

# Ichthyosauromorph taxonomy

Benjamin Moon

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## Contents

|   |    |
|---|----|
| Introduction                                | 1  |
| Layout of synonymy lists                    | 1  |
| 'Richter symbols' & certainty of assignment | 2  |
| Life Science Identifiers (LSID)             | 2  |
| Links in this document                      | 3  |
| List of Species                             | 3  |
| References                                  | 10 |

## Introduction

This document presents a list of valid ichthyosauromorph species. It is a constant work in progress given the pace at which new ichthyosaur research happens. Perhaps not as rapidly as some other fossil groups, but certainly fast enough to require some attention.

It's also intended to give some handle on the vast literature available for ichthyosaurs and their near relatives by means of synonymy lists. I've chosen this format for it's familiarity, but also because I rather enjoy the process and trials to building a complete yet usable synonymy list.

I've used this also as an exercise in typography – like much of my more public output. This document is typeset in Lua<sup>1</sup>TeX using typefaces with various nice features – old style figures, small capitals, optical sizes. The fonts used are nonetheless open source, courtesy of their development at Adobe.

### Layout of synonymy lists

The synonymy lists are presented as unruled tables:

*Cartorhynchus lenticarpus* Motani *et al.*, 2015

URN:LSID:ZOOBANK.ORG:ACT:FCCC9BB7-FD52-42F4-B2EC-B0B7E2A1CA32

| <status> | <year> | <Taxon>                          | <Authority, Year>                                   | <reference, page> [<occurrence information>.] <comments>   |
|----------|--------|----------------------------------|---|--|
| *        | 2015   | <i>Cartorhynchus lenticarpus</i> | Motani <i>et al.</i> ,<br>2015 <a href="#">LSID</a> | Motani <i>et al.</i> p 485 [Upper Member, Nanlinghu Formation, <i>Subcolumbites</i> Ammonite Biozone (Olenekian, Lower Triassic, Triassic); Majishan Quarry, Chaohu City, Hefei, China (UTM WGS84 50R 577953 3499041 = 31° 37' 26" N 117° 49' 19" E).] LSID: URN:LSID:ZOOBANK.ORG:PUB:9CFFEE63-2B8A-4C01-B9C7-CD3C53D684F5 |

If a work names a new species or combination, the LSID of the act is included as a link button alongside the taxon name,<sup>1</sup> where this is available. Similarly all works that have publication LSIDs have those included too.

<sup>1</sup> i.e. [LSID](#)

### *'Richter symbols' & certainty of assignment*

I've followed the recommendations of Matthews (1973), pretty much to the letter, for the symbols and styles included in the leftmost two columns.

*In front of the year* symbols in the leftmost column

- \* (asterisk) this publication marks the name becoming valid under ICZN rules.
- . (dot/period) we accept responsibility for attaching this reference to the taxon in question.
- (no sign) we cannot responsibly attach this reference, but do not doubt it.
- ? (question mark) there is some doubt in attaching this reference to the current taxon.
- v* *vidimus*, we have checked the deposited specimens. Can be accompanied by the above tokens:
  - v*\* we have seen the type specimen(s).
  - v*. we take responsibility for attaching the deposited specimens.
  - v* we do not take responsibility for attaching the deposited specimens.
  - v*? the specimens cannot be certainly assigned to this taxon.
- (?) the year of publication is uncertain.
- p* only part of the deposited specimens can be assigned to the current taxon.
- vp* the deposited specimens have been checked and only part of them belong to this taxon.

*And by formatting the year* surrounding or changing the font

- 1881* (italicised) this work does not add morphological information, only occurrence information.
- 1881 (upright) the work adds to our knowledge on this taxon.
- (1881) (parentheses surrounding the year) the date of this work is uncertain.

### *Life Science Identifiers (LSID)*

*Life science identifiers*<sup>2</sup> are unique keys to identify and locate information important to the various life sciences. Relevant to this document are the identifiers used to link nomenclatural acts in *ZooBank*,<sup>3</sup> the official registry of the International Commission on Zoological Nomenclature (ICZN). Naming new taxa in the recent literature requires registering the act in ZooBank to be 'officially' recognised.<sup>4</sup>

Many of the taxa included herein were named before ZooBank was yet a glint in anyone's eye, although they may well have been included in the printed equivalent *Zoological Record*. I've registered several new publications and acts where these were not in ZooBank before, that may be used henceforth. At the moment, these include only the original naming of species, not new combinations of specific and generic names.

<sup>2</sup> <https://en.wikipedia.org/wiki/LSID>

<sup>3</sup> <http://zoobank.org>

<sup>4</sup> <https://www.iczn.org/the-code/the-international-code-of-zoological-nomenclature-the-code-online/> (Article 8.5.3); <https://en.wikipedia.org/wiki/ZooBank>

## Links in this document

The L<sup>A</sup>T<sub>E</sub>X document from which this PDF is compiled includes the *hyperref* package to provide links within the document<sup>5</sup> and to other references on the web.<sup>6</sup> These have different colours, as follows:

<sup>5</sup> e.g. citations and sections

<sup>6</sup> e.g. LSIDs and DOIs

[Citation](#) links from the year of a citation to its reference in the bibliography.

