



CATALOGUE OF THE  
SMALLER ARACHNID  
ORDERS OF THE WORLD

Amblypygi,  
Uropygi,  
Schizomida,  
Palpigradi,  
Ricinulei and  
Solifugae

MARK S HARVEY

**Catalogue of the Smaller  
Arachnid Orders of the World**  
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Palpigradi, Ricinulei and Solifugae**  
***Mark S. Harvey***

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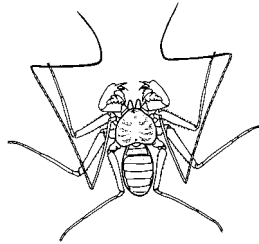
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## ORDER AMBLYPYGI



*Charinus pescotti* Dunn, redrawn from Harvey and Yen 1989

Members of the Amblypygi are commonly referred to as whip spiders, amblypygids or tail-less whip scorpions. The order is currently divided into two suborders, the Paleoamblypygi and the Euamblypygi (Weygoldt, 1996a). The Paleoamblypygi is represented by a single extant species of Paracharontidae, *Paracharon caecus* Hansen from west Africa, and several Carboniferous species. The Euamblypygi is represented by the remaining four extant families: Charinidae, Charontidae, Phrynidae and Phrynichidae. The phylogeny of the Amblypygi was investigated by Weygoldt (1996a) who presented a cladistic analysis of the Recent genera. He was unable to find any convincing synapomorphies for the Charinidae and recognised that the group may be paraphyletic. Amblypygi are the sister-group to the clade Uropygi + Schizomida, thus forming the group Pedipalpi (e.g. Shultz, 1990), but some hypotheses (e.g. Weygoldt and Paulus, 1979b) regard the Amblypygi as the sister-group to the Araneae thus rendering the Pedipalpi paraphyletic. The three orders of the classical Pedipalpi share a series of unique modifications including an antenniform leg I that has a multi-segmented tarsus.

Whip spiders are principally found in tropical and sub-tropical terrestrial ecosystems, where they occur under rocks, in rock crevices and under bark of trees. They are active primarily at night when they emerge to feed and mate. They have flattened bodies and spinous pedipalps that are lengthened in many species, particularly in adult males. The carapace is wider than long and the chelicerae are two-segmented. They lack the flagellum found in other Pedipalpi and the Palpigradi.

The unusual mating biology of whip spiders was summarised by Weygoldt (2000a). Like males of many other arachnid groups, sperm transfer is via the use of a spermatophore. After courtship, which varies between different genera, the male moves to face in the same direction as the female and deposits a stalked spermatophore on the substrate. He then faces the female again and beckons her forward over the spermatophore. She gathers the packet of spermatozoa into her genital opening before they separate. The eggs are laid into an egg sac that remains attached to the ventral surface of the female abdomen.

Whip spiders occur in many regions of the world, but are most prevalent in tropical and subtropical regions of both the Old and New Worlds. Whilst the Charinidae are circum-tropical, the

remaining families are more restricted. The Paracharontidae are represented by a single west African species; the Charontidae are found in South-East Asia and Australasia; the Phrynichidae occur throughout Africa and Asia, with a single genus in Brazil; and the Phrynidae are found in the New World, although Harvey (in press) has recently found an indigenous species of *Phrynus* in Indonesia. The fossil record is meagre with just six named species, including four Carboniferous taxa, *Graeophonus carbonarius* Scudder, *G. anglicus* Pocock, *Thelyphrynus elongatus* Petrunkevitch and *Sorellophrynus carbonarius* (Petrunkevitch), currently placed in the Paleoamblypygi, and three Tertiary species of the family Phrynidae, *Electrophrynus mirus* Petrunkevitch and *Phrynus resinae* Schawaller from Central American amber deposits, and *P. fossilis* Keferstein from Aix, France. The French species is only doubtfully referred to the Amblypygi.

Key to families (modified from Weygoldt, 2000a)

1. Carapace anteriorly elongate with concave anterior lateral margins; pedipalpal femur with only two distal spines on dorsal surface; basal tooth of cheliceral hand not distally divided ..... **Paracharontidae**  
Carapace anteriorly rounded, without concave anterior lateral margins; pedipalpal femur with numerous spines on dorsal surface; basal tooth of cheliceral hand bifurcate or rarely trifurcate. .... 2
2. Legs II–IV with pulvilli; fourth tarsomere without oblique slit ..... 3  
Legs II–IV without pulvilli; fourth tarsomere with oblique slit ..... 4
3. Proximal edge of cleaning organ (on pedipalpal tarsus) with basal row of setae ..... **Charontidae**  
Proximal edge of cleaning organ (on pedipalpal tarsus) without basal row of setae ..... **Charinidae**
4. Basal tooth of cheliceral hand with upper cusp larger; abdominal ventral sacs present (sometimes difficult to see) ..... **Phrynichidae**  
Basal tooth of cheliceral hand with lower cusp larger; abdominal ventral sacs absent ..... **Phrynidae**

Table 2. Numbers of Recent genera and species of Amblypygi.

Family	Genera	Species
Paracharontidae	1	1
Charinidae	3	39
Charontidae	2	11
Phrynichidae	7	31
Phrynidae	4	54
<b>TOTAL</b>	<b>17</b>	<b>136</b>

# CATALOGUE

## Order AMBLYPYGI Thorell

**Phrynéides** Walckenaer, 1837: 38; Gervais, 1844: 1–2.

**Amblypygi** Thorell, 1883: 35; Haase, 1890: 649; Cook, 1899: 259 (as *Amblypyga*); Kraepelin, 1899: 235; Pocock, 1900: 123–124; Pocock, 1902c: 45; Börner, 1904: 150; Hansen, 1930: 297–298; Kästner, 1932: 74; Werner, 1935: 462, 469; Millot, 1949b: 563–564; Waterlot, 1953: 577–578 (as *Amblypyges*); Kästner, 1956: 550; Dubinin, 1962: 436; Savory, 1964a: 159; Vandel, 1965: 93 (as *Amblypyges*); Kaestner, 1968: 122; Kaestner, 1969: 673; Savory, 1977: 143; Webb, Wallwork and Elgood, 1978: 120; Levi, 1982: 76; Harvey, 1985: 156; Woolley, 1988: 27; Hammen, 1989: 484–489; Weygoldt, 1994: 241; Armas and Maes, 2000: 40.

