

# Ichthyosauromorph Taxonomy

Benjamin Moon

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## 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>La</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:

Example

Cartorhynchus lenticarpus Motani et al., 2015a			
URN:LSID:ZOOBANK.ORG:ACT:FCCC9BB7-FD52-42F4-B2EC-B0B7E2A1CA32			
<status>	<year>	<Taxon>	<Authority, Year>
*	2015a	Cartorhynchus lenticarpus	Motani et al., 2015a
		LSID	
		<reference, page> [<occurrence information>.] <comments>	
		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	

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. 

### *'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

<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](https://www.iczn.org/the-code/the-international-code-of-zoological-nomenclature-the-code-online/(Article%208.5.3);https://en.wikipedia.org/wiki/ZooBank)

may be used henceforth. At the moment, these include only the original naming of species, not new combinations of specific and generic names.

## 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

ICHTHYOSAUIROMORPHA	4	Guizhouichthyosaurus wolonggangense	7	Platypterygius ochevi	9
HUPEHSUCHIA	4	Gulosaurus helmi	7	Platypterygius platydactylus	9
Eohupehsuchus brevicollis	4	Hauffiopteryx typicus	7	Platypterygius sachicarum	9
Eretmorhipis carrolldongi	4	Himalayasaurus tibetensis	7	Protoichthyosaurus applebyi	9
Hupehsuchus nanchangensis	4	Hudsonelpidia brevirostris	8	Protoichthyosaurus prostaxalis	9
Nanchangosaurus suni	4	Ichthyosaurus acutirostris	8	Qianichthyosaurus xingyiensis	9
Parahupehsuchus longus	4	Ichthyosaurus anningae	8	Qianichthyosaurus zhoui	9
ICHTHYOSAUIRIFORMES	4	Ichthyosaurus breviceps	8	Quasianosteosaurus vikinghoegdai	9
Acamptonectes densus	4	Ichthyosaurus communis	8	Sclerocormus parviceps	9
Aegirosaurus leptospondylus	4	Ichthyosaurus conybeari	8	Shastasaurus alexandrae	9
Acuetzpalin carranzai	4	Ichthyosaurus larkini	8	Shastasaurus liangae	9
Arthropterygius chrisorum	4	Ichthyosaurus somersetensis	8	Shastasaurus pacificus	9
Arthropterygius hoybergeri	5	Isfordosaurus minor	8	Shastasaurus sikkaniensis	9
Arthropterygius lundii	5	Leninia stellans	8	Shonisaurus popularis	9
Arthropterygius thalassonotus	5	Leptonectes moorei	8	Simbirskiasaurus birjukovi	9
Athabascasaurus bitumineus	5	Leptonectes solei	8	Sisteronia seeleyi	9
Barracudasauroides panxianensis	5	Leptonectes tenuirostris	8	Stenopterygius aaleniensis	9
Besanosaurus leptorhynchus	5	Macgowania janiceps	8	Stenopterygius quadriscissus	9
Brachypterygius alekseevi	5	Maiaspondylus lindoei	8	Stenopterygius triscissus	9
Brachypterygius extremus	6	Malawania anachronus	8	Stenopterygius uniter	9
Brachypterygius pseudoscythica	6	Mikadocephalus gracilirostris	8	Suevoleiathan disinteger	9
Californosaurus perrini	6	Mixosaurus cornalianus	8	Suevoleiathan integer	9
Callawayia neoscapularis	6	Mixosaurus kuhnschneyderi	8	Sveltonectes insolitus	9
Cartorhynchus lenticarpus	6	Mixosaurus xindianensis	8	Temnodontosaurus azerguensis	9
Caypullisaurus bonapartei	6	Mollesaurus pariallus	8	Temnodontosaurus crassimanus	9
Cetarthrosaurus walkeri	6	Muiscasaurus catheti	8	Temnodontosaurus eurycephalus	9
Chacaicosaurus cayi	6	Nannopterygius enthekiodon	8	Temnodontosaurus nuertingensis	9
Chaohusaurus brevifemoralis	7	Nannopterygius saveljeviensis	8	Temnodontosaurus platyodon	9
Chaohusaurus chaoxianensis	7	Nannopterygius yasykovi	8	Temnodontosaurus trigonus	9
Chaohusaurus geishanensis	7	Ophthalmosaurus icenicus	8	Thaisaurus chonglakmanii	9
Chaohusaurus zhangjiawanensis	7	Ophthalmosaurus natans	8	Thalassodraco etchesi	9
Contectopalatus atavus	7	Parvinator wapitiensis	8	Thalattoarchon saurophagis	10
Cymbospondylus buchseri	7	Pervushovisaurus bannovkensis	8	Tholodus schmidi	10
Cymbospondylus nicholli	7	Pervushovisaurus campylodon	8	Toretocnemus californicus	10
Cymbospondylus petrinus	7	Pessopteryx nisseri	9	Toretocnemus zitteli	10
Cymbospondylus piscosus?	7	Phalarodon callawayi	9	Undorosaurus gorodischensis	10
Dearcmhara shawcrossi	7	Phalarodon fraasi	9	Undorosaurus kielanae	10
Eurhinosaurus longirostris	7	Phalarodon major	9	Undorosaurus nessovi	10
Excalibosaurus costini	7	Phantomosaurus neubigi	9	Undorosaurus trautscholdi	10
Gengasaurus nicosiai	7	Platypterygius hercynicus	9	Utatusaurus hataii	10
Grippia longirostris	7	Platypterygius americanus	9	Wahlisaurus massarae	10
Guizhouichthyosaurus tangae	7	Platypterygius australis	9	Wimanius odontopalatus	10
		Platypterygius hauthali	9	Xinminosaurus catactes	10