[URL](#) often web links, particularly to websites, DOI links, LSID with the address fully written.

[LSID](#) link to a ZooBank LSID for an act.

## List of Species

|  |   |                                      |   |   |   |
|--|---|--------------------------------------|---|---|---|
| <i>Acamptonectes densus</i>                | 4 | <i>Ichthyosaurus breviceps</i>       | 6 | <i>Protoichthyosaurus prostaialis</i>   | 8 |
| <i>Aegirosaurus leptospondylus</i>         | 4 | <i>Ichthyosaurus communis</i>        | 6 | <i>Qianichthyosaurus xingyiensis</i>    | 8 |
| <i>Acuetzpalin carranzai</i>               | 4 | <i>Ichthyosaurus conybeari</i>       | 6 | <i>Qianichthyosaurus zhoui</i>          | 8 |
| <i>Arthropterygius chrisorum</i>           | 4 | <i>Ichthyosaurus larkini</i>         | 6 | <i>Quasianosteosaurus vikinghoegdai</i> | 8 |
| <i>Arthropterygius hoybergeti</i>          | 4 | <i>Ichthyosaurus somersetensis</i>   | 6 | <i>Sclerocormus parviceps</i>           | 8 |
| <i>Arthropterygius lundii</i>              | 4 | <i>Isfjordosaurus minor</i>          | 6 | <i>Shastasaurus alexandrae</i>          | 8 |
| <i>Arthropterygius thalassonotus</i>       | 5 | <i>Leninia stellans</i>              | 7 | <i>Shastasaurus liangae</i>             | 8 |
| <i>Athabascasaurus bitumineus</i>          | 5 | <i>Leptonectes moorei</i>            | 7 | <i>Shastasaurus pacificus</i>           | 8 |
| <i>Barracudasauroides panxianensis</i>     | 5 | <i>Leptonectes solei</i>             | 7 | <i>Shastasaurus sikkaniensis</i>        | 8 |
| <i>Besanosaurus leptorhynchus</i>          | 5 | <i>Leptonectes tenuirostris</i>      | 7 | <i>Shonisaurus popularis</i>            | 8 |
| <i>Brachypterygius alekseevi</i>           | 5 | <i>Macgowania janiceps</i>           | 7 | <i>Simbirskiasaurus birjukovi</i>       | 8 |
| <i>Brachypterygius extremus</i>            | 5 | <i>Maiaespondylus lindoei</i>        | 7 | <i>Sisteronia seeleyi</i>               | 8 |
| <i>Brachypterygius pseudoscythica</i>      | 5 | <i>Malawania anachronus</i>          | 7 | <i>Stenopterygius aaleniensis</i>       | 8 |
| <i>Californosaurus perrini</i>             | 5 | <i>Mikadocephalus gracilirostris</i> | 7 | <i>Stenopterygius quadricissus</i>      | 8 |
| <i>Callawayia neoscapularis</i>            | 6 | <i>Mixosaurus cornalianus</i>        | 7 | <i>Stenopterygius triscissus</i>        | 8 |
| <i>Cartorhynchus lenticarpus</i>           | 6 | <i>Mixosaurus kuhnschneyderi</i>     | 7 | <i>Stenopterygius uniter</i>            | 8 |
| <i>Caypullisaurus bonapartei</i>           | 6 | <i>Mixosaurus xindianensis</i>       | 7 | <i>Suevoleiathan disinteger</i>         | 8 |
| <i>Cetarthrosaurus walkeri</i>             | 6 | <i>Mollesaurus pariallus</i>         | 7 | <i>Suevoleiathan integer</i>            | 8 |
| <i>Chacaicosaurus cayi</i>                 | 6 | <i>Muisacasaurus catheti</i>         | 7 | <i>Sveltonectes insolitus</i>           | 8 |
| <i>Chaohusaurus chaoxianensis</i>          | 6 | <i>Nannopterygius enthekiodon</i>    | 7 | <i>Temnodontosaurus azerguensis</i>     | 8 |
| <i>Chaohusaurus geishanensis</i>           | 6 | <i>Nannopterygius saveljeviensis</i> | 7 | <i>Temnodontosaurus crassimanus</i>     | 8 |
| <i>Chaohusaurus zhangjiawanensis</i>       | 6 | <i>Nannopterygius yasykovi</i>       | 7 | <i>Temnodontosaurus eurycephalus</i>    | 8 |
| <i>Contectopalatus atavus</i>              | 6 | <i>Ophthalmosaurus icenicus</i>      | 7 | <i>Temnodontosaurus nuertingensis</i>   | 8 |
| <i>Cymbospondylus buchseri</i>             | 6 | <i>Ophthalmosaurus natans</i>        | 7 | <i>Temnodontosaurus platyodon</i>       | 8 |
| <i>Cymbospondylus nicholli</i>             | 6 | <i>Parvinator wapitiensis</i>        | 7 | <i>Temnodontosaurus trigonus</i>        | 8 |
| <i>Cymbospondylus petrinus</i>             | 6 | <i>Pervushovisaurus bannovkensis</i> | 7 | <i>Thaisaurus chonglakmanii</i>         | 8 |
| <i>Cymbospondylus piscosus?</i>            | 6 | <i>Pervushovisaurus campylodon</i>   | 7 | <i>Thalattoarchon saurophagis</i>       | 8 |
| <i>Dearcmhara shawcrossi</i>               | 6 | <i>Pessopteryx nisseri</i>           | 7 | <i>Tholodus schmidi</i>                 | 8 |
| <i>Eurhinosaurus longirostris</i>          | 6 | <i>Phalarodon callawayi</i>          | 7 | <i>Toretocnemus californicus</i>        | 8 |
| <i>Excalibosaurus costini</i>              | 6 | <i>Phalarodon fraasi</i>             | 7 | <i>Toretocnemus zitteli</i>             | 8 |
| <i>Gengasaurus nicosiai</i>                | 6 | <i>Phalarodon major</i>              | 7 | <i>Undorosaurus gorodischensis</i>      | 8 |
| <i>Griippia longirostris</i>               | 6 | <i>Phantomosaurus neubigi</i>        | 7 | <i>Undorosaurus kielanae</i>            | 8 |
| <i>Guizhouichthyosaurus tangae</i>         | 6 | <i>Platypterygius hercynicus</i>     | 7 | <i>Undorosaurus nessovi</i>             | 9 |
| <i>Guizhouichthyosaurus wolonggangense</i> | 6 | <i>Platypterygius americanus</i>     | 7 | <i>Undorosaurus trautscholdi</i>        | 9 |
| <i>Gulosaurus helmi</i>                    | 6 | <i>Platypterygius australis</i>      | 8 | <i>Utatusaurus hataii</i>               | 9 |
| <i>Hauffiopteryx typicus</i>               | 6 | <i>Platypterygius hauthali</i>       | 8 | <i>Wahlisaurus massarae</i>             | 9 |
| <i>Himalayasaurus tibetensis</i>           | 6 | <i>Platypterygius ochevi</i>         | 8 | <i>Wimanius odontopalatus</i>           | 9 |
| <i>Hudsonelpidia brevirostris</i>          | 6 | <i>Platypterygius platydactylus</i>  | 8 | <i>Xinminosaurus catactes</i>           | 9 |
| <i>Ichthyosaurus acutirostris</i>          | 6 | <i>Platypterygius sachicarum</i>     | 8 |   |   |
| <i>Ichthyosaurus anningae</i>              | 6 | <i>Protoichthyosaurus applebyi</i>   | 8 |   |   |