**Phrynichida** Petrunkevitch, 1945: 10; Petrunkevitch, 1949: 268–270; Petrunkevitch, 1953: 98–99; Petrunkevitch, 1955: 126; Petrunkevitch, 1971: 40; Weygoldt, 1994: 241–242.

**Note:** The suborders *Apulvillata* Quintero (1986: 204) and *Pulvillata* Quintero (1986: 204) were abandoned by Weygoldt (1996a).

### Suborder EUAMBLYPYGI Weygoldt

**Euamblypygi** Weygoldt, 1996a: 200.

### Infraorder “CHARINIDAE” Weygoldt

**Charinidae** Weygoldt, 1996a: 200.

### Family CHARINIDAE Quintero

**Charinidae** Quintero, 1986: 204–205; Weygoldt, 1996a: 200.

### Genus *Catageus* Thorell

***Catageus*** Thorell, 1889: 530; Simon, 1892a: 48; Kraepelin, 1895: 47; Kraepelin, 1899: 251 (as *Catagius* [sic]); Pocock, 1900: 130; Gravely, 1915a: 437; Mello-Leitão, 1931: 54; Werner, 1935: 470; Weygoldt, 2000a: 25.

**Type species:** *Catageus pusillus* Thorell, 1889, by original designation.

**Distribution:** South-East Asia.

### *Catageus pusillus* Thorell

***Catageus pusillus*** Thorell, 1889: 531–538; Kraepelin, 1895: 47, figs 34, 39; Kraepelin, 1899: 251, fig. 94 (as *Catagius* [sic] *pusillus*); Pocock, 1900: 130, figs 44c–d; Annandale and Gravely, 1914: 407, 419 (as *Catagius* [sic] *pusillus*); Gravely, 1915a: 437, fig. 1; Gravely, 1915b: 526 (as *Catagius* [sic] *pusillus*); Mello-Leitão, 1931: 54; Werner, 1935: 470, fig. 174 (as *Catageus* [sic] *pusillus*); Wolf, 1938: 537; Vandel, 1965: 93 (as *Catageus* [sic] *pusillus*); Delle Cave, 1986: 150; Weygoldt, 1996a: fig. 23; Weygoldt, 2000a: 25, fig. 16.

**Type locality:** Farm Caves, near Moulmein, Tenasserim, *Mon, Myanmar*.

**Distribution:** Myanmar.

### Genus *Charinus* Simon

***Charinus*** Simon, 1892a: 48; Kraepelin, 1895: 46; Kraepelin, 1899: 248–249; Gravely, 1915a: 442; Mello-Leitão, 1931: 54; Werner, 1935: 471; Weygoldt, 2000a: 23–24.

***Charinides*** Gravely, 1911a: 35; Gravely, 1915a: 442; Mello-Leitão, 1931: 53; Werner, 1935: 471; Quintero, 1983a: 27–29; Weygoldt, 2000a: 24 (synonymised by Delle Cave, 1986: 159–160).

***Enantiosarax*** Mello-Leitão, 1931: 55 (synonymised by Quintero, 1983a: 46).

***Oligacanthophrynus*** Caporiacco, 1947: 21; Caporiacco, 1948: 616 (synonymised by Weygoldt, 1998d: 72).

***Lindosiella*** Kritscher, 1959: 454 (synonymised by Weygoldt, 1972a: 123).

***Speleophrynus*** Ravelo, 1975: 78–79 (synonymised by Quintero, 1983a: 27).

***Tricharinus*** Quintero, 1986: 206 (synonymised by Weygoldt, 2000a: 25).

**Type species:** of *Charinus*: *Phrynus australianus* L. Koch, 1867, by original designation.  
of *Charinides*: *Charinides bengalensis* Gravely, 1911a, by monotypy.  
of *Enantiosarax*: *Enantiosarax schirchii* Mello-Leitão, 1931, by monotypy.

of *Oligacanthophrynus*: *Oligacanthophrynus guianensis* Caporiacco, 1947, by original designation.

of *Lindosiella*: *Lindosiella ioannitica* Kritscher, 1959, by monotypy.

of *Speleophrynus*: *Speleophrynus tronchonii* Ravelo, 1975, by original designation.

of *Tricharinus*: *Tricharinus guianensis* Quintero, 1986, by original designation.

**Distribution:** circum-tropical.

***Charinus abbatei* Delle Cave**

*Charinus* n. sp.: Messana, Chelazzi and Baccetti, 1985: 334.

***Charinus abbatei*** Delle Cave, 1986: 148–150, figs I(1–7), II; Vanni, Bartolozzi and Whitman-Mascherini, 1988: 376; Weygoldt, 1994: 244; Weygoldt, 2000b: 346.

**Type locality:** Showli Berdi Cave, near Bardera, Gedo, Somalia.

**Distribution:** Somalia.

***Charinus acosta* (Quintero)**

***Charinides acosta*** Quintero, 1983a: 32–34, figs 1a, 1c, 8g, 9a–f, 12c.

*Charinus acosta* (Quintero): Delle Cave, 1986: fig. II; Ávila Calvo and Armas, 1997: 31; Armas, 2000: 133–134; Armas and Ávila Calvo, 2000: 291–292.

**Type locality:** Camagüey, Camagüey, Cuba.

**Distribution:** Cuba.

***Charinus africanus* Hansen**

***Charinus africanus*** Hansen, 1921: 7–9, plate 1 figs 1a–c; Hansen, 1930: plate 14 fig. 6a; Mello-Leitão, 1931: 54; Weygoldt, 1972a: 123; Delle Cave, 1986: 156, fig. II; Weygoldt, 1999c: 104; Weygoldt, 2000b: 346.

*Charinus seychellarum* Kraepelin: Fage, 1939b: 154–155 (misidentification, in part, see *Charinus fagei* Weygoldt).