# ICHTHYOSAUIROMORPHA Motani *et al.*, 2015a

## HUPEHSUCHIA Carroll & Zhi-Ming, 1991

### *Eohupehsuchus brevicollis* Chen *et al.*, 2014a

URN:LSID:ZOOBANK.ORG:ACT:94F905DD-8995-4477-841A-85DEDA8C8287

v \* 2014a *Eohupehsuchus brevicollis* Chen *et al.*, 2014a  
LSID

Chen *et al.* p 4 [Jialingjiang Formation (upper Spathian, Lower Triassic, Triassic); Yangping, Yuan'an County, Hubei Province, China.]  
URN:LSID:ZOOBANK.ORG:PUB:1B8887A9-F513-427D-BE9A-DBBB15DD9A44

### *Eretmorhipis carrolldongi* Chen *et al.*, 2015

URN:LSID:ZOOBANK.ORG:ACT:317DA1DF-4381-43F5-90CE-ADFD680F7178

1991 Hupehsuchia n. gen. n. sp.

Carroll & Zhi-Ming p 143 [Jialingjiang Formation (upper Spathian, Lower Triassic, Triassic); Tuling, Baihechuan, Xunjiang District, Nanzhang County, Hubei Province, China.]

v \* 2015 *Eretmorhipis carrolldongi* Chen *et al.*, 2015  
LSID

Chen *et al.* p 4 [Jialingjiang Formation (upper Spathian, Lower Triassic, Triassic); Yingzhishang, Yuan'an County, Hubei Province, China.]  
URN:LSID:ZOOBANK.ORG:PUB:132627FE-9142-4EE2-BACB-08CAFC65C3E2

### *Hupehsuchus nanchangensis* Young & Dong, 1972

URN:LSID:ZOOBANK.ORG:ACT:416BF673-273A-4F3D-99B3-F369DBEC6CEA

v \* 1972 *Hupehsuchus nanchangensis* Young & Dong, 1972  
LSID

Young & Dong p 28 [Jialingjiang Formation (upper Spathian, Lower Triassic, Triassic).] URN:LSID:ZOOBANK.ORG:PUB:D2CAD534-D3B0-4B2B-871F-7011E4B1EE74

### *Nanchangosaurus suni* Wang, 1959

\* 1959 *Nanchangosaurus suni* Wang, 1959  
LSID

Wang [Jialingjiang Formation (upper Spathian, Lower Triassic, Triassic).]

2014c *Nanchangosaurus suni* Wang, 1959

URN:LSID:ZOOBANK.ORG:PUB:C31DBAA9-EDA9-4D29-92DD-BFC80461F0F4

Chen *et al.* p 3 [Jialingjiang Formation (upper Spathian, Lower Triassic, Triassic); Yuan'an County, Hubei Province, China.]

### *Parahupehsuchus longus* Chen *et al.*, 2014b

URN:LSID:ZOOBANK.ORG:ACT:0B2F1D4D-0435-496F-B1C0-6913F265240F

v \* 2014b *Parahupehsuchus longus* Chen *et al.*, 2014b  
LSID

Chen *et al.* p 3 [Jialingjiang Formation (upper Spathian, Lower Triassic, Triassic); Yuan'an County, Hubei Province, China.] URN:LSID:ZOOBANK.ORG:PUB:0F2EED52-F0A2-4125-B96A-8E39E9854DBE