## ICHTHYOSAUIROMORPHA Motani et al., 2015

### HUPEHSUCHIA Carroll & Dong, 1991

*Eohupehsuchus brevicollis* Chen et al, 2014a

- \* 2014a *Eohupehsuchus brevicollis* Chen et al. p 4 [Jialingjiang Formation (Upper Spathian, Lower Triassic); Yangping, Yuan'an County, Hubei Province, China].

*Eretmorhipis carrolldongi* Chen et al., 2015

- 1991 Hupehsuchia n. g., n. s. p 143 [Jialingjiang Formation (Upper Spathian, Lower Triassic); Tuling, Baihechuan, Xunjian District, Nanzhang County, Hubei Province, China].
- \* 2015 *Eretmorhipis carrolldongi* Chen et al. p 4 [Jialingjiang Formation (Upper Spathian, Lower Triassic); Yingzhishang, Yuan'an County, Hubei Province, China].

*Hupehsuchus nanchangensis* Young & Dong, 1972

*Nanchangosaurus suni* Wang, 1959

*Parahupehsuchus longus* Chen et al., 2014b

### ICHTHYOSAUIRIFORMES Motani et al., 2015

*Acamptonectes densus* Fischer et al., 2012

URN:LSID:ZOOBANK.ORG:ACT:AAB4BA7E-F53D-4962-8A9C-3240DFE2C4D8

- v \* 2012 *Acamptonectes densus* Fischer et al., 2012 Fischer et al. p 3 [Speeton Clay Formation, *Simbiskites concinnus/staffi* ammonite biozones (basal-upper Hauterivian, Lower Cretaceous, Cretaceous); Speeton, Yorkshire, U.K. and Cremlingen, Lower Saxony, Germany.]
- LSID URN:LSID:ZOOBANK.ORG:PUB:66B3821A-1025-48DC-9C5F-7E6277FFD975

*Aegirosaurus leptospondylus* (Wagner, 1853)

- \* 1853 *Ichthyosaurus leptospondylus* Wagner, 1853 Wagner [Solnhofen Formation (Lower Tithonian, Upper Jurassic, Jurassic); Germany.]
- 2000 *Aegirosaurus leptospondylus* (Wagner, 1853) Bardet & Fernández p 504 [Malm 2b, Solnhofen Formation (early Lower Tithonian, Upper Jurassic, Jurassic); Borsheim, Schrandel quarry district; Bavaria, Germany.]