**Type localities:** Annobón, Annobón, Equatorial Guinea; Agüa Izé, São Tomé, São Tomé and Príncipe; Visto Alegre, São Tomé, São Tomé and Príncipe; Roca Infante Don Henrique, Príncipe, São Tomé and Príncipe.

**Distribution:** Equatorial Guinea, São Tomé and Príncipe.

***Charinus australianus* (L. Koch)**

***Phrynus australianus*** L. Koch, 1867: 231–232; Butler, 1873: 119; Moritz and Fischer, 1980: 138.

*Charon australianus* (L. Koch): L. Koch and Keyserling, 1885: 40–41, plate 4 figs 1, 1a–b; Kästner, 1932: fig. 82 (as *Charon australiensis* [sic]);

Werner, 1935: figs 142–143 (as *Charon australiensis* [sic]).

***Charinus australianus*** (L. Koch): Simon, 1892a: 48; Hansen, 1893: 159; Kraepelin, 1895: 46–47, figs 33, 38, 41; Kraepelin, 1899: 249, fig. 93; Kraepelin, 1901a: 264; Börner, 1904: 5; Mello-Leitão, 1931: 54; Werner, 1935: 471, fig. 176b; Weidner, 1959: 142; Weygoldt, 1972a: 123, fig. 22f; Strinati and Aellen, 1983: 21; Delle Cave, 1986: 154–155, fig. II; Quintero, 1986: figs 4, 7, 9.

**Type locality:** Upolu Island, Western Samoa.

**Distribution:** Fiji, New Caledonia, Vanuatu, Western Samoa.

***Charinus bengalensis* (Gravely)**

***Charinides bengalensis*** Gravely, 1911a: 35–36, fig. 2b; Gravely, 1912: cxxiv; Gravely, 1915a: 442; Gravely, 1915b: 526, fig. 29; Buxton, 1917: 3; Mello-Leitão, 1931: 53; Werner, 1935: 471, fig. 176a; Weidner, 1959: 142; Cloudsley-Thompson, 1968: 156, 158, 160; Delle Cave, 1986: 158–160; Quintero, 1986: fig. 5; Weygoldt, 1999c: 104.

*Charinus bengalensis* (Gravely): Delle Cave, 1986: 161, figs I(8), II.

**Type localities:** Indian Museum, Calcutta, West Bengal, India; Zoological Gardens, Alipur, Assam, India; Botanical Gardens, Sibpur, West Bengal, India; and Tollygunge, West Bengal, India.

**Distribution:** India.

***Charinus bordoni* (Ravelo)**

***Speleophrynus bordoni*** Ravelo, 1975: 18–25, figs 1–2, 3a–c, 4a–d.

*Charinides bordoni* (Ravelo): Quintero, 1983a: 28; González-Sponga, 1998: map 1.

*Charinus bordoni* (Ravelo): Delle Cave, 1986: fig. II; Weygoldt, 1994: 242, 244.

**Type locality:** Cueva de Cerro Verde, distrito Maracaibo, Zulia, Venezuela.

**Distribution:** Venezuela.

***Charinus brasilianus* Weygoldt**

***Charinus brasilianus*** Weygoldt, 1972a: 108–115, figs 1–11, 22a; Weygoldt, 1972b: 37–40, figs 8–9, 10a–b; Weygoldt, 1972d: figs 7a–b; Weygoldt, Weisemann and Weisemann, 1972: 209–246, figs 14d, 16b, 18c, 19; Weygoldt, 1975b: 311; Delle Cave, 1986: fig. II; Weygoldt, 1996a: figs 2, 13–14, 22, 40; Proctor, 1998: 160; Weygoldt, 1999b: fig. 6; Weygoldt, 1999c: 107, figs 8–10; Weygoldt, 2000a: figs 6–9, 15, 152–153, 212; Weygoldt, 2000b: figs 4–5, 43–44.

**Type locality:** 10 km N. of Vitória, Kreis Serra, Espírito Santo, Brazil.

**Distribution:** Brazil (Espírito Santo).

***Charinus camacho* (González-Sponga), comb. nov.**

***Charinides camacho*** González-Sponga, 1998: 2–3, figs 1–8, map 1.

**Type locality:** Hacienda Buruquel, Chiguará, Sucre, Mérida, Venezuela.

**Distribution:** Venezuela.

***Charinus caribensis* (Quintero)**

***Tricharinus caribensis*** Quintero, 1986: 211–212, figs 18–21, 27, 28; Weygoldt, 1994: 244; Ávila Calvo and Armas, 1997: 31.

*Charinus caribensis* (Quintero): Harvey, 2002: 455.

**Type locality:** Cueva en Luida Vale, Parish of St Catherine, Jamaica.

**Distribution:** Jamaica.

***Charinus centralis* Armas and Ávila Calvo**

***Charinus centralis*** Armas and Ávila Calvo, 2000: 290–291, figs 1a–d.

**Type locality:** Maisinicú, Trinidad, Sancti Spiritus, Cuba.

**Distribution:** Cuba.

***Charinus cubensis* (Quintero)**

***Charinides cubensis*** Quintero, 1983a: 29–31, figs 8a–e, 9e, 12c; Armas and Alayón, 1984: 6; Weygoldt, 1994: 244.

*Charinus cubensis* (Quintero): Delle Cave, 1986: fig. II; Ávila Calvo and Armas, 1997: 31; Armas, 2000a: 138; Armas and Ávila Calvo, 2000: 292–293.

**Type locality:** Cueva La Majana, Guantánamo, Cuba.

**Distribution:** Cuba.

***Charinus decu* (Quintero)**

***Charinides decu*** Quintero, 1983a: 38–40; Armas and Alayón, 1984: 6; Weygoldt, 1994: 244.

*Charinus decu* (Quintero): Delle Cave, 1986: fig. II; Ávila Calvo and Armas, 1997: 31; Armas, 2000a: 138; Armas and Ávila Calvo, 2000: 293.

**Type locality:** Cueva del Abono, Isla de Pinos, Isla de la Juventud, Cuba.

**Distribution:** Cuba.

***Charinus diblemma* Simon, nomen dubium**

***Charinus diblemma*** Simon, in Fage and Simon, 1936: 301; Fage, 1939b: 155; Weygoldt, 1972a: 123; Delle Cave, 1986: 152, fig. II; Weygoldt,

1994: 244 (designated as *nomen dubium*); Weygoldt, 2000b: 340, 346.

