

**Bibliography database of living/fossil sharks, rays and chimaeras
(Chondrichthyes: Elasmobranchii, Holocephali)
Papers of the year 2018**

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Abstract: This paper contains a collection of 722 citations (no conference abstracts) on topics related to extant and extinct Chondrichthyes (sharks, rays, and chimaeras) as well as a list of Chondrichthyan species and hosted parasites newly described in 2018. The list is the result of regular queries in numerous journals, books and online publications. It provides a complete list of publication citations as well as a database report containing rearranged subsets of the list sorted by the keyword statistics, extant and extinct genera and species descriptions from the years 2000 to 2018, list of descriptions of extinct and extant species from 2018, parasitology, reproduction, distribution, diet, conservation, and taxonomy. The paper is intended to be consulted for information. In addition, we provide data information on the geographic and depth distribution of newly described species, i.e. the type specimens from the years 1990 to 2018 in a hot spot analysis. The subheader "biodiversity" comprising a complete list of all valid chimaeriform, selachian and batoid species, as well as a list of the top 20 most researched chondrichthyan species.

Please note that the content of this paper has been compiled to the best of our abilities based on current knowledge and practice, however, possible errors cannot entirely be excluded.

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1. Extinct Chondrichthyes, Research Articles

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3. Database Reports

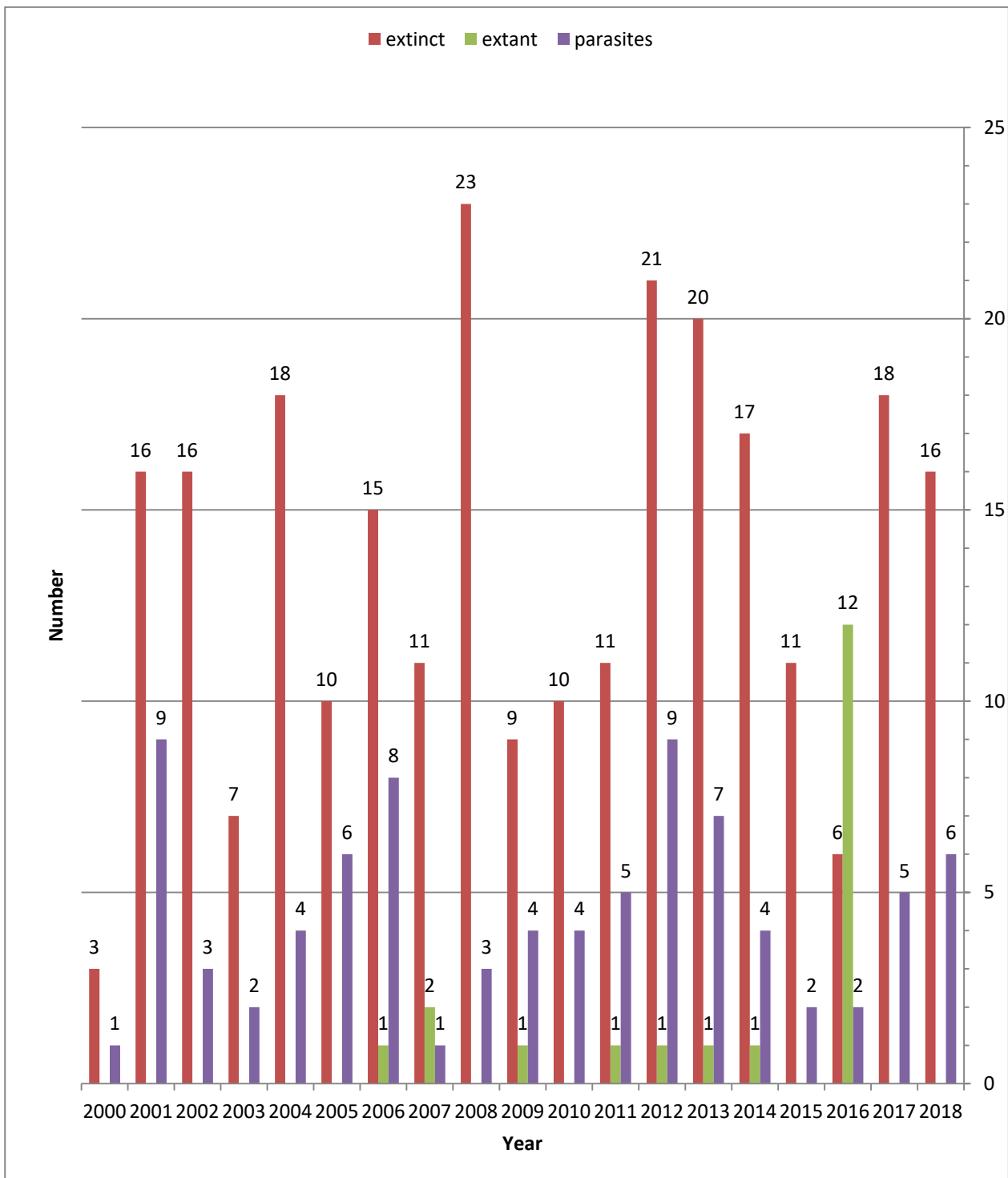
3.1 Statistics

3.1.1 Newly described genera 2000 – 2018

Table 1: Describes extinct, extant and parasite genera in the years 2000 to 2018.

year	extinct	extant	parasites
2000	3		1
2001	16		9
2002	16		3
2003	7		2
2004	18		4
2005	10		6
2006	15	1	8
2007	11	2	1
2008	23		3
2009	9	1	4
2010	10		4
2011	11	1	5
2012	21	1	9
2013	20	1	7
2014	17	1	4
2015	11		2
2016	6	12	2
2017	18		5
2018	16		6

Figure 1: Barchart showing comparisons of genus descriptions in the three categories extinct, extant, and parasites. Extinct genus descriptions clearly dominate the descriptions record.

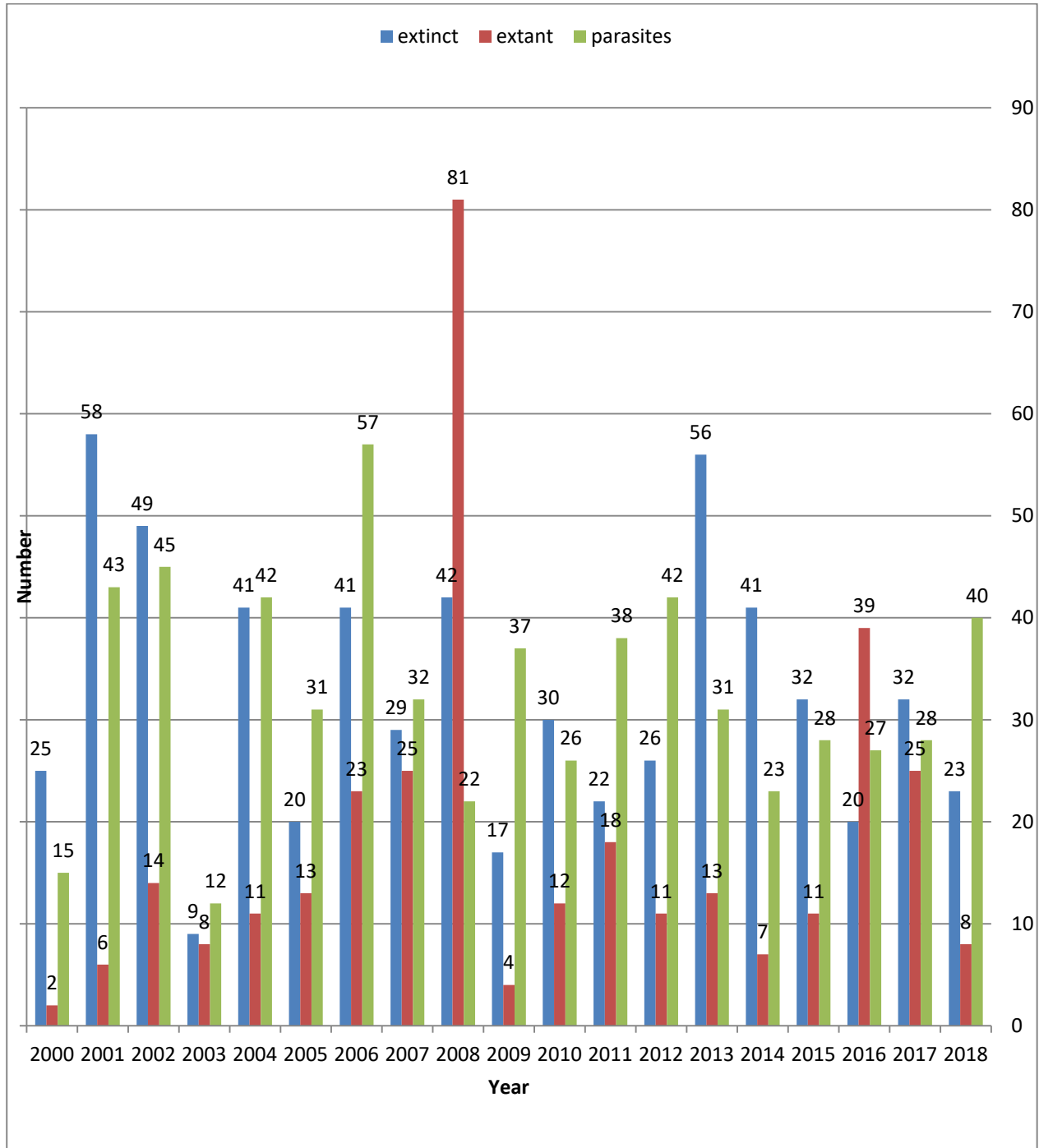


3.1.2 Newly described species 2000 – 2018

Table 2: Describes extinct, extant and parasite species in the years 2000 to 2018.

year	extinct	extant	parasites
2000	25	2	15
2001	58	6	43
2002	49	14	45
2003	9	8	12
2004	41	11	42
2005	20	13	31
2006	41	23	57
2007	29	25	32
2008	42	81	22
2009	17	4	37
2010	30	12	26
2011	22	18	38
2012	26	11	42
2013	56	13	31
2014	41	7	23
2015	32	11	28
2016	20	39	27
2017	32	25	28
2018	23	8	40

Figure 2: Barchart showing comparisons of species descriptions in the three categories extinct, extant, and parasites. Extinct and parasite species descriptions dominate the descriptions record with the exception of the year 2008 and 2016.



3.1.3 Hot spots (types)

3.1.3.1 Hot spots (types): Summary

Table 3: Summary of collection and specimen numbers of type specimens of Chondrichthyes recorded and described in the years 1990 to 2018.

Year	Number		Without coordinates		Without FAO area	
	# Zoological collection entries	# specimen	# Zoological collection entries	# specimen	# Zoological collection entries	# specimen
1990-1999	409	515	56	59	2	2
2000-2009	1736	1981	119	130	21	29
2010-2018	1035	1240	232	251	6	6
Total:	3180	3736	407	440	29	37

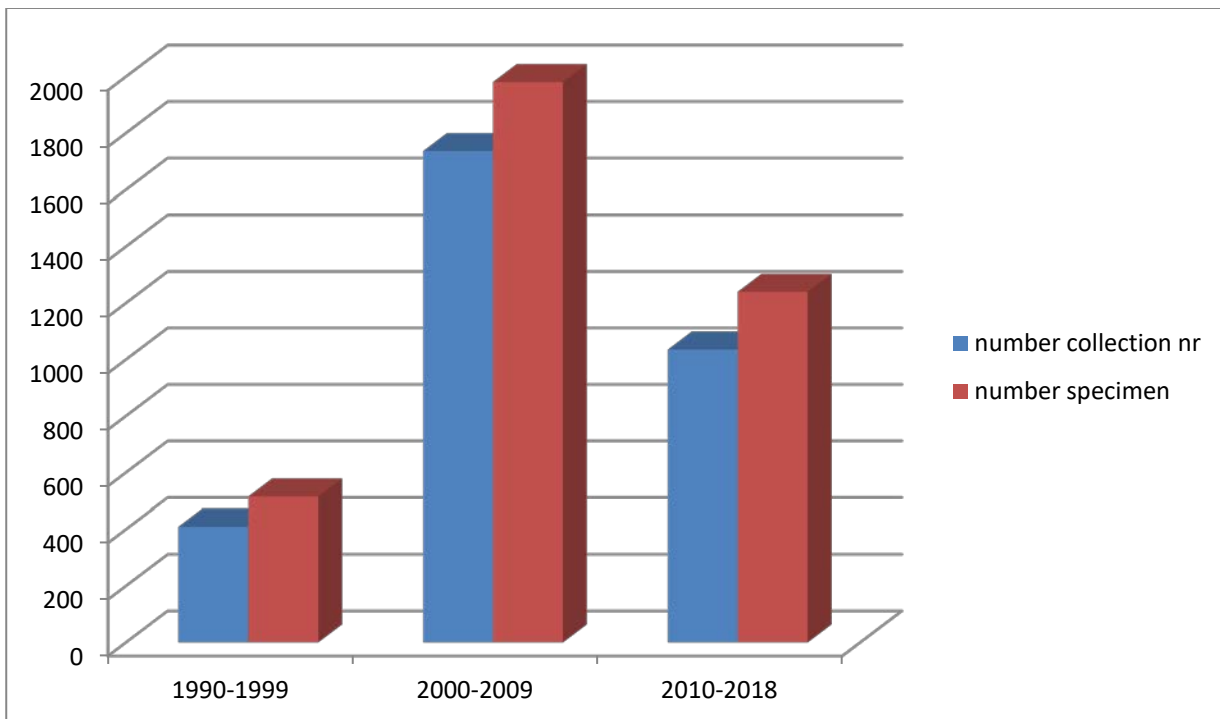


Figure 3: Bar chart comparisons of zoological collection and specimen numbers from the years 1990 to 2017 from newly described extant species. Number of species descriptions peak in the years 2000-2009.

3.1.3.2 Hot spots (types): FAO areas - Map -

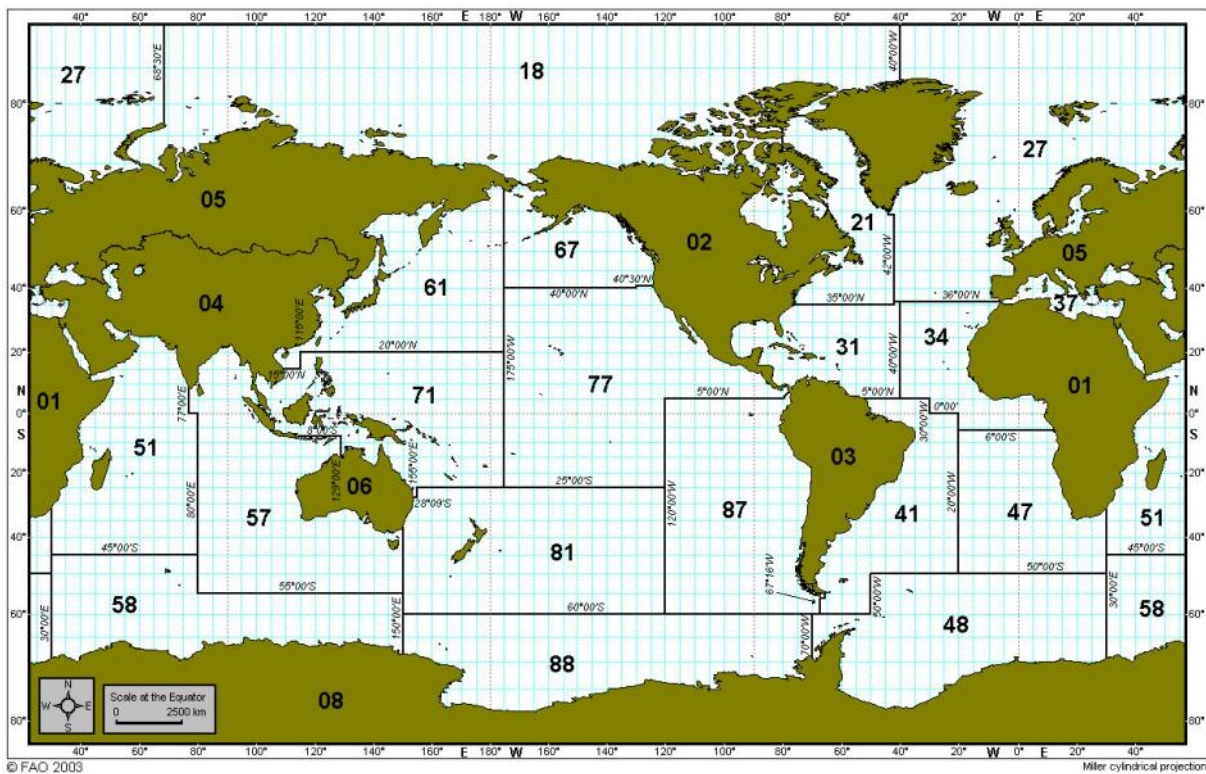


Figure 4: FAO fishing areas of the world's oceans:

Browse FAO Fishing Areas Fact Sheets by list:

- [Area 18 \(Arctic Sea\)](#)
- [Area 21 \(Atlantic, Northwest\)](#)
- [Area 27 \(Atlantic, Northeast\)](#)
- [Area 31 \(Atlantic, Western Central\)](#)
- [Area 34 \(Atlantic, Eastern Central\)](#)
- [Area 37 \(Mediterranean and Black Sea\)](#)
- [Area 41 \(Atlantic, Southwest\)](#)
- [Area 47 \(Atlantic, Southeast\)](#)
- [Area 48 \(Atlantic, Antarctic\)](#)
- [Area 51 \(Indian Ocean, Western\)](#)
- [Area 57 \(Indian Ocean, Eastern\)](#)
- [Area 58 \(Indian Ocean, Antarctic and Southern\)](#)
- [Area 61 \(Pacific, Northwest\)](#)
- [Area 67 \(Pacific, Northeast\)](#)
- [Area 71 \(Pacific, Western Central\)](#)
- [Area 77 \(Pacific, Eastern Central\)](#)
- [Area 81 \(Pacific, Southwest\)](#)
- [Area 87 \(Pacific, Southeast\)](#)
- [Area 88 \(Pacific, Antarctic\)](#)

3.1.3.3 Hot spots (types): FAO areas - number of types/specimens/species/FAO area

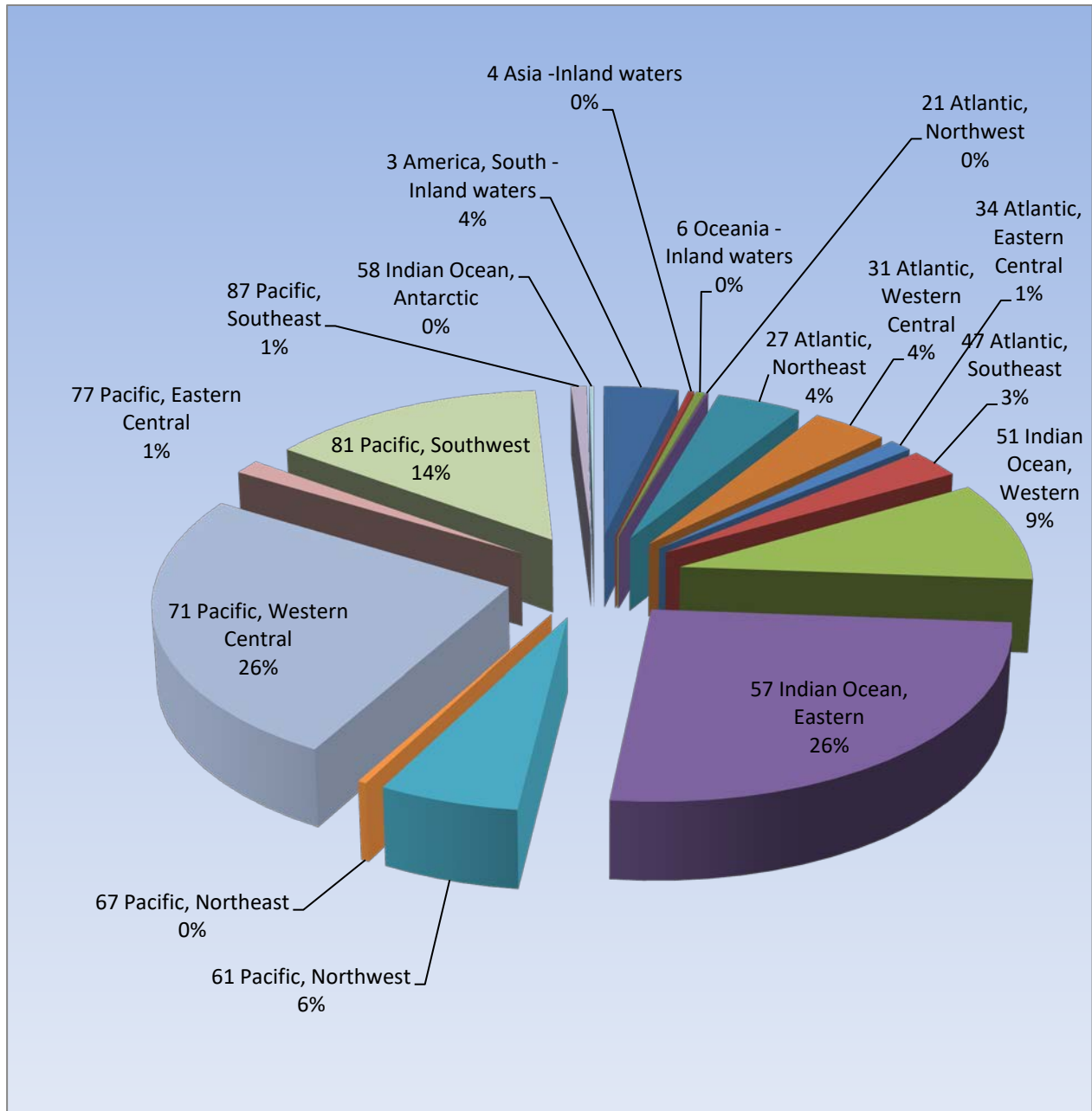
Table 4: List of zoological collection entries, specimen and species numbers from the years 1990 to 2018 and associated FAO areas.

	nr. of FAO area	FAO area	nr. of collection numbers	nr. of specimen	nr. of species
INLAND WATERS					
	1	Africa - Inland waters	0	0	0
	2	America, North - Inland waters	0	0	0
	3	America, South - Inland waters	115	117	16
	4	Asia -Inland waters	9	9	3
	5	Europe - Inland waters	0	0	0
	6	Oceania - Inland waters	13	13	1
	7	(Former USSR area – Inland waters)	0	0	0
	8	Antarctica - Inland waters	0	0	0
MARINE AREAS					
Atlantic Ocean and adjacent seas	18	Arctic Sea	0	0	0
	21	Atlantic, Northwest	4	9	2
	27	Atlantic, Northeast	131	148	23
	31	Atlantic, Western Central	119	174	12
	34	Atlantic, Eastern Central	36	37	7
	37	Mediterranean and Black Sea	0	0	0
	41	Atlantic, Southwest	110	111	16
	47	Atlantic, Southeast	83	92	14
Indian Ocean	51	Indian Ocean, Western	289	444	48
	57	Indian Ocean, Eastern	786	887	101
Pacific Ocean	61	Pacific, Northwest	177	191	32
	67	Pacific, Northeast	11	24	3

	71	Pacific, Western Central	779	808	118
	77	Pacific, Eastern Central	41	49	10
	81	Pacific, Southwest	429	540	59
	87	Pacific, Southeast	24	51	9
Southern Ocean	48	Atlantic, Antarctic	0	0	0
	58	Indian Ocean, Antarctic	7	7	1
	88	Pacific, Antarctic	0	0	0

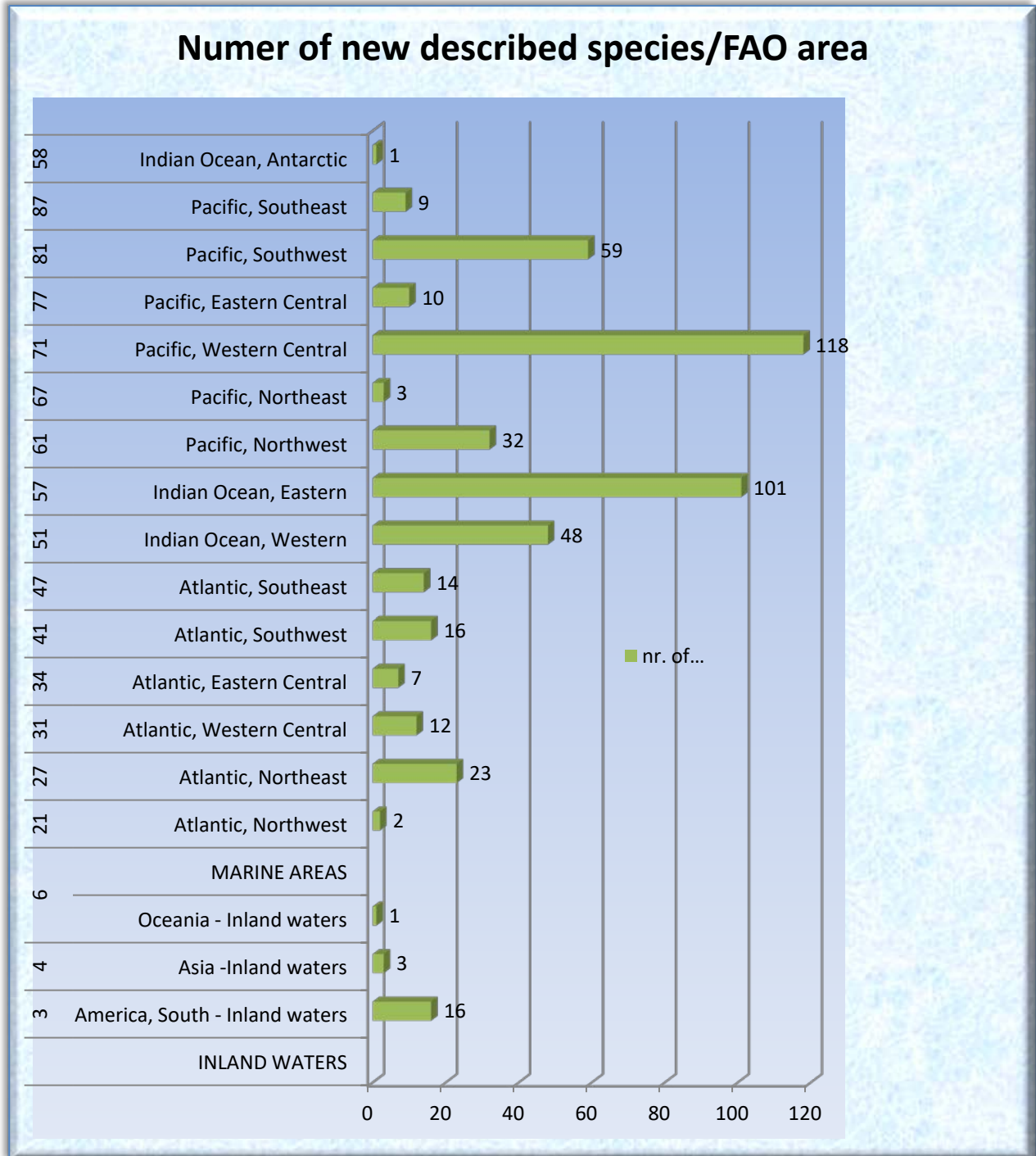
3.1.3.4 Hot spots (types): FAO areas - number of types/FAO area

Figure 5: Piechart showing percentage of all deposited type material from extant species descriptions in associated FAO fishing areas (please see Figure 4 for geographical details).



3.1.3.5 Hot spots (types): FAO areas - number of newly described species/FAO area

Figure 6: Numbers of newly described species and associated FAO fishing areas (please see Figure 4 for geographical explanations). FAO areas 71 (Western Central Pacific) and 57 (Eastern Indian Ocean) appear as highly diverse areas.

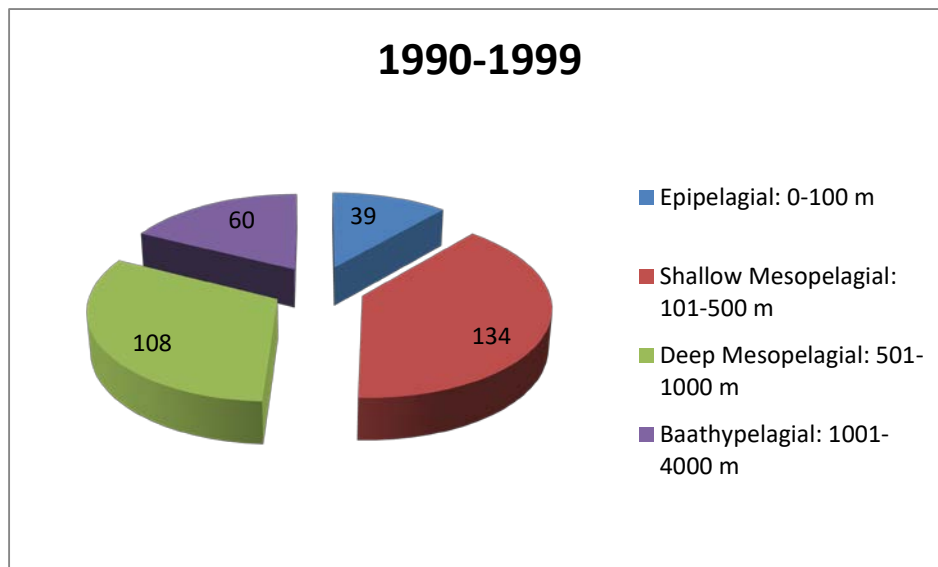


3.1.3.5 Hot spots (types): depth

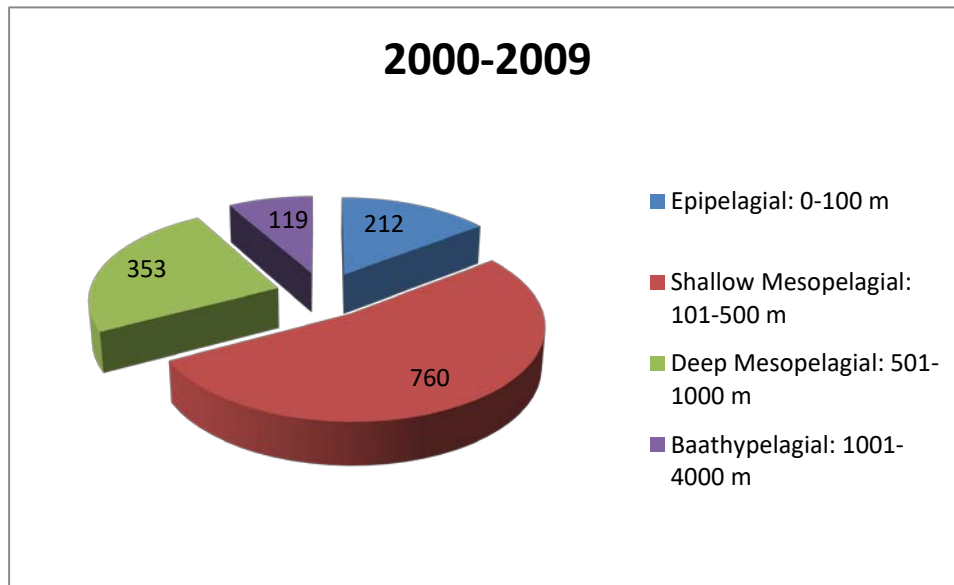
Types/depth	1990-1999	2000-2009	2010-2018	Total	percentage rate
number of types	409	1736	1035	3180	
number of types with depth	341	1444	579	2364	74,34%
Epipelagial: 0-100 m	39	212	149	400	16,92%
Shallow Mesopelagial: 101-500 m	134	760	168	1062	44,92%
Deep Mesopelagial: 501-1000 m	108	353	152	613	25,93%
Bathypelagial: 1001-4000 m	60	119	110	289	12,23%

Figure 7:

A: distribution of type specimen in bathymetric profiles in the years 1990-1999.



B: distribution of type specimen in bathymetric profiles in the years 2000-2009.



C: distribution of type specimen in bathymetric profiles in the years 2010-2018.

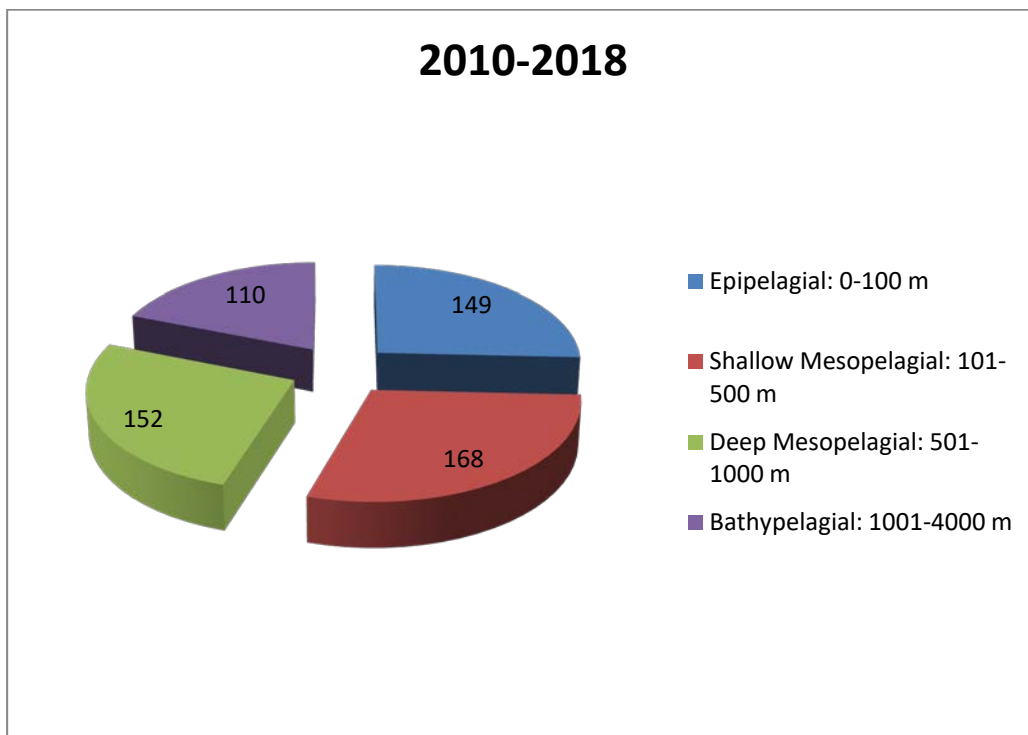
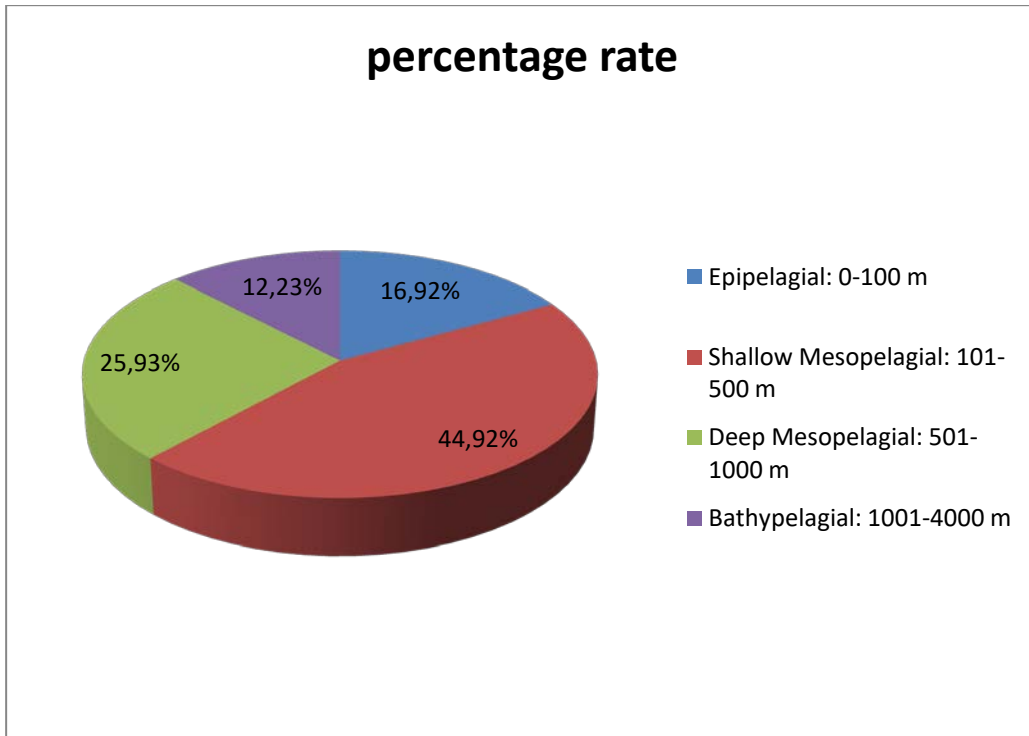


Figure 8: Percentage of type specimen in bathymetric profiles from 1990 to 2018.



