Ichthyosauromorph taxonomy

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ICHTHYOSAUROMORPHA Motani et al., 2015

HUPEHSUCHIA Carroll & Dong, 1991

Eohupehsuchus brevicollis Chen et al. 2014b

2014b 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., 2014a

ICHTHYOSAURIFORMES Motani et al., 2015

Acamptonectes densus Fischer et al., 2012

LSID: 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, p [Solnhofen Formation (Lower Tithonian, Upper Jurassic, Jurassic); Ger-

2000 Aegirosaurus leptospondylus (Wagner, 1853)

Bardet and Fernández, p 504 [Malm ζ 2b, Solnhofen Formation (early Lower Tithonian, Upper Jurassic, Jurassic); Borscheim, Schrandel quarry district; Bavaria, Germany.]

Acuetzpalin carranzai Barrientos-Lara et al., 2020

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

2020 LSID

2020 Acuetzpalin carranzai Barrientos-Lara et al., 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 and 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 and Prilepskaya (2019)

2019 Arthropterygius chrisorum (Russell, 1993) Zverkov and Prilepskaya, p 15

Arthropterygius hoybergeti (Druckenmiller et al., 2012)

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

2012 Palvennia hoybergeti Druckenmiller et al., Druckenmiller et al., p 326 [Slottsmøya Member, Agardfjellet Formation (Middle Volgian, Upper Jurassic, Jurassic); Spitsbergen, Svalbard (UTM WGS84 33X 0518775 8696150).] LSID: URN:LSID:ZOOBANK.ORG:PUB:8791DF9D-E15B-4470-A02A-F05ECC3BB7D6

p 2018 *Palvennia hoybergeti* Druckenmiller et al., Delsett et al., p 8 [UTM WGS84 33X 0519622 8695649]

2019 Arthropterygius hoybergeti (Druckenmiller Zverkov and Prilepskaya, p 31 et al., 2012)

Arthropterygius lundi (Roberts et al., 2014)

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

2014 Janusaurus lundi 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).] LSID: URN:LSID:ZOOBANK.ORG:PUB:FF4834F1-AEED-4808-8E74-7125801C1B3E fide Zverkov and Prilepskaya (2019)

2016Janusaurus lundi Roberts et al., 2014Delsett et al., p2017Janusaurus lundi Roberts et al., 2014Delsett et al., p

2019 Arthropterygius lundi (Roberts et al., 2014) Zverkov and Prilepskaya, p 40

Athabascasaurus bitumineus Druckenmiller and Maxwell, 2010

v * 2010 Athabascasaurus bitumineus Druckenmiller Druckenmiller and 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).]

Barracudasauroides panxianensis (Jiang et al., 2006)

* 2006 Mixosaurus panxianensis Jiang et al., 2006 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.]

2010 Barracudasauroides panxianensis (Maisch. Maisch. p 161

10 Barracudasauroides panxianensis (Maisch, Maisch, p

2010)

Besanosaurus leptorhynchus Dal Sasso and Pinna, 1996

* 1996 Besanosaurus leptorhynchus Dal Sasso and Dal Sasso and Pinna, p 4 [Besano Formation, Nevadites secedensis Ammonite Biozone Pinna, 1996 (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, Maisch, p 167

2001)

2015 Grendelius alekseevi (Zverkov et al., 2015)

5) Zverkov et al., p 562

Brachypterygius extremus (Boulenger, 1904)

v * 1904 Ichthyosaurus extremus Boulenger, 1904 Boulenger, p 425 [Kimmeridge Clay Formation (Kimmeridgian-Tithonian, Upper Jurassic, Jurassic); Smallmouth Sands, Weymouth, Dorset, U.K.]

1922 Brachypterygius extremus (Boulenger, 1904) von Huene, p 97

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

2000 Brachypterygius psudoscythius (Efimov, 1998)

[sic.]

2015 Grendelius pseudoscythicus (Efimov, 1998)

[sic.]

Efimov, p 83 [*Ilowaiskya pseudoscythica* Ammonite Biozone (Volgian, Upper Jurassic, Jurassic); Volga River, Ulyanovsk District, Ulyanovsk Region, Russia.]

Maisch and Matzke, p 79

Zverkov et al., p 561

Californosaurus perrini (Merriam, 1902)

* 1902 Shastasaurus perrini Merriam, 1902

1905 Delphinosaurus perrini (Merriam, 1902)

1934 Californosaurus perrini (Merriam, 1902)

Merriam, p 89 [Hosselkus Limestone Formation; Shasta County, California, U.S.A.]

Merriam, p 24

Kuhn, p 27 [non Delphinosaurus 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 and Matzke, p 69 New combination takes priority over *Metashastasaurus* (Nicholls and Manabe, 2001, p. 1001).

 ${\tt 2001}\>\>\> Meta shasta saurus\> neos capularis\> (McGowan,$

1994)

Nicholls and Manabe, p 985 [Pardonet Formation (Norian, Upper Triassic, Triassic); Chicken Creek, British Columbia, Canada.]