**Type locality:** Grotte de Haitajwa, Zanzibar Island, Tanzania.

**Distribution:** Tanzania.

***Charinus fagei* Weygoldt**

*Charinus seychellarum* Kraepelin: Fage, 1939b: 154–155, figs 1a–d (misidentification, in part, see *Charinus africanus* Hansen).

***Charinus fagei*** Weygoldt, 1972a: 123–128, fig. 22e; Delle Cave, 1986: 157, fig. II; Weygoldt, 1994: 244; Weygoldt, 2000b: 346.

**Type locality:** Grotte Segea Santa, Guinea.

**Distribution:** Guinea.

***Charinus gertschi* Goodnight and Goodnight**

***Charinus gertschi*** Goodnight and Goodnight, 1946: 323–327, figs 1–8; Delle Cave, 1986: fig. II.

**Type locality:** Kamakusa, Cuyuni-Mazaruni, Guyana.

**Distribution:** Guyana, Surinam.

***Charinus guianensis* (Caporiacco), nomen dubium**

***Oligacanthophrynus guianensis*** Caporiacco, 1947: 21; Caporiacco, 1948: 616, fig. 9; Vanni, Bartolozzi and Whitman-Mascherini, 1988: 376.

*Charinus guianensis* (Caporiacco): Weygoldt, 1998a: 72 (designated as *nomen dubium*).

**Type locality:** Castra Marlissa, Upper Demerara-Berbice, Guyana.

**Distribution:** Guyana.

***Charinus guianensis* (Quintero)**

***Tricharinus guianensis*** Quintero, 1986: 209–211, figs 16, 27 (junior secondary homonym of *Charinus guianensis* (Caporiacco)).

*Charinus guianensis* (Quintero): Harvey, 2002: 455.

**Type locality:** Anapaike Village, Lawa River, Marowijne, Surinam.

**Distribution:** Guyana, Surinam.

***Charinus insularis* Banks**

***Charinus insularis*** Banks, 1902: 67–68, plate 2 fig. 8; Snodgrass, 1902: 79–80; Mello-Leitão, 1931: 54; Werner, 1935: 471; Roth and Craig, 1970: 119; Weygoldt, 1972a: 123; Stockton, 1976: 57–61, figs 1–4; Delle Cave, 1986: 156, fig. II; Peck and Kukulova-Peck, 1986: 165; Peck and Peck, 1986: 44, 45, 46; Hernández, Zamora and Oromi, 1992: ? (not seen); Baert, Maelfait and Desender, 1995: 13–16, fig. 7, map 4.



**Type localities:** Isla Isabela (as Albemarle Island), Galapagos Islands, *Galapagos, Ecuador*; Narbora Island, Galapagos Islands, *Galapagos, Ecuador*; Chatham Island, Galapagos Islands, *Galapagos, Ecuador*; and Hood Island, Galapagos Islands, *Galapagos, Ecuador*.  
**Distribution:** Ecuador (Galapagos Islands).

***Charinus ioanniticus* (Kritscher)**

***Lindosiella ioannitica*** Kritscher, 1959: 454–457, figs 1–4; Kraus, 1961: 491.  
*Charinus* sp.: Rosin and Shulov, 1960: 167–168, unnumbered fig.  
*Charinus ioanniticus* (Kritscher): Weygoldt, 1972a: 123, fig. 22c; Delle Cave, 1986: 150–151, fig. II; Kovarik and Vlasta, 1996: 57–58.

**Type locality:** Lindhos, Rhodos, *Dodekanisos, Greece*.  
**Distribution:** Greece, Israel, Turkey.

***Charinus jeanneli* Simon, *nomen dubium***

***Charinus jeanneli*** Simon, in Fage and Simon, 1936: 300–301; Fage, 1939b: 156, figs 2a–b; Fage, 1954: 182; Lawrence, 1969a: 86; Weygoldt, 1972a: 123; Delle Cave, 1986: 152, fig. II; Weygoldt, 1994: 244 (designated as *nomen dubium*); Weygoldt, 2000b: 341, 346.  
Not *Charinus jeanneli* Simon: Fage, 1946b: 260–262, fig. 2 (misidentification; see *Charinus madagascariensis* Fage).

**Type locality:** Grotte C du Kulumuzi, *Tanga, Tanzania*.  
**Distribution:** Tanzania.

***Charinus koepcke* Weygoldt**

***Charinus koepcke*** Weygoldt, 1972c: 281–285, figs 1–6; Delle Cave, 1986: fig. II; Weygoldt, 1999c: 104, figs 2–3, 186–187 (as *Charinus koepcke* [sic]).  
**Type locality:** road between Chala and Chaparra, *Arequipa, Peru*.  
**Distribution:** Peru.

***Charinus madagascariensis* Fage**

*Charinus jeanneli* Simon: Fage, 1946b: 260–262, fig. 2 (misidentification).  
***Charinus madagascariensis*** Fage, 1954: 183–184, figs 1, 3; Lawrence, 1969a: 86; Legendre, 1972: 435; Weygoldt, 1972a: 123; Delle Cave, 1986: 157, fig. II; Weygoldt, 2000b: 346.

**Type localities:** Majunga, *Mahajanga, Madagascar*; Réserve Naturelle de Lokobe (as Lokoubé),

*Antsiranana, Madagascar*; and Ankarana, *Antsiranana, Madagascar*.

**Distribution:** Madagascar.

***Charinus milloti* Fage**

***Charinus milloti*** Fage, 1939b: 156–158, figs 3a–e; Millot, 1949a: figs 47, 56a–b, 59a–b; Millot, 1949b: figs 318, 319a, 320, 321a–b, 322a–b, 323; Fage, 1954: 182; Kästner, 1956: fig. 544; Janetschek, 1957: fig. 8; Cloudsley-Thompson, 1968: 155, fig. 29; Kaestner, 1968: fig. 10–5; Kaestner, 1969: fig. 574; Lawrence, 1969a: 86; Delle Cave, 1986: 152–153, fig. II; Barnes, 1987: fig. 13–37; Dunlop, 1994b: figs 1–2; Ruppert and Barnes, 1994: fig. 13–33; Weygoldt, 1994: 244; Selden and Dunlop, 1998: fig. 7.1; Weygoldt, 2000a: figs 1, 2, 30; Weygoldt, 2000b: 341, 346.