3.2 Descriptions of extinct genera/species

3.2.1 List of new extinct genera

<i>Acutalamna</i>	GUINOT & CARRILLO-BRICEÑO, 2018	(Lamniformes incet. sedis)
<i>Amaradontus</i>	HODNETT & ELLIOTT, 2018	(incert. sedis: Anachronistidae)
<i>Arcuodus</i>	ITANO & LAMBERT, 2018	(Cochliodontiformes)
<i>Caucasochasma</i>	PROKOFIEV & SYCHEVSKAYA, 2018	(Lamniformes: Cetorhinidae)
<i>Cretacladoides</i>	FEICHTINGER, ENGELBRECHT, LUKENEDER & KRIWET, 2018	(Symmoriiformes: Falcatidae)
<i>Hokomata</i>	HODNETT & ELLIOTT, 2018	(Xenacanthiformes: Diplodoselachidae)
<i>Jolepis</i>	BURROW & TURNER, 2018	(incert. sedis: incert. fam.)
<i>Microcarcharias</i>	GUINOT & CARRILLO-BRICEÑO, 2018	(Lamniformes: Odontaspidae)
<i>Microklomax</i>	HODNETT & ELLIOTT, 2018	(Protacrodontidae)
<i>Natarapax</i>	FEICHTINGER, ENGELBRECHT, LUKENEDER & KRIWET, 2018	(Symmoriiformes: Falcatidae)
<i>Novaculodus</i>	HODNETT & ELLIOTT, 2018	(Protacrodontidae)
<i>Palaeocentrosymnus</i>	POLLERSPÖCK, FLAMMENSBECK & STRAUBE, 2018	(Squaliformes: Somniosidae)
<i>Protohimantura</i>	MARRAMÀ, KLUG, DE VOS & KRIWET, 2018	(Myliobatiformes: Dasyatidae)
<i>Tethytrygon</i>	MARRAMÀ, CARNEVALE, NAYLOR & KRIWET, 2018	(Myliobatiformes: Dasyatidae)
<i>Tikiodontus</i>	BHAT, RAY & DATTA, 2018	(Xenacanthiformes: incert. fam.)
<i>Truyolsodontos</i>	BERNÁRDEZ, 2018	(Lamniformes: Tuyolsodontidae)

3.2.2 List of new extinct species

<i>Acutalamna karsteni</i>	GUINOT & CARRILLO-BRICEÑO, 2018	(Lamniformes incet. sedis)
<i>Alopias palatasi</i>	KENT & WARD, 2018	(Lamniformes: Alopiidae)
<i>Altholepis salopensis</i>	BURROW & TURNER, 2018	(Altholepidiformes: Altholepididae)
<i>Amaradontus santuccii</i>	HODNETT & ELLIOTT, 2018	(incert. sedis: Anachronistidae)
<i>Arcuodus multicuspidatus</i>	ITANO & LAMBERT, 2018	(Cochliodontiformes)
<i>Carcharoides lipsiensis</i>	REINECKE, VON DER HOCHT, GILLE & KINDLIMANN, 2018	(Lamniformes: Odontaspidae)
<i>Caucasochasma zherikhini</i>	PROKOFIEV & SYCHEVSKAYA, 2018	(Lamniformes: Cetorhinidae)
<i>Cooleyella platera</i>	HODNETT & ELLIOTT, 2018	(incert. sedis: Anachronistidae)
<i>Cretacladoides noricum</i>	FEICHTINGER, ENGELBRECHT, LUKENEDER & KRIWET, 2018	(Symmoriiformes: Falcatidae)
<i>Cretacladoides ogiveformis</i>	FEICHTINGER, ENGELBRECHT, LUKENEDER & KRIWET, 2018	(Symmoriiformes: Falcatidae)
<i>Cretalamna bryanti</i>	EBERSOLE & EHRET, 2018	(Lamniformes: Otodontidae)
<i>Hokomata parva</i>	HODNETT & ELLIOTT, 2018	(Xenacanthiformes: Diplodoselachidae)
<i>Microklomax carrieae</i>	HODNETT & ELLIOTT, 2018	(Protacrodontidae)
<i>Mooreodontus jaini</i>	BHAT, RAY & DATTA, 2018	(Xenacanthiformes: Xenacanthidae)
<i>Natarapax trivortex</i>	FEICHTINGER, ENGELBRECHT, LUKENEDER & KRIWET, 2018	(Symmoriiformes: Falcatidae)
<i>Novaculodus billingsleyi</i>	HODNETT & ELLIOTT, 2018	(Protacrodontidae)
<i>Pastinachus kebarensis</i>	ADNET, MOUANA, CHARRUAULT, ESSID, AMMAR, MARZOUGUI, MERZERAUD, TABUCE, VIANEY-LIAUD & MARIVAUX, 2018	(Myliobatiformes: Dasyatidae)
<i>Squalicorax lalunaensis</i>	GUINOT & CARRILLO-BRICEÑO, 2018	(Lamniformes: Anacoracidae)
<i>Squalicorax moodyi</i>	GUINOT & CARRILLO-BRICEÑO, 2018	(Lamniformes: Anacoracidae)
<i>Stethacanthus concavus</i>	GINTER, 2018	(Symmoriiformes: Symmoriidae)

Tikiodontus asymmetricus

BHAT, RAY & DATTA, 2018

(Xenacanthiformes: incert. fam.)

Tamiobatis elgae

IVANOV, 2018

(Ctenacanthiformes:
Ctenacanthidae)*Truyolsodontos estauni*

BERNÁRDEZ, 2018

(Lamniformes: Truyolsodontidae)

3.2.3 Papers of new extinct genera/species

GUINOT, G. & CARRILLO-BRICEÑO, J. (2018): Lamniform sharks from the Cenomanian (Upper Cretaceous) of Venezuela. *Cretaceous Research*, 82: 1-20

New species: *Squalicorax moodyi*, *Squalicorax lalunaensis*, *Acutalamna karsteni*

Abstract: Sampling of Cenomanian fossil-rich horizons within the La Luna Formation of two localities in the Zulia and Trujillo states (northern Venezuela) yielded numerous shark teeth belonging to various species within the order Lamniformes (Mackerel sharks). Twelve lamniform species were identified including three new species (*Squalicorax lalunaensis* sp. nov., *Squalicorax moodyi* sp. nov., *Acutalamna karsteni* gen. et sp. nov.) and the genus *Microcarcharias* gen. nov. is proposed to accommodate with the peculiar morphology of the small-sized odontaspidid *M. saskatchewanensis*. Other taxa reported here include *Cretoxyrhina mantelli*, *Cretolamna* sp., cf. *Nanocorax* sp. and five *Squalicorax* species left in open nomenclature. This is the first report of chondrichthyans from the mid-Cretaceous of Venezuela and one of the few records of this group from the Cenomanian of South America. The composition of these assemblages suggests some degree of endemism in the La Luna Sea but also possible connexions with the Western Interior Seaway. One of the most striking features of these assemblages is the high anacoracid diversity (eight species) despite the corresponding outer shelf/upper slope palaeoenvironments of the La Luna Formation. The high diversity of these opportunistic predators is probably related to the high diversity of medium to large marine vertebrates that provided food resources. Keywords Chondrichthyes; Anacoracidae; La Luna Formation; South America; Upper Cretaceous

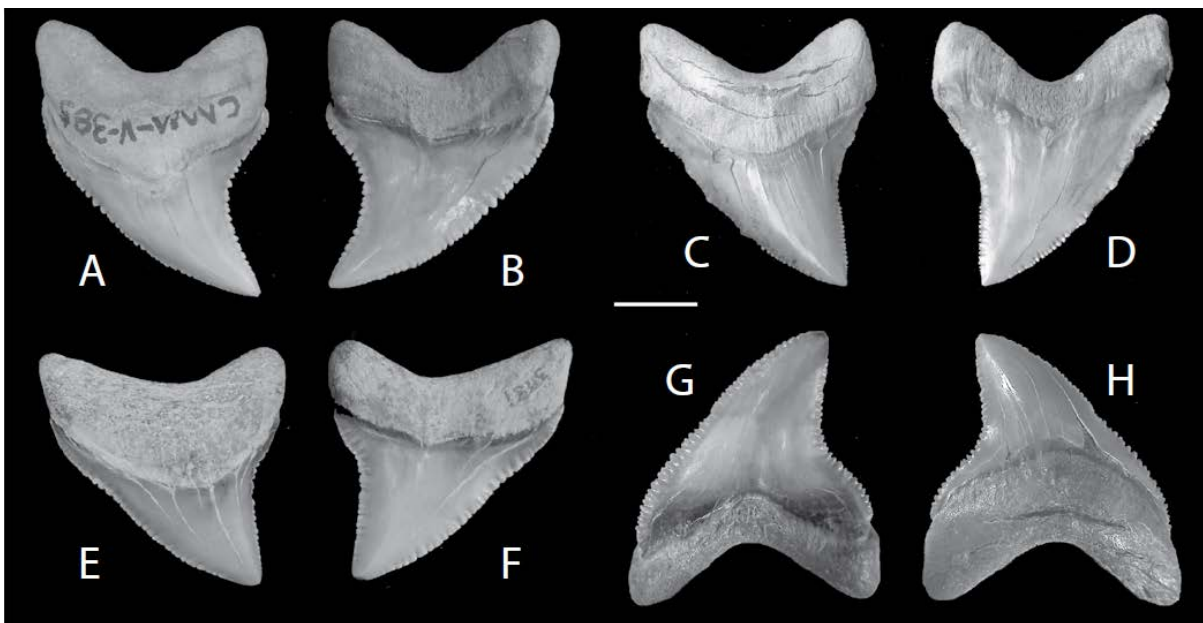
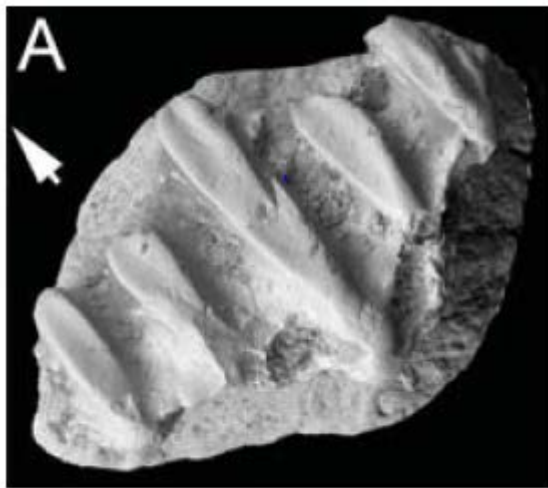


FIGURE 2.A1. *Alopias palatasi* (new species) teeth. Scale bar = 1 cm. (A) Right upper anterior tooth (holotype; CMM-V-385; lingual view). (B) Right upper anterior tooth (holotype; CMM-V-385; labial view). (C) Right upper anterior tooth (CMM-V-7735; lingual view). (D) Right upper anterior tooth (CMM-V-7735; labial view). (E) Right upper lateral tooth (paratype; CMM-V-3981; lingual view). (F) Right upper lateral tooth (paratype; CMM-V-3981; labial view). (G) Left lower lateral tooth (paratype; CMM-V-5823; labial view). (H) Left lower lateral tooth (paratype; CMM-V-5823; lingual view).

KENT, B.W. & WARD, D.J. (2018): Addendum: A New Species of Giant Thresher Shark (Family Alopiidae) with serrated teeth. In: *The Geology and vertebrate paleontology of Calvert Cliffs, Maryland / edited by Stephen J. Godfrey: 157-160*

New species: *Alopias palatasi*

Abstract: The Neogene has a remarkably complex array of large macrophagous sharks (BWK, this chapter) that is well represented along the eastern United States. Despite extensive research on fossil elasmobranchs in this area, one species of large thresher shark (family Alopiidae) with distinctively serrated teeth has not been previously named.

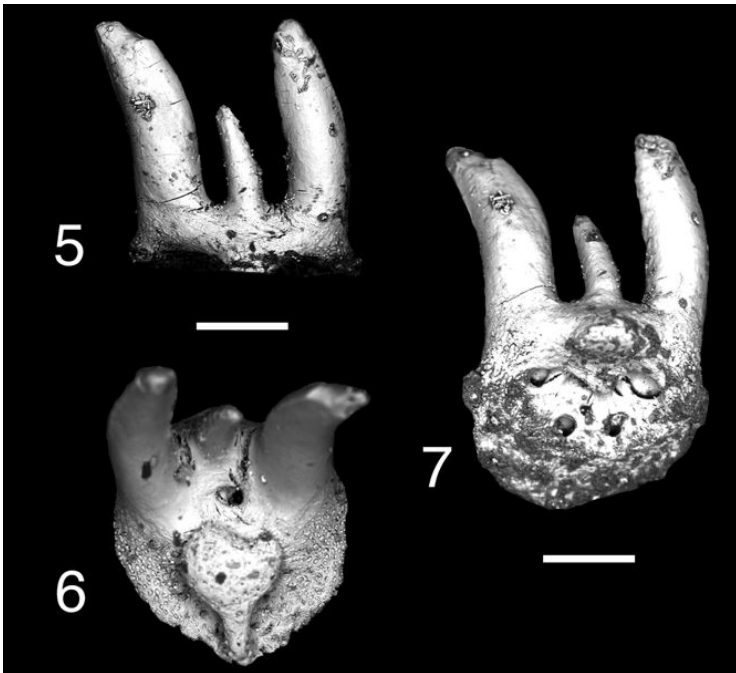


BURROW, C.J. & TURNER, S. (2018): Stem chondrichthyan microfossils from the Lower Old Red Sandstone of the Welsh Borderland. *Acta Geologica Polonica*, 68 (3): 321–334

New genus: *Jolepis*

New species: *Altholepis salopensis*

Abstract: Placoid and polyodontode scales of stem chondrichthyans have been found in the early Lochkovian “Ditton Group” of the Brown Clee Hill district, Shropshire, England and at Talgarth, south Wales. One of the forms is assigned to a new species of *Altholepis* Karatajūtė-Talimaa, 1997, a genus already recognised from Lochkovian shallow marine deposits in Celtiberia, Spain and the Northwest Territories, Canada as well as the type locality in Podolia, Ukraine. *Altholepis salopensis* sp. nov. is based on small polyodontode scales with typically three to eight high odontodes; the scale form was previously considered to belong to acanthodian “*Nostolepis*” *robusta* (Brotzen, 1934). The structure of other scales formerly assigned to “*Nostolepis*” *robusta* has led us to erect a new genus *Jolepis* for this scale form, which differs from *Altholepis* in lacking an ordered layout of odontodes. *Jolepis robusta* (Brotzen, 1934), originally (and possibly still) considered to be an acanthodian, is also known from the Baltic countries, Russia, and northern Germany (ex erratic limestones). Scales of acanthodian *Parexus recurvus* Agassiz, 1845, and/or possibly from the stem chondrichthyan *Seretolepis elegans* Karatajūtė-Talimaa, 1968 (scales of these two taxa are barely distinguishable), and of stem chondrichthyan *Polymerolepis whitei* Karatajūtė-Talimaa, 1968 are also present. *Altholepis*, *Jolepis* gen. nov., *Seretolepis* Karatajūtė-Talimaa, 1968 and *Polymerolepis* Karatajūtė-Talimaa, 1968 are found in marine deposits elsewhere; the British occurrence of these taxa adds to the debate on the sedimentological origins of the Lower Old Red Sandstone deposits in the Welsh Borderland. The geographic range of several early sharks is now known to extend around the Old Red Sandstone continent and beyond.

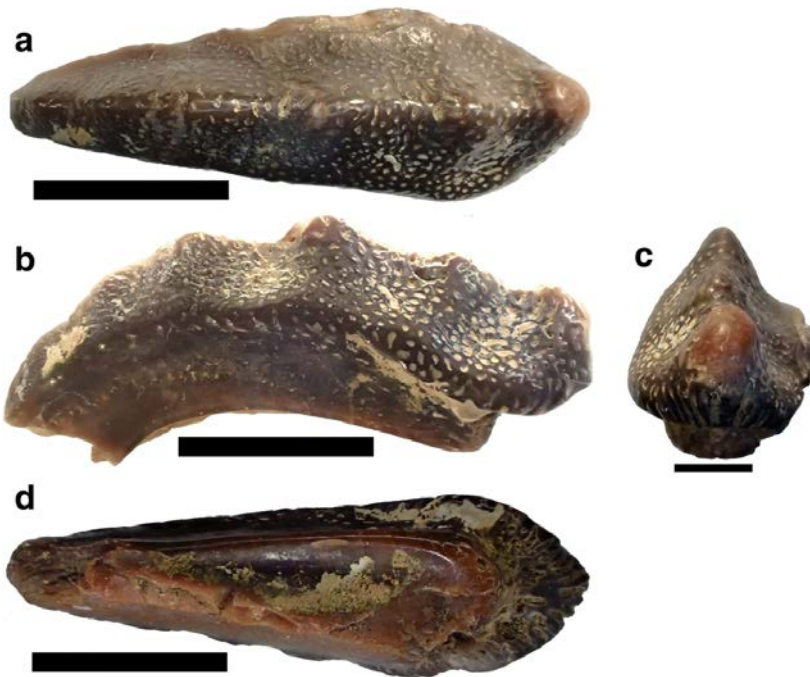


HODNETT, J.-P.M. & ELLIOTT, D.K. (2018): Carboniferous chondrichthyan assemblages from the Surprise Canyon and Watahomigi formations (latest Mississippian–Early Pennsylvanian) of the western Grand Canyon, Northern Arizona. *Journal of Paleontology*, 92 (Supplement S77): 1-33

New genera: *Hokomata*, *Microklomax*, *Novaculodus*, *Amaradontus*

New species: *Hokomata parva*, *Microklomax carrieae*, *Novaculodus billingsleyi*, *Cooleyella platera*, *Amaradontus santucci*

Abstract: Two chondrichthyan assemblages of Late Mississippian/Early Pennsylvanian age are now recognized from the western Grand Canyon of northern Arizona. The latest Serpukhovian Surprise Canyon Formation has yielded thirty-one taxa from teeth and dermal elements, which include members of the Phoebodontiformes, Symmoriiformes, Bransonelliformes, Ctenacanthiformes, Protacrodontoidea, Hybodontiformes, Neoselachii (Anachronistidae), Paraselachii (Gregoriidae, Deeberidae, Orodontiformes, and Eugeneodontiformes), Petalodontiformes, and Holocephali. The euselachian grade taxa are remarkably diverse with four new taxa recognized here; the Protacrodontidae: *Microklomax carrieae* new genus new species and *Novaculodus billingsleyi* new genus new species, and the Anachronistidae: *Cooleyella platera* new species and *Amaradontus santucci* new genus new species. The Surprise Canyon assemblage also has the youngest occurrence of the elasmobranch *Clairina*, previously only known from the Upper Devonian. The Surprise Canyon Formation represents a nearshore fluvial infilling of karstic channels, followed by a shallow marine bioherm reef, and finally deeper open water deposition. The early Bashkirian Watahomigi Formation represents open marine deposition and contains only two taxa: a new xenacanthiform, *Hokomata parva* new genus new species, and the holocephalan *Deltodus*. The relationship between the Surprise Canyon and Watahomigi chondrichthyan assemblages and other significant coeval chondrichthyan assemblages suggests that there may have been eastern and western distinctions among the Euamerican assemblages during the Serpukhovian due to geographic separation by the formation of Pangea.



ITANO, W.M. & LAMBERT, L.L. (2018): A new coelodont anterior tooth plate from the Mississippian of Alabama (USA) having implications for the origin of tooth plates from tooth files. *Zoological Letters*, 4: 12

New genus: *Arcuodus*

New species: *Arcuodus multicuspidatus*

Background

Paleozoic holocephalian tooth plates are rarely found articulated in their original positions. When they are found isolated, it is difficult to associate the small, anterior tooth plates with the larger, more posterior ones. Tooth plates are presumed to have evolved from fusion of tooth files. However, there is little fossil evidence for this hypothesis.

Results

We report a tooth plate having nearly perfect bilateral symmetry from the Mississippian (Chesterian Stage) Bangor Limestone of Franklin County, Alabama, USA. The high degree of symmetry suggests that it may have occupied a symphyseal or parasymphyseal position. The tooth plate resembles *Deltodopsis? bialveatus* St. John and Worthen, 1883, but differs in having a sharp ridge with multiple cusps arranged along the occlusal surface of the presumed labiolingual axis, rather than a relatively smooth occlusal surface. The multicusped shape is suggestive of a fused tooth file. The middle to latest Chesterian (Serpukhovian) age is determined by conodonts found in the same bed.

Conclusion

The new tooth plate is interpreted as an anterior tooth plate of a chondrichthyan fish. It is referred to *Arcuodus multicuspidatus* Itano and Lambert, gen. et sp. nov. *Deltodopsis? bialveatus* is also referred to *Arcuodus*.



Carcharoides sp.

Markkleeberg Member, Böhlen Formation, Muschelschluff
Rupelian, Early Oligocene,
Espenhain
coll. Naturkundemuseum Leipzig, not numbered
H = 25.4 mm, W = 16.2 mm
illustrated by Müller (1983, pl. 15, fig. 3a, b), leg. A.Müller (rup. 2310)

REINECKE, T. & VON DER HOCHT, F. & GILLE, D. & KINDLIMANN, R. (2018): A review of the odontaspimid shark *Carcharoides* AMEGHINO 1901 (Lamniformes, Odontaspidae) in the Chattian and Rupelian of the North Sea Basin, with the definition of a neotype of *Carcharoides caticus* (PHILIPPI, 1846) and description of a new species. *Palaeontos*, 31: 75 pp, 42 textfigures, 3 tables

New species: *Carcharoides lipsiensis*

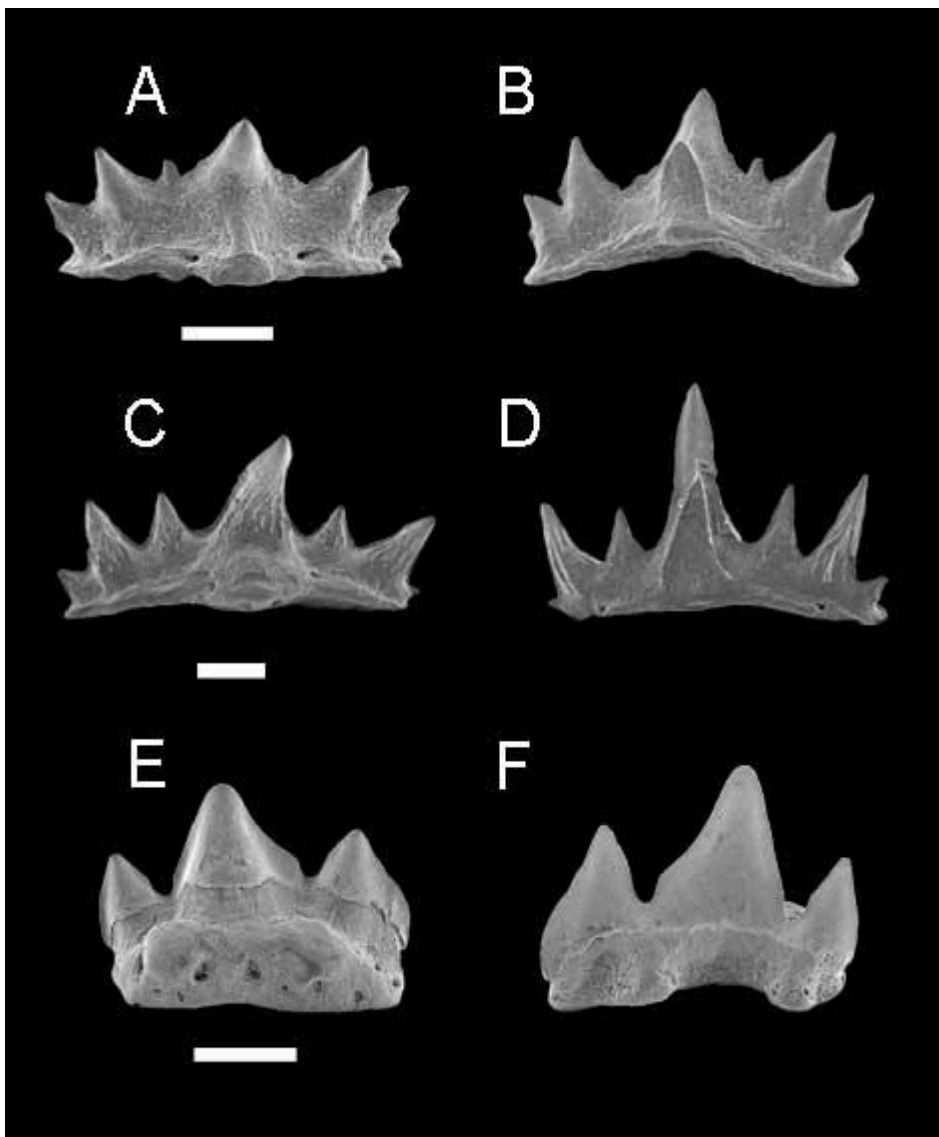
Abstract: The odontaspimid shark genus *Carcharoides* AMEGHINO, 1901 existed at least since the Middle–Late Eocene and became extinct in the Middle Miocene. It is represented by two nominal species, *Carcharoides caticus* (PHILIPPI, 1846) first described from the Kassel Formation, Chattian of northern Hesse, Germany, and the type species *Carcharoides totuserratus* AMEGHINO, 1901, from the Gaiman Formation, Early Miocene of Patagonia, Argentina. Based on existing collection material previously assigned to *C. caticus*, a new species, *Carcharoides lipsiensis* sp.nov., is described here from the Markkleeberg Member of the Böhlen Formation, Rupelian, formerly exposed in brown coal pits south of Leipzig, southeastern Germany. The probably lost type of “*Otodus*” *caticus*, a right upper lateroposterior tooth, is replaced by a neotype recovered from the type deposit and location near Castle Weissenstein, west of Kassel, Germany. The dental characteristics of the three nominal species are described and compared by selected morphometric parameters. Based on two sets of isolated teeth from the early to late Chattian and the Burdigalian–Langhian of the North Sea Basin, respectively, an artificial tooth set is assembled and proposed for *C. caticus*. The comparative study of numerous teeth of *C. caticus* and *Carcharias gustrowensis* (WINKLER, 1875) from the Sülstorf Formation, Chattian of Mecklenburg, northeastern Germany, ranging in height from newborn (2–4 mm) to adult (max. 23 mm) indicates a weak ontogenetic heterodonty for both genera. *Carcharoides caticus* shares several dental characteristics with sandtiger sharks *Carcharias* spp., but apparently has only two larger teeth in the upper anterior rows rather than three in *Carcharias*. Among other characters, it differs from *Carcharias* spp. by the dimensional ratio (height/width) of lower lateroposterior teeth being narrower (at the same height) than corresponding teeth of *Carcharias* spp. Although having been much less common than *Carcharias* spp., *C. caticus* was widely distributed in the northern Atlantic, Mediterranean Tethys and Paratethys during the Early to Middle Miocene and less frequently during the Chattian.

PROKOFIEV, A.M. & SYCHEVSKAYA, E.K. (2018): Basking Shark (Lamniformes: Cetorhinidae) from the Lower Oligocene of the Caucasus. *Journal of Ichthyology*, 58 (2): 127–138

New genus: *Caucasochasma*

New species: *Caucasochasma zherikhini*

Abstract: Based on an almost complete impression from the base of the Pshekha Horizon (layer 2, Planorbella Beds, zone NP 21) of the North Caucasus (lower early Oligocene), we describe the basking shark *Caucasochasma zherikhini* gen. et sp. nov., differing from other members of family Cetorhinidae by higher number of vertebrae, weakly developed lower lobe of caudal fin, and details of the structure of gill rakers. Based on the structure of the body, it is not excluded that the described taxon was associated with the bottom to a greater degree than other species of the family (*Keasius parvus* and *C. maximus*), for which the structure of the body is known. The accumulations of plankton at the bottom could be a possible food resource for *Caucasochasma*.

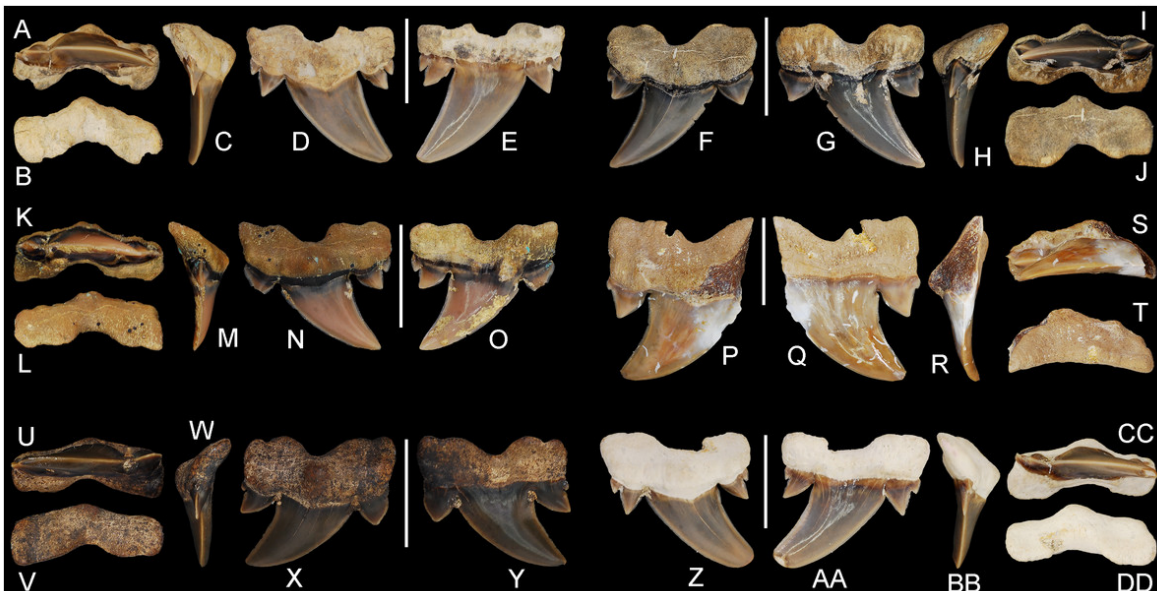


FEICHTINGER, I. & ENGELBRECHT, A. & LUKENEDER, A. & KRIWET, J. (2018): New chondrichthyans characterised by cladodont-like tooth morphologies from the Early Cretaceous of Austria, with remarks on the microstructural diversity of enameloid. *Historical Biology*, in press

New genus: *Cretacladoides*, *Natarapax*

New species: *Cretacladoides ogiveformis*, *Cretacladoides noricum*, *Natarapax trivortex*

Abstract: Cladodontomorphii represents an archaic clade of chondrichthyan fishes characterised by distinct tooth morphologies referred to as the cladodont type. This group of cartilaginous fishes first occurred during the early Palaeozoic Era as revealed from the fossil record and were long thought to have gone extinct at the Permian-Triassic mass extinction event. However, a recently reported chondrichthyan tooth assemblage from the Early Cretaceous of France suggests that cladodontomorphs might have survived the catastrophic events at the Permian-Triassic boundary, probably by occupying deep-sea refuge environments. Here, we describe two new chondrichthyan genera based on isolated teeth recovered from Valanginian (Early Cretaceous) deep-water deposits of Austria, including a total of three new species tentatively assigned to the cladodontomorph families Falcitidae (*Cretacladoides ogiveformis* gen. et sp. nov. and *C. noricum* sp. nov.) and Ctenacanthidae (*Natarapax trivortex* gen. et sp. nov.). In addition, an enameloid microstructure analysis had led to the identification of a distinct multilayered enameloid including a parallel-, tangled-, and radial-bundled enameloid, whose phylogenetic distribution within Chondrichthyes is here discussed in detail, leading to the conclusion that the herein described cladodont-like taxa, together with those reported from the French Early Cretaceous might be closely related to ancient Palaeozoic taxa. The ZooBank electronic publication LSID is: urn:lsid:zoobank.org:pub:C06FD718-F54F-4C57-A45E-8C0D7CC8EB83



EBERSOLE, J.A. & EHRET, D.J. (2018): A new species of *Cretalamna* sensu stricto (Lamniformes, Otodontidae) from the Late Cretaceous (Santonian-Campanian) of Alabama, USA. *PeerJ*, 6: e4229

New species: *Cretalamna bryanti*

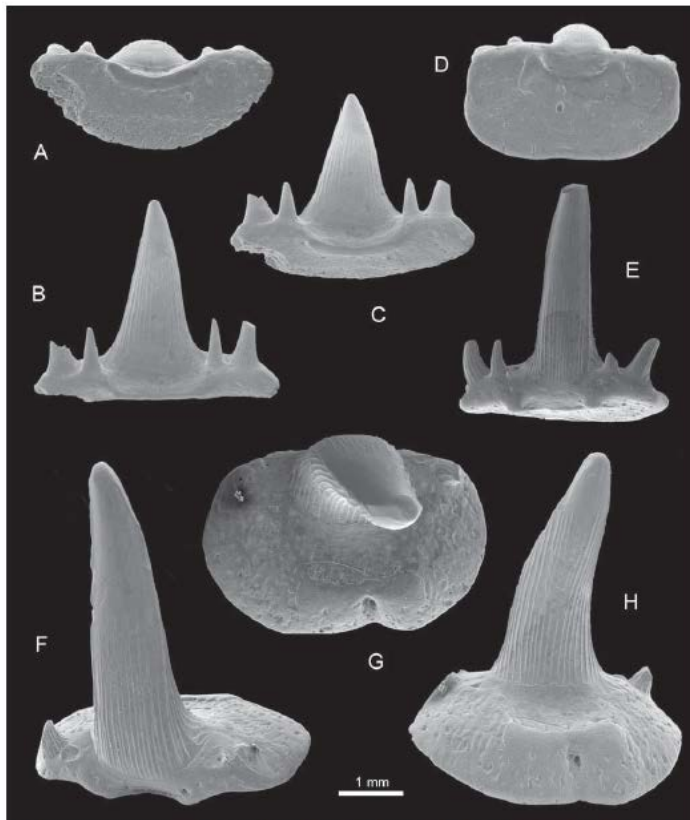
Abstract: Decades of collecting from exposures of the Upper Cretaceous Tombigbee Sand Member of the Eutaw Formation and Mooreville Chalk in Alabama, USA has produced large numbers of isolated *Cretalamna* (*sensu stricto*) teeth. Many of these teeth had formerly been assigned to the extinct Late Cretaceous shark *Cretalamna appendiculata* ([Agassiz, 1843](#)), a taxon that is now considered largely restricted to the Turonian of Europe. Recent studies have shed light on the diversity of Late Cretaceous *Cretalamna* (*s.s.*) taxa, and here we recognize a new species from Alabama, *Cretalamna bryanti*. The teeth of *C. bryanti* sp. nov. appear aligned with the members of the *Cretalamna borealis* species group, but can be distinguished from these other species by a combination of the following: anterior teeth with a more pronounced and triangular lingual root protuberance, broader triangular cusp, and a taller root relative to the height of the crown; anteriorly situated lateroposterior teeth have a distally inclined or hooked main cusp and more than one pair of lateral cusplets; and lateroposterior teeth have a strong distally hooked main cusp and a root that is largely symmetrical in basal view. At present, *C. bryanti* sp. nov. is stratigraphically confined to the Santonian/Campanian *Dicarinella asymetrica* [Sigal, 1952](#) and *Globotruncanita elevata* [Brotzen, 1934](#) Planktonic Foraminiferal Zones within the Tombigbee Sand Member of the Eutaw Formation and Mooreville Chalk, and teeth have been collected from

only four counties in central and western Alabama. The recognition of *C. bryanti* sp. nov. in Alabama adds to our knowledge on the diversity and distribution of Late Cretaceous otodontids in the region.