Cartorhynchus lenticarpus Motani et al., 2015

Caypullisaurus bonapartei Fernández, 1997

Cetarthrosaurus walkeri Seeley, 1873

Chacaicosaurus cayi Fernández, 1994

Chaohusaurus chaoxianensis (Chen, 1985)

Chaohusaurus geishanensis Young and 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)

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Gulosaurus helmi Cuthbertson et al., 2013
Hauffiopteryx typicus Maisch, 2008
Himalayasaurus tibetensis Young and Dong, 1972
Hudsonelpidia brevirostris McGowan, 1995
Ichthyosaurus acutirostris Owen, 1840
Ichthyosaurus anningae Lomax and Massare, 2015
Ichthyosaurus breviceps Owen, 1881
Ichthyosaurus communis Conybeare, 1822
Ichthyosaurus conybeari Lydekker, 1888
Ichthyosaurus larkini Lomax and Massare, 2017
Ichthyosaurus somersetensis Lomax and Massare, 2017
Isfjordosaurus minor (Wiman, 1910)
Leninia stellans Fischer et al., 2014a
Leptonectes moorei McGowan and Milner, 1999
Leptonectes solei (McGowan, 1993)
Leptonectes tenuirostris (Conybeare, 1822)
Macgowania janiceps (McGowan, 1996)
Maiaspondylus lindoei Maxwell and Caldwell, 2006
Malawania anachronus Fischer et al., 2013
Mikadocephalus gracilirostris Maisch and Matzke, 1997
Mixosaurus cornalianus (Bassani, 1886)
Mixosaurus kuhnschneyderi (Brinkmann, 1998)
Mixosaurus xindianensis Chen and 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 (Bar-
                                             remian-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)
Nannopterygius saveljeviensis (Arkhangelsky, 1997)
   1997 Paraophthalmosaurus savejeviensis
                                             Arkhangelsky, p 88
        Arkhangelsky, 1997
   1999b Yasykovia kabanovi Efimov, 1999b
                                             Efimov, p 98
   2020 Nannopterygius savejeviensis (Arkhangelsky, Zverkov and Jacobs, p 246 [Volgian, Upper Jurassic, Jurassic.]
        1997)
Nannopterygius yasykovi (Efimov, 1999b)
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Efimov, p 98

1999b Yasykovia sumini Efimov, 1999b

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Ophthalmosaurus icenicus Seeley, 1874
   LSID: URN:LSID:ZOOBANK.ORG:ACT:F598EAB9-08BF-44CF-BBF3-BB940BD24DBE
v * 1874 Ophthalmosaurus icenicus Seeley, 1874
                                              Seeley, p 707 [Peterborough Member, Oxford Clay Formation (Callovian,
                                               Middle Jurassic, Jurassic); Peterborough, Cambridgeshire.] LSID:
                                               URN:LSID:ZOOBANK.ORG:PUB:4C83C9B2-665D-4AD7-8AF8-D365E5491831
Ophthalmosaurus natans (Marsh, 1879)
Parvinatator wapitiensis Nicholls and 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
   1972 Platypterygius campylodon (Carter, 1846)
                                              McGowan, p 17
   2016 Pervushovisaurus campylodon (Carter, 1846)
                                              Fischer, p8
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,
   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)
Platypterygius sachicarum Páramo, 1997
Protoichthyosaurus applebyi Lomax et al., 2017
Protoichthyosaurus prosaxalis Appleby, 1979
Qianichthyosaurus xingyiensis Yang et al., 2013
Qianichthyosaurus zhoui Li, 1999
Quasianosteosaurus vikinghoegdai Maisch and Matzke, 2003
Sclerocormus parviceps Jiang et al., 2016
Shastasaurus alexandrae Merriam, 1902
Shastasaurus liangae (Yin et al., 2000)
Shastasaurus pacificus Merriam, 1895
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Shastasaurus sikkaniensis (Nicholls and Manabe, 2004) Shonisaurus popularis Camp, 1976 Simbirskiasaurus birjukovi Otschev and Efimov, 1985 Sisteronia seelevi Fischer et al., 2014b Stenopterygius aaleniensis Maxwell et al., 2012 Stenopterygius quadriscissus (Quenstedt, 1858) Stenopterygius triscissus (Quenstedt, 1858) Stenopterygius uniter von Huene, 1931a 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, 1931b) 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, 1999a 1999a Undorosaurus gorodischensis Efimov, 1999a Efimov, p 52 [Epivirgatites nikitini Ammonite Biozone (Volgian, Upper Jurassic, Jurassic); Undory, Volga Oblast, Russia.] 2012 Cryopterygius kristiansenae Druckenmiller Druckenmiller et al., p 313 [Slottsmøya Member, Agardfjellet Formation (middle Volgian, Upper Jurassic, Jurassic); Janusfjellet, Spitsbergen, Svalbard (UTM WGS84 et al., 2012 LSID 33X 0518842 8696067).] LSID: URN:LSID:ZOOBANK.ORG:PUB:8791DF9D-E15B-4470-A02A-F05ECC3BB7D6 fide Zverkov and Efimov (2019) 2019 Undorosaurus gorodischensis Efimov, 1999a Zverkov and 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 and Efimov, p 1187 Undorosaurus nessovi Efimov, 1999a Undorosaurus trautscholdi Arkhangelsky and 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 and Matzke, 1998

Xinminosaurus catactes Jiang et al., 2008

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