**Type locality:** Grotte de Dalaba, *Fouta-Djallon, Guinea*.  
**Distribution:** Guinea.

***Charinus montanus* Weygoldt**

***Charinus montanus*** Weygoldt, 1972a: 115–122, figs 12–21, 22a; Weygoldt, 1972d: fig. 17; Weygoldt, 1974b: 217–222, figs 1, 2a–c; Quintero, 1975: 161, figs 4–5, 7–8, 11–12; Weygoldt, 1975b: 311; Delle Cave, 1986: fig. II; Weygoldt, 1996a: fig. 7; Proctor, 1998: 161; Weygoldt, 1999c: 107; Weygoldt, 2000a: figs 23, 208–211.

**Type locality:** Domingos Martins, 50 km W. of Vitória, *Espírito Santo, Brazil*.  
**Distribution:** Brazil (Espírito Santo).

***Charinus muchmorei* Armas**

*Charinides* sp.: Muchmore, 1993: 32; Ávila Calvo and Armas, 1997: 31.  
***Charinus muchmorei*** Armas and Teruel, 1997: 43–46, figs 1–6.

**Type locality:** Cinnamon Bay N.T., St John Island, *U.S. Virgin Islands*.  
**Distribution:** U.S. Virgin Islands.

***Charinus neocaledonicus* Simon**

***Charinus neocaledonicus*** Simon, in Kraepelin, 1895: 47; Kraepelin, 1899: 249–250; Kraepelin, 1901a: 264; Kraepelin, 1914: 337; Mello-Leitão, 1931: 54; Werner, 1935: 471; Weidner, 1959: 142; Kritscher, 1966: 373–374; Weygoldt, 1972a: 123, fig. 22g; Strinati and Aellen, 1983: 18, 24; Delle Cave, 1986: 155, fig. II.

**Type locality:** New Caledonia.  
**Distribution:** New Caledonia.

***Charinus pardillalensis* (González-Sponga),  
comb. nov.**

***Charinides pardillalensis*** González-Sponga, 1998:  
3–8, figs 9–13, map 1.

**Type locality:** Morro de Pardillal, San Casimiro,  
Aragua, Venezuela.

**Distribution:** Venezuela.

***Charinus pescotti* Dunn**

***Charinus pescotti*** Dunn, 1949: 8–11, figs 1–3;  
Monteith, 1965: 87; Baehr, 1974: 101–104, fig. 1;  
Harvey, 1985: 157; Delle Cave, 1986: fig. II; Gray  
and Robinson, 1986: 218–224, figs 1–16; Quin-  
tero, 1986: fig. 12.

**Type locality:** Barron Falls, Queensland, Australia.  
**Distribution:** Australia (Queensland), Solomon  
Islands.

***Charinus platnicki* (Quintero)**

***Tricharinus platnicki*** Quintero, 1986: 211, figs  
13–15, 17, 22–28.

***Charinus platnicki*** (Quintero): Harvey, 2002: 455.

**Type locality:** Lelydorp, Wanica, Surinam.

**Distribution:** Surinam.

***Charinus schirchii* (Mello-Leitão)**

***Enantiosarax schirchii*** Mello-Leitão, 1931b: 55–56,  
figs 23–24.

***Charinus schirchii*** (Mello-Leitão): Quintero, 1983a:  
47; Delle Cave, 1986: fig. II.

**Type locality:** Theresópolis (now Queçaba), Santa  
Catarina, Brazil.

**Distribution:** Brazil (Santa Catarina).

***Charinus seychellarum* Kraepelin**

***Charinus seychellarum*** Kraepelin, 1898: 3; Kraepe-  
lin, 1899: 250; Börner, 1904: 5, text fig. 10, figs  
41d, 86, 93–94; Arltdt, 1908: 441; Gravely, 1911a:  
fig. 2a; Hirst, 1913: 34; Gravely, 1915a: 442;  
Mello-Leitão, 1931: 54; Werner, 1935: 471, figs  
28, 68c; Fage, 1954: 182; Weidner, 1959: 142;  
Lawrence, 1969a: 86; Weygoldt, 1972a: 123, fig.  
22d; Benoît, 1979: 458–459; Moritz and Fischer,  
1980: 139; Delle Cave, 1986: fig. II; Weygoldt,  
1999b: 49, 50–52, 59, 60–61, figs 1–5; Weygoldt,  
1999c: 107, figs 11–12; Weygoldt, 2000a: figs  
45–46, 213–217; Harvey, 2001: 691.

Not *Charinus seychellarum* Kraepelin: Fage, 1939b:  
154–155, figs 1a–d (misidentification see *Chari-  
nus africanus* Hansen and *Charinus fagei*  
Weygoldt).

**Type locality:** Seychelles.

**Distribution:** Seychelles.

***Charinus tronchonii* (Ravelo)**

***Speleophrynus tronchonii*** Ravelo, 1975: 79–84, figs  
1–3, 4a–e.

***Charinides tronchonii*** (Ravelo): Quintero, 1983a: 28;  
González-Sponga, 1998: map 1.

***Charinus tronchonii*** (Ravelo): Delle Cave, 1986: 163,  
fig. II; Weygoldt, 1994: 242, 244.

**Type locality:** Cueva 2 del Río Hueque, 6.5 km N. 50  
degrees E. of pueblo de Cabure, Falcón,  
Venezuela.

**Distribution:** Venezuela.

***Charinus wanlessi* (Quintero)**

***Charinides wanlessi*** Quintero, 1983a: 35–37, figs  
10a–e, 12c; Armas and Alayón, 1984: 6;  
Weygoldt, 1994: 244.

***Charinus wanlessi*** (Quintero): Delle Cave, 1986: fig.  
II; Armas, 2000a: 138.

**Type locality:** Cueva Los Majaes, Estación 12,  
Siboney, El Caney, Santiago de Cuba, Cuba.

**Distribution:** Cuba.

**Genus *Sarax* Simon**

***Sarax*** Simon, 1892a: 43, 48; Kraepelin, 1895: 45;  
Kraepelin, 1899: 250; Pocock, 1900: 131;  
Gravely, 1915a: 441; Mello-Leitão, 1931: 55;  
Werner, 1935: 471; Weygoldt, 2000a: 25.