ADNET, S. & MOUANA, M. & CHARRUAULT, A.-L. & ESSID, E.M. & AMMAR, H.K. & MARZOUGUI, W. & MERZERAUD, G. & TABUCE, R. & VIANEY-LIAUD, M. & MARIVAUX, L. (2018): Teeth, fossil record and evolutionary history of the cowtail stingray *Pastinachus* Rüppell, 1829. *Historical Biology*, in press

New species: *Pastinachus kebarensis*

Abstract: Hypolophin 'dasyatids' are a common group of large stingrays today frequenting the Indo-Pacific inshores. Being often harvested in their restricted area, few are known about their biology and their evolutionary history despite a very peculiar dental pattern making it easy to track their fossil record. An abundant material consisting of isolated teeth from Late Bartonian (38–40 Ma) lagoonal deposits of Djebel el Kébar, Tunisia, allows to describe a new stingray, *Pastinachus kebarensis* nov. sp. This taxon represents the oldest occurrence for this genus but also the oldest fossil record for hypolophins. A dental comparison of these fossils with 3D rendered models of fresh specimens testifies that early hypolophin representatives had already a strongly arcuate and bulbous upper jaw, interlocking with a broad and elongated tooth plate on the lower jaw. This new fossil and its fossil relatives (here updated), indicate a pre-Bartonian origination for hypolophins in western Neotethys, and reveal a rapid and widespread colonization of the proto-Mediterranean Sea, western Atlantic and Indo-Pacific coasts during the late Paleogene–early Neogene. Finally, it is worth noting that early hypolophin representatives seemingly entered freshwater habitats occasionally as modern cowtail stingrays do.

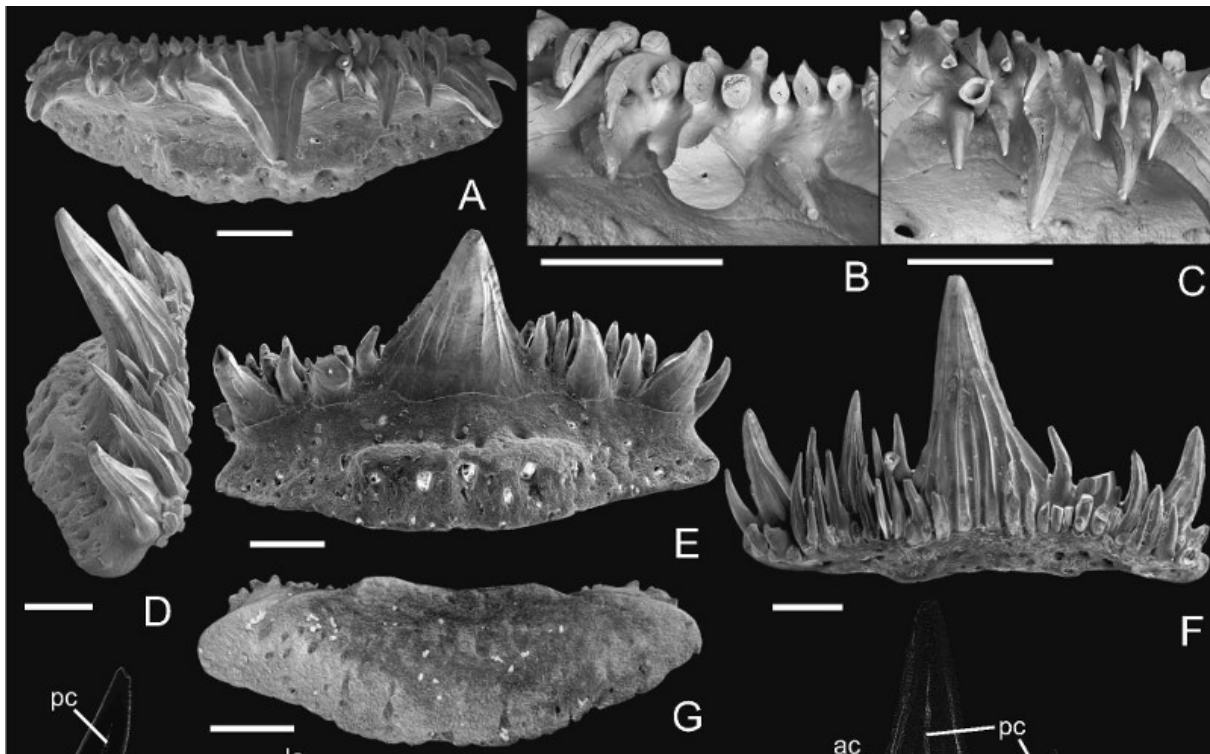


Text-fig. 2. *Stethacanthus concavus* sp. nov. from the Upper Pennsylvanian, Gzhelian, Indian Cave Sandstone, SE of Peru, Nebraska. A-C – holotype, CM 44550b, in basal, labial and basal/labial views; D, E – tooth CM 44550c, in basal and labial views; F-H – large tooth, CM 44550a, in oblique labial, oral and lingual views

GINTER, M. (2018): Symmoriiform sharks from the Pennsylvanian of Nebraska. *Acta Geologica Polonica*, 68 (3): 391–401

New species: *Stethacanthus concavus*

Abstract: The Indian Cave Sandstone (Upper Pennsylvanian, Gzhelian) from the area of Peru, Nebraska, USA, has yielded numerous isolated chondrichthyan remains and among them teeth and dermal denticles of the Symmoriiformes Zangerl, 1981. Two tooth-based taxa were identified: a falcatid *Denaea saltsmani* Ginter and Hansen, 2010, and a new species of *Stethacanthus* Newberry, 1889, *S. concavus* sp. nov. In addition, there occur a few long, monocuspid tooth-like denticles, similar to those observed in *Cobelodus* Zangerl, 1973, probably representing the head cover or the spine-brush complex. A review of the available information on the fossil record of Symmoriiformes has revealed that the group existed from the Late Devonian (Famennian) till the end of the Middle Permian (Capitanian).



IVANOV, A.O. & PLAX, D.P. (2018): Chondrichthyan from the Devonian–Early Carboniferous of Belarus. *Estonian Journal of Earth Sciences*, 67 (1): 43–58

New species: *Tamiobatis elgae*

Abstract: Diverse remains of chondrichthyan were found in several stratigraphic levels in 18 cores of the Devonian and Lower Carboniferous of Belarus. Most of the taxa were first reported in that territory. A new species of ctenacanthiform shark, *Tamiobatis elgae*, is described. The internal structure of teeth of this species is reconstructed for the first time using microtomography. The distribution of chondrichthyan taxa is analysed.

BHAT, M.S. & RAY, S. & DATTA, P.M. (2018): A new assemblage of freshwater sharks (Chondrichthyes: Elasmobranchii) from the Upper Triassic of India. *Geobios*, 51 (4): 269–283

New genus: *Tikiodontus*

New species: *Mooreodontus jaini*, *Tikiodontus asymmetricus*

Abstract: This study reports the first occurrence of a varied xenacanth assemblage from the Upper Triassic Tiki Formation of India, based on multiple well-preserved isolated teeth. Based on distinct tooth morphology, two species of the genus *Mooreodontus* are described: *M. indicus* and a new species, *M. jaini*. The new species is diagnosed based on a tricuspid crown containing two stout, slightly diverging lateral cusps pointing in the same direction, a high median cusp, crown-base angle almost at 90 degrees, large, rounded, apical button with several foramina and multiple, 8–9 coarse vertical cristae on all the cusps. Dental anomaly in the

form of a partial quadri-cuspidate xenacanthid tooth is present in the collection. Another group of xenacanthid teeth have bicuspid crowns with two upright, asymmetric cusps, where the mesial cusp is thicker than the distal one, and consistently lack a median cusp. Such distinct bicuspid tooth morphology is usually present in Palaeozoic forms and is reported for the first time from the Late Triassic. It is considered to belong to a new taxon, *Tikiodontus asymmetricus* nov. gen., nov. sp., of indeterminate family. Distinctive tooth histology also differentiates the two Indian genera *Mooreodontus* and *Tikiodontus* nov. gen. from other xenacanthid taxa. In addition, the Tiki assemblage has yielded multiple chondrichthyan dermal denticles, which may be subdivided into two morphotypes based on their robustness and presence/absence of linear ridges on the fused cusps. India holds a unique position in terms of its Late Triassic freshwater shark fauna, as it exhibits distinct Laurasian affinities. These freshwater sharks had restricted occurrences in other parts of the Gondwanan landmass.

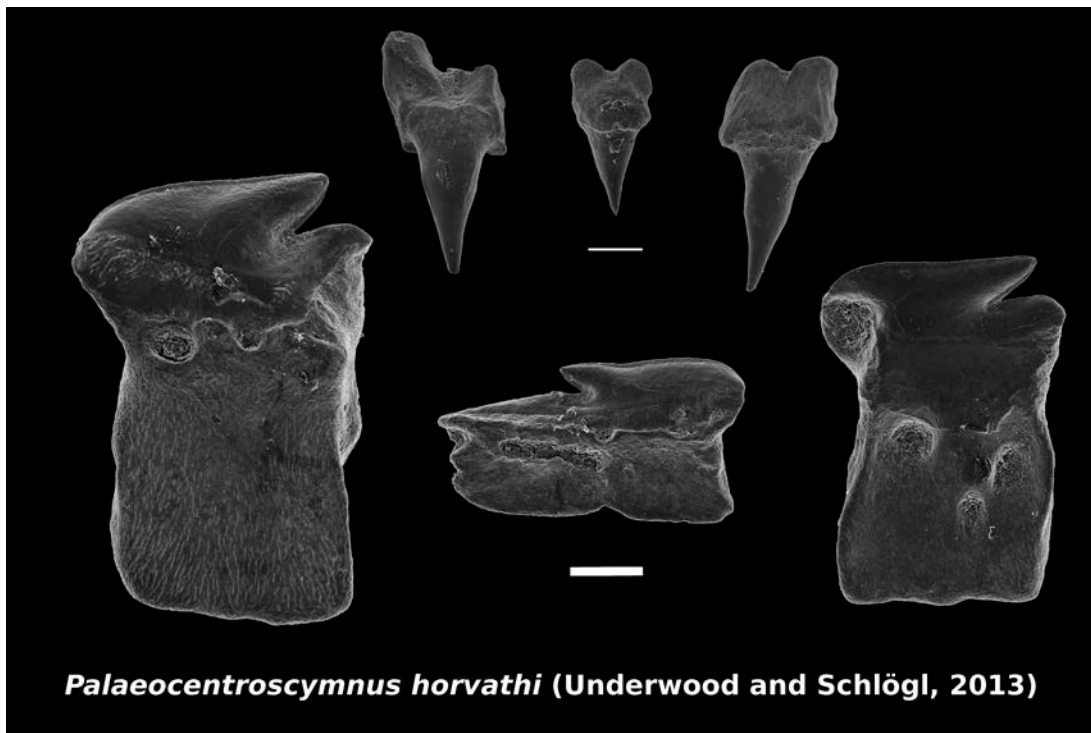
BERNÁRDEZ, E. (2018): *Truyolsodontos estauni* n. gen., n. sp., Truyolsodontidae, a new family of lamniform sharks from the Cenomanian of northern Spain. *Annales de Paléontologie*, 104 (3): 175-181

New family: Truyolsodontidae

New genus: *Truyolsodontos*

New species: *Truyolsodontos estauni*

Abstract: *Truyolsodontos estauni* n. gen., n. sp. is described based on fossil teeth from the middle and upper Cenomanian of northern Spain. The species *Protoscylliorhinus magnus* Landemaine, 1991 is withdrawn from the genus *Protoscylliorhinus* and placed in this new one. For the new genus, the new family Truyolsodontidae is proposed.



POLLERSPÖCK, J. & FLAMMENSBECK, C. & STRAUBE, N. (2018): *Palaeocentroscymnus* (Chondrichthyes: Somniosidae), a new sleeper shark genus from Miocene deposits of Austria (Europe). *Paläontologische Zeitschrift*, 92 (3): 443–456

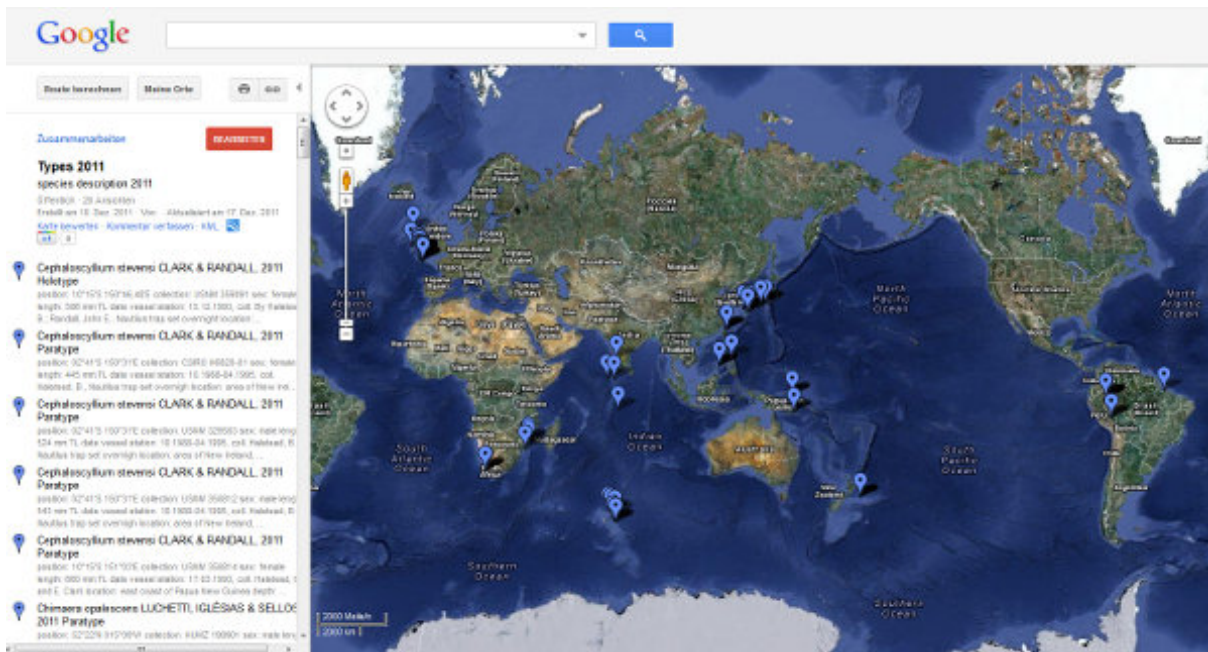
New genus: *Palaeocentroscymnus*

Abstract: Fossil upper and lower squaliform shark teeth from the upper Austrian marine Molasse (Paratethys, Upper Egerian, Aquitanian) were collected. For testing the phylogenetic signal of 31 reviewed dental characters of both fossil and extant elasmobranchs, we perform phylogenetic analyses using both parsimony and maximum likelihood approaches. Results indicate a close phylogenetic relationship of teeth collected for this study with the extant somniosid genus *Centroscymnus*. A number of preliminary or unidentified fossil teeth published in other studies were included in our analyses and cluster along with the fossils described herein suggesting to be synonym. Our results further allow for a revision of the type species of *Paraetmopterus horvathi* Underwood and Schögl, 2013 and the description of *Palaeocentroscymnus* gen. nov.

3.3 Descriptions of extant genera/species

Types in Google map

(<http://maps.google.com/maps/ms?msa=0&msid=217824177182325311271.0004b3bc714004039f92e&hl=de&ie=UTF8&ll=3.123195,53.281417&spn=106.420277,253.202833&t=h&vpsrc=6&source=embed>)



3.3.1 List of new extant genera

No new extant genera in 2018!

3.3.2 List of new extant species

<i>Bythaelurus stewarti</i>	WEIGMANN, KASCHNER & THIEL, 2018	(Carcharhiniformes: Pentanchidae)
<i>Etmopterus marshae</i>	EBERT & VAN HEES, 2018	(Squaliformes: Etmopteridae)
<i>Neotrygon indica</i>	PAVAN-KUMAR, KUMAR, PITALE, SHEN & BORSA, 2018	(Myliobatiformes: Dasyatidae)
<i>Parmaturus nigripalatum</i>	FAHMI & EBERT, 2018	(Carcharhiniformes: Pentanchidae)
<i>Planonasmus indicus</i>	EBERT, AKHILESH & WEIGMANN, 2018	(Carcharhiniformes: Pseudotriakidae)
<i>Squalus clarkae</i>	PFLEGER, GRUBBS, COTTON & DALY-ENGEL, 2018	(Squaliformes: Squalidae)

[*Squalus hawaiiensis*](#)DALY-ENGEL, KOCH,
ANDERSON, COTTON &
GRUBBS, 2018

(Squaliformes: Squalidae)

[*Squatina varii*](#)

VAZ & DE CARVALHO, 2018

(Squatiniiformes: Squatinidae)

3.3.3 Biodiversity

In this newly added chapter of this year's POTY, we are giving an overview of all taxonomically valid chondrichthyan species sorted by the three higher level groups chimaeriforms, selachians and batoids. Based on this data, we present tables providing information on the 20 most researched species of each group and the number of scientific publications on family and order level. Note that the number of publications also includes synonyms and misspellings, information not accessible by regular search operations. If you need individual analysis of data from our database please contact Nico Straube or Jürgen Pollerspöck (juergen.pollerspoeck@shark-references.com or nicolas.straube@shark-references.com).

3.3.3.1 Complete list of taxonomically valid shark species

Genus	Species	Author	Family	Order	No of records
<i>Carcharhinus</i>	<i>acronotus</i>	(POEY, 1860)	Carcharhinidae	Carcharhiniformes	211
<i>Carcharhinus</i>	<i>albimarginatus</i>	(RÜPPELL, 1837)	Carcharhinidae	Carcharhiniformes	237
<i>Carcharhinus</i>	<i>altimus</i>	(SPRINGER, 1950)	Carcharhinidae	Carcharhiniformes	199
<i>Carcharhinus</i>	<i>amblyrhynchoides</i>	(WHITLEY, 1934)	Carcharhinidae	Carcharhiniformes	103
<i>Carcharhinus</i>	<i>amblyrhynchos</i>	(BLEEKER, 1856)	Carcharhinidae	Carcharhiniformes	345
<i>Carcharhinus</i>	<i>amboinensis</i>	(MÜLLER & HENLE, 1839)	Carcharhinidae	Carcharhiniformes	178
<i>Carcharhinus</i>	<i>borneensis</i>	(BLEEKER, 1858)	Carcharhinidae	Carcharhiniformes	27
<i>Carcharhinus</i>	<i>brachyurus</i>	(GÜNTHER, 1870)	Carcharhinidae	Carcharhiniformes	325
<i>Carcharhinus</i>	<i>brevipinna</i>	(MÜLLER & HENLE, 1839)	Carcharhinidae	Carcharhiniformes	397
<i>Carcharhinus</i>	<i>cautus</i>	(WHITLEY, 1945)	Carcharhinidae	Carcharhiniformes	60
<i>Carcharhinus</i>	<i>coatesi</i>	(WHITLEY, 1939)	Carcharhinidae	Carcharhiniformes	13
<i>Carcharhinus</i>	<i>dussumieri</i>	(MÜLLER & HENLE, 1839)	Carcharhinidae	Carcharhiniformes	147
<i>Carcharhinus</i>	<i>falciformis</i>	(MÜLLER & HENLE, 1839)	Carcharhinidae	Carcharhiniformes	671
<i>Carcharhinus</i>	<i>fitzroyensis</i>	(WHITLEY, 1943)	Carcharhinidae	Carcharhiniformes	52
<i>Carcharhinus</i>	<i>galapagensis</i>	(SNODGRASS & HELLER, 1905)	Carcharhinidae	Carcharhiniformes	193
<i>Carcharhinus</i>	<i>hemiodon</i>	(MÜLLER & HENLE, 1839)	Carcharhinidae	Carcharhiniformes	60
<i>Carcharhinus</i>	<i>humani</i>	WHITE & WEIGMANN, 2014	Carcharhinidae	Carcharhiniformes	7
<i>Carcharhinus</i>	<i>isodon</i>	(MÜLLER & HENLE, 1839)	Carcharhinidae	Carcharhiniformes	127
<i>Carcharhinus</i>	<i>leiodon</i>	GARRICK, 1985	Carcharhinidae	Carcharhiniformes	30
<i>Carcharhinus</i>	<i>leucas</i>	(MÜLLER & HENLE, 1839)	Carcharhinidae	Carcharhiniformes	809
<i>Carcharhinus</i>	<i>limbatus</i>	(MÜLLER & HENLE, 1839)	Carcharhinidae	Carcharhiniformes	795
<i>Carcharhinus</i>	<i>longimanus</i>	(POEY, 1861)	Carcharhinidae	Carcharhiniformes	406
<i>Carcharhinus</i>	<i>macloti</i>	(MÜLLER & HENLE, 1839)	Carcharhinidae	Carcharhiniformes	150
<i>Carcharhinus</i>	<i>melanopterus</i>	(QUOY & GAIMARD, 1824)	Carcharhinidae	Carcharhiniformes	454
<i>Carcharhinus</i>	<i>obscurus</i>	(LESUEUR, 1818)	Carcharhinidae	Carcharhiniformes	594
<i>Carcharhinus</i>	<i>perezii</i>	(POEY, 1876)	Carcharhinidae	Carcharhiniformes	163

<i>Carcharhinus</i>	<i>plumbeus</i>	(NARDO, 1827)	Carcharhinidae	Carcharhiniformes	795
<i>Carcharhinus</i>	<i>porosus</i>	(RANZANI, 1839)	Carcharhinidae	Carcharhiniformes	166
<i>Carcharhinus</i>	<i>sealei</i>	(PIETSCHMANN, 1913)	Carcharhinidae	Carcharhiniformes	72
<i>Carcharhinus</i>	<i>signatus</i>	(POEY, 1868)	Carcharhinidae	Carcharhiniformes	150
<i>Carcharhinus</i>	<i>sorrah</i>	(MÜLLER & HENLE, 1839)	Carcharhinidae	Carcharhiniformes	275
<i>Carcharhinus</i>	<i>tilstoni</i>	(WHITLEY, 1950)	Carcharhinidae	Carcharhiniformes	86
<i>Carcharhinus</i>	<i>tjutjot</i>	(BLEEKER, 1852)	Carcharhinidae	Carcharhiniformes	18
<i>Galeocerdo</i>	<i>cuvier</i>	(PÉRON & LESUEUR, 1822)	Carcharhinidae	Carcharhiniformes	1003
<i>Glyphis</i>	<i>gangeticus</i>	(MÜLLER & HENLE, 1839)	Carcharhinidae	Carcharhiniformes	89
<i>Glyphis</i>	<i>garricki</i>	COMPAGNO, WHITE & LAST, 2008	Carcharhinidae	Carcharhiniformes	32
<i>Glyphis</i>	<i>glyphis</i>	(MÜLLER & HENLE, 1839)	Carcharhinidae	Carcharhiniformes	53
<i>Isogomphodon</i>	<i>oxyrhynchus</i>	(MÜLLER & HENLE, 1839)	Carcharhinidae	Carcharhiniformes	51
<i>Lamiopsis</i>	<i>temminckii</i>	(MÜLLER & HENLE, 1839)	Carcharhinidae	Carcharhiniformes	62
<i>Lamiopsis</i>	<i>tephrodes</i>	(FOWLER, 1905)	Carcharhinidae	Carcharhiniformes	11
<i>Loxodon</i>	<i>macrorhinus</i>	MÜLLER & HENLE, 1839	Carcharhinidae	Carcharhiniformes	153
<i>Nasolamia</i>	<i>velox</i>	(GILBERT, 1898)	Carcharhinidae	Carcharhiniformes	52
<i>Negaprion</i>	<i>acutidens</i>	(RÜPPELL, 1837)	Carcharhinidae	Carcharhiniformes	232
<i>Negaprion</i>	<i>brevirostris</i>	(POEY, 1868)	Carcharhinidae	Carcharhiniformes	575
<i>Prionace</i>	<i>glauca</i>	(LINNAEUS, 1758)	Carcharhinidae	Carcharhiniformes	1274
<i>Rhizoprionodon</i>	<i>acutus</i>	(RÜPPELL, 1837)	Carcharhinidae	Carcharhiniformes	357
<i>Rhizoprionodon</i>	<i>lalandii</i>	(MÜLLER & HENLE, 1839)	Carcharhinidae	Carcharhiniformes	122
<i>Rhizoprionodon</i>	<i>longurio</i>	(JORDAN & GILBERT, 1882)	Carcharhinidae	Carcharhiniformes	90
<i>Rhizoprionodon</i>	<i>oligolinx</i>	SPRINGER, 1964	Carcharhinidae	Carcharhiniformes	79
<i>Rhizoprionodon</i>	<i>porosus</i>	(POEY, 1861)	Carcharhinidae	Carcharhiniformes	129
<i>Rhizoprionodon</i>	<i>taylori</i>	(OGILBY, 1915)	Carcharhinidae	Carcharhiniformes	86
<i>Rhizoprionodon</i>	<i>terraenovae</i>	(RICHARDSON, 1836)	Carcharhinidae	Carcharhiniformes	309
<i>Scoliodon</i>	<i>laticaudus</i>	MÜLLER & HENLE, 1838	Carcharhinidae	Carcharhiniformes	199
<i>Scoliodon</i>	<i>macrorhynchus</i>	(BLEEKER, 1852)	Carcharhinidae	Carcharhiniformes	18
<i>Triaenodon</i>	<i>obesus</i>	(RÜPPELL, 1837)	Carcharhinidae	Carcharhiniformes	333

<i>Chaenogaleus</i>	<i>macrostoma</i>	(BLEEKER, 1852)	Hemigaleidae	Carcharhiniformes	88
<i>Hemigaleus</i>	<i>australiensis</i>	WHITE, LAST & COMPAGNO, 2005	Hemigaleidae	Carcharhiniformes	34
<i>Hemigaleus</i>	<i>microstoma</i>	BLEEKER, 1852	Hemigaleidae	Carcharhiniformes	92
<i>Hemipristis</i>	<i>elongata</i>	(KLUNZINGER, 1871)	Hemigaleidae	Carcharhiniformes	160
<i>Paragaleus</i>	<i>leucolomatus</i>	COMPAGNO & SMALE, 1985	Hemigaleidae	Carcharhiniformes	13
<i>Paragaleus</i>	<i>pectoralis</i>	(GARMAN, 1906)	Hemigaleidae	Carcharhiniformes	42
<i>Paragaleus</i>	<i>randalli</i>	COMPAGNO, KRUPP & CARPENTER, 1996	Hemigaleidae	Carcharhiniformes	33
<i>Paragaleus</i>	<i>tengi</i>	(CHEN, 1963)	Hemigaleidae	Carcharhiniformes	25
<i>Leptocharias</i>	<i>smithii</i>	(MÜLLER & HENLE, 1839)	Leptochariidae	Carcharhiniformes	39
<i>Apristurus</i>	<i>albisoma</i>	NAKAYA & SÉRET, 1999	Pentanchidae	Carcharhiniformes	12
<i>Apristurus</i>	<i>ampliceps</i>	SASAHARA, SATO & NAKAYA, 2008	Pentanchidae	Carcharhiniformes	10
<i>Apristurus</i>	<i>aphyodes</i>	NAKAYA & STEHMANN, 1998	Pentanchidae	Carcharhiniformes	24
<i>Apristurus</i>	<i>australis</i>	SATO, NAKAYA & YOROZU, 2008	Pentanchidae	Carcharhiniformes	11
<i>Apristurus</i>	<i>breviventralis</i>	KAWAUCHI, WEIGMANN & NAKAYA, 2014	Pentanchidae	Carcharhiniformes	4
<i>Apristurus</i>	<i>brunneus</i>	(GILBERT, 1892)	Pentanchidae	Carcharhiniformes	68
<i>Apristurus</i>	<i>bucephalus</i>	WHITE, LAST & POGONOSKI, 2008	Pentanchidae	Carcharhiniformes	4
<i>Apristurus</i>	<i>canutus</i>	SPRINGER & HEEMSTRA, 1979	Pentanchidae	Carcharhiniformes	17
<i>Apristurus</i>	<i>exsanguis</i>	SATO, NAKAYA & STEWART, 1999	Pentanchidae	Carcharhiniformes	13
<i>Apristurus</i>	<i>fedorovi</i>	DOLGANOV, 1983	Pentanchidae	Carcharhiniformes	18
<i>Apristurus</i>	<i>garricki</i>	SATO, STEWART & NAKAYA, 2013	Pentanchidae	Carcharhiniformes	4
<i>Apristurus</i>	<i>gibbosus</i>	MENG, CHU & LI, 1985	Pentanchidae	Carcharhiniformes	10
<i>Apristurus</i>	<i>herklotsi</i>	(FOWLER, 1934)	Pentanchidae	Carcharhiniformes	34
<i>Apristurus</i>	<i>indicus</i>	(BRAUER, 1906)	Pentanchidae	Carcharhiniformes	33
<i>Apristurus</i>	<i>internatus</i>	DENG, XIONG & ZHAN, 1988	Pentanchidae	Carcharhiniformes	6

<i>Apristurus</i>	<i>investigatoris</i>	(MISRA, 1962)	Pentanchidae	Carcharhiniformes	16
<i>Apristurus</i>	<i>japonicus</i>	NAKAYA, 1975	Pentanchidae	Carcharhiniformes	23
<i>Apristurus</i>	<i>kampae</i>	TAYLOR, 1972	Pentanchidae	Carcharhiniformes	34
<i>Apristurus</i>	<i>laurussonii</i>	(SAEMUNDSSON, 1922)	Pentanchidae	Carcharhiniformes	78
<i>Apristurus</i>	<i>longicephalus</i>	NAKAYA, 1975	Pentanchidae	Carcharhiniformes	33
<i>Apristurus</i>	<i>macrorhynchus</i>	(TANAKA, 1909)	Pentanchidae	Carcharhiniformes	34
<i>Apristurus</i>	<i>macrostomus</i>	CHU, MENG & LI, 1985	Pentanchidae	Carcharhiniformes	14
<i>Apristurus</i>	<i>manis</i>	(SPRINGER, 1979)	Pentanchidae	Carcharhiniformes	37
<i>Apristurus</i>	<i>melanoasper</i>	IGLÉSIAS, NAKAYA & STEHMANN, 2004	Pentanchidae	Carcharhiniformes	32
<i>Apristurus</i>	<i>microps</i>	(GILCHRIST, 1922)	Pentanchidae	Carcharhiniformes	41
<i>Apristurus</i>	<i>micropterygeus</i>	MENG, CHU & LI, 1986	Pentanchidae	Carcharhiniformes	9
<i>Apristurus</i>	<i>nakayai</i>	IGLÉSIAS, 2012	Pentanchidae	Carcharhiniformes	4
<i>Apristurus</i>	<i>nasutus</i>	DE BUEN, 1959	Pentanchidae	Carcharhiniformes	32
<i>Apristurus</i>	<i>parvipinnis</i>	SPRINGER & HEEMSTRA, 1979	Pentanchidae	Carcharhiniformes	32
<i>Apristurus</i>	<i>pinguis</i>	DENG, XIONG & ZHAN, 1983	Pentanchidae	Carcharhiniformes	16
<i>Apristurus</i>	<i>platyrhynchus</i>	(TANAKA, 1909)	Pentanchidae	Carcharhiniformes	53
<i>Apristurus</i>	<i>profundorum</i>	(GOODE & BEAN, 1896)	Pentanchidae	Carcharhiniformes	49
<i>Apristurus</i>	<i>riveri</i>	BIGELOW & SCHROEDER, 1944	Pentanchidae	Carcharhiniformes	27
<i>Apristurus</i>	<i>saldanha</i>	(BARNARD, 1925)	Pentanchidae	Carcharhiniformes	28
<i>Apristurus</i>	<i>sibogae</i>	(WEBER, 1913)	Pentanchidae	Carcharhiniformes	15
<i>Apristurus</i>	<i>sinensis</i>	CHU & HU, 1981	Pentanchidae	Carcharhiniformes	21
<i>Apristurus</i>	<i>spongiceps</i>	(GILBERT, 1905)	Pentanchidae	Carcharhiniformes	19
<i>Apristurus</i>	<i>stensenii</i>	(SPRINGER, 1979)	Pentanchidae	Carcharhiniformes	8
<i>Apristurus</i>	<i>yangi</i>	WHITE, MANA & NAYLOR, 2017	Pentanchidae	Carcharhiniformes	3
<i>Asymbolus</i>	<i>analisis</i>	(OGILBY, 1885)	Pentanchidae	Carcharhiniformes	39
<i>Asymbolus</i>	<i>funnebris</i>	COMPAGNO, STEVENS & LAST, 1999	Pentanchidae	Carcharhiniformes	6
<i>Asymbolus</i>	<i>galacticus</i>	SÉRET & LAST, 2008	Pentanchidae	Carcharhiniformes	4
<i>Asymbolus</i>	<i>occiduus</i>	LAST, GOMON & GLEDHILL, 1999	Pentanchidae	Carcharhiniformes	6

<i>Asymbolus</i>	<i>pallidus</i>	LAST, GOMON & GLEDHILL, 1999	Pentanchidae	Carcharhiniformes	12
<i>Asymbolus</i>	<i>parvus</i>	COMPAGNO, STEVENS & LAST, 1999	Pentanchidae	Carcharhiniformes	11
<i>Asymbolus</i>	<i>rubiginosus</i>	LAST, GOMON & GLEDHILL, 1999	Pentanchidae	Carcharhiniformes	21
<i>Asymbolus</i>	<i>submaculatus</i>	COMPAGNO, STEVENS & LAST, 1999	Pentanchidae	Carcharhiniformes	6
<i>Asymbolus</i>	<i>vincenti</i>	(ZIETZ, 1908)	Pentanchidae	Carcharhiniformes	30
<i>Bythaelurus</i>	<i>alcockii</i>	(GARMAN, 1913)	Pentanchidae	Carcharhiniformes	14
<i>Bythaelurus</i>	<i>bachi</i>	WEIGMANN, EBERT, CLERKIN, STEHMANN & NAYLOR, 2016	Pentanchidae	Carcharhiniformes	2
<i>Bythaelurus</i>	<i>canescens</i>	(GÜNTHER, 1878)	Pentanchidae	Carcharhiniformes	39
<i>Bythaelurus</i>	<i>clevai</i>	(SÉRET, 1987)	Pentanchidae	Carcharhiniformes	10
<i>Bythaelurus</i>	<i>dawsoni</i>	(SPRINGER, 1971)	Pentanchidae	Carcharhiniformes	25
<i>Bythaelurus</i>	<i>giddingsi</i>	McCOSKER, LONG & BALDWIN, 2012	Pentanchidae	Carcharhiniformes	7
<i>Bythaelurus</i>	<i>hispidus</i>	(ALCOCK, 1891)	Pentanchidae	Carcharhiniformes	48
<i>Bythaelurus</i>	<i>immaculatus</i>	(CHU & MENG, 1982)	Pentanchidae	Carcharhiniformes	14
<i>Bythaelurus</i>	<i>incanus</i>	LAST & STEVENS, 2008	Pentanchidae	Carcharhiniformes	6
<i>Bythaelurus</i>	<i>lutarius</i>	(SPRINGER & D'AUBREY, 1972)	Pentanchidae	Carcharhiniformes	27
<i>Bythaelurus</i>	<i>naylori</i>	EBERT & CLERKIN, 2015	Pentanchidae	Carcharhiniformes	4
<i>Bythaelurus</i>	<i>stewarti</i>	WEIGMANN, KASCHNER & THIEL, 2018	Pentanchidae	Carcharhiniformes	1
<i>Bythaelurus</i>	<i>tenuicephalus</i>	KASCHNER, WEIGMANN & THIEL, 2015	Pentanchidae	Carcharhiniformes	5
<i>Bythaelurus</i>	<i>vivaldii</i>	WEIGMANN & KASCHNER, 2017	Pentanchidae	Carcharhiniformes	2
<i>Cephalurus</i>	<i>cephalus</i>	(GILBERT, 1892)	Pentanchidae	Carcharhiniformes	44
<i>Figaro</i>	<i>boardmani</i>	(WHITLEY, 1928)	Pentanchidae	Carcharhiniformes	48
<i>Figaro</i>	<i>striatus</i>	GLEDHILL, LAST & WHITE, 2008	Pentanchidae	Carcharhiniformes	6
<i>Galeus</i>	<i>antillensis</i>	SPRINGER, 1979	Pentanchidae	Carcharhiniformes	15