*Acuetzpalin carranzai* Barrientos-Lara et al., 2020

URN:LSID:ZOOBANK.ORG:ACT:90130A25-6901-4DA6-84B8-D0680DF9BCAB

- \* 2020 *Acuetzpalin carranzai* Barrientos-Lara et al., 2020 Barrientos-Lara et al. p 3 [La Casita Formation (Kimmeridgian, Upper Jurassic, Jurassic); Cerro de Palotes, near of Cuencamé, Durango state, Northeast Mexico.]
- LSID URN:LSID:ZOOBANK.ORG:PUB:2287DBB3-3E85-409D-9D97-A946DE865FCB

*Arthropterygius chrisorum* (Russell, 1993)

- \* 1993 *Ophthalmosaurus chrisorum* Russell, 1993 Russell p 198 [Ringnes Formation (Oxfordian-Kimmeridgian, Upper Jurassic, Jurassic); Cape Grassy, Melville Island, Canada (UTM WGS84 12X 433220 8453461 = 76° 9' 4" N 113° 30' W).]
- ? 2017 *Keilhauia nui* Delsett et al., 2017 Delsett et al. p 7 [Slottsmøya Member, Agardfjellet Formation (early Berriasian, Lower Cretaceous, Cretaceous); Janusfjellet, Spitsbergen, Svalbard (UTM WGS84 33X 0518847 8696044).] fide Zverkov & Prilepskaya (2019)
- p 2018 *Palvennia hoybergeti* Druckenmiller et al., 2012 Delsett et al. p 8 [UTM WGS84 33X 0519622 8695649] PMO 222.669 fide Zverkov & Prilepskaya (2019)
- 2019 *Arthropterygius chrisorum* (Russell, 1993) Zverkov & Prilepskaya p 15

*Arthropterygius hoybergeti* (Druckenmiller et al., 2012)

URN:LSID:ZOOBANK.ORG:ACT:03BA5E23-17B5-4AB1-B98A-681B9968A3F9

- \* 2012 *Palvennia hoybergeti* Druckenmiller et al., 2012 Druckenmiller et al. p 326 [Slottsmøya Member, Agardfjellet Formation (Middle Volgian, Upper Jurassic, Jurassic); Spitsbergen, Svalbard (UTM WGS84 33X 0518775 8696150).] URN:LSID:ZOOBANK.ORG:PUB:8791DF9D-E15B-4470-A02A-F05ECC3BB7D6
- p 2018 *Palvennia hoybergeti* Druckenmiller et al., 2012 Delsett et al. p 8 [UTM WGS84 33X 0519622 8695649]
- 2019 *Arthropterygius hoybergeti* (Druckenmiller et al., 2012) Zverkov & Prilepskaya p 31

*Arthropterygius lundi* (Roberts et al., 2014)

URN:LSID:ZOOBANK.ORG:ACT:71E65B35-7215-44AA-BCE7-E9A3B265E04F

- \* 2014 *Janusaurus lundii* Roberts *et al.*, 2014 [LSID](#) Roberts *et al.* p 4 [Slottsmøya Member, Agardfjellet Formation (middle Volgian, Upper Jurassic, Jurassic); Janusfjellet, Spitsbergen, Svalbard (UTM WGS84 33X 518821 8696195 = 78° 20.264' N 15° 50.044' E).] [URN:LSID:ZOOBANK.ORG:PUB:FF4834F1-AEED-4B08-8E74-7125801C1B3E](#) *fide* Zverkov & Prilepskaya (2019)
- 2016 *Janusaurus lundii* Roberts *et al.*, 2014 Delsett *et al.*
- 2017 *Janusaurus lundii* Roberts *et al.*, 2014 Delsett *et al.*
- 2019 *Arthropterygius lundii* (Roberts *et al.*, 2014) Zverkov & Prilepskaya p 40

### *Arthropterygius thalassonotus* Campos *et al.*, 2019

[URN:LSID:ZOOBANK.ORG:ACT:3F09C714-961C-433C-B056-DFD3F8E3B5CD](#)

- \* 2019 *Arthropterygius thalassonotus* Campos *et al.*, 2019 [LSID](#) Campos *et al.* p 184 [Vaca Muerta Formation (late Tithonian, Upper Jurassic, Jurassic); Yesera del Tromen–Pampa Tril area, north-western Neuquén Province, Argentina.] [URN:LSID:ZOOBANK.ORG:PUB:A668AA96-CE4F-442E-AD3E-B757AD580CFC](#)