***Phrynichosarax*** Gravely, 1915a: 437; Mello-Leitão,  
1931: 52 (as *Phrynichosarax* [sic]); Werner, 1935:  
470 (synonymised by Weygoldt, 2000a: 25).

**Type species:** of *Sarax*: *Sarax brachydactylus* Simon,  
1892, by original designation.

of *Phrynichosarax*: *Phrynichosarax cochiniensis*  
Gravely, 1915a, by original designation.

**Distribution:** South-East Asia from India to the  
Solomon Islands; and Greece.

***Sarax brachydactylus* Simon**

***Sarax brachydactylus*** Simon, 1892a: 43–44; Kraepe-  
lin, 1895: 45 (in part); Kraepelin, 1899: 251;  
Gravely, 1915a: 441; Giltay, 1931: 24–25; Mello-  
Leitão, 1931: 55; Werner, 1935: 471; Wolf, 1938:  
537; Fage, 1946a: 78–79, fig. 3b; Bristowe, 1952:  
699; Weidner, 1959: 142; Vandel, 1965: 93;  
Kraus, 1970: 177–178, figs 1–8; Yussuf, 1997:  
plate 27.

**Type locality:** Grotte d'Antipolo, Grotte de San-  
Mateo, and Grotte de Calapnitan, Luzon Island,  
Philippines.

**Distribution:** Cambodia, Malaysia, Philippines.



***Sarax buxtoni* (Gravely)**

*Phrynichosarax buxtoni* Gravely, 1915a: 439–440, fig. 4; Mello-Leitão, 1931: 52 (as *Phrynichosarax* [sic] *buxtoni*); Speijer, 1937: 173; Weygoldt, 1994: 244.

*Sarax batuensis* Roewer, 1962: 519–520, figs 3a–b (synonymised by Kraus, 1970: 178).

**Type localities:** of *Phrynichosarax buxtoni*: Kubang Tiga Cave, *Perlis*, **Malaysia**.  
of *Sarax batuensis*: Batu Caves, near Kuala Lumpur, *Selangor*, **Malaysia**.

**Distribution:** Malaysia, Singapore.

***Sarax cochinesis* (Gravely), comb. nov.**

*Phrynichosarax cochinesis* Gravely, 1915a: 438–439, fig. 2; Mello-Leitão, 1931: 52 (as *Phrynichosarax* [sic] *cochinesis*); Nair, 1934: 475, fig. a; Werner, 1935: 470.

**Type locality:** State Forest Tramway, Western Ghats, *Kerala*, **India**.

**Distribution:** India.

***Sarax cochinesis bispinosus* (Nair), comb. nov.**

*Phrynichosarax cochinesis* var. *bispinosus* Nair, 1934: 475, fig. b.

**Type locality:** Kallar, 30 miles E. of Trivandrum, *Tamil Nadu*, **India**.

**Distribution:** India.

***Sarax cochinesis cochinesis* (Gravely)**

**Distribution:** India.

***Sarax davidovi* Fage**

*Sarax davidovi* Fage, 1946a: 76–77, figs 2, 3a, 4.

**Type localities:** Phsar Ream (as Réam), *Kampot*, **Cambodia**; Gia Rai, *Bac Liêu*, **Vietnam**; Sóc Traeng, *Sóc Traeng*, **Vietnam**; Ba Ngòi, Trung Phan (as Annam), **Vietnam**; and Muang Pak-Lay (as Pak Lay), *Xiangnabouli*, **Laos**.

**Distribution:** Cambodia, Laos, Vietnam.

***Sarax javensis* (Gravely), comb. nov.**

*Phrynichosarax javensis* Gravely, 1915a: 439, fig. 3; Giltay, 1931: 24–25 (as *Phrynichosarax javanensis* [sic]); Mello-Leitão, 1931: 52 (as *Phrynichosarax* [sic] *javensis*).

**Type locality:** Bogor (as Buitenzorg), Java, *Jawa Barat*, **Indonesia**.

**Distribution:** Indonesia (Java).

***Sarax mediterraneus* Delle Cave**

*Sarax mediterraneus* Delle Cave, 1986: 161.

**Type locality:** Kasematten des Kastell der Hauptstaadt, Kos or “Johanniterburg, Rhodos”, **Greece**.

**Distribution:** Greece.

***Sarax rimosus* (Simon), comb. nov.**

*Catagaeus rimosus* Simon, 1901: 77.

*Phrynichosarax rimosus* (Simon): Gravely, 1915a: 440–441, fig. 6; Mello-Leitão, 1931: 53 (as *Phrynichosarax* [sic] *ramosus* [sic]).

**Type locality:** Kuala Aring, *Kelantan*, **Malaysia**.

**Distribution:** Malaysia.

***Sarax sarawakensis* (Thorell)**

*Charon sarawakensis* Thorell, 1888: 354–358.

*Sarax sarawakensis* (Thorell): Simon, 1892a: 48; Kraepelin, 1895: 45–46, fig. 40 (in part; as *Sarax saravakensis* [sic]); Pocock, 1898c: 100; Kraepelin, 1899: 251 (as *Sarax saravakensis* [sic]); Pocock, 1900: 131, figs 43a–c; Kraepelin, 1901a: 264; Börner, 1904: 5 (as *Sarax saravakensis* [sic]); Arltdt, 1908: 441; Gravely, 1915a: 441–442, fig. 8; Fage, 1929: 357; Giltay, 1931: 24–25; Mello-Leitão, 1931: 55 (as *Sarax saravakensis* [sic]); Werner, 1935: 471, fig. 175; Wolf, 1938: 537 (as *Sarax saravakensis* [sic]); Fage, 1946a: fig. 3c; Millot, 1949b: figs 337, 340–343; Bristowe, 1952: 699; Klingel, 1963: 456–459, figs 10–13; Vandel, 1965: 93; Kaestner, 1968: 123; Schaller, 1971: 423–425; Delle Cave, 1986: 160–161; Weygoldt, 1994: 242, 244; Weygoldt, 1996a: fig. 35; Weygoldt, 1999c: 106–107, figs 4–5; Weygoldt, 2000a: figs 104, 204–205.