<i>Galeus</i>	<i>arae</i>	(NICHOLS, 1927)	Pentanchidae	Carcharhiniformes	32
<i>Galeus</i>	<i>atlanticus</i>	(VAILLANT, 1888)	Pentanchidae	Carcharhiniformes	48
<i>Galeus</i>	<i>cadenati</i>	SPRINGER, 1966	Pentanchidae	Carcharhiniformes	20
<i>Galeus</i>	<i>corriganae</i>	WHITE, MANA & NAYLOR, 2016	Pentanchidae	Carcharhiniformes	3
<i>Galeus</i>	<i>eastmani</i>	(JORDAN & SNYDER, 1904)	Pentanchidae	Carcharhiniformes	43
<i>Galeus</i>	<i>gracilis</i>	COMPAGNO & STEVENS, 1993	Pentanchidae	Carcharhiniformes	15
<i>Galeus</i>	<i>longirostris</i>	TACHIKAWA & TANIUCHI, 1987	Pentanchidae	Carcharhiniformes	10
<i>Galeus</i>	<i>melastomus</i>	RAFINESQUE, 1810	Pentanchidae	Carcharhiniformes	340
<i>Galeus</i>	<i>mincaronei</i>	SOTO, 2001	Pentanchidae	Carcharhiniformes	10
<i>Galeus</i>	<i>murinus</i>	(COLLETT, 1904)	Pentanchidae	Carcharhiniformes	38
<i>Galeus</i>	<i>nipponensis</i>	NAKAYA, 1975	Pentanchidae	Carcharhiniformes	28
<i>Galeus</i>	<i>piperatus</i>	SPRINGER & WAGNER, 1966	Pentanchidae	Carcharhiniformes	24
<i>Galeus</i>	<i>polli</i>	CADENAT, 1959	Pentanchidae	Carcharhiniformes	40
<i>Galeus</i>	<i>priapus</i>	SÉRET & LAST, 2008	Pentanchidae	Carcharhiniformes	6
<i>Galeus</i>	<i>sauteri</i>	(JORDAN & RICHARDSON, 1909)	Pentanchidae	Carcharhiniformes	31
<i>Galeus</i>	<i>schantzi</i>	SPRINGER, 1979	Pentanchidae	Carcharhiniformes	13
<i>Galeus</i>	<i>springeri</i>	KONSTANTINO U & COZZI, 1998	Pentanchidae	Carcharhiniformes	13
<i>Halaelurus</i>	<i>boesemani</i>	SPRINGER & D'AUBREY, 1972	Pentanchidae	Carcharhiniformes	25
<i>Halaelurus</i>	<i>buergeri</i>	(MÜLLER & HENLE, 1838)	Pentanchidae	Carcharhiniformes	54
<i>Halaelurus</i>	<i>lineatus</i>	BASS, D'AUBREY & KISTNASAMY, 1975	Pentanchidae	Carcharhiniformes	22
<i>Halaelurus</i>	<i>maculosus</i>	WHITE, LAST & STEVENS, 2007	Pentanchidae	Carcharhiniformes	4
<i>Halaelurus</i>	<i>natalensis</i>	(REGAN, 1904)	Pentanchidae	Carcharhiniformes	39
<i>Halaelurus</i>	<i>quagga</i>	(ALCOCK, 1899)	Pentanchidae	Carcharhiniformes	27
<i>Halaelurus</i>	<i>sellus</i>	WHITE, LAST & STEVENS, 2007	Pentanchidae	Carcharhiniformes	6
<i>Haploblepharus</i>	<i>edwardsii</i>	(SCHINZ, 1822)	Pentanchidae	Carcharhiniformes	65
<i>Haploblepharus</i>	<i>fuscus</i>	SMITH, 1950	Pentanchidae	Carcharhiniformes	32
<i>Haploblepharus</i>	<i>kistnasamyi</i>	HUMAN & COMPAGNO, 2006	Pentanchidae	Carcharhiniformes	8

<i>Haploblepharus</i>	<i>pictus</i>	(MÜLLER & HENLE, 1838)	Pentanchidae	Carcharhiniformes	32
<i>Holohalaelurus</i>	<i>favus</i>	HUMAN, 2006	Pentanchidae	Carcharhiniformes	9
<i>Holohalaelurus</i>	<i>grennian</i>	HUMAN, 2006	Pentanchidae	Carcharhiniformes	7
<i>Holohalaelurus</i>	<i>melanostigma</i>	(NORMAN, 1939)	Pentanchidae	Carcharhiniformes	7
<i>Holohalaelurus</i>	<i>punctatus</i>	(GILCHRIST, 1914)	Pentanchidae	Carcharhiniformes	35
<i>Holohalaelurus</i>	<i>regani</i>	(GILCHRIST, 1922)	Pentanchidae	Carcharhiniformes	47
<i>Parmaturus</i>	<i>albimarginatus</i>	SÉRET & LAST, 2007	Pentanchidae	Carcharhiniformes	3
<i>Parmaturus</i>	<i>albipenis</i>	SÉRET & LAST, 2007	Pentanchidae	Carcharhiniformes	4
<i>Parmaturus</i>	<i>bigus</i>	SÉRET & LAST, 2007	Pentanchidae	Carcharhiniformes	7
<i>Parmaturus</i>	<i>campechiensis</i>	SPRINGER, 1979	Pentanchidae	Carcharhiniformes	17
<i>Parmaturus</i>	<i>lanatus</i>	SÉRET & LAST, 2007	Pentanchidae	Carcharhiniformes	6
<i>Parmaturus</i>	<i>macmillani</i>	HARDY, 1985	Pentanchidae	Carcharhiniformes	13
<i>Parmaturus</i>	<i>melanobranchus</i>	(CHAN, 1966)	Pentanchidae	Carcharhiniformes	20
<i>Parmaturus</i>	<i>nigripalatum</i>	FAHMI & EBERT, 2018	Pentanchidae	Carcharhiniformes	1
<i>Parmaturus</i>	<i>pilosus</i>	GARMAN, 1906	Pentanchidae	Carcharhiniformes	28
<i>Parmaturus</i>	<i>xaniurus</i>	(GILBERT, 1892)	Pentanchidae	Carcharhiniformes	59
<i>Pentanchus</i>	<i>profundicolus</i>	SMITH & RADCLIFFE, 1912	Pentanchidae	Carcharhiniformes	20
<i>Ctenacis</i>	<i>fehlmanni</i>	(SPRINGER, 1968)	Proscylliidae	Carcharhiniformes	24
<i>Eridacnis</i>	<i>barbouri</i>	(BIGELOW & SCHROEDER, 1944)	Proscylliidae	Carcharhiniformes	17
<i>Eridacnis</i>	<i>radcliffei</i>	SMITH, 1913	Proscylliidae	Carcharhiniformes	60
<i>Eridacnis</i>	<i>sinuans</i>	(SMITH, 1957)	Proscylliidae	Carcharhiniformes	21
<i>Proscyllium</i>	<i>habereri</i>	HILGENDORF, 1904	Proscylliidae	Carcharhiniformes	64
<i>Proscyllium</i>	<i>magnificum</i>	LAST & VONGPANICH, 2004	Proscylliidae	Carcharhiniformes	9
<i>Gollum</i>	<i>attenuatus</i>	(GARRICK, 1954)	Pseudotriakidae	Carcharhiniformes	36
<i>Gollum</i>	<i>suluensis</i>	LAST & GAUDIANO, 2011	Pseudotriakidae	Carcharhiniformes	3
<i>Planonasus</i>	<i>indicus</i>	EBERT, AKHILESH & WEIGMANN, 2018	Pseudotriakidae	Carcharhiniformes	1
<i>Planonasus</i>	<i>parini</i>	WEIGMANN, STEHMANN & THIEL, 2013	Pseudotriakidae	Carcharhiniformes	10

<i>Pseudotriakis</i>	<i>microdon</i>	DE BRITO CAPELLO, 1868	Pseudotriakidae	Carcharhiniformes	132
<i>Atelomycterus</i>	<i>baliensis</i>	WHITE, LAST & DHARMADI, 2005	Scyliorhinidae	Carcharhiniformes	9
<i>Atelomycterus</i>	<i>erdmanni</i>	FAHMI & WHITE, 2015	Scyliorhinidae	Carcharhiniformes	2
<i>Atelomycterus</i>	<i>fasciatus</i>	COMPAGNO & STEVENS, 1993	Scyliorhinidae	Carcharhiniformes	17
<i>Atelomycterus</i>	<i>macleayi</i>	WHITLEY, 1939	Scyliorhinidae	Carcharhiniformes	22
<i>Atelomycterus</i>	<i>marmoratus</i>	(BENNETT, 1830)	Scyliorhinidae	Carcharhiniformes	117
<i>Atelomycterus</i>	<i>marnkalha</i>	JACOBSEN & BENNETT, 2007	Scyliorhinidae	Carcharhiniformes	13
<i>Aulohalaelurus</i>	<i>kanakorum</i>	SÉRET, 1990	Scyliorhinidae	Carcharhiniformes	11
<i>Aulohalaelurus</i>	<i>labiosus</i>	(WAITE, 1905)	Scyliorhinidae	Carcharhiniformes	29
<i>Cephaloscyllium</i>	<i>albipinum</i>	LAST, MOTOMURA & WHITE, 2008	Scyliorhinidae	Carcharhiniformes	10
<i>Cephaloscyllium</i>	<i>cooki</i>	LAST, SÉRET & WHITE, 2008	Scyliorhinidae	Carcharhiniformes	5
<i>Cephaloscyllium</i>	<i>fasciatum</i>	CHAN, 1966	Scyliorhinidae	Carcharhiniformes	30
<i>Cephaloscyllium</i>	<i>formosanum</i>	TENG, 1962	Scyliorhinidae	Carcharhiniformes	4
<i>Cephaloscyllium</i>	<i>hiscosellum</i>	WHITE & EBERT, 2008	Scyliorhinidae	Carcharhiniformes	8
<i>Cephaloscyllium</i>	<i>isabellum</i>	(BONNATERRE, 1788)	Scyliorhinidae	Carcharhiniformes	58
<i>Cephaloscyllium</i>	<i>laticeps</i>	(DUMÉRIL, 1853)	Scyliorhinidae	Carcharhiniformes	58
<i>Cephaloscyllium</i>	<i>pictum</i>	LAST, SÉRET & WHITE, 2008	Scyliorhinidae	Carcharhiniformes	5
<i>Cephaloscyllium</i>	<i>sarawakensis</i>	YANO, AHMED, GAMBANG, HAMAD IDRIS, SOLAHUDDIN & AZNAN, 2005	Scyliorhinidae	Carcharhiniformes	13
<i>Cephaloscyllium</i>	<i>signourum</i>	LAST, SÉRET & WHITE, 2008	Scyliorhinidae	Carcharhiniformes	4
<i>Cephaloscyllium</i>	<i>silasi</i>	(TALWAR, 1974)	Scyliorhinidae	Carcharhiniformes	25
<i>Cephaloscyllium</i>	<i>speccum</i>	LAST, SÉRET & WHITE, 2008	Scyliorhinidae	Carcharhiniformes	8
<i>Cephaloscyllium</i>	<i>stevensi</i>	CLARK & RANDALL, 2011	Scyliorhinidae	Carcharhiniformes	4
<i>Cephaloscyllium</i>	<i>sufflans</i>	(REGAN, 1921)	Scyliorhinidae	Carcharhiniformes	36
<i>Cephaloscyllium</i>	<i>umbratile</i>	JORDAN & FOWLER, 1903	Scyliorhinidae	Carcharhiniformes	61
<i>Cephaloscyllium</i>	<i>variegatum</i>	LAST & WHITE, 2008	Scyliorhinidae	Carcharhiniformes	14
<i>Cephaloscyllium</i>	<i>ventriosum</i>	(GARMAN, 1880)	Scyliorhinidae	Carcharhiniformes	93
<i>Cephaloscyllium</i>	<i>zebrum</i>	LAST & WHITE, 2008	Scyliorhinidae	Carcharhiniformes	5
<i>Poroderma</i>	<i>africanum</i>	(GMELIN, 1789)	Scyliorhinidae	Carcharhiniformes	74

<i>Poroderma</i>	<i>pantherinum</i>	(MÜLLER & HENLE, 1838)	Scyliorhinidae	Carcharhiniformes	76
<i>Schroederichthys</i>	<i>bivius</i>	(MÜLLER & HENLE, 1838)	Scyliorhinidae	Carcharhiniformes	69
<i>Schroederichthys</i>	<i>chilensis</i>	(GUICHENOT, 1848)	Scyliorhinidae	Carcharhiniformes	50
<i>Schroederichthys</i>	<i>maculatus</i>	SPRINGER, 1966	Scyliorhinidae	Carcharhiniformes	27
<i>Schroederichthys</i>	<i>saurisqualus</i>	SOTO, 2001	Scyliorhinidae	Carcharhiniformes	11
<i>Schroederichthys</i>	<i>tenuis</i>	SPRINGER, 1966	Scyliorhinidae	Carcharhiniformes	22
<i>Scyliorhinus</i>	<i>boa</i>	GOODE & BEAN, 1896	Scyliorhinidae	Carcharhiniformes	32
<i>Scyliorhinus</i>	<i>cabofriensis</i>	SOARES, GOMES & DE CARVALHO, 2016	Scyliorhinidae	Carcharhiniformes	4
<i>Scyliorhinus</i>	<i>canicula</i>	(LINNAEUS, 1758)	Scyliorhinidae	Carcharhiniformes	1122
<i>Scyliorhinus</i>	<i>capensis</i>	(MÜLLER & HENLE, 1838)	Scyliorhinidae	Carcharhiniformes	60
<i>Scyliorhinus</i>	<i>cervigoni</i>	MAURIN & BONNET, 1970	Scyliorhinidae	Carcharhiniformes	15
<i>Scyliorhinus</i>	<i>comoroensis</i>	COMPAGNO, 1988	Scyliorhinidae	Carcharhiniformes	8
<i>Scyliorhinus</i>	<i>garmani</i>	(FOWLER, 1934)	Scyliorhinidae	Carcharhiniformes	14
<i>Scyliorhinus</i>	<i>haeckelii</i>	(MIRANDA RIBEIRO, 1907)	Scyliorhinidae	Carcharhiniformes	54
<i>Scyliorhinus</i>	<i>hesperius</i>	SPRINGER, 1966	Scyliorhinidae	Carcharhiniformes	30
<i>Scyliorhinus</i>	<i>meadi</i>	SPRINGER, 1966	Scyliorhinidae	Carcharhiniformes	24
<i>Scyliorhinus</i>	<i>retifer</i>	(GARMAN, 1881)	Scyliorhinidae	Carcharhiniformes	79
<i>Scyliorhinus</i>	<i>stellaris</i>	(LINNAEUS, 1758)	Scyliorhinidae	Carcharhiniformes	314
<i>Scyliorhinus</i>	<i>tokubee</i>	SHIRAI, HAGIWARA & NAKAYA, 1992	Scyliorhinidae	Carcharhiniformes	8
<i>Scyliorhinus</i>	<i>torazame</i>	(TANAKA, 1908)	Scyliorhinidae	Carcharhiniformes	90
<i>Scyliorhinus</i>	<i>torrei</i>	HOWELL RIVERO, 1936	Scyliorhinidae	Carcharhiniformes	20
<i>Scyliorhinus</i>	<i>ugoi</i>	SOARES, GADIG & GOMES, 2015	Scyliorhinidae	Carcharhiniformes	4
<i>Eusphyra</i>	<i>blochii</i>	(CUVIER, 1816)	Sphyrnidae	Carcharhiniformes	151
<i>Sphyrna</i>	<i>corona</i>	SPRINGER, 1940	Sphyrnidae	Carcharhiniformes	44
<i>Sphyrna</i>	<i>gilberti</i>	QUATTRO, DRIGGERS, GRADY, ULRICH & ROBERTS, 2013	Sphyrnidae	Carcharhiniformes	3
<i>Sphyrna</i>	<i>lewini</i>	(GRIFFITH & SMITH, 1834)	Sphyrnidae	Carcharhiniformes	871

<i>Sphyrna</i>	<i>media</i>	SPRINGER, 1940	Sphyrnidae	Carcharhiniformes	71
<i>Sphyrna</i>	<i>mokarran</i>	(RÜPPELL, 1837)	Sphyrnidae	Carcharhiniformes	433
<i>Sphyrna</i>	<i>tiburo</i>	(LINNAEUS, 1758)	Sphyrnidae	Carcharhiniformes	430
<i>Sphyrna</i>	<i>tudes</i>	(VALENCIENNE S, 1822)	Sphyrnidae	Carcharhiniformes	151
<i>Sphyrna</i>	<i>zygaena</i>	(LINNAEUS, 1758)	Sphyrnidae	Carcharhiniformes	705
<i>Furgaleus</i>	<i>macki</i>	(WHITLEY, 1943)	Triakidae	Carcharhiniformes	52
<i>Galeorhinus</i>	<i>galeus</i>	(LINNAEUS, 1758)	Triakidae	Carcharhiniformes	654
<i>Gogolia</i>	<i>filewoodi</i>	COMPAGNO, 1973	Triakidae	Carcharhiniformes	15
<i>Hemitriakis</i>	<i>abditata</i>	COMPAGNO & STEVENS, 1993	Triakidae	Carcharhiniformes	13
<i>Hemitriakis</i>	<i>complicofasciata</i>	TAKAHASHI & NAKAYA, 2004	Triakidae	Carcharhiniformes	9
<i>Hemitriakis</i>	<i>falcata</i>	COMPAGNO & STEVENS, 1993	Triakidae	Carcharhiniformes	18
<i>Hemitriakis</i>	<i>indroyonoi</i>	WHITE, COMPAGNO & DHARMADI, 2009	Triakidae	Carcharhiniformes	5
<i>Hemitriakis</i>	<i>japanica</i>	(MÜLLER & HENLE, 1839)	Triakidae	Carcharhiniformes	68
<i>Hemitriakis</i>	<i>leucoperiptera</i>	HERRE, 1923	Triakidae	Carcharhiniformes	17
<i>Hypogaleus</i>	<i>hyugaensis</i>	(MIYOSI, 1939)	Triakidae	Carcharhiniformes	47
<i>Iago</i>	<i>garricki</i>	FOURMANOIR, 1979	Triakidae	Carcharhiniformes	27
<i>Iago</i>	<i>omanensis</i>	(NORMAN, 1939)	Triakidae	Carcharhiniformes	80
<i>Mustelus</i>	<i>albiginnis</i>	CASTRO- AGUIRRE, ATUNA- MENDIOLA, GONZÁZ- ACOSTA & DE LA CRUZ- AGÜERO, 2005	Triakidae	Carcharhiniformes	17
<i>Mustelus</i>	<i>antarcticus</i>	GÜNTHER, 1870	Triakidae	Carcharhiniformes	158
<i>Mustelus</i>	<i>asterias</i>	CLOQUET, 1819	Triakidae	Carcharhiniformes	152
<i>Mustelus</i>	<i>californicus</i>	GILL, 1864	Triakidae	Carcharhiniformes	95
<i>Mustelus</i>	<i>canis</i>	(MITCHILL, 1815)	Triakidae	Carcharhiniformes	392
<i>Mustelus</i>	<i>dorsalis</i>	GILL, 1864	Triakidae	Carcharhiniformes	47
<i>Mustelus</i>	<i>fasciatus</i>	(GARMAN, 1913)	Triakidae	Carcharhiniformes	30
<i>Mustelus</i>	<i>griseus</i>	PIETSCHMANN, 1908	Triakidae	Carcharhiniformes	67
<i>Mustelus</i>	<i>henlei</i>	(GILL, 1863)	Triakidae	Carcharhiniformes	134

<i>Mustelus</i>	<i>higmani</i>	SPRINGER & LOWE, 1963	Triakidae	Carcharhiniformes	49
<i>Mustelus</i>	<i>lenticulatus</i>	PHILLIPPS, 1932	Triakidae	Carcharhiniformes	62
<i>Mustelus</i>	<i>lunulatus</i>	JORDAN & GILBERT, 1882	Triakidae	Carcharhiniformes	90
<i>Mustelus</i>	<i>manazo</i>	BLEEKER, 1854	Triakidae	Carcharhiniformes	172
<i>Mustelus</i>	<i>mangalorensis</i>	CUBELIO, REMYA & KURUP, 2011	Triakidae	Carcharhiniformes	4
<i>Mustelus</i>	<i>mento</i>	COPE, 1877	Triakidae	Carcharhiniformes	44
<i>Mustelus</i>	<i>minicanis</i>	HEEMSTRA, 1997	Triakidae	Carcharhiniformes	13
<i>Mustelus</i>	<i>mosis</i>	HEMPRICH & EHRENBERG, 1899	Triakidae	Carcharhiniformes	75
<i>Mustelus</i>	<i>mustelus</i>	(LINNAEUS, 1758)	Triakidae	Carcharhiniformes	416
<i>Mustelus</i>	<i>norrisi</i>	SPRINGER, 1939	Triakidae	Carcharhiniformes	67
<i>Mustelus</i>	<i>palumbes</i>	SMITH, 1957	Triakidae	Carcharhiniformes	29
<i>Mustelus</i>	<i>punctulatus</i>	RISSO, 1827	Triakidae	Carcharhiniformes	83
<i>Mustelus</i>	<i>ravidus</i>	WHITE & LAST, 2006	Triakidae	Carcharhiniformes	9
<i>Mustelus</i>	<i>schmitti</i>	SPRINGER, 1939	Triakidae	Carcharhiniformes	119
<i>Mustelus</i>	<i>sinusmexicanus</i>	HEEMSTRA, 1997	Triakidae	Carcharhiniformes	18
<i>Mustelus</i>	<i>stevensi</i>	WHITE & LAST, 2008	Triakidae	Carcharhiniformes	11
<i>Mustelus</i>	<i>walkeri</i>	WHITE & LAST, 2008	Triakidae	Carcharhiniformes	9
<i>Mustelus</i>	<i>whitneyi</i>	CHIRICHIGNO, 1973	Triakidae	Carcharhiniformes	20
<i>Mustelus</i>	<i>widodoi</i>	WHITE & LAST, 2006	Triakidae	Carcharhiniformes	9
<i>Scylliogaleus</i>	<i>quecketti</i>	BOULENGER, 1902	Triakidae	Carcharhiniformes	34
<i>Triakis</i>	<i>acutipinna</i>	KATO, 1968	Triakidae	Carcharhiniformes	15
<i>Triakis</i>	<i>maculata</i>	KNER & STEINDACHNER, 1867	Triakidae	Carcharhiniformes	33
<i>Triakis</i>	<i>megalopterus</i>	(SMITH, 1839)	Triakidae	Carcharhiniformes	50
<i>Triakis</i>	<i>scyllium</i>	MÜLLER & HENLE, 1839	Triakidae	Carcharhiniformes	139
<i>Triakis</i>	<i>semifasciata</i>	GIRARD, 1855	Triakidae	Carcharhiniformes	239
<i>Echinorhinus</i>	<i>brucus</i>	(BONNATERRE, 1788)	Echinorhinidae	Echinorhiniformes	236
<i>Echinorhinus</i>	<i>cookei</i>	PIETSCHMANN, 1928	Echinorhinidae	Echinorhiniformes	103
<i>Heterodontus</i>	<i>francisci</i>	(GIRARD, 1855)	Heterodontidae	Heterodontiformes	180
<i>Heterodontus</i>	<i>galeatus</i>	(GÜNTHER, 1870)	Heterodontidae	Heterodontiformes	42

<i>Heterodontus</i>	<i>japonicus</i>	MACLAY & MACLEAY, 1884	Heterodontidae	Heterodontiformes	76
<i>Heterodontus</i>	<i>mexicanus</i>	TAYLOR & CASTRO-AGUIRRE, 1972	Heterodontidae	Heterodontiformes	39
<i>Heterodontus</i>	<i>omanensis</i>	BALDWIN, 2005	Heterodontidae	Heterodontiformes	8
<i>Heterodontus</i>	<i>portusjacksoni</i>	(MEYER, 1793)	Heterodontidae	Heterodontiformes	228
<i>Heterodontus</i>	<i>quoyi</i>	(FRÉMINVILLE, 1840)	Heterodontidae	Heterodontiformes	38
<i>Heterodontus</i>	<i>ramalheira</i>	(SMITH, 1949)	Heterodontidae	Heterodontiformes	26
<i>Heterodontus</i>	<i>zebra</i>	(GRAY, 1831)	Heterodontidae	Heterodontiformes	63
<i>Chlamydoselachus</i>	<i>africana</i>	EBERT & COMPAGNO, 2009	Chlamydoselachidae	Hexanchiformes	9
<i>Chlamydoselachus</i>	<i>anguineus</i>	GARMAN, 1884	Chlamydoselachidae	Hexanchiformes	202
<i>Heptranchias</i>	<i>perlo</i>	(BONNATERRE, 1788)	Hexanchidae	Hexanchiformes	345
<i>Hexanchus</i>	<i>griseus</i>	(BONNATERRE, 1788)	Hexanchidae	Hexanchiformes	604
<i>Hexanchus</i>	<i>nakamurai</i>	TENG, 1962	Hexanchidae	Hexanchiformes	100
<i>Hexanchus</i>	<i>vitulus</i>	SPRINGER & WALLER, 1969	Hexanchidae	Hexanchiformes	37
<i>Notorynchus</i>	<i>cepedianus</i>	(PÉRON, 1807)	Hexanchidae	Hexanchiformes	330
<i>Alopias</i>	<i>pelagicus</i>	NAKAMURA, 1935	Alopiidae	Lamniformes	276
<i>Alopias</i>	<i>superciliosus</i>	(LOWE, 1841)	Alopiidae	Lamniformes	442
<i>Alopias</i>	<i>vulpinus</i>	(BONNATERRE, 1788)	Alopiidae	Lamniformes	627
<i>Cetorhinus</i>	<i>maximus</i>	(GUNNERUS, 1765)	Cetorhinidae	Lamniformes	576
<i>Carcharodon</i>	<i>carcharias</i>	(LINNAEUS, 1758)	Lamnidae	Lamniformes	1237
<i>Isurus</i>	<i>oxyrinchus</i>	RAFINESQUE, 1810	Lamnidae	Lamniformes	1109
<i>Isurus</i>	<i>paucus</i>	GUITART MANDAY, 1966	Lamnidae	Lamniformes	209
<i>Lamna</i>	<i>ditropis</i>	HUBBS & FOLLETT, 1947	Lamnidae	Lamniformes	167
<i>Lamna</i>	<i>nasus</i>	(BONNATERRE, 1788)	Lamnidae	Lamniformes	475
<i>Megachasma</i>	<i>pelagios</i>	TAYLOR, COMPAGNO & STRUHSAKER, 1983	Megachasmidae	Lamniformes	131
<i>Mitsukurina</i>	<i>owstoni</i>	JORDAN, 1898	Mitsukurinidae	Lamniformes	137
<i>Carcharias</i>	<i>taurus</i>	RAFINESQUE, 1810	Odontaspidae	Lamniformes	633
<i>Odontaspis</i>	<i>ferox</i>	(RISSO, 1810)	Odontaspidae	Lamniformes	215
<i>Odontaspis</i>	<i>noronhai</i>	(MAUL, 1955)	Odontaspidae	Lamniformes	61
<i>Pseudocarcharias</i>	<i>kamoharai</i>	(MATSUBARA, 1936)	Pseudocarchariidae	Lamniformes	199

<i>Brachaelurus</i>	<i>colcloughi</i>	OGILBY, 1908	Brachaeluridae	Orectolobiformes	28
<i>Brachaelurus</i>	<i>waddi</i>	(BLOCH & SCHNEIDER, 1801)	Brachaeluridae	Orectolobiformes	46
<i>Ginglymostoma</i>	<i>cirratum</i>	(BONNATERRE, 1788)	Ginglymostomatidae	Orectolobiformes	514
<i>Ginglymostoma</i>	<i>unami</i>	DEL MORAL-FLORES, RAMÍREZ-ANTONIO, ANGULO & PÉREZ-PONCE DE LEÓN, 2015	Ginglymostomatidae	Orectolobiformes	7
<i>Nebrius</i>	<i>ferrugineus</i>	(LESSON, 1831)	Ginglymostomatidae	Orectolobiformes	235
<i>Pseudoginglymostoma</i>	<i>brevicaudatum</i>	(GÜNTHER, 1867)	Ginglymostomatidae	Orectolobiformes	29
<i>Chiloscyllium</i>	<i>arabicum</i>	GUBANOV, 1980	Hemiscylliidae	Orectolobiformes	44
<i>Chiloscyllium</i>	<i>burmensis</i>	DINGERKUS & DE FINO, 1983	Hemiscylliidae	Orectolobiformes	9
<i>Chiloscyllium</i>	<i>caeruleopunctatum</i>	PELLEGRIN, 1914	Hemiscylliidae	Orectolobiformes	9
<i>Chiloscyllium</i>	<i>griseum</i>	MÜLLER & HENLE, 1838	Hemiscylliidae	Orectolobiformes	118
<i>Chiloscyllium</i>	<i>hasseltii</i>	BLEEKER, 1852	Hemiscylliidae	Orectolobiformes	34
<i>Chiloscyllium</i>	<i>indicum</i>	(GMELIN, 1789)	Hemiscylliidae	Orectolobiformes	123
<i>Chiloscyllium</i>	<i>plagiosum</i>	(BENNETT, 1830)	Hemiscylliidae	Orectolobiformes	181
<i>Chiloscyllium</i>	<i>punctatum</i>	MÜLLER & HENLE, 1838	Hemiscylliidae	Orectolobiformes	217
<i>Hemiscyllium</i>	<i>freycineti</i>	(QUOY & GAIMARD, 1824)	Hemiscylliidae	Orectolobiformes	30
<i>Hemiscyllium</i>	<i>galei</i>	ALLEN & ERDMANN, 2008	Hemiscylliidae	Orectolobiformes	5
<i>Hemiscyllium</i>	<i>hallstromi</i>	WHITLEY, 1967	Hemiscylliidae	Orectolobiformes	19
<i>Hemiscyllium</i>	<i>halmahera</i>	ALLEN, ERDMANN & DUDGEON, 2013	Hemiscylliidae	Orectolobiformes	3
<i>Hemiscyllium</i>	<i>henryi</i>	ALLEN & ERDMANN, 2008	Hemiscylliidae	Orectolobiformes	5
<i>Hemiscyllium</i>	<i>michaeli</i>	ALLEN & DUDGEON, 2010	Hemiscylliidae	Orectolobiformes	7
<i>Hemiscyllium</i>	<i>ocellatum</i>	(BONNATERRE, 1788)	Hemiscylliidae	Orectolobiformes	129
<i>Hemiscyllium</i>	<i>strahani</i>	WHITLEY, 1967	Hemiscylliidae	Orectolobiformes	20
<i>Hemiscyllium</i>	<i>trispeculare</i>	RICHARDSON, 1843	Hemiscylliidae	Orectolobiformes	38
<i>Eucrossorhinus</i>	<i>dasyopogon</i>	(BLEEKER, 1867)	Orectolobidae	Orectolobiformes	47

<i>Orectolobus</i>	<i>floridus</i>	LAST & CHIDLOW, 2008	Orectolobidae	Orectolobiformes	10
<i>Orectolobus</i>	<i>halei</i>	WHITLEY, 1940	Orectolobidae	Orectolobiformes	27
<i>Orectolobus</i>	<i>hutchinsi</i>	LAST, CHIDLOW & COMPAGNO, 2006	Orectolobidae	Orectolobiformes	22
<i>Orectolobus</i>	<i>japonicus</i>	REGAN, 1906	Orectolobidae	Orectolobiformes	57
<i>Orectolobus</i>	<i>leptolineatus</i>	LAST, WHITE & POGONOSKI, 2010	Orectolobidae	Orectolobiformes	11
<i>Orectolobus</i>	<i>maculatus</i>	(BONNATERRE, 1788)	Orectolobidae	Orectolobiformes	133
<i>Orectolobus</i>	<i>ornatus</i>	(DE VIS, 1883)	Orectolobidae	Orectolobiformes	91
<i>Orectolobus</i>	<i>parvimaculatus</i>	LAST & CHIDLOW, 2008	Orectolobidae	Orectolobiformes	14
<i>Orectolobus</i>	<i>reticulatus</i>	LAST, POGONOSKI & WHITE, 2008	Orectolobidae	Orectolobiformes	7
<i>Orectolobus</i>	<i>wardi</i>	WHITLEY, 1939	Orectolobidae	Orectolobiformes	22
<i>Sutorectus</i>	<i>tentaculatus</i>	(PETERS, 1864)	Orectolobidae	Orectolobiformes	35
<i>Cirrhoscyllium</i>	<i>expolitum</i>	SMITH & RADCLIFFE, 1913	Parascylliidae	Orectolobiformes	20
<i>Cirrhoscyllium</i>	<i>formosanum</i>	TENG, 1959	Parascylliidae	Orectolobiformes	16
<i>Cirrhoscyllium</i>	<i>japonicum</i>	KAMOHARA, 1943	Parascylliidae	Orectolobiformes	17
<i>Parascyllium</i>	<i>collare</i>	RAMSAY & OGILBY, 1888	Parascylliidae	Orectolobiformes	24
<i>Parascyllium</i>	<i>elongatum</i>	LAST & STEVENS, 2008	Parascylliidae	Orectolobiformes	4
<i>Parascyllium</i>	<i>ferrugineum</i>	MCCULLOCH, 1911	Parascylliidae	Orectolobiformes	31
<i>Parascyllium</i>	<i>sparsimaculatum</i>	GOTO & LAST, 2002	Parascylliidae	Orectolobiformes	8
<i>Parascyllium</i>	<i>variolatum</i>	(DUMÉRIL, 1853)	Parascylliidae	Orectolobiformes	31
<i>Rhincodon</i>	<i>typus</i>	SMITH, 1828	Rhincodontidae	Orectolobiformes	718
<i>Stegostoma</i>	<i>fasciatum</i>	(HERMANN, 1783)	Stegostomatidae	Orectolobiformes	347
<i>Pliotrema</i>	<i>warreni</i>	REGAN, 1906	Pristiophoridae	Pristiophoriformes	49
<i>Pristiophorus</i>	<i>cirratus</i>	(LATHAM, 1794)	Pristiophoridae	Pristiophoriformes	78
<i>Pristiophorus</i>	<i>delicatus</i>	YEARSLEY, LAST & WHITE, 2008	Pristiophoridae	Pristiophoriformes	8
<i>Pristiophorus</i>	<i>japonicus</i>	GÜNTHER, 1870	Pristiophoridae	Pristiophoriformes	65
<i>Pristiophorus</i>	<i>lanae</i>	EBERT & WILMS, 2013	Pristiophoridae	Pristiophoriformes	4
<i>Pristiophorus</i>	<i>nancyae</i>	EBERT & CAILLIET, 2011	Pristiophoridae	Pristiophoriformes	12
<i>Pristiophorus</i>	<i>nudipinnis</i>	GÜNTHER, 1870	Pristiophoridae	Pristiophoriformes	53

