic studies of teleostean fishes, with a provisional classification of living forms. Bull. Amer. Mus. Nat. Hist., 131 (4): 339-456.
- Günther, A. 1862. Catalogue of the fishes in the British Museum. Volume Fourth. Catalogue of the Acanthopterygii Pharyngognathi and Anacanthini in the collection of the British Museum. Trustees, London. xxi + 534 p.
- Higuchi, H. 1992. An updated list of ichthyological collecting stations of the Thayer Expedition to Brazil. Electronic version (1996).
- Horst, R. 1879. Eene nieuwe Pleuronectoide, *Apionichthys bleekeri*. Tijdschr. Nederl. Dierk. Ver., 4: 30-32.
- Isbrücker, I.J.H. 1973. Status of the primary homonymous South American catfish *Loricaria cirrhosa* Perugia, 1897, with remarks on some other loricariids (Pisces, Siluriformes, Loricariidae). Ann. Museu Civico di Storia Naturale "Giacomo Doria," 79: 172-191.
- Jordan, D.S. 1918. New genera of fishes. Proc. Acad. Nat. Sci. Philadelphia, 70: 341-344.
- Jordan, D.S. 1923. On the family of Achiridae or broad-soles, with description of a new species *Achirus barnharti* from California. Univ. California Publ. Zool., 26 (1): 1-14, pl. 1.
- Jordan, D.S. and D.K. Goss. 1889. A review of the flounders and soles (Pleuronectidae) of America and Europe. Rep. U. S. Fish Comm., 14 [for 1886]: 225-342, pls. 1-9.
- Kaup, J.J. 1858. Uebersicht der Soleinae, der vierten Subfamilie der Pleuronectidae. Arch. Naturgeschichte, 24 (1): 94-104.
- La Cépède, B.G.E. 1802. Histoire naturelle des Poissons. Tome quatrième. xxxiv + 728 p.
- Linnaeus, C. 1758. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Tomus I. Editio decima, reformata. Holmiae. ii + 824 p.
- Meek, S.E. and S.F. Hildebrand. 1928. The marine fishes of Panama. Part III. Field Mus. Nat. Hist. Publ. Zool. Ser., 15 (249): xxv-xxxii + 709-1045, pls. 72-102.
- Miranda Ribeiro, A. 1913-1915. Fauna brasiliense. Peixes. Tomo V. [Eleutherobranchios aspirophoros]. Physoclisti. Arq. Mus. Nac. Rio de Janeiro, 17: [1-679], pls.
- Myers, G.S. 1929. Notes on soles related to *Achirus*. Copeia, (171): 36-38.
- Nelson, J.S. 1994. Fishes of the world. 3rd edition. Wiley, New York. xv + 523 pp.
- Ortega, H. and R.P. Vari. 1986. Annotated checklist of the freshwater fishes of Peru. Smithson. Contrib. Zool. No. 437: i-iii + 1-25.
- Peters, W. 1869. Über neue oder weniger bekannte Fische des Berliner Zoologischen Museums. Monatsb. Akad. Wiss. Berlin, 1869: 703-711.
- Rafinesque, C.S. 1832. Extracts from a second series of zoological letters written to Baron Cuvier of Paris, by Prof. Rafinesque in 1831. Atlantic Journal and Friend of Knowledge, 1 (1): 19-22.
- Ramos, R.T.C. 1988. Estudo filogenético da família Achiridae (Teleostei: Pleuronectiformes: Pleuronectoidei), com a revisão das formas de água doce da América do Sul cisandina e a reavaliação do monofiletismo de Soleomorpha ("Soleoidei"). Ph.D. dissertation, Inst. Bioc. Univ. São Paulo, São Paulo, xii + 159 pp.
- Rosa, R.S. 1980. Lista sistemática de peixes marinhos da Paraíba (Brasil). Rev. Nordest. Biol. 3(2): 205-226.
- Steindachner, F. 1868. [Ichthyologische Abhandlung.] Anzeiger Akad. Wiss., 5 (14): 120.
- Steindachner, F. 1876. Ichthyologische Beiträge (V). Sitzungsber. Akad. Wiss. Wien, 74: 49-240, pls. 1-15.
- Steindachner, F. 1915. Ichthyologische Beiträge (XVIII). Anz. Akad. Wiss. Wien, 52 (27): 346-349.
- Weyenbergh, H. 1877. Algunos nuevos pescados del Museo Nacional, y algunas noticias ictiológicas. Actas Acad. Nacional Cien. Exactas, 3 (1): 1-21, pls. 1-4.

Family Tetraodontidae (Pufferfishes)

Sven O. Kullander

Pufferfishes, with about 125 species known to-date, are predominantly marine fishes, and most species occur in tropical seas. The name derives from their ability, as a defense behavior, to inflate themselves into a nearly globular shape by engulfing either air or water. Most puffers are mildly to strongly toxic, containing an alkaloid poison, tetraodotoxin, which accumulates particularly in the gonads, and which is acutely lethal if eaten. The body is naked, but commonly features small scales in the shape of prickles. The upper and lower jaw each has two strong teeth.