## ICHTHYOSAUIRIFORMES Motani *et al.*, 2015a

### *Acamptonectes densus* Fischer *et al.*, 2012

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

v \* 2012 *Acamptonectes densus* Fischer *et al.*, 2012  
LSID

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

2012 *Acamptonectes densus* Fischer *et al.*, 2012

Fischer *et al.* p 3 [*Simbiskites concinnus/staffi* ammonite biozones (basal-upper Hauterivian, Lower Cretaceous, Cretaceous); Cremlingen, Lower Saxony, Germany.]  
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 ζ 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  
LSID

Barrientos-Lara *et al.* p 3 [La Casita Formation (Kimmeridgian, Upper Jurassic, Jurassic); Cerro de Palotes, near of Cuencamé, Durango state, Northeast Mexico.]  
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 = 78.3363734°N 15.8351277°E).] *fide* Zverkov & Prilepskaya (2019)
- p 2018 *Palvennia hoybergeti* Druckenmiller *et al.*, 2012 Delsett *et al.* p 8 [UTM WGS84 33X 0519622 8695649 = 78.3327333°N 15.8692035°E] PMO
- 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 LSID Druckenmiller *et al.* p 326 [Slottsmøya Member, Agardfjellet Formation (Middle Volgian, Upper Jurassic, Jurassic); Spitsbergen, Svalbard (UTM WGS84 33X 0518775 8696150 = 78.3373322°N 15.8320045°E).] 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 = 78.3327333°N 15.8692035°E]
- 2019 *Arthropterygius hoybergeti* (Druckenmiller *et al.*, 2012) Zverkov & Prilepskaya p 31

### *Arthropterygius lundii* (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

URN:LSID:ZOOBANK.ORG:ACT:47C32E1B-18FE-40CF-B98E-E9A537601E43

- \* 1996 *Besanosaurus leptorhynchus* Dal Sasso & Pinna, 1996 LSID 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.] URN:LSID:ZOOBANK.ORG:PUB:EEA0F11C-D7BF-41BE-856E-DC2F3599273A

### *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 = 52.6361361°N 0.368878°E).]

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

- \* 1998 *Otschevia pseudoscythica* Efimov, 1998 Efimov p 83 [*Ilowaiskya 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 [Hossekus 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.*, 2015a

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

- \* 2015a *Cartorhynchus lenticarpus* Motani *et al.*, 2015a **LSID** 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).]  
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 **LSID** 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).] URN:LSID:ZOOBANK.ORG:PUB:1A5DDCD0-1713-410A-AE1B-F02EA1F1DF77

### *Cetarthrosaurus walkeri* (Seeley, 1873)

- \* 1869 *Ichthyosaurus walkeri* Seeley, 1869 Seeley p 65 [Gault Formation (late Albion, Lower Cretaceous, Cretaceous).] Re-worked into Cambridge Greensand Member (Lower Chalk Formation; early Cenomanian). Described from a cast.
- 1873 *Cetarthrosaurus walkeri* (Seeley, 1869) Seeley p 505
- 2014a *Cetarthrosaurus walkeri* (Seeley, 1869) Fischer *et al.* p 17

### *Chacaicosaurus cayi* Fernández, 1994

- \* 1994 *Chacaicosaurus cayi* Fernández, 1994 Fernández p 293 [Les Molles Formation (early Bajocian, Middle Jurassic, Jurassic); Chacaico Sur, Patagonia, Argentina.]




2007 *Stenopterygius cayi* (Fernández, 1994)

Fernández p 277

## *Chaohusaurus brevifemoralis* Huang *et al.*, 2019

URN:LSID:ZOOBANK.ORG:ACT:B0085E53-C6E4-4C2E-96FF-6D485D3585BA

- p 1998a *Chaohusaurus chaoxianensis* (Chen, 1985) Motani & You  
 p 1998b *Chaohusaurus geishanensis* Young & Dong, 1972 Motani & You p 533  
 p 2015b *Chaohusaurus chaoxianensis* (Chen, 1985) Motani *et al.* p e892011-3  
 p 2017 *Chaohusaurus chaoxianensis* (Chen, 1985) Zhou *et al.* p e1343831-3  
 \* 2019 *Chaohusaurus brevifemoralis* Huang *et al.*, 2019  Huang *et al.* p 7 [Upper Member, Nanlinghu Formation, *Subcolumbites* Ammonoid Biozone (Spathian, Olenekian, Lower Triassic, Triassic); Majiashan, Anhui Province, China.] URN:LSID:ZOOBANK.ORG:PUB:3FA09089-C940-4499-ABBC-B48F0F70F38E