<i>Pristiophorus</i>	<i>schroederi</i>	SPRINGER & BULLIS, 1960	Pristiophoridae	Pristiophoriformes	20
<i>Centrophorus</i>	<i>atromarginatus</i>	GARMAN, 1913	Centrophoridae	Squaliformes	44
<i>Centrophorus</i>	<i>granulosus</i>	(BLOCH & SCHNEIDER, 1801)	Centrophoridae	Squaliformes	463
<i>Centrophorus</i>	<i>harrissoni</i>	MCCULLOCH, 1915	Centrophoridae	Squaliformes	31
<i>Centrophorus</i>	<i>isodon</i>	(CHU, MENG & LIU, 1981)	Centrophoridae	Squaliformes	21
<i>Centrophorus</i>	<i>lesliei</i>	WHITE, EBERT & NAYLOR, 2017	Centrophoridae	Squaliformes	2
<i>Centrophorus</i>	<i>longipinnis</i>	WHITE, EBERT & NAYLOR, 2017	Centrophoridae	Squaliformes	3
<i>Centrophorus</i>	<i>moluccensis</i>	BLEEKER, 1860	Centrophoridae	Squaliformes	102
<i>Centrophorus</i>	<i>seychellorum</i>	BARANES, 2003	Centrophoridae	Squaliformes	5
<i>Centrophorus</i>	<i>squamosus</i>	(BONNATERRE, 1788)	Centrophoridae	Squaliformes	286
<i>Centrophorus</i>	<i>tessellatus</i>	GARMAN, 1906	Centrophoridae	Squaliformes	31
<i>Centrophorus</i>	<i>uyato</i>	(RAFINESQUE, 1810)	Centrophoridae	Squaliformes	113
<i>Centrophorus</i>	<i>westraliensis</i>	WHITE, EBERT & COMPAGNO, 2008	Centrophoridae	Squaliformes	5
<i>Centrophorus</i>	<i>zeehaani</i>	WHITE, EBERT & COMPAGNO, 2008	Centrophoridae	Squaliformes	22
<i>Deania</i>	<i>calcea</i>	(LOWE, 1839)	Centrophoridae	Squaliformes	260
<i>Deania</i>	<i>hystricosa</i>	(GARMAN, 1906)	Centrophoridae	Squaliformes	45
<i>Deania</i>	<i>profundorum</i>	(SMITH & RADCLIFFE, 1912)	Centrophoridae	Squaliformes	108
<i>Deania</i>	<i>quadrspinosa</i>	(MCCULLOCH, 1915)	Centrophoridae	Squaliformes	43
<i>Dalatias</i>	<i>licha</i>	(BONNATERRE, 1788)	Dalatiidae	Squaliformes	401
<i>Euprotomicroides</i>	<i>zantedeschia</i>	HULLEY & PENRITH, 1966	Dalatiidae	Squaliformes	27
<i>Euprotomicrus</i>	<i>bispinatus</i>	(QUOY & GAIMARD, 1824)	Dalatiidae	Squaliformes	98
<i>Heteroscymnoides</i>	<i>marleyi</i>	FOWLER, 1934	Dalatiidae	Squaliformes	33
<i>Isistius</i>	<i>brasiliensis</i>	(QUOY & GAIMARD, 1824)	Dalatiidae	Squaliformes	214
<i>Isistius</i>	<i>plutodus</i>	GARRICK & SPRINGER, 1964	Dalatiidae	Squaliformes	48
<i>Mollisquama</i>	<i>parini</i>	DOLGANOV, 1984	Dalatiidae	Squaliformes	18
<i>Squaliolus</i>	<i>aliae</i>	TENG, 1959	Dalatiidae	Squaliformes	40

<i>Squaliolus</i>	<i>laticaudus</i>	SMITH & RADCLIFFE, 1912	Dalatiidae	Squaliformes	84
<i>Aculeola</i>	<i>nigra</i>	DE BUEN, 1959	Etmopteridae	Squaliformes	40
<i>Centroscyllium</i>	<i>excelsum</i>	SHIRAI & NAKAYA, 1990	Etmopteridae	Squaliformes	10
<i>Centroscyllium</i>	<i>fabricii</i>	(REINHARDT, 1825)	Etmopteridae	Squaliformes	149
<i>Centroscyllium</i>	<i>granulatum</i>	GÜNTHER, 1887	Etmopteridae	Squaliformes	25
<i>Centroscyllium</i>	<i>kamoharai</i>	ABE, 1966	Etmopteridae	Squaliformes	31
<i>Centroscyllium</i>	<i>nigrum</i>	GARMAN, 1899	Etmopteridae	Squaliformes	50
<i>Centroscyllium</i>	<i>ornatum</i>	(ALCOCK, 1889)	Etmopteridae	Squaliformes	24
<i>Centroscyllium</i>	<i>ritteri</i>	JORDAN & FOWLER, 1903	Etmopteridae	Squaliformes	40
<i>Etmopterus</i>	<i>alphus</i>	EBERT, STRAUBE, LESLIE & WEIGMANN, 2016	Etmopteridae	Squaliformes	3
<i>Etmopterus</i>	<i>benchleyi</i>	VÁSQUEZ, EBERT & LONG, 2015	Etmopteridae	Squaliformes	4
<i>Etmopterus</i>	<i>bigelowi</i>	SHIRAI & TACHIKAWA, 1993	Etmopteridae	Squaliformes	45
<i>Etmopterus</i>	<i>brachyurus</i>	SMITH & RADCLIFFE, 1912	Etmopteridae	Squaliformes	51
<i>Etmopterus</i>	<i>bullisi</i>	BIGELOW & SCHROEDER, 1957	Etmopteridae	Squaliformes	26
<i>Etmopterus</i>	<i>burgessi</i>	SCHAAF-DA SILVA & EBERT, 2006	Etmopteridae	Squaliformes	7
<i>Etmopterus</i>	<i>carteri</i>	SPRINGER & BURGESS, 1985	Etmopteridae	Squaliformes	13
<i>Etmopterus</i>	<i>caudistigmus</i>	LAST, BURGESS & SÉRET, 2002	Etmopteridae	Squaliformes	7
<i>Etmopterus</i>	<i>compagnoi</i>	FRICKE & KOCH, 1990	Etmopteridae	Squaliformes	12
<i>Etmopterus</i>	<i>decacuspидatus</i>	CHAN, 1966	Etmopteridae	Squaliformes	12
<i>Etmopterus</i>	<i>dianthus</i>	LAST, BURGESS & SÉRET, 2002	Etmopteridae	Squaliformes	13
<i>Etmopterus</i>	<i>dislineatus</i>	LAST, BURGESS & SÉRET, 2002	Etmopteridae	Squaliformes	14
<i>Etmopterus</i>	<i>evansi</i>	LAST, BURGESS & SÉRET, 2002	Etmopteridae	Squaliformes	9
<i>Etmopterus</i>	<i>fusus</i>	LAST, BURGESS & SÉRET, 2002	Etmopteridae	Squaliformes	12

<i>Etmopterus</i>	<i>gracilispinis</i>	KREFFT, 1968	Etmopteridae	Squaliformes	55
<i>Etmopterus</i>	<i>granulosus</i>	(GÜNTHER, 1880)	Etmopteridae	Squaliformes	148
<i>Etmopterus</i>	<i>hillianus</i>	(POEY, 1861)	Etmopteridae	Squaliformes	46
<i>Etmopterus</i>	<i>joungi</i>	KNUCKEY, EBERT & BURGESS, 2011	Etmopteridae	Squaliformes	5
<i>Etmopterus</i>	<i>lailae</i>	EBERT, PAPASTAMATIOU, KAJIURA & WETHERBEE, 2017	Etmopteridae	Squaliformes	1
<i>Etmopterus</i>	<i>litvinovi</i>	PARIN & KOTLYAR, 1990	Etmopteridae	Squaliformes	10
<i>Etmopterus</i>	<i>lucifer</i>	JORDAN & SNYDER, 1902	Etmopteridae	Squaliformes	144
<i>Etmopterus</i>	<i>marshae</i>	EBERT & VAN HEES, 2018	Etmopteridae	Squaliformes	1
<i>Etmopterus</i>	<i>molleri</i>	(WHITLEY, 1939)	Etmopteridae	Squaliformes	45
<i>Etmopterus</i>	<i>perryi</i>	SPRINGER & BURGESS, 1985	Etmopteridae	Squaliformes	18
<i>Etmopterus</i>	<i>polli</i>	BIGELOW, SCHROEDER & SPRINGER, 1953	Etmopteridae	Squaliformes	22
<i>Etmopterus</i>	<i>princeps</i>	COLLETT, 1904	Etmopteridae	Squaliformes	100
<i>Etmopterus</i>	<i>pseudosqualiolus</i>	LAST, BURGESS & SÉRET, 2002	Etmopteridae	Squaliformes	10
<i>Etmopterus</i>	<i>pusillus</i>	(LOWE, 1839)	Etmopteridae	Squaliformes	170
<i>Etmopterus</i>	<i>pycnolepis</i>	KOTLYAR, 1990	Etmopteridae	Squaliformes	9
<i>Etmopterus</i>	<i>robinsi</i>	SCHOFIELD & BURGESS, 1997	Etmopteridae	Squaliformes	16
<i>Etmopterus</i>	<i>samadiae</i>	WHITE, EBERT, MANA & CORRIGAN, 2017	Etmopteridae	Squaliformes	3
<i>Etmopterus</i>	<i>schmidti</i>	DOLGANOV, 1986	Etmopteridae	Squaliformes	2
<i>Etmopterus</i>	<i>schultzi</i>	BIGELOW, SCHROEDER & SPRINGER, 1953	Etmopteridae	Squaliformes	35
<i>Etmopterus</i>	<i>sculptus</i>	EBERT, COMPAGNO & DE VRIES, 2011	Etmopteridae	Squaliformes	7
<i>Etmopterus</i>	<i>sentosus</i>	BASS, D'AUBREY & KISTNASAMY, 1976	Etmopteridae	Squaliformes	18
<i>Etmopterus</i>	<i>sheikoi</i>	(DOLGANOV, 1986)	Etmopteridae	Squaliformes	23

<i>Etmopterus</i>	<i>spinax</i>	(LINNAEUS, 1758)	Etmopteridae	Squaliformes	393
<i>Etmopterus</i>	<i>splendidus</i>	YANO, 1988	Etmopteridae	Squaliformes	22
<i>Etmopterus</i>	<i>tasmaniensis</i>	MYAGKOV & PAVLOV, 1986	Etmopteridae	Squaliformes	1
<i>Etmopterus</i>	<i>unicolor</i>	(ENGELHARDT, 1912)	Etmopteridae	Squaliformes	38
<i>Etmopterus</i>	<i>viator</i>	STRAUBE, 2011	Etmopteridae	Squaliformes	8
<i>Etmopterus</i>	<i>villosus</i>	GILBERT, 1905	Etmopteridae	Squaliformes	18
<i>Etmopterus</i>	<i>virens</i>	BIGELOW, SCHROEDER & SPRINGER, 1953	Etmopteridae	Squaliformes	37
<i>Trigonognathus</i>	<i>kabeyai</i>	MOCHIZUKI & OHE, 1990	Etmopteridae	Squaliformes	31
<i>Oxynotus</i>	<i>bruniensis</i>	(OGILBY, 1893)	Oxynotidae	Squaliformes	47
<i>Oxynotus</i>	<i>caribbaeus</i>	CERVIGÓN, 1961	Oxynotidae	Squaliformes	22
<i>Oxynotus</i>	<i>centrina</i>	(LINNAEUS, 1758)	Oxynotidae	Squaliformes	195
<i>Oxynotus</i>	<i>japonicus</i>	YANO & MUROFUSHI, 1985	Oxynotidae	Squaliformes	12
<i>Oxynotus</i>	<i>paradoxus</i>	FRADE, 1929	Oxynotidae	Squaliformes	45
<i>Centroscymnus</i>	<i>coelolepis</i>	BARBOSA DU BOCAGE & DE BRITO CAPELLO, 1864	Somniosidae	Squaliformes	251
<i>Centroscymnus</i>	<i>owstonii</i>	GARMAN, 1906	Somniosidae	Squaliformes	147
<i>Centroselachus</i>	<i>crepidater</i>	(BARBOSA DU BOCAGE & DE BRITO CAPELLO, 1864)	Somniosidae	Squaliformes	181
<i>Scymnodalatias</i>	<i>albicauda</i>	TANIUCHI & GARRICK, 1986	Somniosidae	Squaliformes	25
<i>Scymnodalatias</i>	<i>garricki</i>	KUKUEV & KONOVALENKO, 1988	Somniosidae	Squaliformes	19
<i>Scymnodalatias</i>	<i>oligodon</i>	KUKUEV & KONOVALENKO, 1988	Somniosidae	Squaliformes	10
<i>Scymnodalatias</i>	<i>sherwoodi</i>	(ARCHEY, 1921)	Somniosidae	Squaliformes	24
<i>Scymnodon</i>	<i>ichiharai</i>	YANO & TANAKA, 1984	Somniosidae	Squaliformes	22
<i>Scymnodon</i>	<i>macracanthus</i>	(REGAN, 1906)	Somniosidae	Squaliformes	30
<i>Scymnodon</i>	<i>plunketi</i>	(WAITE, 1910)	Somniosidae	Squaliformes	61
<i>Scymnodon</i>	<i>ringens</i>	BARBOSA DU BOCAGE & DE BRITO CAPELLO, 1864	Somniosidae	Squaliformes	77
<i>Somniosus</i>	<i>antarcticus</i>	WHITLEY, 1939	Somniosidae	Squaliformes	33

<i>Somniosus</i>	<i>longus</i>	(TANAKA, 1912)	Somniosidae	Squaliformes	20
<i>Somniosus</i>	<i>microcephalus</i>	(BLOCH & SCHNEIDER, 1801)	Somniosidae	Squaliformes	258
<i>Somniosus</i>	<i>pacificus</i>	BIGELOW & SCHROEDER, 1944	Somniosidae	Squaliformes	109
<i>Somniosus</i>	<i>rostratus</i>	(RISSO, 1827)	Somniosidae	Squaliformes	88
<i>Zameus</i>	<i>squamulosus</i>	(GÜNTHER, 1877)	Somniosidae	Squaliformes	173
<i>Cirrhigaleus</i>	<i>asper</i>	(MERRETT, 1973)	Squalidae	Squaliformes	53
<i>Cirrhigaleus</i>	<i>australis</i>	WHITE, LAST & STEVENS, 2007	Squalidae	Squaliformes	16
<i>Cirrhigaleus</i>	<i>barbifer</i>	TANAKA, 1912	Squalidae	Squaliformes	43
<i>Squalus</i>	<i>acanthias</i>	LINNAEUS, 1758	Squalidae	Squaliformes	1499
<i>Squalus</i>	<i>acutipinnis</i>	REGAN, 1908	Squalidae	Squaliformes	10
<i>Squalus</i>	<i>albicaudus</i>	VIANA, DE CARVALHO & GOMES, 2016	Squalidae	Squaliformes	3
<i>Squalus</i>	<i>albifrons</i>	LAST, WHITE & STEVENS, 2007	Squalidae	Squaliformes	14
<i>Squalus</i>	<i>altipinnis</i>	LAST, WHITE & STEVENS, 2007	Squalidae	Squaliformes	6
<i>Squalus</i>	<i>bahiensis</i>	VIANA, DE CARVALHO & GOMES, 2016	Squalidae	Squaliformes	4
<i>Squalus</i>	<i>bassi</i>	VIANA, DE CARVALHO & EBERT, 2017	Squalidae	Squaliformes	1
<i>Squalus</i>	<i>blainville</i>	(RISSO, 1827)	Squalidae	Squaliformes	208
<i>Squalus</i>	<i>brevirostris</i>	TANAKA, 1917	Squalidae	Squaliformes	31
<i>Squalus</i>	<i>bucephalus</i>	LAST, SÉRET & POGONOSKI, 2007	Squalidae	Squaliformes	5
<i>Squalus</i>	<i>chloroculus</i>	LAST, WHITE & MOTOMURA, 2007	Squalidae	Squaliformes	14
<i>Squalus</i>	<i>clarkae</i>	PFLEGER, GRUBBS, COTTON & DALY-ENGEL, 2018	Squalidae	Squaliformes	1
<i>Squalus</i>	<i>crassispinus</i>	LAST, EDMUNDS & YEARSLEY, 2007	Squalidae	Squaliformes	13
<i>Squalus</i>	<i>cubensis</i>	HOWELL RIVERO, 1936	Squalidae	Squaliformes	91
<i>Squalus</i>	<i>edmundsi</i>	WHITE, LAST & STEVENS, 2007	Squalidae	Squaliformes	16
<i>Squalus</i>	<i>formosus</i>	WHITE & IGLÉSIAS, 2011	Squalidae	Squaliformes	7

<i>Squalus</i>	<i>grahami</i>	WHITE, LAST & STEVENS, 2007	Squalidae	Squaliformes	13
<i>Squalus</i>	<i>griffini</i>	PHILLIPPS, 1931	Squalidae	Squaliformes	21
<i>Squalus</i>	<i>hawaiiensis</i>	DALY-ENGEL, KOCH, ANDERSON, COTTON & GRUBBS, 2018	Squalidae	Squaliformes	1
<i>Squalus</i>	<i>hemipinnis</i>	WHITE, LAST & YEARSLEY, 2007	Squalidae	Squaliformes	16
<i>Squalus</i>	<i>japonicus</i>	ISHIKAWA, 1908	Squalidae	Squaliformes	41
<i>Squalus</i>	<i>lalannei</i>	BARANES, 2003	Squalidae	Squaliformes	5
<i>Squalus</i>	<i>lobularis</i>	VIANA, DE CARVALHO & GOMES, 2016	Squalidae	Squaliformes	3
<i>Squalus</i>	<i>mahia</i>	VIANA, LISHER & DE CARVALHO, 2017	Squalidae	Squaliformes	2
<i>Squalus</i>	<i>margaretsmithae</i>	VIANA, LISHER & DE CARVALHO, 2017	Squalidae	Squaliformes	1
<i>Squalus</i>	<i>megalops</i>	(MACLEAY, 1881)	Squalidae	Squaliformes	193
<i>Squalus</i>	<i>melanurus</i>	FOURMANOIR, 1979	Squalidae	Squaliformes	33
<i>Squalus</i>	<i>mitsukurii</i>	JORDAN & SNYDER, 1903	Squalidae	Squaliformes	167
<i>Squalus</i>	<i>montalbani</i>	WHITLEY, 1931	Squalidae	Squaliformes	30
<i>Squalus</i>	<i>nasutus</i>	LAST, MARSHALL & WHITE, 2007	Squalidae	Squaliformes	14
<i>Squalus</i>	<i>notocaudatus</i>	LAST, WHITE & STEVENS, 2007	Squalidae	Squaliformes	6
<i>Squalus</i>	<i>probatovi</i>	MYAGKOV & KONDYURIN, 1986	Squalidae	Squaliformes	3
<i>Squalus</i>	<i>quasimodo</i>	VIANA, DE CARVALHO & GOMES, 2016	Squalidae	Squaliformes	3
<i>Squalus</i>	<i>raoulensis</i>	DUFFY & LAST, 2007	Squalidae	Squaliformes	8
<i>Squalus</i>	<i>suckleyi</i>	(GIRARD, 1855)	Squalidae	Squaliformes	99
<i>Squatina</i>	<i>aculeata</i>	CUVIER, 1829	Squatinaidae	Squatiniiformes	77
<i>Squatina</i>	<i>africana</i>	REGAN, 1908	Squatinaidae	Squatiniiformes	45
<i>Squatina</i>	<i>albipunctata</i>	LAST & WHITE, 2008	Squatinaidae	Squatiniiformes	14
<i>Squatina</i>	<i>argentina</i>	(MARINI, 1930)	Squatinaidae	Squatiniiformes	42
<i>Squatina</i>	<i>armata</i>	(PHILIPPI, 1887)	Squatinaidae	Squatiniiformes	26

<i>Squatina</i>	<i>australis</i>	REGAN, 1906	Squatinidae	Squatiniformes	47
<i>Squatina</i>	<i>caillieti</i>	WALSH, EBERT & COMPAGNO, 2011	Squatinidae	Squatiniformes	3
<i>Squatina</i>	<i>californica</i>	AYRES, 1859	Squatinidae	Squatiniformes	125
<i>Squatina</i>	<i>david</i>	ACERO, TAVERA, ANGUILA & HERNÁNDEZ, 2016	Squatinidae	Squatiniformes	3
<i>Squatina</i>	<i>dumeril</i>	LESUEUR, 1818	Squatinidae	Squatiniformes	97
<i>Squatina</i>	<i>formosa</i>	SHEN & TING, 1972	Squatinidae	Squatiniformes	24
<i>Squatina</i>	<i>guggenheim</i>	MARINI, 1936	Squatinidae	Squatiniformes	82
<i>Squatina</i>	<i>heteroptera</i>	CASTRO-AGUIRRE, ESPINOSA PÉREZ & HUIDOBRO CAMPOS, 2007	Squatinidae	Squatiniformes	5
<i>Squatina</i>	<i>japonica</i>	BLEEKER, 1858	Squatinidae	Squatiniformes	57
<i>Squatina</i>	<i>legnota</i>	LAST & WHITE, 2008	Squatinidae	Squatiniformes	8
<i>Squatina</i>	<i>mexicana</i>	CASTRO-AGUIRRE, ESPINOSA PÉREZ & HUIDOBRO CAMPOS, 2007	Squatinidae	Squatiniformes	5
<i>Squatina</i>	<i>nebulosa</i>	REGAN, 1906	Squatinidae	Squatiniformes	40
<i>Squatina</i>	<i>occulta</i>	VOOREN & DA SILVA, 1991	Squatinidae	Squatiniformes	32
<i>Squatina</i>	<i>oculata</i>	BONAPARTE, 1840	Squatinidae	Squatiniformes	72
<i>Squatina</i>	<i>pseudocellata</i>	LAST & WHITE, 2008	Squatinidae	Squatiniformes	8
<i>Squatina</i>	<i>squatina</i>	(LINNAEUS, 1758)	Squatinidae	Squatiniformes	296
<i>Squatina</i>	<i>tergocellata</i>	MCCULLOCH, 1914	Squatinidae	Squatiniformes	26
<i>Squatina</i>	<i>tergocellatoides</i>	CHEN, 1963	Squatinidae	Squatiniformes	21
<i>Squatina</i>	<i>varii</i>	VAZ & DE CARVALHO, 2018	Squatinidae	Squatiniformes	1

3.3.3.2 "Top 20" most studied shark species

Genus	Species	Author	Family	Order	No or records
<i>Squalus</i>	<i>acanthias</i>	LINNAEUS, 1758	Squalidae	Squaliformes	1499
<i>Prionace</i>	<i>glauca</i>	(LINNAEUS, 1758)	Carcharhinidae	Carcharhiniformes	1274
<i>Carcharodon</i>	<i>carcharias</i>	(LINNAEUS, 1758)	Lamnidae	Lamniformes	1237
<i>Scyliorhinus</i>	<i>canicula</i>	(LINNAEUS, 1758)	Scyliorhinidae	Carcharhiniformes	1122
<i>Isurus</i>	<i>oxyrinchus</i>	RAFINESQUE, 1810	Lamnidae	Lamniformes	1109
<i>Galeocerdo</i>	<i>cuvier</i>	(PÉRON & LESUEUR, 1822)	Carcharhinidae	Carcharhiniformes	1003
<i>Sphyrna</i>	<i>lewini</i>	(GRIFFITH & SMITH, 1834)	Sphyrnidae	Carcharhiniformes	871
<i>Carcharhinus</i>	<i>leucas</i>	(MÜLLER & HENLE, 1839)	Carcharhinidae	Carcharhiniformes	809
<i>Carcharhinus</i>	<i>limbatus</i>	(MÜLLER & HENLE, 1839)	Carcharhinidae	Carcharhiniformes	795
<i>Carcharhinus</i>	<i>plumbeus</i>	(NARDO, 1827)	Carcharhinidae	Carcharhiniformes	795
<i>Rhincodon</i>	<i>typus</i>	SMITH, 1828	Rhincodontidae	Orectolobiformes	718
<i>Sphyrna</i>	<i>zygaena</i>	(LINNAEUS, 1758)	Sphyrnidae	Carcharhiniformes	705
<i>Carcharhinus</i>	<i>falciformis</i>	(MÜLLER & HENLE, 1839)	Carcharhinidae	Carcharhiniformes	671
<i>Galeorhinus</i>	<i>galeus</i>	(LINNAEUS, 1758)	Triakidae	Carcharhiniformes	654
<i>Carcharias</i>	<i>taurus</i>	RAFINESQUE, 1810	Odontaspidae	Lamniformes	633
<i>Alopias</i>	<i>vulpinus</i>	(BONNATERRE, 1788)	Alopiidae	Lamniformes	627
<i>Hexanchus</i>	<i>griseus</i>	(BONNATERRE, 1788)	Hexanchidae	Hexanchiformes	604
<i>Carcharhinus</i>	<i>obscurus</i>	(LESUEUR, 1818)	Carcharhinidae	Carcharhiniformes	594
<i>Cetorhinus</i>	<i>maximus</i>	(GUNNERUS, 1765)	Cetorhinidae	Lamniformes	576
<i>Negaprion</i>	<i>brevirostris</i>	(POEY, 1868)	Carcharhinidae	Carcharhiniformes	575

Order/Family	Number of Species	Number of Records
Carcharhiniformes	289	26849
Carcharhinidae	55	13624
Hemigaleidae	8	487
Leptochariidae	1	39
Pentanchidae	110	2689
Proscylliidae	6	195
Pseudotriakidae	5	182
Scyliorhinidae	49	2868
Sphyrnidae	9	2859
Triakidae	46	3906
Echinorhiniformes	2	339
Echinorhinidae	2	339
Heterodontiformes	9	700
Heterodontidae	9	700
Hexanchiformes	7	1627
Chlamydoselachidae	2	211
Hexanchidae	5	1416
Lamniformes	15	6494
Alopiidae	3	1345
Cetorhinidae	1	576
Lamnidae	5	3197
Megachasmidae	1	131
Mitsukurinidae	1	137
Odontaspidae	3	909
Pseudocarchariidae	1	199
Orectolobiformes	45	3542
Brachaeluridae	2	74
Ginglymostomatidae	4	785
Hemiscylliidae	17	991
Orectolobidae	12	476
Parascylliidae	8	151
Rhincodontidae	1	718
Stegostomatidae	1	347
Pristiophoriformes	8	289
Pristiophoridae	8	289
Squaliformes	138	9123
Centrophoridae	17	1584
Dalatiidae	9	963
Etmopteridae	52	2033
Oxynotidae	5	321
Somniosidae	17	1528
Squalidae	38	2694
Squatiniiformes	24	1156
Total:	537	50119

3.3.3.3 Complete list of taxonomically valid ray and skate species

Genus	Species	Author	Family	Order	No of records
<i>Aetobatus</i>	<i>flagellum</i>	(BLOCH & SCHNEIDER, 1801)	Aetobatidae	Myliobatiformes	69
<i>Aetobatus</i>	<i>laticeps</i>	(GILL, 1865)	Aetobatidae	Myliobatiformes	16
<i>Aetobatus</i>	<i>narinari</i>	(EUPHRASEN, 1790)	Aetobatidae	Myliobatiformes	441
<i>Aetobatus</i>	<i>narutobiei</i>	WHITE, FURUMITSU & YAMAGUCHI, 2013	Aetobatidae	Myliobatiformes	6
<i>Aetobatus</i>	<i>ocellatus</i>	(KUHL, 1823)	Aetobatidae	Myliobatiformes	99
<i>Bathytoshia</i>	<i>brevicaudata</i>	(HUTTON, 1875)	Dasyatidae	Myliobatiformes	132
<i>Bathytoshia</i>	<i>centroura</i>	(MITCHILL, 1815)	Dasyatidae	Myliobatiformes	216
<i>Bathytoshia</i>	<i>lata</i>	(GARMAN, 1880)	Dasyatidae	Myliobatiformes	124
<i>Brevitrygon</i>	<i>heterura</i>	(BLEEKER, 1852)	Dasyatidae	Myliobatiformes	6
<i>Brevitrygon</i>	<i>imbricata</i>	(BLOCH & SCHNEIDER, 1801)	Dasyatidae	Myliobatiformes	89
<i>Brevitrygon</i>	<i>javaensis</i>	(LAST & WHITE, 2013)	Dasyatidae	Myliobatiformes	5
<i>Brevitrygon</i>	<i>walga</i>	(MÜLLER & HENLE, 1841)	Dasyatidae	Myliobatiformes	81
<i>Dasyatis</i>	<i>chrysonota</i>	(SMITH, 1828)	Dasyatidae	Myliobatiformes	34
<i>Dasyatis</i>	<i>gigantea</i>	(LINDBERG, 1930)	Dasyatidae	Myliobatiformes	11
<i>Dasyatis</i>	<i>hastata</i>	(DEKAY, 1842)	Dasyatidae	Myliobatiformes	34
<i>Dasyatis</i>	<i>hypostigma</i>	SANTOS & CARVALHO, 2004	Dasyatidae	Myliobatiformes	30
<i>Dasyatis</i>	<i>marmorata</i>	(STEINDACHNER, 1892)	Dasyatidae	Myliobatiformes	45
<i>Dasyatis</i>	<i>pastinaca</i>	(LINNAEUS, 1758)	Dasyatidae	Myliobatiformes	327
<i>Dasyatis</i>	<i>tortonesei</i>	CAPAPÉ, 1975	Dasyatidae	Myliobatiformes	33
<i>Fluvitrygon</i>	<i>kittipongi</i>	(VIDTHAYANON & ROBERTS, 2005)	Dasyatidae	Myliobatiformes	15
<i>Fluvitrygon</i>	<i>oxyrhynchus</i>	(SAUVAGE, 1878)	Dasyatidae	Myliobatiformes	47
<i>Fluvitrygon</i>	<i>signifer</i>	(COMPAGNO & ROBERTS, 1982)	Dasyatidae	Myliobatiformes	52
<i>Fontitrygon</i>	<i>colarensis</i>	(SANTOS, GOMES & CHARVET-ALMEIDA, 2004)	Dasyatidae	Myliobatiformes	11
<i>Fontitrygon</i>	<i>garouaensis</i>	(STAUCH & BLANC, 1962)	Dasyatidae	Myliobatiformes	25
<i>Fontitrygon</i>	<i>geijskesi</i>	(BOESEMAN, 1948)	Dasyatidae	Myliobatiformes	29

<i>Fontitrygon</i>	<i>margarita</i>	(GÜNTHER, 1870)	Dasyatidae	Myliobatiformes	37
<i>Fontitrygon</i>	<i>margaritella</i>	(COMPAGNO & ROBERTS, 1984)	Dasyatidae	Myliobatiformes	24
<i>Fontitrygon</i>	<i>ukpam</i>	(SMITH, 1863)	Dasyatidae	Myliobatiformes	21
<i>Hemitrygon</i>	<i>akajei</i>	(MÜLLER & HENLE, 1841)	Dasyatidae	Myliobatiformes	160
<i>Hemitrygon</i>	<i>bennetti</i>	(MÜLLER & HENLE, 1841)	Dasyatidae	Myliobatiformes	55
<i>Hemitrygon</i>	<i>fluviorum</i>	(OGILBY, 1908)	Dasyatidae	Myliobatiformes	70
<i>Hemitrygon</i>	<i>izuensis</i>	(NISHIDA & NAKAYA, 1988)	Dasyatidae	Myliobatiformes	17
<i>Hemitrygon</i>	<i>laevigata</i>	CHU, 1960	Dasyatidae	Myliobatiformes	13
<i>Hemitrygon</i>	<i>laosensis</i>	(ROBERTS & KARNASUTA, 1987)	Dasyatidae	Myliobatiformes	22
<i>Hemitrygon</i>	<i>longicauda</i>	(LAST & WHITE, 2013)	Dasyatidae	Myliobatiformes	7
<i>Hemitrygon</i>	<i>navarrae</i>	(STEINDACHNER, 1892)	Dasyatidae	Myliobatiformes	18
<i>Hemitrygon</i>	<i>parvonigra</i>	(LAST & WHITE, 2008)	Dasyatidae	Myliobatiformes	12
<i>Hemitrygon</i>	<i>sinensis</i>	(STEINDACHNER, 1892)	Dasyatidae	Myliobatiformes	12
<i>Himantura</i>	<i>australis</i>	LAST, WHITE & NAYLOR, 2016	Dasyatidae	Myliobatiformes	11
<i>Himantura</i>	<i>leoparda</i>	MANJAJI-MATSUMOTO & LAST, 2008	Dasyatidae	Myliobatiformes	39
<i>Himantura</i>	<i>uarnak</i>	(FORSSKÅL, 1775)	Dasyatidae	Myliobatiformes	254
<i>Himantura</i>	<i>undulata</i>	(BLEEKER, 1852)	Dasyatidae	Myliobatiformes	66
<i>Hypanus</i>	<i>americanus</i>	(HILDEBRAND & SCHROEDER, 1928)	Dasyatidae	Myliobatiformes	199
<i>Hypanus</i>	<i>dipterurus</i>	(JORDAN & GILBERT, 1880)	Dasyatidae	Myliobatiformes	114
<i>Hypanus</i>	<i>guttatus</i>	(BLOCH & SCHNEIDER, 1801)	Dasyatidae	Myliobatiformes	114
<i>Hypanus</i>	<i>longus</i>	(GARMAN, 1880)	Dasyatidae	Myliobatiformes	93
<i>Hypanus</i>	<i>marianae</i>	(GOMES, ROSA & GADIG, 2000)	Dasyatidae	Myliobatiformes	27
<i>Hypanus</i>	<i>rudis</i>	(GÜNTHER, 1870)	Dasyatidae	Myliobatiformes	12
<i>Hypanus</i>	<i>sabinus</i>	(LESUEUR, 1824)	Dasyatidae	Myliobatiformes	234
<i>Hypanus</i>	<i>say</i>	(LESUEUR, 1817)	Dasyatidae	Myliobatiformes	119
<i>Maculabatis</i>	<i>ambigua</i>	LAST, BOGORODSKY & ALPERMANN, 2016	Dasyatidae	Myliobatiformes	6
<i>Maculabatis</i>	<i>arabica</i>	MANJAJI-MATSUMOTO & LAST, 2016	Dasyatidae	Myliobatiformes	4
<i>Maculabatis</i>	<i>astra</i>	(LAST, MANJAJI-MATSUMOTO & POGONOSKI, 2008)	Dasyatidae	Myliobatiformes	23
<i>Maculabatis</i>	<i>bineeshi</i>	MANJAJI-MATSUMOTO & LAST, 2016	Dasyatidae	Myliobatiformes	4