### *Athabascasaurus bitumineus* Druckenmiller & Maxwell, 2010

[URN:LSID:ZOOBANK.ORG:ACT:1CE8B3C1-8771-443A-8831-00025FB84CA6](#)

- v \* 2010 *Athabascasaurus bitumineus* Druckenmiller & Maxwell, 2010 [LSID](#) Druckenmiller & Maxwell p 1039 [Wabiskaw Member, Clearwater Formation (lowermost Albian, Lower Cretaceous, Cretaceous); 35 km north of Fort McMurray, Alberta, Canada (UTM WGS84 12V 459464 6317120 = 56° 59' 45" N 111° 40' 02" W).] [URN:LSID:ZOOBANK.ORG:PUB:2540811F-95E5-45BB-9B32-8E0416F61681](#)

### *Barracudasauroides panxianensis* (Jiang *et al.*, 2006)

[URN:LSID:ZOOBANK.ORG:ACT:05C7C635-6E53-4070-8856-047553A6B0BF](#)

- \* 2006 *Mixosaurus panxianensis* Jiang *et al.*, 2006 [LSID](#) Jiang *et al.* p 62 [Upper Member, Guanling Formation, *Nicoraella germanicus* Conodont Biozone (Pelsonian, Anisian, Middle Triassic, Triassic); Yangjuan Village, Xinmin District, Panxian County, Guizhou Province, China.] [URN:LSID:ZOOBANK.ORG:PUB:A3ED6813-7AA8-47CA-8197-04CA562417DF](#)
- 2010 *Barracudasauroides panxianensis* (Maisch, 2010) Maisch p 161

### *Besanosaurus leptorhynchus* Dal Sasso & Pinna, 1996

- \* 1996 *Besanosaurus leptorhynchus* Dal Sasso & Pinna, 1996 Dal Sasso & Pinna p 4 [Besano Formation, *Nevadites secedensis* Ammonite Biozone (Ilyrian, Anisian, Middle Triassic, Triassic); Sasso Caldo quarry, Besano, Varese Province, Lombardy, Northern Italy.]

### *Brachypterygius alekseevi* (Arkhangelsky, 2001)

- \* 2001 *Otschevia alekseevi* Arkhangelsky, 2001 Arkhangelsky p 629 [*Dorsoplanites panderi* Ammonite Biozone (Volgian, Upper Jurassic, Jurassic); Volga River, 18 km north of Ulyanovsk, Ulyanovsk District, Ulyanovsk Region, Russian.]
- 2010 *Brachypterygius alekseevi* (Arkhangelsky, 2001) Maisch p 167
- 2015 *Grendelius alekseevi* (Zverkov *et al.*, 2015) Zverkov *et al.* p 562

### *Brachypterygius extremus* (Boulenger, 1904)

[URN:LSID:ZOOBANK.ORG:ACT:5B04A1AF-9081-417D-9BFC-DC3AFA6DAAE3](#)

- v \* 1904 *Ichthyosaurus extremus* Boulenger, 1904 [LSID](#) Boulenger p 425 [Kimmeridge Clay Formation (Kimmeridgian–Tithonian, Upper Jurassic, Jurassic); Smallmouth Sands, Weymouth, Dorset, U.K.] [URN:LSID:ZOOBANK.ORG:PUB:98E5CD50-9FAF-458D-9D0A-9464EF76F429](#)
- v 1922 *Brachypterygius extremus* (Boulenger, 1904) von Huene p 97 [URN:LSID:ZOOBANK.ORG:PUB:2E316B82-8A25-43AE-A1C5-3785124EA6AE](#)
- v \* 1976 *Grendelius mordax* McGowan, 1976 McGowan p 671 [Kimmeridge Clay Formation, *Aulacostephanus autissiodorensis* Ammonite Biozone (middle Kimmeridgian, Upper Jurassic, Jurassic); Stowbridge, Norfolk, U.K. (UTM WGS84 31U 321960 5835045).]

### *Brachypterygius pseudoscythica* (Efimov, 1998)

- \* 1998 *Otschevia pseudoscythica* Efimov, 1998 Efimov p 83 [*Illovaishya pseudoscythica* Ammonite Biozone (Volgian, Upper Jurassic, Jurassic); Volga River, Ulyanovsk District, Ulyanovsk Region, Russia.]
- 2000 *Brachypterygius pseudoscythicus* (Efimov, 1998) Maisch & Matzke p 79 [sic.]
- 2015 *Grendelius pseudoscythicus* (Efimov, 1998) Zverkov *et al.* p 561 [sic.]