*Sarax sarawakensis sarawakensis* (Thorell): Gravely, 1911b: 37.

**Type locality:** *Sarawak*, **Malaysia**.

**Distribution:** Andaman Islands, Indonesia (Java, Kalimantan), Malaysia (Sarawak, Selangor), Papua New Guinea, Singapore, Solomon Islands.

***Sarax singaporeae* Gravely**

*Sarax sarawakensis singaporeae* Gravely, 1911b: 37–38.

*Phrynichosarax singaporeae* (Gravely): Gravely, 1915a: 440, fig. 5 (as *Phrynichosarax singaporeae* [sic]); Buxton, 1917: 3 (as *Phrynichosarax singaporeae* [sic]); Mello-Leitão, 1931: 53 (as *Phrynichosarax* [sic] *singapurae* [sic]).

**Type locality:** Botanical Gardens, **Singapore**.

**Distribution:** Malaysia, Singapore.

***Sarax willeyi* Gravely**

*Sarax willeyi* Gravely, 1915a: 441, fig. 7; Mello-Leitão, 1931: 55; Werner, 1935: 471; Kraus, 1970: figs 10–11.

**Type locality:** New Britain, Papua New Guinea.

**Distribution:** Papua New Guinea.

**Infraorder NEOAMBLYPYGI Weygoldt**

**Neoamblypygi** Weygoldt, 1996a: 200.

**Superfamily CHARONTOIDEA Simon**

**Charontoidea** Simon: Weygoldt, 1996a: 200.

**Family CHARONTIDAE Simon**

**Charontinae** Simon, 1892a: 47; Kraepelin, 1895: 40; Kraepelin, 1899: 246; Börner, 1904: 150–151; Gravely, 1915a: 435–436; Kästner, 1932: 74; Werner, 1935: 470.

**Charontidae** Simon: Pocock, 1900: 128; Mello-Leitão, 1931: 51 (as *Charontidas* [sic]); Simon, in Fage and Simon, 1936: 300; Kästner, 1968: 126 (as *Charonidae* [sic]); Levi, 1982: 77; Harvey, 1985: 157; Quintero, 1986: 204; Weygoldt, 1996a: 200.

**Distribution:** South-East Asia and northern Australia.

**Genus *Charon* Karsch**

***Charon*** Karsch, 1879a: 197; Simon, 1892a: 47–48; Kraepelin, 1895: 41–42; Kraepelin, 1899: 247; Gravely, 1915a: 446; Mello-Leitão, 1931: 52; Harvey and West, 1998: 274; Weygoldt, 2000a: 25.

**Type species:** *Phrynus grayi* Gervais, 1842, by original designation.

**Distribution:** South-East Asia, Australasia.

***Charon annulipes* Lauterer, *nomen dubium***

***Charon annulipes*** Lauterer, 1895: 413–414, fig. 1; Mello-Leitão, 1931: 52; Harvey, 1985: 156 (designated as *nomen dubium*).

**Type locality:** near Brisbane, Queensland, Australia.

**Distribution:** Australia (Queensland).

***Charon gervaisi* Harvey and West**

***Charon gervaisi*** Harvey and West, 1998: 281–283, figs 12–18.

**Type locality:** Boat Club, Settlement, Christmas Island, Australia.

**Distribution:** Australia (Christmas Island).

***Charon grayi* (Gervais)**

***Phrynus grayi*** Gervais, 1842: 76; Gervais, 1844: 4; Butler, 1873: 119, plate 7 fig. 1; Simon, 1877b: 92; Butler, 1879: 314 (as *Phrynus grayii*); Rainbow, 1898: 355.

***Phrynus medius*** (Herbst): Hoeven, 1842a: 68–76, figs 1–14 (misidentification).

***Charon grayi*** (Gervais): Karsch, 1879a: 197; Simon, 1892a: 43; Kraepelin, 1895: 42–44, figs 2, 31, 35–36; Pocock, 1898b: 458; Kraepelin, 1899: 247–248, figs 66, 91; Kraepelin, 1901a: 264; Börner, 1902c: 214; Börner, 1904: 5, figs 63, 68; Arldt, 1908: 441; Rainbow, 1913: 2; Gravely, 1915a: 446; Werner, 1916: 93; Buxton, 1917: 3; Lampe, 1918: 206; Giltay, 1931: 24–25; Mello-Leitão, 1931: 52; Reimoser, 1931: 750; Berland, 1932: figs 106, 109–111; Werner, 1932: 577; Speijer, 1933: v; Werner, 1935: 472, figs 46, 69b, 178a–b (one figure labelled *Damon (Charon) grayi*); Speijer, 1936b: 262; Speijer, 1937: 174; Takashima, 1941a: 276, 277; Takashima, 1941b: 88–93, figs 2–3; Takashima, 1943: 23–28, figs 5–6; Takashima, 1944: 10; Takashima, 1947: 46–48; Takashima, 1948b: 105–108, figs 5–6; Takashima, 1950: 336–338, figs 1–2; Takashima, 1960: 26, plate 13 fig. 7; Savory, 1964a: fig. 77; Cloudsley-Thompson, 1968: 155, 158, fig. 29; Quintero, 1975: 161, fig. 6; Southcott, 1976: 107, fig. 1; Savory, 1977: fig. 47; Southcott, 1978: 24, unnumbered fig. on p. 24; Strinati, 1983: 30, 31; Delle Cave, 1986: 153; Quintero, 1986: figs 1, 6, 10, 11; Samuelson and Nishida, 1987: 158; Kerr, 1991: 214; Humphreys, 1995: 178, figs 4e–f; Weygoldt, 1996a: figs 3, 15–16, 25, 32, 42, 47; Weygoldt, 2000a: figs 18, 26, 31, 47.