## *Chaohusaurus chaoxianensis* (Chen, 1985)

- \* 1985 *Anhuisaurus chaoxianensis* Chen, 1985 Chen p 140 [Upper Member, Nanlinghu Formation (Spathian, Olenekian, Lower Triassic, Triassic); Majiashan, Anhui Province, China.]  
 \* 1985 *Anhuisaurus faciles* Chen, 1985 Chen p 142 [Upper Member, Nanlinghu Formation (Spathian, Olenekian, Lower Triassic, Triassic); Majiashan, Anhui Province, China.]  
 1991 *Chensaurus chaoxianensis* (Chen, 1985) Mazin *et al.* p 1207  
 1991 *Chensaurus faciles* (Chen, 1985) Mazin *et al.* p 1207  
 1998a *Chaohusaurus chaoxianensis* (Chen, 1985) Motani & You  
 p 1998b *Chaohusaurus geishanensis* Young & Dong, 1972 Motani & You p 533  
 2015b *Chaohusaurus chaoxianensis* (Chen, 1985) Motani *et al.* p e892011-3

## *Chaohusaurus geishanensis* Young & Dong, 1972

- \* 1972 *Chaohusaurus geishanensis* Young & Dong, 1972 Young & Dong p 11 [Qinglong Formation (Spathian, Lower Triassic, Triassic); Chao County, Anhui Province, China.]

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

- v \* 2013 *Chaohusaurus zhangjiawanensis* Chen *et al.*, 2013 Chen *et al.* p 673 [Third Member, Jialingjiang Formation, *Neospathodus homeri*-*N. triangularis* Conodont Biozone (upper Spathian, Lower Triassic, Triassic); Zhangjiawan Village, Yangping Town, Yuan'an County, Hubei Province, China.]

## *Contectopalatus atavus* (Quenstedt, 1852)

- \* 1852 *Ichthyosaurus atavus* Quenstedt, 1852 Quenstedt p 129 [Wellenkalk Formation (Anisian, Middle Triassic, Triassic); Althengstett, Baden-Württemberg, Germany.]  
 1891 *Mixosaurus atavus atavus* (Quenstedt, 1852) [as *Mixosaurus atavus* var. *minor*] Fraas p 38 *vide* McGowan & Motani (2003, p. 67)  
 1916 *Mixosaurus atavus* (Quenstedt, 1852) von Huene p 3  
 1998a *Contectopalatus atavus* (Quenstedt, 1852) Maisch & Matzke p 115  
 2003 *Mixosaurus atavus* (Quenstedt, 1852) McGowan & Motani p 67

## *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

- \* 1972 *Himalayasaurus tibetensis* Young & Dong, 1972  Young & Dong p 7 [Langjiexue Group (Norian, Middle Triassic, Triassic); Tulong Area, Xizang, Tibet, China.] URN:LSID:ZOOBANK.ORG:PUB:D2CAD534-D3B0-4B2B-871F-7011E4B1EE74

*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  
*Isfordosaurus minor* (Wiman, 1910)  
*Leninia stellans* Fischer *et al.*, 2014b  
*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 p 88  
 Arkhangelsky, 1997  
 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 prostaalis* 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.*, 2014a  
*Stenopterygius aalenensis* 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  
*Thalassodraco etchesi* Jacobs & Martill, 2020

[URN:LSID:ZOOBANK.ORG:ACT:35626449-D5AC-4970-B76E-27A827126D23](https://zoobank.org/ACT:35626449-D5AC-4970-B76E-27A827126D23)

- v \* 2020 *Thalassodraco etchesi* Jacobs & Martill, 2020 [LSID](#) Jacobs & Martill p 7 [White Stone Band, Kimmeridge Clay Formation, *Pectinatites pectinatus* Ammonite Biozone (early Tithonian, Upper Jurassic, Jurassic); Rope Lake Bay, Kimmeridge, Dorset U.K.] [URN:LSID:ZOOBANK.ORG:PUB:C1D99FF1-D4FC-4526-8E28-1B8FA64E21C0](#) UK GR SY932775

*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 [*Epirigatites nikitini* Ammonite Biozone (Volgian, Upper Jurassic, Jurassic); Undory, Volga Oblast, Russia.]
- 2012 *Cryopterygius kristiansenae* Druckenmiller *et al.*, 2012 [LSID](#) Druckenmiller *et al.* p 313 [Slottsmøya Member, Agardfjellet Formation (middle Volgian, Upper Jurassic, Jurassic); Janusfjellet, Spitsbergen, Svalbard (UTM WGS84 33X 0518842 8696067 = 78.3365801°N 15.8349207°E).] [URN:LSID: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 [Sławno Limestone Member, Kcynia Formation (uppermost Lower Tithonian = Middle Volgian, Upper Jurassic, Jurassic); Owadów-Brzezinki Quarry, Sławno (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* Arkhangelsky & Zverkov, 2014

*Utatusaurus 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, 1998b

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

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