<i>Maculabatis</i>	<i>gerrardi</i>	(GRAY, 1851)	Dasyatidae	Myliobatiformes	144
<i>Maculabatis</i>	<i>macrura</i>	(BLEEKER, 1852)	Dasyatidae	Myliobatiformes	5
<i>Maculabatis</i>	<i>pastinacoides</i>	(BLEEKER, 1852)	Dasyatidae	Myliobatiformes	41
<i>Maculabatis</i>	<i>randalli</i>	(LAST, MANJAJI-MATSUMOTO & MOORE, 2012)	Dasyatidae	Myliobatiformes	12
<i>Maculabatis</i>	<i>toshi</i>	(WHITLEY, 1939)	Dasyatidae	Myliobatiformes	41
<i>Makararaja</i>	<i>chindwinensis</i>	ROBERTS, 2007	Dasyatidae	Myliobatiformes	6
<i>Megatrygon</i>	<i>microps</i>	(ANNANDALE, 1908)	Dasyatidae	Myliobatiformes	49
<i>Neotrygon</i>	<i>annotata</i>	(LAST, 1987)	Dasyatidae	Myliobatiformes	32
<i>Neotrygon</i>	<i>australiae</i>	LAST, WHITE & SÉRET, 2016	Dasyatidae	Myliobatiformes	10
<i>Neotrygon</i>	<i>bobwardi</i>	BORSA, ARLYZA, HOAREAU & SHEN, 2017	Dasyatidae	Myliobatiformes	1
<i>Neotrygon</i>	<i>caeruleopunctata</i>	LAST, WHITE & SÉRET, 2016	Dasyatidae	Myliobatiformes	12
<i>Neotrygon</i>	<i>indica</i>	PAVAN-KUMAR, KUMAR, PITALE, SHEN & BORSA, 2018	Dasyatidae	Myliobatiformes	2
<i>Neotrygon</i>	<i>kuhlii</i>	(MÜLLER & HENLE, 1841)	Dasyatidae	Myliobatiformes	247
<i>Neotrygon</i>	<i>leylandi</i>	(LAST, 1987)	Dasyatidae	Myliobatiformes	29
<i>Neotrygon</i>	<i>malaccensis</i>	BORSA, ARLYZA, HOAREAU & SHEN, 2017	Dasyatidae	Myliobatiformes	1
<i>Neotrygon</i>	<i>moluccensis</i>	BORSA, ARLYZA, HOAREAU & SHEN, 2017	Dasyatidae	Myliobatiformes	1
<i>Neotrygon</i>	<i>ningalooensis</i>	LAST, WHITE, & PUCKRIDGE, 2010	Dasyatidae	Myliobatiformes	8
<i>Neotrygon</i>	<i>orientale</i>	LAST, WHITE & SÉRET, 2016	Dasyatidae	Myliobatiformes	9
<i>Neotrygon</i>	<i>picta</i>	LAST & WHITE, 2008	Dasyatidae	Myliobatiformes	18
<i>Neotrygon</i>	<i>trigonoides</i>	(CASTELNAU, 1873)	Dasyatidae	Myliobatiformes	12
<i>Neotrygon</i>	<i>vali</i>	BORSA, 2017	Dasyatidae	Myliobatiformes	1
<i>Neotrygon</i>	<i>varidens</i>	(GARMAN, 1885)	Dasyatidae	Myliobatiformes	8
<i>Neotrygon</i>	<i>westpapuensis</i>	BORSA, ARLYZA, HOAREAU & SHEN, 2017	Dasyatidae	Myliobatiformes	3
<i>Pastinachus</i>	<i>ater</i>	(MACLEAY, 1883)	Dasyatidae	Myliobatiformes	54
<i>Pastinachus</i>	<i>gracilicaudus</i>	LAST & MANJAJI-MATSUMOTO, 2010	Dasyatidae	Myliobatiformes	12
<i>Pastinachus</i>	<i>sephen</i>	(FORSSKÅL, 1775)	Dasyatidae	Myliobatiformes	267
<i>Pastinachus</i>	<i>solocirostris</i>	LAST, MANJAJI & YEARSLEY, 2005	Dasyatidae	Myliobatiformes	19
<i>Pastinachus</i>	<i>stellurostris</i>	LAST, FAHMI & NAYLOR, 2010	Dasyatidae	Myliobatiformes	9

<i>Pateobatis</i>	<i>bleekeri</i>	(BLYTH, 1860)	Dasyatidae	Myliobatiformes	51
<i>Pateobatis</i>	<i>fai</i>	(JORDAN & SEALE, 1906)	Dasyatidae	Myliobatiformes	115
<i>Pateobatis</i>	<i>hortlei</i>	(LAST, MANJAJI-MATSUMOTO & KAILOLA, 2006)	Dasyatidae	Myliobatiformes	14
<i>Pateobatis</i>	<i>jenkinsii</i>	(ANNANDALE, 1909)	Dasyatidae	Myliobatiformes	82
<i>Pateobatis</i>	<i>uarnacoides</i>	(BLEEKER, 1852)	Dasyatidae	Myliobatiformes	65
<i>Pteroplatytrygon</i>	<i>violacea</i>	(BONAPARTE, 1832)	Dasyatidae	Myliobatiformes	278
<i>Taeniura</i>	<i>lessoni</i>	LAST, WHITE & NAYLOR, 2016	Dasyatidae	Myliobatiformes	6
<i>Taeniura</i>	<i>lymma</i>	(FORSSKÅL, 1775)	Dasyatidae	Myliobatiformes	223
<i>Taeniurops</i>	<i>grabatus</i>	(GEOFFROY SAINT-HILAIRE, 1817)	Dasyatidae	Myliobatiformes	61
<i>Taeniurops</i>	<i>meyeni</i>	(MÜLLER & HENLE, 1841)	Dasyatidae	Myliobatiformes	159
<i>Telatrygon</i>	<i>acutirostra</i>	(NISHIDA & NAKAYA, 1988)	Dasyatidae	Myliobatiformes	27
<i>Telatrygon</i>	<i>biasa</i>	LAST, WHITE & NAYLOR, 2016	Dasyatidae	Myliobatiformes	6
<i>Telatrygon</i>	<i>crozieri</i>	(BLYTH, 1860)	Dasyatidae	Myliobatiformes	3
<i>Telatrygon</i>	<i>zugei</i>	(MÜLLER & HENLE, 1841)	Dasyatidae	Myliobatiformes	118
<i>Urogymnus</i>	<i>acanthobothrium</i>	LAST, WHITE & KYNE, 2016	Dasyatidae	Myliobatiformes	5
<i>Urogymnus</i>	<i>asperrimus</i>	(BLOCH & SCHNEIDER, 1801)	Dasyatidae	Myliobatiformes	141
<i>Urogymnus</i>	<i>dalyensis</i>	(LAST & MANJAJI-MATSUMOTO, 2008)	Dasyatidae	Myliobatiformes	18
<i>Urogymnus</i>	<i>granulatus</i>	(MACLEAY, 1883)	Dasyatidae	Myliobatiformes	85
<i>Urogymnus</i>	<i>lobistoma</i>	(MANJAJI-MATSUMOTO & LAST, 2006)	Dasyatidae	Myliobatiformes	14
<i>Urogymnus</i>	<i>polylepis</i>	(BLEEKER, 1852)	Dasyatidae	Myliobatiformes	53
<i>Gymnura</i>	<i>altavela</i>	(LINNAEUS, 1758)	Gymnuridae	Myliobatiformes	195
<i>Gymnura</i>	<i>australis</i>	(RAMSAY & OGILBY, 1886)	Gymnuridae	Myliobatiformes	43
<i>Gymnura</i>	<i>crebripunctata</i>	(PETERS, 1869)	Gymnuridae	Myliobatiformes	33
<i>Gymnura</i>	<i>japonica</i>	(TEMMINCK & SCHLEGEL, 1850)	Gymnuridae	Myliobatiformes	72
<i>Gymnura</i>	<i>lessae</i>	YOKOTA & DE CARVALHO, 2017	Gymnuridae	Myliobatiformes	2
<i>Gymnura</i>	<i>marmorata</i>	(COOPER, 1864)	Gymnuridae	Myliobatiformes	80
<i>Gymnura</i>	<i>micrura</i>	(BLOCH & SCHNEIDER, 1801)	Gymnuridae	Myliobatiformes	154
<i>Gymnura</i>	<i>natalensis</i>	(GILCHRIST & THOMPSON, 1911)	Gymnuridae	Myliobatiformes	31
<i>Gymnura</i>	<i>poecilura</i>	(SHAW, 1804)	Gymnuridae	Myliobatiformes	94

<i>Gymnura</i>	<i>sereti</i>	YOKOTA & DE CARVALHO, 2017	Gymnuridae	Myliobatiformes	1
<i>Gymnura</i>	<i>tentaculata</i>	(MÜLLER & HENLE, 1841)	Gymnuridae	Myliobatiformes	26
<i>Gymnura</i>	<i>zonura</i>	(BLEEKER, 1852)	Gymnuridae	Myliobatiformes	42
<i>Hexatrygon</i>	<i>bickelli</i>	HEEMSTRA & SMITH, 1980	Hexatrygonidae	Myliobatiformes	51
<i>Mobula</i>	<i>alfredi</i>	(KREFFT, 1868)	Mobulidae	Myliobatiformes	114
<i>Mobula</i>	<i>birostris</i>	(WALBAUM, 1792)	Mobulidae	Myliobatiformes	367
<i>Mobula</i>	<i>hypostoma</i>	(BANCROFT, 1831)	Mobulidae	Myliobatiformes	125
<i>Mobula</i>	<i>kuhlii</i>	(MÜLLER & HENLE, 1841)	Mobulidae	Myliobatiformes	157
<i>Mobula</i>	<i>mobular</i>	(BONNATERRE, 1788)	Mobulidae	Myliobatiformes	363
<i>Mobula</i>	<i>munkiana</i>	NOTARBARTOLO DI SCIARA, 1987	Mobulidae	Myliobatiformes	52
<i>Mobula</i>	<i>tarapacana</i>	(PHILIPPI, 1892)	Mobulidae	Myliobatiformes	132
<i>Mobula</i>	<i>thurstoni</i>	(LLOYD, 1908)	Mobulidae	Myliobatiformes	131
<i>Aetomylaeus</i>	<i>asperrimus</i>	(GILBERT, 1898)	Myliobatidae	Myliobatiformes	20
<i>Aetomylaeus</i>	<i>bovinus</i>	(GEOFFROY SAINT-HILAIRE, 1817)	Myliobatidae	Myliobatiformes	138
<i>Aetomylaeus</i>	<i>caeruleofasciatus</i>	WHITE, LAST & BAJE, 2015	Myliobatidae	Myliobatiformes	6
<i>Aetomylaeus</i>	<i>maculatus</i>	(GRAY, 1834)	Myliobatidae	Myliobatiformes	72
<i>Aetomylaeus</i>	<i>milvus</i>	(MÜLLER & HENLE, 1841)	Myliobatidae	Myliobatiformes	42
<i>Aetomylaeus</i>	<i>nichofii</i>	(BLOCH & SCHNEIDER, 1801)	Myliobatidae	Myliobatiformes	128
<i>Aetomylaeus</i>	<i>vespertilio</i>	(BLEEKER, 1852)	Myliobatidae	Myliobatiformes	64
<i>Myliobatis</i>	<i>aquila</i>	(LINNAEUS, 1758)	Myliobatidae	Myliobatiformes	272
<i>Myliobatis</i>	<i>californica</i>	GILL, 1865	Myliobatidae	Myliobatiformes	146
<i>Myliobatis</i>	<i>chilensis</i>	PHILIPPI, 1892	Myliobatidae	Myliobatiformes	26
<i>Myliobatis</i>	<i>freminvillei</i>	LESUEUR, 1824	Myliobatidae	Myliobatiformes	103
<i>Myliobatis</i>	<i>goodei</i>	GARMAN, 1885	Myliobatidae	Myliobatiformes	82
<i>Myliobatis</i>	<i>hamlyni</i>	OGILBY, 1911	Myliobatidae	Myliobatiformes	24
<i>Myliobatis</i>	<i>longirostris</i>	APPLEGATE & FITCH, 1964	Myliobatidae	Myliobatiformes	33
<i>Myliobatis</i>	<i>peruvianus</i>	GARMAN, 1913	Myliobatidae	Myliobatiformes	20
<i>Myliobatis</i>	<i>ridens</i>	RUOCCO, LUCIFORA, DE ASTARLOA, MABRAGAÑA & DELPIANI, 2012	Myliobatidae	Myliobatiformes	14

<i>Myliobatis</i>	<i>tenuicaudatus</i>	HECTOR, 1877	Myliobatidae	Myliobatiformes	91
<i>Myliobatis</i>	<i>tobijeii</i>	BLEEKER, 1854	Myliobatidae	Myliobatiformes	63
<i>Plesiobatis</i>	<i>daviesi</i>	(WALLACE, 1967)	Plesiobatididae	Myliobatiformes	77
<i>Styracura</i>	<i>pacifica</i>	(BEEBE & TEE-VAN, 1941)	Potamotrygonidae	Myliobatiformes	34
<i>Styracura</i>	<i>schmardae</i>	(WERNER, 1904)	Potamotrygonidae	Myliobatiformes	61
<i>Rhinoptera</i>	<i>bonasus</i>	(MITCHILL, 1815)	Rhinopteridae	Myliobatiformes	266
<i>Rhinoptera</i>	<i>brasiliensis</i>	MÜLLER, 1836	Rhinopteridae	Myliobatiformes	54
<i>Rhinoptera</i>	<i>javanica</i>	MÜLLER & HENLE, 1841	Rhinopteridae	Myliobatiformes	133
<i>Rhinoptera</i>	<i>jayakari</i>	BOULENGER, 1895	Rhinopteridae	Myliobatiformes	38
<i>Rhinoptera</i>	<i>marginata</i>	(GEOFFROY SAINT-HILAIRE, 1817)	Rhinopteridae	Myliobatiformes	60
<i>Rhinoptera</i>	<i>neglecta</i>	OGILBY, 1912	Rhinopteridae	Myliobatiformes	35
<i>Rhinoptera</i>	<i>peli</i>	BLEEKER, 1863	Rhinopteridae	Myliobatiformes	9
<i>Rhinoptera</i>	<i>steindachneri</i>	EVERMANN & JENKINS, 1891	Rhinopteridae	Myliobatiformes	79
<i>Spinilophus</i>	<i>armatus</i>	(MÜLLER & HENLE, 1841)	Urolophidae	Myliobatiformes	25
<i>Trygonoptera</i>	<i>galba</i>	LAST & YEARSLEY, 2008	Urolophidae	Myliobatiformes	6
<i>Trygonoptera</i>	<i>imitata</i>	YEARSLEY, LAST & GOMON, 2008	Urolophidae	Myliobatiformes	11
<i>Trygonoptera</i>	<i>mucosa</i>	(WHITLEY, 1939)	Urolophidae	Myliobatiformes	22
<i>Trygonoptera</i>	<i>ovalis</i>	LAST & GOMON, 1987	Urolophidae	Myliobatiformes	14
<i>Trygonoptera</i>	<i>personata</i>	LAST & GOMON, 1987	Urolophidae	Myliobatiformes	20
<i>Trygonoptera</i>	<i>testacea</i>	MÜLLER & HENLE, 1841	Urolophidae	Myliobatiformes	62
<i>Urolophus</i>	<i>aurantiacus</i>	MÜLLER & HENLE, 1841	Urolophidae	Myliobatiformes	46
<i>Urolophus</i>	<i>bucculentus</i>	MACLEAY, 1884	Urolophidae	Myliobatiformes	34
<i>Urolophus</i>	<i>circularis</i>	McKAY, 1966	Urolophidae	Myliobatiformes	12
<i>Urolophus</i>	<i>cruciatus</i>	(LACEPÈDE, 1804)	Urolophidae	Myliobatiformes	52
<i>Urolophus</i>	<i>deforgesii</i>	SÉRET & LAST, 2003	Urolophidae	Myliobatiformes	9
<i>Urolophus</i>	<i>expansus</i>	MCCULLOCH, 1916	Urolophidae	Myliobatiformes	25
<i>Urolophus</i>	<i>flavomosaicus</i>	LAST & GOMON, 1987	Urolophidae	Myliobatiformes	15
<i>Urolophus</i>	<i>gigas</i>	SCOTT, 1954	Urolophidae	Myliobatiformes	16
<i>Urolophus</i>	<i>javanicus</i>	(MARTENS, 1864)	Urolophidae	Myliobatiformes	12
<i>Urolophus</i>	<i>kaianus</i>	GÜNTHER, 1880	Urolophidae	Myliobatiformes	11

<i>Urolophus</i>	<i>kapalensis</i>	YEARSLEY & LAST, 2006	Urolophidae	Myliobatiformes	11
<i>Urolophus</i>	<i>lobatus</i>	MCKAY, 1966	Urolophidae	Myliobatiformes	21
<i>Urolophus</i>	<i>mitosis</i>	LAST & GOMON, 1987	Urolophidae	Myliobatiformes	11
<i>Urolophus</i>	<i>neocaledoniensis</i>	SÉRET & LAST, 2003	Urolophidae	Myliobatiformes	9
<i>Urolophus</i>	<i>orarius</i>	LAST & GOMON, 1987	Urolophidae	Myliobatiformes	11
<i>Urolophus</i>	<i>papilio</i>	SÉRET & LAST, 2003	Urolophidae	Myliobatiformes	7
<i>Urolophus</i>	<i>paucimaculatus</i>	DIXON, 1969	Urolophidae	Myliobatiformes	44
<i>Urolophus</i>	<i>piperatus</i>	SÉRET & LAST, 2003	Urolophidae	Myliobatiformes	12
<i>Urolophus</i>	<i>sufflavus</i>	WHITLEY, 1929	Urolophidae	Myliobatiformes	18
<i>Urolophus</i>	<i>viridis</i>	MCCULLOCH, 1916	Urolophidae	Myliobatiformes	26
<i>Urolophus</i>	<i>westraliensis</i>	LAST & GOMON, 1987	Urolophidae	Myliobatiformes	14
<i>Urobatis</i>	<i>concentricus</i>	OSBURN & NICHOLS, 1916	Urotrygonidae	Myliobatiformes	30
<i>Urobatis</i>	<i>halleri</i>	(COOPER, 1863)	Urotrygonidae	Myliobatiformes	184
<i>Urobatis</i>	<i>jamaicensis</i>	(CUVIER, 1816)	Urotrygonidae	Myliobatiformes	135
<i>Urobatis</i>	<i>maculatus</i>	GARMAN, 1913	Urotrygonidae	Myliobatiformes	31
<i>Urobatis</i>	<i>marmoratus</i>	(PHILIPPI, 1892)	Urotrygonidae	Myliobatiformes	11
<i>Urobatis</i>	<i>pardalis</i>	DEL MORAL-FLORES, ANGULO, LÓPEZ & BUSSING, 2015	Urotrygonidae	Myliobatiformes	5
<i>Urobatis</i>	<i>tumbesensis</i>	(CHIRICHIGNO & McEACHRAN, 1979)	Urotrygonidae	Myliobatiformes	23
<i>Urotrygon</i>	<i>aspidura</i>	(JORDAN & GILBERT, 1882)	Urotrygonidae	Myliobatiformes	57
<i>Urotrygon</i>	<i>chilensis</i>	(GÜNTHER, 1872)	Urotrygonidae	Myliobatiformes	69
<i>Urotrygon</i>	<i>cimar</i>	LÓPEZ & BUSSING, 1998	Urotrygonidae	Myliobatiformes	15
<i>Urotrygon</i>	<i>microphthalmum</i>	DELSMAN, 1941	Urotrygonidae	Myliobatiformes	36
<i>Urotrygon</i>	<i>munda</i>	GILL, 1863	Urotrygonidae	Myliobatiformes	71
<i>Urotrygon</i>	<i>nana</i>	MIYAKE & McEACHRAN, 1988	Urotrygonidae	Myliobatiformes	32
<i>Urotrygon</i>	<i>reticulata</i>	MIYAKE & McEACHRAN, 1988	Urotrygonidae	Myliobatiformes	16
<i>Urotrygon</i>	<i>rogersi</i>	(JORDAN & STARKS, 1895)	Urotrygonidae	Myliobatiformes	67
<i>Urotrygon</i>	<i>simulatrix</i>	MIYAKE & McEACHRAN, 1988	Urotrygonidae	Myliobatiformes	17
<i>Urotrygon</i>	<i>venezuelae</i>	SCHULTZ, 1949	Urotrygonidae	Myliobatiformes	34
<i>Anacanthobatis</i>	<i>marmorata</i>	(VON BONDE & SWART, 1923)	Anacanthobatidae	Rajiformes	24

<i>Indobatis</i>	<i>ori</i>	(WALLACE, 1967)	Anacanthobatidae	Rajiformes	22
<i>Schroederobatis</i>	<i>americana</i>	(BIGELOW & SCHROEDER, 1962)	Anacanthobatidae	Rajiformes	26
<i>Sinobatis</i>	<i>andamanensis</i>	LAST & BUSSARAWIT, 2016	Anacanthobatidae	Rajiformes	5
<i>Sinobatis</i>	<i>borneensis</i>	(CHAN, 1965)	Anacanthobatidae	Rajiformes	46
<i>Sinobatis</i>	<i>brevicauda</i>	WEIGMANN & STEHMANN, 2016	Anacanthobatidae	Rajiformes	4
<i>Sinobatis</i>	<i>bulbicauda</i>	LAST & SÉRET, 2008	Anacanthobatidae	Rajiformes	9
<i>Sinobatis</i>	<i>caerulea</i>	LAST & SÉRET, 2008	Anacanthobatidae	Rajiformes	6
<i>Sinobatis</i>	<i>filicauda</i>	LAST & SÉRET, 2008	Anacanthobatidae	Rajiformes	7
<i>Sinobatis</i>	<i>kotlyari</i>	STEHMANN & WEIGMANN, 2016	Anacanthobatidae	Rajiformes	3
<i>Sinobatis</i>	<i>melanosoma</i>	(CHAN, 1965)	Anacanthobatidae	Rajiformes	16
<i>Sinobatis</i>	<i>stenosoma</i>	(LI & HU, 1982)	Anacanthobatidae	Rajiformes	12
<i>Springeria</i>	<i>folirostris</i>	BIGELOW & SCHROEDER, 1951	Anacanthobatidae	Rajiformes	21
<i>Springeria</i>	<i>longirostris</i>	BIGELOW & SCHROEDER, 1962	Anacanthobatidae	Rajiformes	20
<i>Arhynchobatis</i>	<i>asperrimus</i>	WAITE, 1909	Arhynchobatidae	Rajiformes	22
<i>Atlantoraja</i>	<i>castelnaui</i>	(MIRANDA RIBEIRO, 1907)	Arhynchobatidae	Rajiformes	86
<i>Atlantoraja</i>	<i>cyclophora</i>	(REGAN, 1903)	Arhynchobatidae	Rajiformes	77
<i>Atlantoraja</i>	<i>platana</i>	(GÜNTHER, 1880)	Arhynchobatidae	Rajiformes	52
<i>Bathyraja</i>	<i>abyssicola</i>	(GILBERT, 1896)	Arhynchobatidae	Rajiformes	50
<i>Bathyraja</i>	<i>aguja</i>	(KENDALL & RADCLIFFE, 1912)	Arhynchobatidae	Rajiformes	16
<i>Bathyraja</i>	<i>albomaculata</i>	(NORMAN, 1937)	Arhynchobatidae	Rajiformes	61
<i>Bathyraja</i>	<i>aleutica</i>	(GILBERT, 1896)	Arhynchobatidae	Rajiformes	71
<i>Bathyraja</i>	<i>andriashevi</i>	DOLGANOV, 1983	Arhynchobatidae	Rajiformes	15
<i>Bathyraja</i>	<i>bergi</i>	DOLGANOV, 1983	Arhynchobatidae	Rajiformes	24
<i>Bathyraja</i>	<i>brachyurops</i>	(FOWLER, 1910)	Arhynchobatidae	Rajiformes	77
<i>Bathyraja</i>	<i>cousseauae</i>	DÍAZ DE ASTARLOA & MABRAGAÑA, 2004	Arhynchobatidae	Rajiformes	22
<i>Bathyraja</i>	<i>diploaenia</i>	(ISHIYAMA, 1952)	Arhynchobatidae	Rajiformes	26
<i>Bathyraja</i>	<i>eatonii</i>	(GÜNTHER, 1876)	Arhynchobatidae	Rajiformes	37
<i>Bathyraja</i>	<i>fedorovi</i>	DOLGANOV, 1983	Arhynchobatidae	Rajiformes	17
<i>Bathyraja</i>	<i>griseocauda</i>	(NORMAN, 1937)	Arhynchobatidae	Rajiformes	48
<i>Bathyraja</i>	<i>hesperafricana</i>	STEHMANN, 1995	Arhynchobatidae	Rajiformes	11

<i>Bathyraja</i>	<i>interrupta</i>	(GILL & TOWNSEND, 1897)	Arhynchobatidae	Rajiformes	58
<i>Bathyraja</i>	<i>irrasa</i>	HUREAU & OZOUF-COSTAZ, 1980	Arhynchobatidae	Rajiformes	15
<i>Bathyraja</i>	<i>ishiharai</i>	STEHMANN, 2005	Arhynchobatidae	Rajiformes	8
<i>Bathyraja</i>	<i>isotrachys</i>	(GÜNTHER, 1877)	Arhynchobatidae	Rajiformes	38
<i>Bathyraja</i>	<i>kincaidii</i>	(GARMAN, 1908)	Arhynchobatidae	Rajiformes	40
<i>Bathyraja</i>	<i>leucomelanos</i>	IGLÉSIAS & LÉVY-HARTMANN, 2012	Arhynchobatidae	Rajiformes	4
<i>Bathyraja</i>	<i>lindbergi</i>	ISHIYAMA & ISHIHARA, 1977	Arhynchobatidae	Rajiformes	25
<i>Bathyraja</i>	<i>longicauda</i>	(DE BUEN, 1959)	Arhynchobatidae	Rajiformes	17
<i>Bathyraja</i>	<i>maccaini</i>	SPRINGER, 1971	Arhynchobatidae	Rajiformes	25
<i>Bathyraja</i>	<i>macloviana</i>	(NORMAN, 1937)	Arhynchobatidae	Rajiformes	59
<i>Bathyraja</i>	<i>maculata</i>	ISHIYAMA & ISHIHARA, 1977	Arhynchobatidae	Rajiformes	36
<i>Bathyraja</i>	<i>magellanica</i>	(PHILIPPI, 1902)	Arhynchobatidae	Rajiformes	46
<i>Bathyraja</i>	<i>mariposa</i>	STEVENSON, ORR, HOFF & McEACHRAN, 2004	Arhynchobatidae	Rajiformes	16
<i>Bathyraja</i>	<i>matsubarai</i>	(ISHIYAMA, 1952)	Arhynchobatidae	Rajiformes	40
<i>Bathyraja</i>	<i>meridionalis</i>	STEHMANN, 1987	Arhynchobatidae	Rajiformes	16
<i>Bathyraja</i>	<i>microtrachys</i>	(OSBURN & NICHOLS, 1916)	Arhynchobatidae	Rajiformes	17
<i>Bathyraja</i>	<i>minispinosa</i>	ISHIYAMA & ISHIHARA, 1977	Arhynchobatidae	Rajiformes	40
<i>Bathyraja</i>	<i>multispinis</i>	(NORMAN, 1937)	Arhynchobatidae	Rajiformes	45
<i>Bathyraja</i>	<i>murrayi</i>	(GÜNTHER, 1880)	Arhynchobatidae	Rajiformes	19
<i>Bathyraja</i>	<i>notoroensis</i>	ISHIYAMA & ISHIHARA, 1977	Arhynchobatidae	Rajiformes	11
<i>Bathyraja</i>	<i>pacifica</i>	LAST, STEWART & SÉRET, 2016	Arhynchobatidae	Rajiformes	5
<i>Bathyraja</i>	<i>pallida</i>	(FORSTER, 1967)	Arhynchobatidae	Rajiformes	26
<i>Bathyraja</i>	<i>panthera</i>	ORR, STEVENSON, HOFF, SPIES & MCEACHRAN, 2011	Arhynchobatidae	Rajiformes	7
<i>Bathyraja</i>	<i>papilionifera</i>	STEHMANN, 1985	Arhynchobatidae	Rajiformes	18
<i>Bathyraja</i>	<i>parmifera</i>	(BEAN, 1881)	Arhynchobatidae	Rajiformes	80
<i>Bathyraja</i>	<i>peruana</i>	McEACHRAN & MIYAKE, 1984	Arhynchobatidae	Rajiformes	20
<i>Bathyraja</i>	<i>richardsoni</i>	(GARRICK, 1961)	Arhynchobatidae	Rajiformes	53
<i>Bathyraja</i>	<i>scaphiops</i>	(NORMAN, 1937)	Arhynchobatidae	Rajiformes	38

<i>Bathyraja</i>	<i>schroederi</i>	(KREFFT, 1968)	Arhynchobatidae	Rajiformes	30
<i>Bathyraja</i>	<i>shuntovi</i>	DOLGANOV, 1985	Arhynchobatidae	Rajiformes	15
<i>Bathyraja</i>	<i>simoterus</i>	(ISHIYAMA, 1967)	Arhynchobatidae	Rajiformes	11
<i>Bathyraja</i>	<i>smirnovi</i>	(SOLDATOV & PAVLENKO, 1915)	Arhynchobatidae	Rajiformes	32
<i>Bathyraja</i>	<i>smithii</i>	(MÜLLER & HENLE, 1841)	Arhynchobatidae	Rajiformes	42
<i>Bathyraja</i>	<i>spinicauda</i>	(JENSEN, 1914)	Arhynchobatidae	Rajiformes	66
<i>Bathyraja</i>	<i>spinosissima</i>	(BEEBE & TEE-VAN, 1941)	Arhynchobatidae	Rajiformes	26
<i>Bathyraja</i>	<i>taranetzi</i>	(DOLGANOV, 1983)	Arhynchobatidae	Rajiformes	42
<i>Bathyraja</i>	<i>trachouros</i>	(ISHIYAMA, 1958)	Arhynchobatidae	Rajiformes	18
<i>Bathyraja</i>	<i>trachura</i>	(GILBERT, 1892)	Arhynchobatidae	Rajiformes	56
<i>Bathyraja</i>	<i>tunae</i>	STEHMANN, 2005	Arhynchobatidae	Rajiformes	7
<i>Bathyraja</i>	<i>tzinovskii</i>	DOLGANOV, 1983	Arhynchobatidae	Rajiformes	16
<i>Bathyraja</i>	<i>violacea</i>	(SUVOROV, 1935)	Arhynchobatidae	Rajiformes	36
<i>Brochiraja</i>	<i>aenigma</i>	LAST & McEACHRAN, 2006	Arhynchobatidae	Rajiformes	6
<i>Brochiraja</i>	<i>albilabiata</i>	LAST & McEACHRAN, 2006	Arhynchobatidae	Rajiformes	10
<i>Brochiraja</i>	<i>asperula</i>	(GARRICK & PAUL, 1974)	Arhynchobatidae	Rajiformes	20
<i>Brochiraja</i>	<i>heuresa</i>	LAST & SÉRET, 2012	Arhynchobatidae	Rajiformes	6
<i>Brochiraja</i>	<i>leviveneta</i>	LAST & McEACHRAN, 2006	Arhynchobatidae	Rajiformes	10
<i>Brochiraja</i>	<i>microspinifera</i>	LAST & McEACHRAN, 2006	Arhynchobatidae	Rajiformes	10
<i>Brochiraja</i>	<i>spinifera</i>	(GARRICK & PAUL, 1974)	Arhynchobatidae	Rajiformes	17
<i>Brochiraja</i>	<i>vittacauda</i>	LAST & SÉRET, 2012	Arhynchobatidae	Rajiformes	6
<i>Insentiraja</i>	<i>laxipella</i>	(YEARSLEY & LAST, 1992)	Arhynchobatidae	Rajiformes	11
<i>Insentiraja</i>	<i>subtilispinosa</i>	(STEHMANN, 1989)	Arhynchobatidae	Rajiformes	17
<i>Irolita</i>	<i>waitii</i>	(MCCULLOCH, 1911)	Arhynchobatidae	Rajiformes	21
<i>Irolita</i>	<i>westraliensis</i>	LAST & GLEDHILL, 2008	Arhynchobatidae	Rajiformes	7
<i>Notoraja</i>	<i>alisae</i>	SÉRET & LAST, 2012	Arhynchobatidae	Rajiformes	6
<i>Notoraja</i>	<i>azurea</i>	McEACHRAN & LAST, 2008	Arhynchobatidae	Rajiformes	8
<i>Notoraja</i>	<i>fijiensis</i>	SÉRET & LAST, 2012	Arhynchobatidae	Rajiformes	4
<i>Notoraja</i>	<i>hirticauda</i>	LAST & McEACHRAN, 2006	Arhynchobatidae	Rajiformes	6

<i>Notoraja</i>	<i>inusitata</i>	SÉRET & LAST, 2012	Arhynchobatidae	Rajiformes	4
<i>Notoraja</i>	<i>lira</i>	McEACHRAN & LAST, 2008	Arhynchobatidae	Rajiformes	5
<i>Notoraja</i>	<i>longiventralis</i>	SÉRET & LAST, 2012	Arhynchobatidae	Rajiformes	4
<i>Notoraja</i>	<i>martinezi</i>	CONCHA, EBERT & LONG, 2016	Arhynchobatidae	Rajiformes	5
<i>Notoraja</i>	<i>ochroderma</i>	McEACHRAN & LAST, 1994	Arhynchobatidae	Rajiformes	15
<i>Notoraja</i>	<i>sapphira</i>	SÉRET & LAST, 2009	Arhynchobatidae	Rajiformes	9
<i>Notoraja</i>	<i>sereti</i>	WHITE, LAST & MANA, 2017	Arhynchobatidae	Rajiformes	3
<i>Notoraja</i>	<i>sticta</i>	McEACHRAN & LAST, 2008	Arhynchobatidae	Rajiformes	6
<i>Notoraja</i>	<i>tobitukai</i>	(HIYAMA, 1940)	Arhynchobatidae	Rajiformes	27
<i>Pavoraja</i>	<i>alleni</i>	McEACHRAN & FECHHELM, 1982	Arhynchobatidae	Rajiformes	13
<i>Pavoraja</i>	<i>arenaria</i>	LAST, MALLICK & YEARSLEY, 2008	Arhynchobatidae	Rajiformes	6
<i>Pavoraja</i>	<i>mosaica</i>	LAST, MALLICK & YEARSLEY, 2008	Arhynchobatidae	Rajiformes	7
<i>Pavoraja</i>	<i>nitida</i>	(GÜNTHER, 1880)	Arhynchobatidae	Rajiformes	31
<i>Pavoraja</i>	<i>pseudonitida</i>	LAST, MALLICK & YEARSLEY, 2008	Arhynchobatidae	Rajiformes	7
<i>Pavoraja</i>	<i>umbrosa</i>	LAST, MALLICK & YEARSLEY, 2008	Arhynchobatidae	Rajiformes	5
<i>Psammobatis</i>	<i>bergi</i>	MARINI, 1932	Arhynchobatidae	Rajiformes	41
<i>Psammobatis</i>	<i>extenta</i>	(GARMAN, 1913)	Arhynchobatidae	Rajiformes	58
<i>Psammobatis</i>	<i>lentiginosa</i>	McEACHRAN, 1983	Arhynchobatidae	Rajiformes	33
<i>Psammobatis</i>	<i>normani</i>	McEACHRAN, 1983	Arhynchobatidae	Rajiformes	32
<i>Psammobatis</i>	<i>parvacauda</i>	McEACHRAN, 1983	Arhynchobatidae	Rajiformes	10
<i>Psammobatis</i>	<i>rudis</i>	GÜNTHER, 1870	Arhynchobatidae	Rajiformes	46
<i>Psammobatis</i>	<i>rutrum</i>	JORDAN, 1891	Arhynchobatidae	Rajiformes	30
<i>Psammobatis</i>	<i>scobina</i>	(PHILIPPI, 1857)	Arhynchobatidae	Rajiformes	44
<i>Pseudoraja</i>	<i>fischeri</i>	BIGELOW & SCHROEDER, 1954	Arhynchobatidae	Rajiformes	23
<i>Rhinoraja</i>	<i>kujiensis</i>	(TANAKA, 1916)	Arhynchobatidae	Rajiformes	23
<i>Rhinoraja</i>	<i>longicauda</i>	ISHIYAMA, 1952	Arhynchobatidae	Rajiformes	29
<i>Rhinoraja</i>	<i>odai</i>	ISHIYAMA, 1958	Arhynchobatidae	Rajiformes	13
<i>Rioraja</i>	<i>agassizii</i>	(MÜLLER & HENLE, 1841)	Arhynchobatidae	Rajiformes	98
<i>Sympterygia</i>	<i>acuta</i>	GARMAN, 1877	Arhynchobatidae	Rajiformes	66