***Charon hoeveni*** Karsch, 1880: 245; Hansen, 1893: 159 (as *Charon hoevenii*) (synonymised by Kraepelin, 1899: 247).

***Charon beccarii*** Thorell, 1888: 340–345; Delle Cave, 1986: 153 (synonymised by Kraepelin, 1899: 247).

***Charon papuanus*** Thorell, 1888: 345–349; Delle Cave, 1986: 153 (synonymised by Kraepelin, 1899: 247).

***Charon subterraneus*** Thorell, 1888: 349–354; Delle Cave, 1986: 153 (synonymised by Kraepelin, 1899: 247).

***Charon grayi papuanus*** Thorell: Esaki, 1936a: 80–81, figs 1–3.

***Damon grayi*** (Gervais): Wolf, 1938: 536 (as *Damon gragi* [sic]).

**Type localities:** of *Phrynus grayi*: Manila, Manila, Luzon Island, **Philippines**.

of *Charon hoeveni*: Java, **Indonesia**.

of *Charon beccarii*: Ambon (as Amboina), Maluku, **Indonesia**.

of *Charon papuanus*: Fly River, Western, **Papua New Guinea**; and Yule Island, Central Province, **Papua New Guinea**.

of *Charon subterraneus*: Ambon (as Amboina), Maluku, **Indonesia**.

**Distribution:** Indonesia (Java, Maluku, Sumbawa), Malaysia, Palau, Papua New Guinea, Philippines, Singapore, Solomon Islands.

***Charon oenpelli* Harvey and West**

*Charon oenpelli* Harvey and West, 1998: 274–280, figs 1–6, 17, 18.

**Type locality:** near Oenpelli Reservoir, ca. 9 km S. of Oenpelli, Northern Territory, **Australia**.

**Distribution:** Australia (Northern Territory).

***Charon trebax* Harvey and West**

*Charon trebax* Harvey and West, 1998: 280–281, figs 7–11, 17, 18.

**Type locality:** Cromarty, Emmett Creek, Queensland, **Australia**.

**Distribution:** Australia (Queensland).

**Genus *Stygophrynus* Kraepelin**

*Stygophrynus* Kraepelin, 1895: 44; Kraepelin, 1899: 248; Pocock, 1900: 129; Gravely, 1915a: 443; Mello-Leitão, 1931: 53; Werner, 1935: 471; Weygoldt, 2000a: 25.

**Type species:** *Charon cavernicola* Thorell, 1889, by original designation.

**Distribution:** South-East Asia and south-west Pacific.

**Subgenus *Stygophrynus* (*Neocharon*) Dunn**

*Stygophrynus* (*Neocharon*) Dunn, 1949: 11.

**Type species:** *Stygophrynus* (*Neocharon*) *forsteri* Dunn, 1949, by original designation.

***Stygophrynus* (*Neocharon*) *forsteri* Dunn**

*Stygophrynus* (*Neocharon*) *forsteri* Dunn, 1949: 12–15, figs 4–6; Palma, Lovis and Tither, 1989: 19.

**Type locality:** Savo Island, Guadalcanal, Solomon Islands.

**Distribution:** Solomon Islands.

***Stygophrynus* (*Neocharon*) *moultoni* Gravely**

*Stygophrynus moultoni* Gravely, 1915a: 443–444, fig. 9; Giltay, 1931: 24–25; Mello-Leitão, 1931: 54; Werner, 1935: fig. 177a; Quintero, 1986: figs 2, 8.

*Stygophrynus* (*Neocharon*) *moultoni* Gravely: Dunn, 1949: 11.

**Type locality:** Klingkang Range, Kalimantan Barat, **Indonesia**.

**Distribution:** Indonesia (Kalimantan, Sumatra).

**Subgenus *Stygophrynus* (*Stygophrynus*) Kraepelin**

**Distribution:** Asia: Indonesia, Malaysia, Myanmar, Thailand, Vietnam.

***Stygophrynus* (*Stygophrynus*) *berkeleyi* Gravely**

*Stygophrynus berkeleyi* Gravely, 1915a: 445–446, fig. 11; Speijer, 1937: 173, figs 1–3; Mello-Leitão, 1931: 53.

**Type locality:** Lenggong, Perak, **Malaysia**.

**Distribution:** Malaysia.

***Stygophrynus* (*Stygophrynus*) *cavernicola* (Thorell)**

*Charon cavernicola* Thorell, 1889: 538–542.

*Stygophrynus cavernicola* (Thorell): Kraepelin, 1895: 44, figs 32, 37; Kraepelin, 1899: 248, fig. 92; Pocock, 1900: 130, figs 44a–b; Kraepelin, 1901a: 264; Börner, 1904: 5; Annandale and Gravely, 1914: 407, 418–419; Gravely, 1915a: 444–445; Gravely, 1915b: 526; Mello-Leitão, 1931: 53–54; Werner, 1935: 471; Wolf, 1938: 537; Vandel, 1965: 93; Delle Cave, 1986: 161–162; Deharveng and Leclerc, 1989: 94.

**Type locality:** Farm Caves, near Moulmein, Tenasserim, Mon, **Myanmar**.

**Distribution:** Myanmar, Thailand, Vietnam.

***Stygophrynus* (*Stygophrynus*) *cerberus* Simon**

*Stygophrynus cerberus* Simon, 1901: 76–77; Annandale and Gravely, 1914: 407, 419; Gravely, 1915a: 446, fig. 12; Gravely, 1915b: 526; Mello-Leitão, 1931: 54; Werner, 1935: fig. 177b; Wolf, 1938: 537; Vandel, 1965: 93.

**Type locality:** Gua G'lap, near Biserat, Pattani, **Thailand**.

**Distribution:** Thailand.

***Stygophrynus* (*Stygophrynus*) *dammermani* Roewer**

*Stygophrynus dammermani* Roewer, 1928: 16–19, figs 1–6; Giltay, 1931: 24–25; Mello-Leitão, 1931: 54; Roewer, 1932: fig. 3; Werner, 1935: fig. 1;