Several species are known from the coast of South and Central America, but only one species is confined to Neotropical freshwater (*Colomesus asellus*), and one more species, although coastal, occasionally enters freshwater (*C. psittacus*). Both *Colomesus* species are fairly small, and without commercial interest. The biology of the *Colomesus* species appears not to have been studied. The genus was extensively revised by Tyler (1964), with detailed discussion of nomenclatural problems and redescription of the genus and included species, and no significant information has been added since.

COLOMESUS

Batrachops Bibron, in Duméril, 1855: 280. Type species: *Tetrodon psittacus* Schneider, 1801, by monotypy. Gender: masculine. Preoccupied by *Batrachops* Heckel, 1840.

Colomesus Gill, 1855: 422. Type species: *Tetrodon psittacus* Schneider, 1801. Type by being a replacement name for *Batrachops* Bibron. Gender: masculine.

Colomesus asellus (Müller & Troschel, 1849)

Chelichthys asellus Müller & Troschel, 1849: 641. Type locality: im süßen Wasser des Barama. Holotype: not located. types known.

Maximum length: 12.8 cm SL.

Distribution: South America: Amazon River basin from Peru to Marajó Island, including tributaries Araguaia and Guaporé Rivers; Orinoco River basin near the mouth; Essequibo River basin.

Countries: Brazil, Guyana, Peru, Venezuela.

Colomesus psittacus (Schneider, 1801)

Tetrodon psittacus Schneider, 1801: 505, pl. 95. Type locality: mari Malabarico. Syntypes: ZMB 4297 (3)

Maximum length: 28.9 cm SL

Distribution: South America: Shallow marine waters, brackish, occasionally fresh water in river mouths along the Guianas to the Gulf of Paria and Trinidad Island.

Countries: French Guiana, Guyana, Suriname, Trinidad and Tobago, Venezuela.

SPECIES INQUIRENDAE

Tetrodon fasciatus Schneider, 1801: 508. Based on a drawing in Seba, 1758, pl. 24 (fig. 1). No type specimens. Questionably a synonym of *C. psittacus* fide Tyler (1964: 120).

Tetrodon semispinosus Fréminville, 1813: 253, pl. 4 (fig. 6). Type

locality: Saint Domingue. Syntypes: MNHN A-5257 (2). Questionably a synonym of *C. psittacus* fide Tyler (1964: 121).

References

- Duméril, A.H.A. 1855. Note sur un travail inédit de Bibron relatif aux poissons plecognathes gymnodontes (Diodons et Tétrodons). *Revue Magazin Zoologique* (2), 7: 274-282.
- Fréminville, C.P. 1813. Description de quelques nouvelles espèces de poissons de l'ordre des Branchiostèges. *Nouveau Bulletin des Sciences, Société Philomatique* (2), 3: 249-253.
- Gill, T.N. 1885. Synopsis of the plectognath fishes. *Proceedings of the United States National Museum*, 7: 411-427.
- Müller, J. and F.H. Troschel. 1849. Fische. Pp. 618-644 in: *Reisen in Britisch-Guiana in den Jahren 1840-44. Im Auftrag Sr. Majestat des Königs von Preussen ausgeführt von Richard Schomburgk. [Versuch einer Fauna und Flora von Britisch-Guiana.]* 3. Berlin.
- Schneider, J.G. 1801. M. E. Blochii, *Systema Ichthyologiae iconibus cx illustratum. Post obitum auctoris opus inchoatum absolvit, correxit, interpolavit Jo. Gottlob Schneider, Saxo. Berolini. Sumtibus Austoris Impressum et Bibliopolio Sanderiano Commissum.* lx + 584 p.
- Seba, A. 1758. *Locupletissimi rerum naturalium thesauri accurata descriptio, et iconibus artificiosissimis expressio, per universam physices historiam. Opus, cui, in hoc rerum genere, nullum par exstitit. Ex toto terrarum orbe collegit, digessit, descripsit, et depingendum curavit, vol. 3.* Janssonius van Waesberge, Ams-telodami, 212 pp., 116 pls.
- Tyler, J.C. 1964. A diagnosis of the two species of South American puffer fishes (Tetraodontidae, Plectognathi) of the genus *Colomesus*. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 116: 119-148.

Family Lepidosirenidae (Aestivating lungfishes)

Gloria Arratia

The South American dipnoans are represented by the monotypic family Lepidosirenidae (*Lepidosiren paradoxa*). The presence of a long ceratohyal in lepidosirenids is a unique feature among extant members of Dipnoi. Lepidosirenids have elongate bodies with long dorsal and anal fins formed by ceratotrichia and a “true” caudal fin (so-called in the literature as diphyercal condition) is missing. They have a reduced number of dorsal and anal ceratotrichia, and these rays are thin and weakly ossified in comparison to other dipnoans. The small, filament-like paired fins lack ceratotrichia but keep actinotrichia through growth. Lepidosirenids lack the cheek bones; they present unpaired vomerine teeth and the stem of the parasphenoid is extremely long, extending below the vertebral column. As in other dipnoans, they lack the premaxilla and maxilla and as well as the gular plates and branchiostegal rays. The large adductor mandibulae complex extends onto the cranial roof. They have paired functional lungs, but the larval stages possess, in addition, external gills. They may reach one-meter total length. Most of the knowledge on living dipnoans is based on the African and Australian ones. However, there are a few papers concerning the morphology and feeding of *Lepidosiren* (e.g., Bemis, 1984, 1987; Bemis & Lauder, 1986), and recently, new information on the vertebral column and its associated structures provides additional features separating *Lepidosiren* from other dipnoans (Arratia et al., 2001). The phylogenetic relationships of the Lepidosirenidae have been explored by Schultze and Marshall (1993).