<i>Sympterygia</i>	<i>bonapartii</i>	MÜLLER & HENLE, 1841	Arhynchobatidae	Rajiformes	102
<i>Sympterygia</i>	<i>brevicaudata</i>	(COPE, 1877)	Arhynchobatidae	Rajiformes	49
<i>Sympterygia</i>	<i>lima</i>	(POEPPIG, 1835)	Arhynchobatidae	Rajiformes	36
<i>Cruriraja</i>	<i>andamanica</i>	(LLOYD, 1909)	Gurgesiellidae	Rajiformes	22
<i>Cruriraja</i>	<i>atlantis</i>	BIGELOW & SCHROEDER, 1948	Gurgesiellidae	Rajiformes	12
<i>Cruriraja</i>	<i>cadenati</i>	BIGELOW & SCHROEDER, 1962	Gurgesiellidae	Rajiformes	13
<i>Cruriraja</i>	<i>durbanensis</i>	(VON BONDE & SWART, 1923)	Gurgesiellidae	Rajiformes	19
<i>Cruriraja</i>	<i>hulleyi</i>	ASCHLIMAN, EBERT & COMPAGNO, 2010	Gurgesiellidae	Rajiformes	14
<i>Cruriraja</i>	<i>parcomaculata</i>	(VON BONDE & SWART, 1923)	Gurgesiellidae	Rajiformes	48
<i>Cruriraja</i>	<i>poeyi</i>	BIGELOW & SCHROEDER, 1948	Gurgesiellidae	Rajiformes	22
<i>Cruriraja</i>	<i>rugosa</i>	BIGELOW & SCHROEDER, 1958	Gurgesiellidae	Rajiformes	30
<i>Fenestraja</i>	<i>atripinna</i>	(BIGELOW & SCHROEDER, 1950)	Gurgesiellidae	Rajiformes	17
<i>Fenestraja</i>	<i>cubensis</i>	(BIGELOW & SCHROEDER, 1950)	Gurgesiellidae	Rajiformes	15
<i>Fenestraja</i>	<i>ishiyamai</i>	(BIGELOW & SCHROEDER, 1962)	Gurgesiellidae	Rajiformes	20
<i>Fenestraja</i>	<i>maceachrani</i>	(SÉRET, 1989)	Gurgesiellidae	Rajiformes	12
<i>Fenestraja</i>	<i>mamillidens</i>	(ALCOCK, 1889)	Gurgesiellidae	Rajiformes	20
<i>Fenestraja</i>	<i>plutonia</i>	(GARMAN, 1881)	Gurgesiellidae	Rajiformes	36
<i>Fenestraja</i>	<i>sibogae</i>	(WEBER, 1913)	Gurgesiellidae	Rajiformes	12
<i>Fenestraja</i>	<i>sinusmexicanus</i>	(BIGELOW & SCHROEDER, 1950)	Gurgesiellidae	Rajiformes	25
<i>Gurgesiella</i>	<i>atlantica</i>	(BIGELOW & SCHROEDER, 1962)	Gurgesiellidae	Rajiformes	38
<i>Gurgesiella</i>	<i>dorsalifera</i>	McEACHRAN & COMPAGNO, 1980	Gurgesiellidae	Rajiformes	26
<i>Gurgesiella</i>	<i>furvescens</i>	DE BUEN, 1959	Gurgesiellidae	Rajiformes	26
<i>Heliotrygon</i>	<i>gomesi</i>	CARVALHO & LOVEJOY, 2011	Potamotrygonidae	Rajiformes	7
<i>Heliotrygon</i>	<i>rosai</i>	CARVALHO & LOVEJOY, 2011	Potamotrygonidae	Rajiformes	8
<i>Paratrygon</i>	<i>aiereba</i>	(MÜLLER & HENLE, 1841)	Potamotrygonidae	Rajiformes	98
<i>Plesiotrygon</i>	<i>iwamae</i>	ROSA, CASTELLO & THORSON, 1987	Potamotrygonidae	Rajiformes	43
<i>Plesiotrygon</i>	<i>nana</i>	CARVALHO & RAGNO, 2011	Potamotrygonidae	Rajiformes	6
<i>Potamotrygon</i>	<i>adamastor</i>	FONTENELLE & DE CARVALHO, 2017	Potamotrygonidae	Rajiformes	1
<i>Potamotrygon</i>	<i>albimaculata</i>	DE CARVALHO, 2016	Potamotrygonidae	Rajiformes	4

<i>Potamotrygon</i>	<i>amandae</i>	LOBODA & DE CARVALHO, 2013	Potamotrygonidae	Rajiformes	10
<i>Potamotrygon</i>	<i>amazona</i>	FONTENELLE & DE CARVALHO, 2017	Potamotrygonidae	Rajiformes	1
<i>Potamotrygon</i>	<i>boesemani</i>	ROSA, DE CARVALHO & DE ALMEIDA WANDERLEY, 2008	Potamotrygonidae	Rajiformes	8
<i>Potamotrygon</i>	<i>brachyura</i>	(GÜNTHER, 1880)	Potamotrygonidae	Rajiformes	30
<i>Potamotrygon</i>	<i>constellata</i>	(VAILLANT, 1880)	Potamotrygonidae	Rajiformes	45
<i>Potamotrygon</i>	<i>falkneri</i>	CASTEX & MACIEL, 1963	Potamotrygonidae	Rajiformes	90
<i>Potamotrygon</i>	<i>garmani</i>	FONTENELLE & DE CARVALHO, 2017	Potamotrygonidae	Rajiformes	1
<i>Potamotrygon</i>	<i>henlei</i>	(CASTELNAU, 1855)	Potamotrygonidae	Rajiformes	38
<i>Potamotrygon</i>	<i>histris</i>	(MÜLLER & HENLE, 1841)	Potamotrygonidae	Rajiformes	67
<i>Potamotrygon</i>	<i>humerosa</i>	GARMAN, 1913	Potamotrygonidae	Rajiformes	20
<i>Potamotrygon</i>	<i>jabuti</i>	DE CARVALHO, 2016	Potamotrygonidae	Rajiformes	4
<i>Potamotrygon</i>	<i>leopoldi</i>	CASTEX & CASTELLO, 1970	Potamotrygonidae	Rajiformes	33
<i>Potamotrygon</i>	<i>limai</i>	FONTENELLE, DA SILVA & DE CARVALHO, 2014	Potamotrygonidae	Rajiformes	4
<i>Potamotrygon</i>	<i>magdalenae</i>	(DUMÉRIL, 1865)	Potamotrygonidae	Rajiformes	56
<i>Potamotrygon</i>	<i>marinae</i>	DEYNAT, 2006	Potamotrygonidae	Rajiformes	12
<i>Potamotrygon</i>	<i>motoro</i>	(MÜLLER & HENLE, 1841)	Potamotrygonidae	Rajiformes	186
<i>Potamotrygon</i>	<i>ocellata</i>	(ENGELHARDT, 1912)	Potamotrygonidae	Rajiformes	16
<i>Potamotrygon</i>	<i>orbigny</i>	(CASTELNAU, 1855)	Potamotrygonidae	Rajiformes	107
<i>Potamotrygon</i>	<i>pantanensis</i>	LOBODA & DE CARVALHO, 2013	Potamotrygonidae	Rajiformes	6
<i>Potamotrygon</i>	<i>rex</i>	DE CARVALHO, 2016	Potamotrygonidae	Rajiformes	4
<i>Potamotrygon</i>	<i>schroederi</i>	FERNÁNDEZ-YÉPEZ, 1958	Potamotrygonidae	Rajiformes	43
<i>Potamotrygon</i>	<i>schuhmacheri</i>	CASTEX, 1964	Potamotrygonidae	Rajiformes	15
<i>Potamotrygon</i>	<i>scobina</i>	GARMAN, 1913	Potamotrygonidae	Rajiformes	44
<i>Potamotrygon</i>	<i>signata</i>	GARMAN, 1913	Potamotrygonidae	Rajiformes	20
<i>Potamotrygon</i>	<i>tatiana</i>	SILVA & CARVALHO, 2011	Potamotrygonidae	Rajiformes	8
<i>Potamotrygon</i>	<i>tigrina</i>	CARVALHO, SABAJ PEREZ & LOVEJOY, 2011	Potamotrygonidae	Rajiformes	7
<i>Potamotrygon</i>	<i>wallacei</i>	DE CARVALHO, ROSA & DE ARAÚJO, 2016	Potamotrygonidae	Rajiformes	9
<i>Potamotrygon</i>	<i>yepesi</i>	CASTEX & CASTELLO, 1970	Potamotrygonidae	Rajiformes	31

<i>Amblyraja</i>	<i>doellojuradoi</i>	(POZZI, 1935)	Rajidae	Rajiformes	56
<i>Amblyraja</i>	<i>frerichsi</i>	(KREFFT, 1968)	Rajidae	Rajiformes	26
<i>Amblyraja</i>	<i>georgiana</i>	(NORMAN, 1938)	Rajidae	Rajiformes	38
<i>Amblyraja</i>	<i>hyperborea</i>	(COLLETT, 1879)	Rajidae	Rajiformes	138
<i>Amblyraja</i>	<i>jenseni</i>	(BIGELOW & SCHROEDER, 1950)	Rajidae	Rajiformes	40
<i>Amblyraja</i>	<i>radiata</i>	(DONOVAN, 1808)	Rajidae	Rajiformes	290
<i>Amblyraja</i>	<i>reversa</i>	(LLOYD, 1906)	Rajidae	Rajiformes	18
<i>Amblyraja</i>	<i>taaf</i>	(MEISSNER, 1987)	Rajidae	Rajiformes	13
<i>Beringraja</i>	<i>binocolata</i>	(GIRARD, 1855)	Rajidae	Rajiformes	128
<i>Beringraja</i>	<i>cortezensis</i>	(McEACHRAN & MIYAKE, 1988)	Rajidae	Rajiformes	21
<i>Beringraja</i>	<i>inornata</i>	(JORDAN & GILBERT, 1881)	Rajidae	Rajiformes	65
<i>Beringraja</i>	<i>pulchra</i>	(LIU, 1932)	Rajidae	Rajiformes	44
<i>Beringraja</i>	<i>rhina</i>	(JORDAN & GILBERT, 1880)	Rajidae	Rajiformes	119
<i>Beringraja</i>	<i>stellulata</i>	(JORDAN & GILBERT, 1880)	Rajidae	Rajiformes	57
<i>Breviraja</i>	<i>claramaculata</i>	McEACHRAN & MATHESON, 1985	Rajidae	Rajiformes	15
<i>Breviraja</i>	<i>colesi</i>	BIGELOW & SCHROEDER, 1948	Rajidae	Rajiformes	22
<i>Breviraja</i>	<i>mouldi</i>	McEACHRAN & MATHESON, 1995	Rajidae	Rajiformes	12
<i>Breviraja</i>	<i>nigriventralis</i>	McEACHRAN & MATHESON, 1985	Rajidae	Rajiformes	20
<i>Breviraja</i>	<i>spinosa</i>	BIGELOW & SCHROEDER, 1950	Rajidae	Rajiformes	27
<i>Dactylobatus</i>	<i>armatus</i>	BEAN & WEED, 1909	Rajidae	Rajiformes	26
<i>Dactylobatus</i>	<i>clarkii</i>	(BIGELOW & SCHROEDER, 1958)	Rajidae	Rajiformes	33
<i>Dentiraja</i>	<i>australis</i>	(MACLEAY, 1884)	Rajidae	Rajiformes	25
<i>Dentiraja</i>	<i>cerva</i>	(WHITLEY, 1939)	Rajidae	Rajiformes	24
<i>Dentiraja</i>	<i>confusa</i>	(LAST, 2008)	Rajidae	Rajiformes	9
<i>Dentiraja</i>	<i>endeavouri</i>	(LAST, 2008)	Rajidae	Rajiformes	6
<i>Dentiraja</i>	<i>falloarga</i>	(LAST, 2008)	Rajidae	Rajiformes	7
<i>Dentiraja</i>	<i>flindersi</i>	LAST & GLEDHILL, 2008	Rajidae	Rajiformes	8
<i>Dentiraja</i>	<i>healdi</i>	(LAST, WHITE & POGONOSKI, 2008)	Rajidae	Rajiformes	8
<i>Dentiraja</i>	<i>lemprieri</i>	(RICHARDSON, 1845)	Rajidae	Rajiformes	42

<i>Dentiraja</i>	<i>oculata</i>	(LAST, 2008)	Rajidae	Rajiformes	6
<i>Dentiraja</i>	<i>polyommata</i>	(OGILBY, 1910)	Rajidae	Rajiformes	27
<i>Dipturus</i>	<i>acrobelus</i>	LAST, WHITE & POGONOSKI, 2008	Rajidae	Rajiformes	7
<i>Dipturus</i>	<i>amphispinus</i>	LAST & ALAVA, 2013	Rajidae	Rajiformes	4
<i>Dipturus</i>	<i>apricus</i>	LAST, WHITE & POGONOSKI, 2008	Rajidae	Rajiformes	7
<i>Dipturus</i>	<i>batis</i>	(LINNAEUS, 1758)	Rajidae	Rajiformes	276
<i>Dipturus</i>	<i>bullisi</i>	(BIGELOW & SCHROEDER, 1962)	Rajidae	Rajiformes	24
<i>Dipturus</i>	<i>campbelli</i>	(WALLACE, 1967)	Rajidae	Rajiformes	16
<i>Dipturus</i>	<i>canutus</i>	LAST, 2008	Rajidae	Rajiformes	7
<i>Dipturus</i>	<i>chinensis</i>	(BASILEWSKY, 1855)	Rajidae	Rajiformes	11
<i>Dipturus</i>	<i>crosnieri</i>	(SÉRET, 1989)	Rajidae	Rajiformes	13
<i>Dipturus</i>	<i>doutrei</i>	(CADENAT, 1960)	Rajidae	Rajiformes	30
<i>Dipturus</i>	<i>ecuadoriensis</i>	(BEEBE & TEE-VAN, 1941)	Rajidae	Rajiformes	9
<i>Dipturus</i>	<i>garricki</i>	(BIGELOW & SCHROEDER, 1958)	Rajidae	Rajiformes	23
<i>Dipturus</i>	<i>gigas</i>	(ISHIYAMA, 1958)	Rajidae	Rajiformes	22
<i>Dipturus</i>	<i>grahami</i>	LAST, 2008	Rajidae	Rajiformes	7
<i>Dipturus</i>	<i>gudgeri</i>	(WHITLEY, 1940)	Rajidae	Rajiformes	19
<i>Dipturus</i>	<i>innominatus</i>	(GARRICK & PAUL, 1974)	Rajidae	Rajiformes	29
<i>Dipturus</i>	<i>intermedius</i>	(PARNELL, 1837)	Rajidae	Rajiformes	12
<i>Dipturus</i>	<i>johannisdavisi</i>	(ALCOCK, 1899)	Rajidae	Rajiformes	24
<i>Dipturus</i>	<i>kwangtungensis</i>	(CHU, 1960)	Rajidae	Rajiformes	34
<i>Dipturus</i>	<i>laevis</i>	(MITCHILL, 1818)	Rajidae	Rajiformes	83
<i>Dipturus</i>	<i>lanceorostratus</i>	(WALLACE, 1967)	Rajidae	Rajiformes	17
<i>Dipturus</i>	<i>leptocaudus</i>	(KREFFT & STEHMANN, 1975)	Rajidae	Rajiformes	19
<i>Dipturus</i>	<i>macrocaudus</i>	(ISHIYAMA, 1955)	Rajidae	Rajiformes	24
<i>Dipturus</i>	<i>melanospilus</i>	LAST, WHITE & POGONOSKI, 2008	Rajidae	Rajiformes	8
<i>Dipturus</i>	<i>mennii</i>	GOMES & PARAGÓ, 2001	Rajidae	Rajiformes	19
<i>Dipturus</i>	<i>nidarosiensis</i>	(STORM, 1881)	Rajidae	Rajiformes	55
<i>Dipturus</i>	<i>olseni</i>	(BIGELOW & SCHROEDER, 1951)	Rajidae	Rajiformes	27

<i>Dipturus</i>	<i>oregoni</i>	(BIGELOW & SCHROEDER, 1958)	Rajidae	Rajiformes	14
<i>Dipturus</i>	<i>oxyrinchus</i>	(LINNAEUS, 1758)	Rajidae	Rajiformes	229
<i>Dipturus</i>	<i>pullopunctatus</i>	(SMITH, 1964)	Rajidae	Rajiformes	31
<i>Dipturus</i>	<i>queenslandicus</i>	LAST, WHITE & POGONOSKI, 2008	Rajidae	Rajiformes	7
<i>Dipturus</i>	<i>springeri</i>	(WALLACE, 1967)	Rajidae	Rajiformes	24
<i>Dipturus</i>	<i>stenorhynchus</i>	(WALLACE, 1967)	Rajidae	Rajiformes	16
<i>Dipturus</i>	<i>teevani</i>	(BIGELOW & SCHROEDER, 1951)	Rajidae	Rajiformes	36
<i>Dipturus</i>	<i>tengu</i>	(JORDAN & FOWLER, 1903)	Rajidae	Rajiformes	40
<i>Dipturus</i>	<i>trachydermus</i>	(KREFFT & STEHMANN, 1975)	Rajidae	Rajiformes	54
<i>Dipturus</i>	<i>wengi</i>	SÉRET & LAST, 2008	Rajidae	Rajiformes	7
<i>Dipturus</i>	<i>wuhanlingi</i>	JEONG & NAKABO, 2008	Rajidae	Rajiformes	6
<i>Hongoe</i>	<i>koreana</i>	(JEONG & NAKABO, 1997)	Rajidae	Rajiformes	14
<i>Leucoraja</i>	<i>circularis</i>	(COUCH, 1838)	Rajidae	Rajiformes	138
<i>Leucoraja</i>	<i>compagno</i>	(STEHMANN, 1995)	Rajidae	Rajiformes	13
<i>Leucoraja</i>	<i>erinacea</i>	(MITCHILL, 1825)	Rajidae	Rajiformes	403
<i>Leucoraja</i>	<i>fullonica</i>	(LINNAEUS, 1758)	Rajidae	Rajiformes	168
<i>Leucoraja</i>	<i>garmani</i>	(WHITLEY, 1939)	Rajidae	Rajiformes	60
<i>Leucoraja</i>	<i>lentiginosa</i>	(BIGELOW & SCHROEDER, 1951)	Rajidae	Rajiformes	25
<i>Leucoraja</i>	<i>leucosticta</i>	(STEHMANN, 1971)	Rajidae	Rajiformes	14
<i>Leucoraja</i>	<i>melitensis</i>	(CLARK, 1926)	Rajidae	Rajiformes	45
<i>Leucoraja</i>	<i>naevus</i>	(MÜLLER & HENLE, 1841)	Rajidae	Rajiformes	201
<i>Leucoraja</i>	<i>ocellata</i>	(MITCHILL, 1815)	Rajidae	Rajiformes	157
<i>Leucoraja</i>	<i>pristispina</i>	LAST, STEHMANN & SÉRET, 2008	Rajidae	Rajiformes	6
<i>Leucoraja</i>	<i>wallacei</i>	(HULLEY, 1970)	Rajidae	Rajiformes	33
<i>Leucoraja</i>	<i>yucatanensis</i>	(BIGELOW & SCHROEDER, 1950)	Rajidae	Rajiformes	21
<i>Malacoraja</i>	<i>kreffti</i>	(STEHMANN, 1977)	Rajidae	Rajiformes	17
<i>Malacoraja</i>	<i>obscura</i>	DE CARVALHO, GOMES & GADIG, 2005	Rajidae	Rajiformes	10
<i>Malacoraja</i>	<i>senta</i>	(GARMAN, 1885)	Rajidae	Rajiformes	74
<i>Malacoraja</i>	<i>spinacidermis</i>	(BARNARD, 1923)	Rajidae	Rajiformes	55

<i>Neoraja</i>	<i>africana</i>	(STEHMANN & SÉRET, 1983)	Rajidae	Rajiformes	14
<i>Neoraja</i>	<i>caerulea</i>	(STEHMANN, 1976)	Rajidae	Rajiformes	25
<i>Neoraja</i>	<i>carolinensis</i>	McEACHRAN & STEHMANN, 1984	Rajidae	Rajiformes	13
<i>Neoraja</i>	<i>iberica</i>	STEHMANN, SÉRET, COSTA & BARO, 2008	Rajidae	Rajiformes	14
<i>Neoraja</i>	<i>stehmanni</i>	(HULLEY, 1972)	Rajidae	Rajiformes	24
<i>Okamejei</i>	<i>acutispina</i>	(ISHIYAMA, 1958)	Rajidae	Rajiformes	25
<i>Okamejei</i>	<i>arafurensis</i>	LAST & GLEDHILL, 2008	Rajidae	Rajiformes	8
<i>Okamejei</i>	<i>boesemani</i>	(ISHIHARA, 1987)	Rajidae	Rajiformes	22
<i>Okamejei</i>	<i>cairae</i>	LAST, FAHMI & ISHIHARA, 2010	Rajidae	Rajiformes	8
<i>Okamejei</i>	<i>heemstrai</i>	(McEACHRAN & FECHHELM, 1982)	Rajidae	Rajiformes	13
<i>Okamejei</i>	<i>hollandi</i>	(JORDAN & RICHARDSON, 1909)	Rajidae	Rajiformes	35
<i>Okamejei</i>	<i>kenojei</i>	(MÜLLER & HENLE, 1841)	Rajidae	Rajiformes	147
<i>Okamejei</i>	<i>leptoura</i>	LAST & GLEDHILL, 2008	Rajidae	Rajiformes	6
<i>Okamejei</i>	<i>meerdervoortii</i>	(BLEEKER, 1860)	Rajidae	Rajiformes	38
<i>Okamejei</i>	<i>mengae</i>	JEONG, NAKABO & WU, 2007	Rajidae	Rajiformes	5
<i>Okamejei</i>	<i>ornata</i>	WEIGMANN, STEHMANN & THIEL, 2015	Rajidae	Rajiformes	6
<i>Okamejei</i>	<i>schmidti</i>	(ISHIYAMA, 1958)	Rajidae	Rajiformes	13
<i>Orbiraja</i>	<i>jensenae</i>	(LAST & LIM, 2010)	Rajidae	Rajiformes	9
<i>Orbiraja</i>	<i>philipi</i>	(LLOYD, 1906)	Rajidae	Rajiformes	12
<i>Orbiraja</i>	<i>powelli</i>	(ALCOCK, 1898)	Rajidae	Rajiformes	25
<i>Raja</i>	<i>africana</i>	CAPAPÉ, 1977	Rajidae	Rajiformes	16
<i>Raja</i>	<i>asterias</i>	DELAROCHE, 1809	Rajidae	Rajiformes	184
<i>Raja</i>	<i>brachyura</i>	LAFONT, 1873	Rajidae	Rajiformes	176
<i>Raja</i>	<i>clavata</i>	LINNAEUS, 1758	Rajidae	Rajiformes	663
<i>Raja</i>	<i>herwigi</i>	KREFFT, 1965	Rajidae	Rajiformes	13
<i>Raja</i>	<i>maderensis</i>	LOWE, 1838	Rajidae	Rajiformes	32
<i>Raja</i>	<i>microocellata</i>	MONTAGU, 1818	Rajidae	Rajiformes	114
<i>Raja</i>	<i>miraletus</i>	LINNAEUS, 1758	Rajidae	Rajiformes	248
<i>Raja</i>	<i>montagui</i>	FOWLER, 1910	Rajidae	Rajiformes	238
<i>Raja</i>	<i>ocellifera</i>	REGAN, 1906	Rajidae	Rajiformes	14

<i>Raja</i>	<i>parva</i>	LAST & SÉRET, 2016	Rajidae	Rajiformes	3
<i>Raja</i>	<i>pita</i>	FRICKE & AL-HASSAN, 1995	Rajidae	Rajiformes	11
<i>Raja</i>	<i>polystigma</i>	REGAN, 1923	Rajidae	Rajiformes	80
<i>Raja</i>	<i>radula</i>	DELAROCHE, 1809	Rajidae	Rajiformes	116
<i>Raja</i>	<i>straeleni</i>	POLL, 1951	Rajidae	Rajiformes	51
<i>Raja</i>	<i>undulata</i>	LACEPÈDE, 1802	Rajidae	Rajiformes	152
<i>Rajella</i>	<i>annandalei</i>	(WEBER, 1913)	Rajidae	Rajiformes	11
<i>Rajella</i>	<i>barnardi</i>	(NORMAN, 1935)	Rajidae	Rajiformes	39
<i>Rajella</i>	<i>bathypbila</i>	(HOLT & BYRNE, 1908)	Rajidae	Rajiformes	40
<i>Rajella</i>	<i>bigelowi</i>	(STEHMANN, 1978)	Rajidae	Rajiformes	49
<i>Rajella</i>	<i>caudaspinosa</i>	(VON BONDE & SWART, 1923)	Rajidae	Rajiformes	33
<i>Rajella</i>	<i>challengeri</i>	LAST & STEHMANN, 2008	Rajidae	Rajiformes	5
<i>Rajella</i>	<i>dissimilis</i>	(HULLEY, 1970)	Rajidae	Rajiformes	27
<i>Rajella</i>	<i>eisenhardti</i>	LONG & McCOSKER, 1999	Rajidae	Rajiformes	9
<i>Rajella</i>	<i>fuliginea</i>	(BIGELOW & SCHROEDER, 1954)	Rajidae	Rajiformes	23
<i>Rajella</i>	<i>fyllae</i>	(LÜTKEN, 1887)	Rajidae	Rajiformes	85
<i>Rajella</i>	<i>kukujevi</i>	(DOLGANOV, 1985)	Rajidae	Rajiformes	24
<i>Rajella</i>	<i>leoparda</i>	(VON BONDE & SWART, 1923)	Rajidae	Rajiformes	41
<i>Rajella</i>	<i>lintea</i>	(FRIES, 1838)	Rajidae	Rajiformes	69
<i>Rajella</i>	<i>nigerrima</i>	(DE BUEN, 1960)	Rajidae	Rajiformes	18
<i>Rajella</i>	<i>paucispinosa</i>	WEIGMANN, STEHMANN & THIEL, 2014	Rajidae	Rajiformes	6
<i>Rajella</i>	<i>purpuriventralis</i>	(BIGELOW & SCHROEDER, 1962)	Rajidae	Rajiformes	26
<i>Rajella</i>	<i>ravidula</i>	(HULLEY, 1970)	Rajidae	Rajiformes	26
<i>Rajella</i>	<i>sadowskii</i>	(KREFFT & STEHMANN, 1974)	Rajidae	Rajiformes	30
<i>Rostroraja</i>	<i>ackleyi</i>	GARMAN, 1881	Rajidae	Rajiformes	29
<i>Rostroraja</i>	<i>alba</i>	(LACÉPÈDE, 1803)	Rajidae	Rajiformes	181
<i>Rostroraja</i>	<i>bahamensis</i>	(BIGELOW & SCHROEDER, 1965)	Rajidae	Rajiformes	11
<i>Rostroraja</i>	<i>cervigoni</i>	(BIGELOW & SCHROEDER, 1964)	Rajidae	Rajiformes	21
<i>Rostroraja</i>	<i>eglanteria</i>	(LACEPÈDE (ex BOSCH), 1800)	Rajidae	Rajiformes	210

<i>Rostroraja</i>	<i>equatorialis</i>	(JORDAN & BOLLMAN, 1890)	Rajidae	Rajiformes	32
<i>Rostroraja</i>	<i>texana</i>	(CHANDLER, 1921)	Rajidae	Rajiformes	35
<i>Rostroraja</i>	<i>velezi</i>	(CHIRICHIGNO, 1973)	Rajidae	Rajiformes	52
<i>Spiniraja</i>	<i>whitleyi</i>	(IREDALE, 1938)	Rajidae	Rajiformes	42
<i>Zearaja</i>	<i>argentinensis</i>	(DÍAZ DE ASTARLOA, MABRAGAÑA, HANNER & FIGUEROA, 2008)	Rajidae	Rajiformes	8
<i>Zearaja</i>	<i>brevicaudata</i>	(MARINI, 1933)	Rajidae	Rajiformes	2
<i>Zearaja</i>	<i>chilensis</i>	(GUICHENOT, 1848)	Rajidae	Rajiformes	133
<i>Zearaja</i>	<i>maugeana</i>	LAST & GLEDHILL, 2007	Rajidae	Rajiformes	11
<i>Zearaja</i>	<i>nasuta</i>	(MÜLLER & HENLE, 1841)	Rajidae	Rajiformes	55
<i>Glaucostegus</i>	<i>cemiculus</i>	(GEOFFROY SAINT-HILAIRE, 1817)	Glaucostegidae	Rhinopristiformes	95
<i>Glaucostegus</i>	<i>granulatus</i>	(CUVIER, 1829)	Glaucostegidae	Rhinopristiformes	120
<i>Glaucostegus</i>	<i>halavi</i>	(FORSSKÅL, 1775)	Glaucostegidae	Rhinopristiformes	70
<i>Glaucostegus</i>	<i>obtusus</i>	MÜLLER & HENLE, 1841	Glaucostegidae	Rhinopristiformes	36
<i>Glaucostegus</i>	<i>thouin</i>	(ANONYMOUS, 1798)	Glaucostegidae	Rhinopristiformes	65
<i>Glaucostegus</i>	<i>typus</i>	(BENNETT, 1830)	Glaucostegidae	Rhinopristiformes	168
<i>Platyrhina</i>	<i>hyugaensis</i>	IWATSUKI, MIYAMOTO & NAKAYA, 2011	Platyrhinidae	Rhinopristiformes	5
<i>Platyrhina</i>	<i>psomadakisi</i>	WHITE & LAST, 2016	Platyrhinidae	Rhinopristiformes	4
<i>Platyrhina</i>	<i>sinensis</i>	(BLOCH & SCHNEIDER, 1801)	Platyrhinidae	Rhinopristiformes	62
<i>Platyrhina</i>	<i>tangi</i>	IWATSUKI, ZHANG & NAKAYA, 2011	Platyrhinidae	Rhinopristiformes	11
<i>Platyrhinoidis</i>	<i>triseriata</i>	(JORDAN & GILBERT, 1880)	Platyrhinidae	Rhinopristiformes	91
<i>Anoxypristis</i>	<i>cuspidata</i>	(LATHAM, 1794)	Pristidae	Rhinopristiformes	169
<i>Pristis</i>	<i>clavata</i>	GARMAN, 1906	Pristidae	Rhinopristiformes	83
<i>Pristis</i>	<i>pectinata</i>	LATHAM, 1794	Pristidae	Rhinopristiformes	278
<i>Pristis</i>	<i>pristis</i>	(LINNAEUS, 1758)	Pristidae	Rhinopristiformes	444
<i>Pristis</i>	<i>zijsron</i>	BLEEKER, 1851	Pristidae	Rhinopristiformes	169
<i>Rhina</i>	<i>ancylostoma</i>	BLOCH & SCHNEIDER, 1801	Rhinidae	Rhinopristiformes	166
<i>Rhynchobatus</i>	<i>australiae</i>	WHITLEY, 1939	Rhinidae	Rhinopristiformes	66
<i>Rhynchobatus</i>	<i>cooki</i>	LAST, KYNE & COMPAGNO, 2016	Rhinidae	Rhinopristiformes	4
<i>Rhynchobatus</i>	<i>djiddensis</i>	(FORSSKÅL, 1775)	Rhinidae	Rhinopristiformes	214

<i>Rhynchobatus</i>	<i>immaculatus</i>	LAST, HO & CHEN, 2013	Rhinidae	Rhinopristiformes	7
<i>Rhynchobatus</i>	<i>laevis</i>	(BLOCH & SCHNEIDER, 1801)	Rhinidae	Rhinopristiformes	52
<i>Rhynchobatus</i>	<i>luebberti</i>	EHRENBAUM, 1915	Rhinidae	Rhinopristiformes	19
<i>Rhynchobatus</i>	<i>palpebratus</i>	COMPAGNO & LAST, 2008	Rhinidae	Rhinopristiformes	16
<i>Rhynchobatus</i>	<i>springeri</i>	COMPAGNO & LAST, 2010	Rhinidae	Rhinopristiformes	9
<i>Rhynchorhina</i>	<i>mauritaniensis</i>	SÉRET & NAYLOR, 2016	Rhinidae	Rhinopristiformes	4
<i>Acroteriobatus</i>	<i>annulatus</i>	MÜLLER & HENLE, 1841	Rhinobatidae	Rhinopristiformes	56
<i>Acroteriobatus</i>	<i>blochii</i>	(MÜLLER & HENLE, 1841)	Rhinobatidae	Rhinopristiformes	37
<i>Acroteriobatus</i>	<i>leucospilus</i>	(NORMAN, 1926)	Rhinobatidae	Rhinopristiformes	20
<i>Acroteriobatus</i>	<i>ocellatus</i>	(NORMAN, 1926)	Rhinobatidae	Rhinopristiformes	14
<i>Acroteriobatus</i>	<i>omanensis</i>	LAST, HENDERSON & NAYLOR, 2016	Rhinobatidae	Rhinopristiformes	6
<i>Acroteriobatus</i>	<i>salalah</i>	RANDALL & COMPAGNO, 1995	Rhinobatidae	Rhinopristiformes	18
<i>Acroteriobatus</i>	<i>variegatus</i>	(NAIR & LAL MOHAN, 1973)	Rhinobatidae	Rhinopristiformes	16
<i>Acroteriobatus</i>	<i>zanzibarensis</i>	(NORMAN, 1926)	Rhinobatidae	Rhinopristiformes	10
<i>Pseudobatos</i>	<i>glaucostigmus</i>	(JORDAN & GILBERT, 1883)	Rhinobatidae	Rhinopristiformes	44
<i>Pseudobatos</i>	<i>horkelii</i>	(MÜLLER & HENLE, 1841)	Rhinobatidae	Rhinopristiformes	67
<i>Pseudobatos</i>	<i>lentiginosus</i>	(GARMAN, 1880)	Rhinobatidae	Rhinopristiformes	70
<i>Pseudobatos</i>	<i>leucorhynchus</i>	(GÜNTHER, 1866)	Rhinobatidae	Rhinopristiformes	64
<i>Pseudobatos</i>	<i>percellens</i>	(WALBAUM, 1792)	Rhinobatidae	Rhinopristiformes	89
<i>Pseudobatos</i>	<i>planiceps</i>	(GARMAN, 1880)	Rhinobatidae	Rhinopristiformes	47
<i>Pseudobatos</i>	<i>prahli</i>	(ACERO & FRANKE, 1995)	Rhinobatidae	Rhinopristiformes	26
<i>Pseudobatos</i>	<i>productus</i>	(AYRES, 1854)	Rhinobatidae	Rhinopristiformes	127
<i>Rhinobatos</i>	<i>albomaculatus</i>	NORMAN, 1930	Rhinobatidae	Rhinopristiformes	17
<i>Rhinobatos</i>	<i>annandalei</i>	NORMAN, 1926	Rhinobatidae	Rhinopristiformes	27
<i>Rhinobatos</i>	<i>austini</i>	EBERT & GON, 2017	Rhinobatidae	Rhinopristiformes	2
<i>Rhinobatos</i>	<i>borneensis</i>	LAST, SÉRET & NAYLOR, 2016	Rhinobatidae	Rhinopristiformes	5
<i>Rhinobatos</i>	<i>holcorhynchus</i>	NORMAN, 1922	Rhinobatidae	Rhinopristiformes	21
<i>Rhinobatos</i>	<i>hynnicephalus</i>	RICHARDSON, 1846	Rhinobatidae	Rhinopristiformes	44
<i>Rhinobatos</i>	<i>irvinei</i>	NORMAN, 1931	Rhinobatidae	Rhinopristiformes	15