### *Californosaurus perrini* (Merriam, 1902)

- \* 1902 *Shastasaurus perrini* Merriam, 1902 Merriam p 89 [Hosselkus Limestone Formation; Shasta County, California, U.S.A.]
- 1905 *Delphinosaurus perrini* (Merriam, 1902) Merriam p 24
- 1934 *Californosaurus perrini* (Merriam, 1902) Kuhn p 27 [*non Delphinosaurus* von Eichwald, 1853]

### *Callawayia neoscapularis* (McGowan, 1994)

- \* 1994 *Shastasaurus neoscapularis* McGowan, 1994 McGowan p 170 [Pardonet Formation, *Epigondolella triangularis* Conodont Biozone (Norian, Upper Triassic, Triassic); Peace Reach, Williston Lake, British Columbia, Canada.]
- 2000 *Callawayia neoscapularis* (McGowan, 1994) Maisch & Matzke p 69 New combination takes priority over *Metashastasaurus* (Nicholls & Manabe, 2001, p. 1001).
- 2001 *Metashastasaurus neoscapularis* (McGowan, 1994) Nicholls & Manabe p 985 [Pardonet Formation (Norian, Upper Triassic, Triassic); Chicken Creek, British Columbia, Canada.]

### *Cartorhynchus lenticarpus* Motani *et al.*, 2015

URN:LSID:ZOOBANK.ORG:ACT:FCCC9BB7-FD52-42F4-B2EC-B0B7E2A1CA32

- \* 2015 *Cartorhynchus lenticarpus* Motani *et al.*, 2015 Motani *et al.* p 485 [Upper Member, Nanlinghu Formation, *Subcolumbites* Ammonite Biozone (Olenekian, Lower Triassic, Triassic); Majishan Quarry, Chaohu City, Hefei, China (UTM WGS84 50R 577953 3499041 = 31° 37' 26" N 117° 49' 19" E).]  
LSID URN:LSID:ZOOBANK.ORG:PUB:9CFFEE63-2B8A-4C01-B9C7-CD3C53D684F5

### *Caypullisaurus bonapartei* Fernández, 1997

URN:LSID:ZOOBANK.ORG:ACT:046EED7E-C624-465F-B0D4-1BB782CCD97D

- \* 1997 *Caypullisaurus bonapartei* Fernández, 1997 Fernández p 480 [Vaca Muerta Formation, *Virgatosphinctes mendozanus* Ammonite Biozone (late Tithonian, Upper Jurassic, Jurassic); Cerro Lotena, Neuquén Province, northwest patagonia, Argentina (UTM WGS84 19H 442358 5661434 = 39° 11' 40" N 69° 40' 03" S).]  
LSID URN:LSID:ZOOBANK.ORG:PUB:1A5DDCD0-1713-410A-AE1B-F02EA1F1DF77

### *Cetarthrosaurus walkeri* Seeley, 1873

### *Chacaicosaurus cayi* Fernández, 1994

### *Chaohusaurus chaoxianensis* (Chen, 1985)

### *Chaohusaurus geishanensis* Young & Dong, 1972

### *Chaohusaurus zhangjiawanensis* Chen *et al.*, 2013

### *Contectopalatus atavus* (Quenstedt, 1852)

### *Cymbospondylus buchseri* Sander, 1989

### *Cymbospondylus nichollsi* Fröbisch *et al.*, 2006

### *Cymbospondylus petrinus* Leidy, 1868

### *Cymbospondylus piscosus?* Leidy, 1868

### *Dearcmhara shawcrossi* Brusatte *et al.*, 2015

### *Eurhinosaurus longirostris* (Mantell, 1851)

### *Excalibosaurus costini* McGowan, 1986

### *Gengasaurus nicosiai* Paparella *et al.*, 2016

### *Grippia longirostris* Wiman, 1929

### *Guizhouichthyosaurus tangae* Yin *et al.*, 2000

### *Guizhouichthyosaurus wolonggangense* (Chen *et al.*, 2007)

### *Gulosaurus helmi* Cuthbertson *et al.*, 2013

### *Hauffiopteryx typicus* Maisch, 2008

### *Himalayasaurus tibetensis* Young & Dong, 1972

### *Hudsonelpidia brevirostris* McGowan, 1995

### *Ichthyosaurus acutirostris* Owen, 1840

### *Ichthyosaurus anningae* Lomax & Massare, 2015

### *Ichthyosaurus breviceps* Owen, 1881

### *Ichthyosaurus communis* Conybeare, 1822

### *Ichthyosaurus conybeari* Lydekker, 1888

### *Ichthyosaurus larkini* Lomax & Massare, 2017

### *Ichthyosaurus somersetensis* Lomax & Massare, 2017

### *Isfjordosaurus minor* (Wiman, 1910)



*Leninia stellans* Fischer *et al.*, 2014a

*Leptonectes moorei* McGowan & Milner, 1999

*Leptonectes solei* (McGowan, 1993)

*Leptonectes tenuirostris* (Conybeare, 1822)

*Macgowania janiceps* (McGowan, 1996)