Living members of the Lepidosirenidae are distributed in freshwaters of the Neotropical region in the Amazon basin (Brazil), Paraguay basin (Paraguay), and in Paraná river, Bermejo basin (Salta) and in Chaco (Argentina). Fossils of *Lepidosiren* cf. *paradoxa* are known from the Upper Cretaceous of Peru and the Upper Cretaceous-Paleocene of Bolivia and the modern *Lepidosiren paradoxa* is known from the Eocene of Argentina. In addition, in the past, another dipnoan family was living in South America, the Ceratodontidae. For information on fossil and extant South American dipnoans see Schultze (1992) and Arratia & Cione (1996).

Lungfishes are used in the aquarium fish trade even though they should be protected considering that they are the only living South American dipnoan.

LEPIDOSIREN

Lepidosiren Fitzinger, 1837: 379. Type species: *Lepidosiren paradoxa* Fitzinger, 1837. Gender: feminine.

Amphibichthys Hogg, 1841: 361, 362. Type species: *Lepidosiren paradoxa* Fitzinger, 1837. Type by being a replacement name. Gender: masculine. Unneeded replacement for, and objective synonym of, *Lepidosiren* Fitzinger, 1837, which Hogg felt was inappropriate (Eschmeyer, 1998: 1836).

Lepidosiren paradoxa Fitzinger, 1837

Lepidosiren paradoxa Fitzinger, 1837: 379. Type locality: Amazonas. Syntypes: ?NMW 16414 (1, dry), 90977 (1, dry).

Lepidosiren articulata Ehlers, 1894: 84. Type locality: Asunción. No types known.

Maximum length: 125 cm TL

Distribution: South America: Amazon, Paraguay and lower Paraná River basins.

Countries: Argentina, Bolivia, Brazil, Colombia, French Guiana, Paraguay, Peru, Venezuela

Common names: Anguille tété (French Guiana), Piracuru-bóia (Brazil), Pirambóia (Brazil), Tarrira-bóia (Brazil)

References

- Arratia, G. and A.L. Cione. 1996. The record of fossil fishes of Southern South America, In: G. Arratia (ed.). Contributions of Southern South America to Vertebrate Paleontology. Münchner Geowissenschaftliche Abhandlungen A, 30: 9-72.
- Arratia, G., H.-P. Schultze and J. Casciotta. 2001. Vertebral column and associated elements in dipnoans and comparison with other fishes. Development and homology. Journal of Morphology, 250 (2): 101-172.
- Bemis, W.E. 1984. Studies on the evolutionary morphology of lepidosirenid lungfish (Pisces: Dipnoi). Unpub. Ph.D. Dissertation; University of California, Berkeley.
- Bemis, W.E. 1987. Feeding systems of living Dipnoi: Anatomy and function, In: W. E. Bemis, W. W. Burggren and N. E. Kemp (eds.). The Biology and Evolution of Lungfishes. Journal of Morphology, Supplement, 1: 249-275.
- Bemis, W.E. and G. Lauder. 1986. Morphology and function of the feeding apparatus of the lungfish, *Lepidosiren paradoxa* (Dipnoi). Journal of Morphology, 179: 81-108.
- Ehlers, E. 1894. Ueber *Lepidosiren paradoxa* Fitz. und *articulata* n. sp. aus Paraguay. Nachr. König. Ges. Wiss. Göttingen, 1894 (2): 84-91.
- Eschmeyer, W.N. (ed.). 1998. Catalog of Fishes. California Academy of Sciences, San Francisco.
- Fitzinger, L.J.F.J. 1837. [Vorläufiger Bericht über eine höchst interessante Entdeckung Dr. Natterer in Brasil.]. Isis [Oken], 30: 379-380.
- Hogg, J. 1841. On the existence of branchiae in the young Caeciliae; and on a modification and extension of the branchial classification of the Amphibia. Annals and Magazine of Natural History (New Series), 7 (45): 353-363.
- Schultze, H.-P. 1992. Lungfish from the El Molino (Late Creta-

Check List of the Freshwater Fishes of South and Central America

ceous) and Santa Lucía (Early Paleocene) formations in south-central Bolivia, In: R. Suárez-Soruco (ed.). Fósiles y Facies de Bolivia. Revista Técnica de Yacimientos Petrolíferos Fiscales Bolivianos, 12 (3-4): 441-448.

Schultze, H.-P. and C.R. Marshall. 1993. Contrasting the use of functional complexes and isolated characters in lungfish evolution. Mem. Assoc. Australas. Palaeontol., 15: 211-224.

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