*Maiaspondylus lindoei* Maxwell & Caldwell, 2006

*Malawania anachronus* Fischer *et al.*, 2013

*Mikadocephalus gracilirostris* Maisch & Matzke, 1997

*Mixosaurus cornalianus* (Bassani, 1886)

*Mixosaurus kuhnschneyderi* (Brinkmann, 1998)

*Mixosaurus xindianensis* Chen & Cheng, 2010

*Mollesaurus pariallus* Fernández, 1999

*Muiscasaurus catheti* Maxwell *et al.*, 2016

\* 2016 *Muiscasaurus catheti* Maxwell *et al.*, 2016

Maxwell *et al.* p 61 [Arcillolitas abigarradas Member, Paja Formation (Barremian–Aptian, Lower Cretaceous, Cretaceous); Vereda Llanitos, Sachica, Boyaca, Colombia (UTM WGS84 18N 662860 616018 = 05° 34.278' N 73° 31.781' W).]

*Nannopterygius enthekiodon* (Hulke, 1871)

URN:LSID:ZOOBANK.ORG:ACT:8467F95F-AC53-4EA7-9612-230E9222A6FC

v \* 1871 *Ichthyosaurus enthekiodon* Hulke, 1871 **LSID**

Hulke p 441 [Kimmeridge Clay Formation (Kimmeridgian–Tithonian, Upper Jurassic, Jurassic); Kimmeridge Bay, Dorset, U.K.] URN:LSID:ZOOBANK.ORG:PUB:4F0E90D0-27FF-409A-9CD5-976F182B8B4C

1922 *Nannopterygius enthekiodon* (Hulke, 1871)

von Huene p 98 URN:LSID:ZOOBANK.ORG:PUB:2E316B82-8A25-43AE-A1C5-3785124EA6AE

*Nannopterygius saveljeviensis* (Arkhangelsky, 1997)

\* 1997 *Paraophthalmosaurus savejeviensis* Arkhangelsky, 1997

Arkhangelsky p 88

1999a *Yasykovia kabanovi* Efimov, 1999a

Efimov p 98

2020 *Nannopterygius savejeviensis* (Arkhangelsky, 1997)

Zverkov & Jacobs p 246 [Volgian, Upper Jurassic, Jurassic.]

*Nannopterygius yasykovi* (Efimov, 1999a)

\* 1999a *Yasykovia sumini* Efimov, 1999a

Efimov p 98

*Ophthalmosaurus icenicus* Seeley, 1874

URN:LSID:ZOOBANK.ORG:ACT:F598EAB9-08BF-44CF-BBF3-BB940BD24DBE

v \* 1874 *Ophthalmosaurus icenicus* Seeley, 1874 **LSID**

Seeley p 707 [Peterborough Member, Oxford Clay Formation (Callovian, Middle Jurassic, Jurassic); Peterborough, Cambridgeshire.] URN:LSID:ZOOBANK.ORG:PUB:4C83C9B2-665D-4AD7-8AF8-D365E5491831

*Ophthalmosaurus natans* (Marsh, 1879)

*Parvinatator wapitiensis* Nicholls & Brinkman, 1995

*Pervushovisaurus bannovkensis* Arkhangelsky, 1998

*Pervushovisaurus campylodon* (Carter, 1846)

\* 1846 *Ichthyosaurus campylodon* Carter, 1846

Carter p 60 [Upper Greensand Formation (Albian–Cenomanian, Lower–Upper Cretaceous, Cretaceous); Cambridge, Cambridgeshire, U.K.]

1922 *Myopterygius campylodon* (Carter, 1846)

von Huene p 98 URN:LSID:ZOOBANK.ORG:PUB:2E316B82-8A25-43AE-A1C5-3785124EA6AE

1972 *Platypterygius campylodon* (Carter, 1846)

McGowan p 17

2016 *Pervushovisaurus campylodon* (Carter, 1846)

Fischer p 8

*Pessopteryx nisseri* Wiman, 1910

*Phalarodon callawayi* Schmitz *et al.*, 2004

*Phalarodon fraasi* Merriam, 1910

*Phalarodon major* von Huene, 1916

*Phantomosaurus neubigi* (Sander, 1997)

*Platypterygius hercynicus* Kuhn, 1946

*Platypterygius americanus* Nace, 1939

- \* 1939 *Myopterygius americanus* Nace, 1939 Nace p 674 [Mowry Shale Member, Graneros Formation; Crook County Wyoming, U.S.A.]  
 1968 *Myopterygius americanus* Nace, 1939 Romer p 27 [Mowry Shale Member, Graneros Formation; Osage, Wyoming, U.S.A.]  
 1972 *Platypterygius americanus* (Nace, 1939) McGowan p 17

*Platypterygius australis* (M'Coy, 1867)

*Platypterygius hauthali* (von Huene, 1927)

*Platypterygius ochevi* Arkhangelsky *et al.*, 2008

*Platypterygius platydactylus* (Broili, 1907)

- 1922 *Platypterygius platydactylus* (Broili, 1907) von Huene p 99 [URN:LSID:ZOOBANK.ORG:PUB:2E316B82-8A25-43AE-A1C5-3785124EA6AE](https://zoobank.org/PUB:2E316B82-8A25-43AE-A1C5-3785124EA6AE)

*Platypterygius sachicarum* Páramo, 1997

*Protoichthyosaurus applebyi* Lomax *et al.*, 2017

*Protoichthyosaurus prostaxalis* Appleby, 1979

*Qianichthyosaurus xingyiensis* Yang *et al.*, 2013

*Qianichthyosaurus zhoui* Li, 1999

*Quasianosteosaurus vikinghoegdai* Maisch & Matzke, 2003

*Sclerocormus parviceps* Jiang *et al.*, 2016

*Shastasaurus alexandrae* Merriam, 1902

*Shastasaurus liangae* (Yin *et al.*, 2000)

*Shastasaurus pacificus* Merriam, 1895

*Shastasaurus sikkaniensis* (Nicholls & Manabe, 2004)

*Shonisaurus popularis* Camp, 1976

*Simbirskiasaurus birjukovi* Otschev & Efimov, 1985

*Sisteronia seeleyi* Fischer *et al.*, 2014b

*Stenopterygius aaleniensis* Maxwell *et al.*, 2012

*Stenopterygius quadriscissus* (Quenstedt, 1858)

*Stenopterygius triscissus* (Quenstedt, 1858)

*Stenopterygius uniter* von Huene, 1931b

*Suevoleviathan disinteger* (von Huene, 1926)

*Suevoleviathan integer* (Bronn, 1844)

*Sveltonectes insolitus* Fischer *et al.*, 2011

*Temnodontosaurus azerguensis* Martin *et al.*, 2012

*Temnodontosaurus crassimanus* (Blake, 1876)

*Temnodontosaurus eurycephalus* McGowan, 1974

*Temnodontosaurus nuertingensis* (von Huene, 1931a)

*Temnodontosaurus platyodon* (Conybeare, 1822)

*Temnodontosaurus trigonus* (von Theodori, 1843)

*Thaisaurus chonglakmanii* Mazin *et al.*, 1991

*Thalattoarchon saurophagis* Fröbisch *et al.*, 2013

*Tholodus schmidi* von Meyer, 1849

*Toretocnemus californicus* Merriam, 1903

*Toretocnemus zitteli* (Merriam, 1903)

*Undorosaurus gorodischensis* Efimov, 1999b

- \* 1999b *Undorosaurus gorodischensis* Efimov, 1999b Efimov p 52 [*Epivirgatites nikitini* Ammonite Biozone (Volgian, Upper Jurassic, Jurassic); Undory, Volga Oblast, Russia.]  
 2012 *Cryptopterygius kristiansenae* Druckenmiller *et al.*, 2012 [LSID](https://zoobank.org/LSID) Druckenmiller *et al.* p 313 [Slotsmøya Member, Agardfjellet Formation (middle Volgian, Upper Jurassic, Jurassic); Janusfjellet, Spitsbergen, Svalbard (UTM WGS84 33X 0518842 8696067).] [URN:LSID:ZOOBANK.ORG:PUB:8791DF9D-E15B-4470-A02A-F05ECC3BB7D6](https://zoobank.org/PUB:8791DF9D-E15B-4470-A02A-F05ECC3BB7D6) *fide* Zverkov & Efimov (2019)  
 2019 *Undorosaurus gorodischensis* Efimov, 1999b Zverkov & Efimov p 1189

*Undorosaurus kielanae* (Tyborowski, 2016)



- \* 2016 *Cryopterygius kielanae* Tyborowski, 2016 Tyborowski p 793 [Ślawno Limestone Member, Kcynia Formation (uppermost Lower Tithonian = Middle Volgian, Upper Jurassic, Jurassic); Owadów-Brzezinki Quarry, Ślawno (UTM WGS84 34U 439831 5692022 = 51.3762583 N 20.1355167 E).]
- ? 2019 *Undorosaurus kielanae* (Tyborowski, 2016) Zverkov & Efimov p 1187

*Undorosaurus nessovi* Efimov, 1999b

*Undorosaurus trautscholdi* Arkhangel'sky & Zverkov, 2014

*Utatsusaurus hataii* Shikama *et al.*, 1978

*Wahlisaurus massarae* Lomax, 2016

- \* 2016 *Wahlisaurus massarae* Lomax, 2016 Lomax p 388 [Barnstone Member?, Scunthorpe Mudstone Formation?, Pre-*planorbis* or *Psiloceras planorbis* beds (lowermost Hettangian, Lower Jurassic, Jurassic); Normanton Hills near Normanton on Soar, Nottinghamshire, U.K.]

*Wimanius odontopalatus* Maisch & Matzke, 1998

*Xinminosaurus catactes* Jiang *et al.*, 2008

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