<i>Rhinobatos</i>	<i>jimbaranensis</i>	LAST, WHITE & FAHMI, 2006	Rhinobatidae	Rhinopristiformes	9
<i>Rhinobatos</i>	<i>lionotus</i>	NORMAN, 1926	Rhinobatidae	Rhinopristiformes	16
<i>Rhinobatos</i>	<i>manai</i>	WHITE, LAST & NAYLOR, 2016	Rhinobatidae	Rhinopristiformes	4
<i>Rhinobatos</i>	<i>nudidorsalis</i>	LAST, COMPAGNO & NAKAYA, 2004	Rhinobatidae	Rhinopristiformes	7
<i>Rhinobatos</i>	<i>penggali</i>	LAST, WHITE & FAHMI, 2006	Rhinobatidae	Rhinopristiformes	9
<i>Rhinobatos</i>	<i>punctifer</i>	COMPAGNO & RANDALL, 1987	Rhinobatidae	Rhinopristiformes	33
<i>Rhinobatos</i>	<i>rhinobatos</i>	(LINNAEUS, 1758)	Rhinobatidae	Rhinopristiformes	123
<i>Rhinobatos</i>	<i>sainsburyi</i>	LAST, 2004	Rhinobatidae	Rhinopristiformes	9
<i>Rhinobatos</i>	<i>schlegelii</i>	(MÜLLER & HENLE, 1841)	Rhinobatidae	Rhinopristiformes	91
<i>Rhinobatos</i>	<i>whitei</i>	LAST, CORRIGAN & NAYLOR, 2014	Rhinobatidae	Rhinopristiformes	5
<i>Aptychotrema</i>	<i>rostrata</i>	(SHAW, 1794)	Trygonorrhinidae	Rhinopristiformes	108
<i>Aptychotrema</i>	<i>timorensis</i>	LAST, 2004	Trygonorrhinidae	Rhinopristiformes	9
<i>Aptychotrema</i>	<i>vincentiana</i>	(HAACKE, 1885)	Trygonorrhinidae	Rhinopristiformes	31
<i>Trygonorrhina</i>	<i>dumerilii</i>	(CASTELNAU, 1873)	Trygonorrhinidae	Rhinopristiformes	38
<i>Trygonorrhina</i>	<i>fasciata</i>	MÜLLER & HENLE, 1841	Trygonorrhinidae	Rhinopristiformes	74
<i>Zapteryx</i>	<i>brevirostris</i>	(MÜLLER & HENLE, 1841)	Trygonorrhinidae	Rhinopristiformes	89
<i>Zapteryx</i>	<i>exasperata</i>	(JORDAN & GILBERT, 1880)	Trygonorrhinidae	Rhinopristiformes	73
<i>Zapteryx</i>	<i>xyster</i>	JORDAN & EVERMANN, 1896	Trygonorrhinidae	Rhinopristiformes	46
<i>Zanobatus</i>	<i>maculatus</i>	SÉRET, 2016	Zanobatidae	Rhinopristiformes	3
<i>Zanobatus</i>	<i>schoenleinii</i>	(MÜLLER & HENLE, 1841)	Zanobatidae	Rhinopristiformes	49
<i>Hypnos</i>	<i>monopterygius</i>	(SHAW, 1795)	Hypnidae	Torpediniformes	53
<i>Benthobatis</i>	<i>kreffti</i>	RINCON, STEHMANN & VOOREN, 2001	Narcinidae	Torpediniformes	14
<i>Benthobatis</i>	<i>marcida</i>	BEAN & WEED, 1909	Narcinidae	Torpediniformes	25
<i>Benthobatis</i>	<i>moresbyi</i>	ALCOCK, 1898	Narcinidae	Torpediniformes	29
<i>Benthobatis</i>	<i>yangi</i>	CARVALHO, COMPAGNO & EBERT, 2003	Narcinidae	Torpediniformes	10
<i>Diplobatis</i>	<i>colombiensis</i>	FECHHELM & McEACHRAN, 1984	Narcinidae	Torpediniformes	16
<i>Diplobatis</i>	<i>guamachensis</i>	MARTÍN SALAZAR, 1957	Narcinidae	Torpediniformes	16
<i>Diplobatis</i>	<i>ommata</i>	(JORDAN & GILBERT, 1890)	Narcinidae	Torpediniformes	44
<i>Diplobatis</i>	<i>picta</i>	PALMER, 1950	Narcinidae	Torpediniformes	28

<i>Discopyge</i>	<i>castelloi</i>	MENNI, RINCON & GARCIA, 2008	Narcinidae	Torpediniformes	4
<i>Discopyge</i>	<i>tschudii</i>	HECKEL, 1846	Narcinidae	Torpediniformes	88
<i>Narcine</i>	<i>atzi</i>	CARVALHO & RANDALL, 2003	Narcinidae	Torpediniformes	6
<i>Narcine</i>	<i>baliensis</i>	DE CARVALHO & WHITE, 2016	Narcinidae	Torpediniformes	3
<i>Narcine</i>	<i>bancroftii</i>	(GRIFFITH & SMITH, 1834)	Narcinidae	Torpediniformes	37
<i>Narcine</i>	<i>brasiliensis</i>	(OLFERS, 1831)	Narcinidae	Torpediniformes	149
<i>Narcine</i>	<i>brevilabiata</i>	BESSEDNOV, 1966	Narcinidae	Torpediniformes	12
<i>Narcine</i>	<i>brunnea</i>	ANNANDALE, 1909	Narcinidae	Torpediniformes	21
<i>Narcine</i>	<i>entemedor</i>	JORDAN & STARKS, 1895	Narcinidae	Torpediniformes	66
<i>Narcine</i>	<i>insolita</i>	CARVALHO, SÉRET & COMPAGNO, 2002	Narcinidae	Torpediniformes	6
<i>Narcine</i>	<i>leoparda</i>	CARVALHO, 2001	Narcinidae	Torpediniformes	19
<i>Narcine</i>	<i>lingula</i>	RICHARDSON, 1846	Narcinidae	Torpediniformes	21
<i>Narcine</i>	<i>maculata</i>	(SHAW, 1804)	Narcinidae	Torpediniformes	48
<i>Narcine</i>	<i>nigra</i>	DUMÉRIL, 1852	Narcinidae	Torpediniformes	6
<i>Narcine</i>	<i>oculifera</i>	CARVALHO, COMPAGNO & MEE, 2002	Narcinidae	Torpediniformes	10
<i>Narcine</i>	<i>prodorsalis</i>	BESSEDNOV, 1966	Narcinidae	Torpediniformes	13
<i>Narcine</i>	<i>rierai</i>	(LLORIS & RUCABADO, 1991)	Narcinidae	Torpediniformes	12
<i>Narcine</i>	<i>timei</i>	(BLOCH & SCHNEIDER, 1801)	Narcinidae	Torpediniformes	85
<i>Narcine</i>	<i>vermiculata</i>	BREDER, 1928	Narcinidae	Torpediniformes	32
<i>Narcinops</i>	<i>lasti</i>	(CARVALHO & SÉRET, 2002)	Narcinidae	Torpediniformes	11
<i>Narcinops</i>	<i>nelsoni</i>	(CARVALHO, 2008)	Narcinidae	Torpediniformes	9
<i>Narcinops</i>	<i>ornata</i>	(CARVALHO, 2008)	Narcinidae	Torpediniformes	6
<i>Narcinops</i>	<i>tasmaniensis</i>	(RICHARDSON, 1841)	Narcinidae	Torpediniformes	32
<i>Narcinops</i>	<i>westraliensis</i>	(MCKAY, 1966)	Narcinidae	Torpediniformes	13
<i>Electrolux</i>	<i>addisoni</i>	COMPAGNO & HEEMSTRA, 2007	Narkidae	Torpediniformes	6
<i>Heteronarce</i>	<i>bentuviai</i>	(BARANES & RANDALL, 1989)	Narkidae	Torpediniformes	13
<i>Heteronarce</i>	<i>garmani</i>	REGAN, 1921	Narkidae	Torpediniformes	27
<i>Heteronarce</i>	<i>mollis</i>	(LLOYD, 1907)	Narkidae	Torpediniformes	22
<i>Narke</i>	<i>capensis</i>	(GMELIN, 1789)	Narkidae	Torpediniformes	40

<i>Narke</i>	<i>dipterygia</i>	(BLOCH & SCHNEIDER, 1801)	Narkidae	Torpediniformes	57
<i>Narke</i>	<i>japonica</i>	(TEMMINCK & SCHLEGEL, 1850)	Narkidae	Torpediniformes	87
<i>Temera</i>	<i>hardwickii</i>	GRAY, 1831	Narkidae	Torpediniformes	31
<i>Typhlonarke</i>	<i>aysoni</i>	(HAMILTON, 1902)	Narkidae	Torpediniformes	41
<i>Tetronarce</i>	<i>occidentalis</i>	(STORER, 1843)	Torpedinidae	Torpediniformes	25
<i>Tetronarce</i>	<i>californica</i>	(AYRES, 1855)	Torpedinidae	Torpediniformes	121
<i>Tetronarce</i>	<i>cowleyi</i>	EBERT, HAAS & DE CARVALHO, 2015	Torpedinidae	Torpediniformes	7
<i>Tetronarce</i>	<i>formosa</i>	(HAAS & EBERT, 2006)	Torpedinidae	Torpediniformes	10
<i>Tetronarce</i>	<i>nobiliana</i>	(BONAPARTE, 1835)	Torpedinidae	Torpediniformes	229
<i>Tetronarce</i>	<i>puelcha</i>	(LAHILLE, 1926)	Torpedinidae	Torpediniformes	24
<i>Tetronarce</i>	<i>tokionis</i>	(TANAKA, 1908)	Torpedinidae	Torpediniformes	30
<i>Tetronarce</i>	<i>tremens</i>	(DE BUEN, 1959)	Torpedinidae	Torpediniformes	66
<i>Torpedo</i>	<i>adenensis</i>	CARVALHO, STEHMANN & MANILO, 2002	Torpedinidae	Torpediniformes	8
<i>Torpedo</i>	<i>alexandrinsis</i>	MAZHAR, 1987	Torpedinidae	Torpediniformes	4
<i>Torpedo</i>	<i>andersoni</i>	BULLIS, 1962	Torpedinidae	Torpediniformes	19
<i>Torpedo</i>	<i>bauchotae</i>	CADENAT, CAPAPÉ & DESOUTTER, 1978	Torpedinidae	Torpediniformes	10
<i>Torpedo</i>	<i>fuscomaculata</i>	PETERS, 1855	Torpedinidae	Torpediniformes	43
<i>Torpedo</i>	<i>mackayana</i>	METZELAAR, 1919	Torpedinidae	Torpediniformes	11
<i>Torpedo</i>	<i>marmorata</i>	RISSO, 1810	Torpedinidae	Torpediniformes	352
<i>Torpedo</i>	<i>panthera</i>	OLFERS, 1831	Torpedinidae	Torpediniformes	35
<i>Torpedo</i>	<i>sinuspersici</i>	OLFERS, 1831	Torpedinidae	Torpediniformes	69
<i>Torpedo</i>	<i>suessii</i>	STEINDACHNER, 1898	Torpedinidae	Torpediniformes	10
<i>Torpedo</i>	<i>torpedo</i>	(LINNAEUS, 1758)	Torpedinidae	Torpediniformes	213

3.3.3.4 "Top 20" most studied ray and skate species

Genus	Species	Author	Family	Order	No or records
<i>Raja</i>	<i>clavata</i>	LINNAEUS, 1758	Rajidae	Rajiformes	663
<i>Pristis</i>	<i>pristis</i>	(LINNAEUS, 1758)	Pristidae	Rhinopristiformes	444
<i>Aetobatus</i>	<i>narinari</i>	(EUPHRASEN, 1790)	Aetobatidae	Myliobatiformes	441
<i>Leucoraja</i>	<i>erinacea</i>	(MITCHILL, 1825)	Rajidae	Rajiformes	403
<i>Mobula</i>	<i>birostris</i>	(WALBAUM, 1792)	Mobulidae	Myliobatiformes	367
<i>Mobula</i>	<i>mobular</i>	(BONNATERRE, 1788)	Mobulidae	Myliobatiformes	363
<i>Torpedo</i>	<i>marmorata</i>	RISSO, 1810	Torpedinidae	Torpediniformes	352
<i>Dasyatis</i>	<i>pastinaca</i>	(LINNAEUS, 1758)	Dasyatidae	Myliobatiformes	327
<i>Amblyraja</i>	<i>radiata</i>	(DONOVAN, 1808)	Rajidae	Rajiformes	290
<i>Pteroplatytrygon</i>	<i>violacea</i>	(BONAPARTE, 1832)	Dasyatidae	Myliobatiformes	278
<i>Pristis</i>	<i>pectinata</i>	LATHAM, 1794	Pristidae	Rhinopristiformes	278
<i>Dipturus</i>	<i>batis</i>	(LINNAEUS, 1758)	Rajidae	Rajiformes	276
<i>Myliobatis</i>	<i>aquila</i>	(LINNAEUS, 1758)	Myliobatidae	Myliobatiformes	272
<i>Pastinachus</i>	<i>sephen</i>	(FORSSKÅL, 1775)	Dasyatidae	Myliobatiformes	267
<i>Rhinoptera</i>	<i>bonasus</i>	(MITCHILL, 1815)	Rhinopteridae	Myliobatiformes	266
<i>Himantura</i>	<i>uarnak</i>	(FORSSKÅL, 1775)	Dasyatidae	Myliobatiformes	254
<i>Raja</i>	<i>miraletus</i>	LINNAEUS, 1758	Rajidae	Rajiformes	248
<i>Neotrygon</i>	<i>kuhlii</i>	(MÜLLER & HENLE, 1841)	Dasyatidae	Myliobatiformes	247
<i>Raja</i>	<i>montagui</i>	FOWLER, 1910	Rajidae	Rajiformes	238
<i>Hypanus</i>	<i>sabinus</i>	(LESUEUR, 1824)	Dasyatidae	Myliobatiformes	234

Order/Family	Number of Species	No of records
Myliobatiformes	197	197
Aetobatidae	5	5
Dasyatidae	97	97
Gymnuridae	12	12
Hexatrygonidae	1	1
Mobulidae	8	8
Myliobatidae	18	18
Plesiobatididae	1	1
Potamotrygonidae	2	2
Rhinopteridae	8	8
Urolophidae	28	28
Urotrygonidae	17	17
Rajiformes	329	329
Anacanthobatidae	14	14
Arhynchobatidae	106	106
Gurgesiellidae	19	19
Potamotrygonidae	35	35
Rajidae	155	155
Rhinopristiformes	69	69
Glaucostegidae	6	6
Platyrrhinidae	5	5
Pristidae	5	5
Rhinidae	10	10
Rhinobatidae	33	33
Trygonorrhinidae	8	8
Zanobatidae	2	2
Torpediniformes	61	61
Hypnidae	1	1
Narcinidae	32	32
Narkidae	9	9
Total:	656	656

3.3.3.5 Complete list of taxonomically valid chimaeriform species

Genus	Species	Author	Family	No of records
<i>Callorhinchus</i>	<i>callorynchus</i>	(LINNAEUS, 1758)	Callorhinchidae	114
<i>Callorhinchus</i>	<i>capensis</i>	DUMÉRIL, 1865	Callorhinchidae	45
<i>Callorhinchus</i>	<i>milii</i>	BORY DE SAINT-VINCENT, 1823	Callorhinchidae	164
<i>Chimaera</i>	<i>argiloba</i>	LAST, WHITE & POGONOSKI, 2008	Chimaeridae	4
<i>Chimaera</i>	<i>bahamaensis</i>	KEMPER, EBERT, DIDIER & COMPAGNO, 2010	Chimaeridae	4
<i>Chimaera</i>	<i>buccanigella</i>	CLERKIN, EBERT & KEMPER, 2017	Chimaeridae	1
<i>Chimaera</i>	<i>carophila</i>	KEMPER, EBERT, NAYLOR & DIDIER, 2015	Chimaeridae	6
<i>Chimaera</i>	<i>cubana</i>	HOWELL RIVERO, 1936	Chimaeridae	17
<i>Chimaera</i>	<i>didierae</i>	CLERKIN, EBERT & KEMPER, 2017	Chimaeridae	1
<i>Chimaera</i>	<i>fulva</i>	DIDIER, LAST & WHITE, 2008	Chimaeridae	7
<i>Chimaera</i>	<i>jordani</i>	TANAKA, 1905	Chimaeridae	10
<i>Chimaera</i>	<i>lignaria</i>	DIDIER, 2002	Chimaeridae	21
<i>Chimaera</i>	<i>macrospina</i>	DIDIER, LAST & WHITE, 2008	Chimaeridae	5
<i>Chimaera</i>	<i>monstrosa</i>	LINNAEUS, 1758	Chimaeridae	297
<i>Chimaera</i>	<i>notafricana</i>	KEMPER, EBERT, COMPAGNO & DIDIER, 2010	Chimaeridae	8
<i>Chimaera</i>	<i>obscura</i>	DIDIER, LAST & WHITE, 2008	Chimaeridae	4
<i>Chimaera</i>	<i>ogilbyi</i>	WAITE, 1898	Chimaeridae	59
<i>Chimaera</i>	<i>opalescens</i>	LUCCHETTI, IGLÉSIAS & SELLOS, 2011	Chimaeridae	10
<i>Chimaera</i>	<i>orientalis</i>	ANGULO, LÓPEZ, BUSSING & MURASE, 2014	Chimaeridae	6
<i>Chimaera</i>	<i>owstoni</i>	TANAKA, 1905	Chimaeridae	10
<i>Chimaera</i>	<i>panthera</i>	DIDIER, 1998	Chimaeridae	10
<i>Chimaera</i>	<i>phantasma</i>	JORDAN & SNYDER, 1900	Chimaeridae	58
<i>Chimaera</i>	<i>willwatchi</i>	CLERKIN, EBERT & KEMPER, 2017	Chimaeridae	1
<i>Hydrolagus</i>	<i>affinis</i>	(DE BRITO CAPELLO, 1868)	Chimaeridae	77
<i>Hydrolagus</i>	<i>africanus</i>	(GILCHRIST, 1922)	Chimaeridae	26
<i>Hydrolagus</i>	<i>alberti</i>	BIGELOW & SCHROEDER, 1951	Chimaeridae	25

<i>Hydrolagus</i>	<i>alphus</i>	QUARANTA, DIDIER, LONG & EBERT, 2006	Chimaeridae	5
<i>Hydrolagus</i>	<i>barbouri</i>	(GARMAN, 1908)	Chimaeridae	26
<i>Hydrolagus</i>	<i>bemisi</i>	DIDIER, 2002	Chimaeridae	18
<i>Hydrolagus</i>	<i>colliei</i>	(LAY & BENNETT, 1839)	Chimaeridae	187
<i>Hydrolagus</i>	<i>deani</i>	(SMITH & RADCLIFFE, 1912)	Chimaeridae	3
<i>Hydrolagus</i>	<i>eidolon</i>	(JORDAN & HUBBS, 1925)	Chimaeridae	3
<i>Hydrolagus</i>	<i>erithacus</i>	WALOVICH, EBERT & KEMPER, 2017	Chimaeridae	1
<i>Hydrolagus</i>	<i>homonycteris</i>	DIDIER, 2008	Chimaeridae	10
<i>Hydrolagus</i>	<i>lusitanicus</i>	MOURA, FIGUEIREDO, BORDALO-MACHADO, ALMEIDA & GORDO, 2005	Chimaeridae	8
<i>Hydrolagus</i>	<i>macrophthalmus</i>	DE BUEN, 1959	Chimaeridae	21
<i>Hydrolagus</i>	<i>marmoratus</i>	DIDIER, 2008	Chimaeridae	5
<i>Hydrolagus</i>	<i>matallanasi</i>	SOTO & VOOREN, 2004	Chimaeridae	7
<i>Hydrolagus</i>	<i>mccoskeri</i>	BARNETT, DIDIER, LONG & EBERT, 2006	Chimaeridae	5
<i>Hydrolagus</i>	<i>melanophasma</i>	JAMES & EBERT & LONG & DIDIER, 2009	Chimaeridae	15
<i>Hydrolagus</i>	<i>mirabilis</i>	(COLLETT, 1904)	Chimaeridae	41
<i>Hydrolagus</i>	<i>mitsukurii</i>	(JORDAN & SNYDER, 1904)	Chimaeridae	26
<i>Hydrolagus</i>	<i>novaezealandiae</i>	(FOWLER, 1911)	Chimaeridae	35
<i>Hydrolagus</i>	<i>pallidus</i>	HARDY & STEHMANN, 1990	Chimaeridae	30
<i>Hydrolagus</i>	<i>purpurescens</i>	(GILBERT, 1905)	Chimaeridae	22
<i>Hydrolagus</i>	<i>trolli</i>	DIDIER & SÉRET, 2002	Chimaeridae	19
<i>Harriotta</i>	<i>haeckeli</i>	KARRER, 1972	Rhinochimaeridae	25
<i>Harriotta</i>	<i>raleighana</i>	GOODE & BEAN, 1895	Rhinochimaeridae	115
<i>Neoharriotta</i>	<i>carri</i>	BULLIS & CARPENTER, 1966	Rhinochimaeridae	15
<i>Neoharriotta</i>	<i>pinnata</i>	(SCHNAKENBECK, 1931)	Rhinochimaeridae	37
<i>Neoharriotta</i>	<i>pumila</i>	DIDIER & STEHMANN, 1996	Rhinochimaeridae	11
<i>Rhinochimaera</i>	<i>africana</i>	COMPAGNO, STEHMANN & EBERT, 1990	Rhinochimaeridae	27
<i>Rhinochimaera</i>	<i>atlantica</i>	HOLT & BYRNE, 1909	Rhinochimaeridae	49
<i>Rhinochimaera</i>	<i>pacifica</i>	(MITSUKURI, 1895)	Rhinochimaeridae	65

3.3.3.6 "Top 20" most studied chimaeriform species

Genus	Species	Author	Family	No or records
<i>Chimaera</i>	<i>monstrosa</i>	LINNAEUS, 1758	Chimaeridae	297
<i>Hydrolagus</i>	<i>colliei</i>	(LAY & BENNETT, 1839)	Chimaeridae	187
<i>Callorhinchus</i>	<i>milii</i>	BORY DE SAINT-VINCENT, 1823	Callorhinchidae	164
<i>Harriotta</i>	<i>raleighana</i>	GOODE & BEAN, 1895	Rhinochimaeridae	115
<i>Callorhinchus</i>	<i>callorynchus</i>	(LINNAEUS, 1758)	Callorhinchidae	114
<i>Hydrolagus</i>	<i>affinis</i>	(DE BRITO CAPELLO, 1868)	Chimaeridae	77
<i>Rhinochimaera</i>	<i>pacifica</i>	(MITSUKURI, 1895)	Rhinochimaeridae	65
<i>Chimaera</i>	<i>ogilbyi</i>	WAITE, 1898	Chimaeridae	59
<i>Chimaera</i>	<i>phantasma</i>	JORDAN & SNYDER, 1900	Chimaeridae	58
<i>Rhinochimaera</i>	<i>atlantica</i>	HOLT & BYRNE, 1909	Rhinochimaeridae	49
<i>Callorhinchus</i>	<i>capensis</i>	DUMÉRIL, 1865	Callorhinchidae	45
<i>Hydrolagus</i>	<i>mirabilis</i>	(COLLETT, 1904)	Chimaeridae	41
<i>Neoharriotta</i>	<i>pinnata</i>	(SCHNAKENBECK, 1931)	Rhinochimaeridae	37
<i>Hydrolagus</i>	<i>novaezealandiae</i>	(FOWLER, 1911)	Chimaeridae	35
<i>Hydrolagus</i>	<i>pallidus</i>	HARDY & STEHMANN, 1990	Chimaeridae	30
<i>Rhinochimaera</i>	<i>africana</i>	COMPAGNO, STEHMANN & EBERT, 1990	Rhinochimaeridae	27
<i>Hydrolagus</i>	<i>africanus</i>	(GILCHRIST, 1922)	Chimaeridae	26
<i>Hydrolagus</i>	<i>barbouri</i>	(GARMAN, 1908)	Chimaeridae	26
<i>Hydrolagus</i>	<i>mitsukurii</i>	(JORDAN & SNYDER, 1904)	Chimaeridae	26
<i>Hydrolagus</i>	<i>alberti</i>	BIGELOW & SCHROEDER, 1951	Chimaeridae	25

Order/Family	Number of Species	Number of Records
Chimaeriformes	54	1821
Callorhynchidae	3	323
Chimaeridae	43	1154
Rhinochimaeridae	8	344
Total:	54	1821

3.3.4 Papers of new extant genera/species



WEIGMANN, S. & KASCHNER, C.J. & THIEL, R. (2018): A new microendemic species of the deep-water catshark genus *Bythaelurus* (Carcharhiniformes, Pentanchidae) from the northwestern Indian Ocean, with investigations of its feeding ecology, generic review and identification key. *PLoS ONE*, 13 (12): e0207887

New species: *Bythaelurus stewarti*

Abstract: A new deep-water catshark, *Bythaelurus stewarti*, is described based on 121 examined specimens caught on the Error Seamount (Mount Error Guyot) in the northwestern Indian Ocean. The new species differs from all congeners in the restricted distribution, a higher spiral valve turn count and in the morphology of the dermal denticles. It is distinguished from its morphologically and geographically closest congener, *B. hispidus* (Alcock), by the larger size (maximum size 44 vs. 39 cm TL, maturity size of males 35–39 vs. 21–28 cm TL), darker fresh coloration and dark grayish-brown mottling of the ventral head (vs. ventral head typically uniformly yellowish or whitish). Furthermore, it has a strongly different morphology of dermal denticles, in particular smaller and less elongate branchial, trunk and lateral caudal denticles that are set much less densely and have a surface that is very strongly and fully structured by reticulations (vs. structured by reticulations only in basal fourth). In addition, the new species differs from *B. hispidus* in having more slender claspers that are gradually narrowing to the bluntly pointed tip without knob-like apex (vs. claspers broader and with distinct knob-like apex), more spiral valve turns (11–12 vs. 8–10) and numerous statistical differences in morphometrics. A review of and a key to the species of *Bythaelurus* are given.



EBERT, D.A. & VAN HEES, K.E. (2018): *Etmopterus marshae* sp. nov, a new lanternshark (Squaliformes: Etmopteridae) from the Philippine Islands, with a revised key to the *Etmopterus lucifer* clade. *Zootaxa*, 4508 (2): 197–210

New species: *Etmopterus marshae*

Abstract: A new species of lanternshark, *Etmopterus marshae* (Squaliformes: Etmopteridae), is described from the Philippine Islands, western North Pacific Ocean. The new species occurs along insular slopes at a depth range of 322–337 m. The new species resembles other members of the “*Etmopterus lucifer*” clade in having linear rows of dermal denticles, and most closely resembles *E. burgessi* from Taiwan and *E. evansi* and *E. pycnolepis* from the South Pacific. It can be distinguished from all other members of the *E. lucifer* clade by a combination of characteristics, including length of anterior and posterior flank branches being of relatively equal length, straight vs. curved anterior flank marking, relative lengths of caudal markings, coloration, and relatively small size. A revised key to the revised key to the *Etmopterus lucifer* clade is provided.

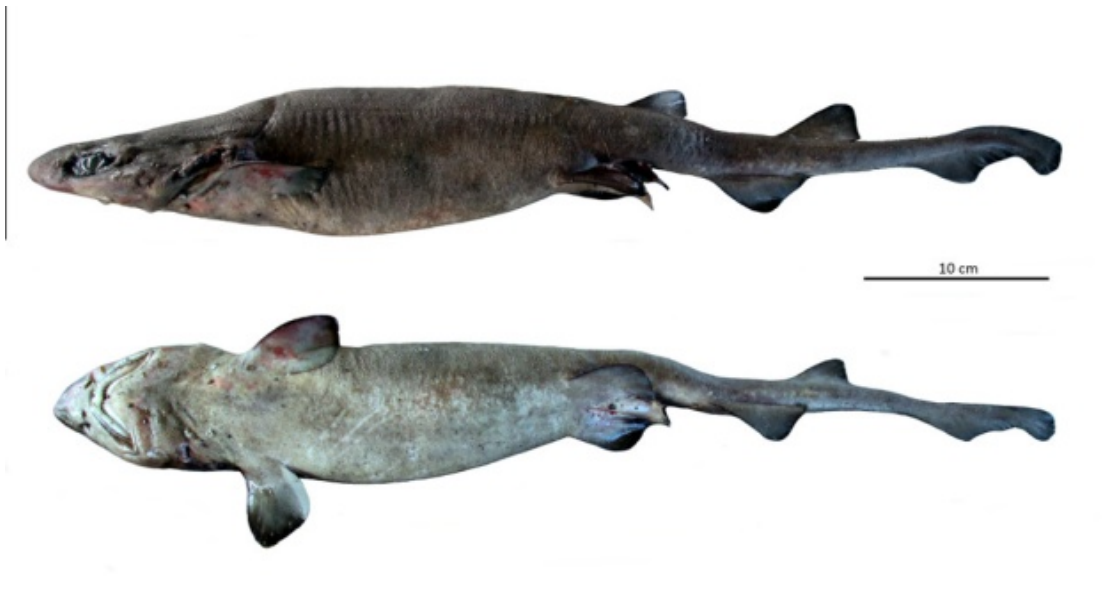


PAVAN-KUMAR, A. & KUMAR, R. & PITALE, P. & SHEN, K.N. & BORSA, P. (2018): *Neotrygon indica* sp. nov., the Indian Ocean blue-spotted maskray (Myliobatoidei, Dasyatidae). *Comptes Rendus Biologies*, 341 (2): 120-130

New species: *Neotrygon indica*

Abstract: The blue-spotted maskray, previously *N. kuhlii*, consists of up to eleven lineages representing separate species. Nine of these species (*N. australiae*, *N. bobwardi*, *N. caeruleopunctata*, *N. malaccensis*, *N. moluccensis*, *N. orientale*, *N. vali*, *N. varidens*, *N. westpapuensis*) have already been formally described and two (Indian Ocean maskray and Ryukyu maskray) remain undescribed. Here, the Indian Ocean maskray is described as a new species, *Neotrygon indica* sp. nov. Specimens of the new species were generally characterized on their dorsal side by a moderately large number of small ocellated blue spots, a low number of medium-sized ocellated blue spots, the absence of large ocellated blue spots, a high number of dark speckles, a few dark spots, and a conspicuous occipital mark. The new species formed a distinct haplogroup in the tree built from concatenated nucleotide sequences at the CO1 and cytochrome b loci. A diagnosis based on colour patterns and nucleotide sequences at the CO1 and cytochrome b loci is proposed. The distribution of *N. indica* sp. nov. includes the Indian coast of the Bay of Bengal, the Indian coast of the Laccadives Sea, and Tanzania.

Considerable sampling effort remains necessary for an in-depth investigation of the phylogeographic structure of the Indian Ocean maskray.



FAHMI & EBERT, D.A. (2018): *Parmaturus nigripalatum* n. sp., a new species of deep-sea catshark (Chondrichthyes: Carcharhiniformes: Scyliorhinidae) from Indonesia. *Zootaxa*, 4413 (3): 531–540

New species: *Parmaturus nigripalatum*

Abstract: *Parmaturus nigripalatum*, a new species of catshark of the genus *Parmaturus* is described from a single specimen collected from a deep-water shark longliner operating in south Sumbawa waters, Indonesia. This new species is distinguished from its closest geographic congener *P. lanatus* by having prominent enlarged caudal crests, well-developed labial furrows with the uppers and lowers of equal lengths, mouth roof blackish with dark pores, first dorsal fin origin more posteriorly positioned on body trunk, and much lower tooth counts than all other known *Parmaturus* species. This is the second *Parmaturus* species recorded from Indonesian waters.



EBERT, D.A. & AKHILESH, K.V. & WEIGMANN, S. (2018): *Planonasus indicus* sp. n., a new species of pygmy false catshark (Chondrichthyes: Carcharhiniformes: Pseudotriakidae), with a revised diagnosis of the genus and key to the family. *Marine Biodiversity, in press*

New species: *Planonasus indicus*

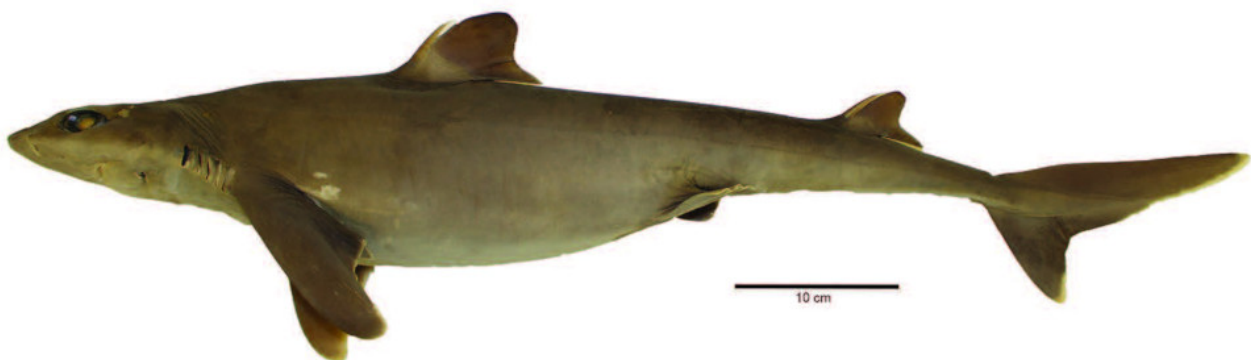
Abstract: A new species of the genus *Planonasus* is described from off southwestern India and Sri Lanka in the northern Indian Ocean. The new species occurs along the upper continental slope from 200 to 1000 m deep and was landed in fisheries for gulper sharks (*Centrophorus* spp.). *Planonasus indicus* sp. n. externally closely resembles *P. parini* (Carcharhiniformes: Pseudotriakidae), the only other member of the genus. It can be distinguished from *P. parini* by a combination of morphological characters including absence of oral papillae, lack of a distinct white mark on the free rear tip of the first dorsal fin, sides and underside of head, as well as fin edges that are similar in color as body (vs. dusky), more tooth rows in the lower jaw, shorter labial furrows, longer and less high spiracles, proportionally higher, more angular dorsal fins, especially the second dorsal fin, proportionally longer pectoral fins, a proportionally larger anal fin, longer distances from the snout tip to the origins of the caudal fin, both dorsal fins and the pelvic fins, as well as to the vent, and shorter distances for preorbital snout, prepectoral length, pelvic midpoint to second dorsal fin origin, and pelvic-anal space. A revised diagnosis of the genus and key to the family is also provided.



PFLEGER, M.O. & GRUBBS, R.D. & COTTON, C.F. & DALY-ENGEL, T.S. (2018): *Squalus clarkae* sp. nov., a new dogfish shark from the Northwest Atlantic and Gulf of Mexico, with comments on the *Squalus mitsukurii* species complex. *Zootaxa*, 4444 (2): 101–119

New species: *Squalus clarkae*

Abstract: Sharks of the genus *Squalus* have slow reproductive rates coupled with low genetic diversity, as is typical of deep-water sharks, making this group slow to rebound from depletion due to overfishing. The number of species within *Squalus* has been expanding recently due to increased attention on taxonomic revision, and a growing research focus on little-known deep-water sharks in general. Here we use genetics and morphology to describe a new species of dogfish shark, *Squalus clarkae* sp. nov. from the Gulf of Mexico (GoM) which replaces *Squalus mitsukurii* in this region, and place it in the context of congeners from the Atlantic and elsewhere. Previously, *S. clarkae* sp. nov. was considered a part of the *Squalus mitsukurii* species complex, a group of closely related but distinct species. We sequenced the mitochondrial cytochrome oxidase I and the NADH Dehydrogenase II gene of *S. mitsukurii* from the type location in Japan, *S. clarkae* sp. nov. from the GoM, as well as three closely related species (*S. cubensis*, *S. blainville*, and *S. megalops*) and *S. cf. mitsukurii* from Brazil. *Squalus clarkae* sp. nov. is genetically distinct from other species with significant statistical support (>98.6% bootstrap support/posterior probability), and 2.8% divergent from *S. mitsukurii* in the type location of Japan. Morphological estimates also revealed differences between *S. clarkae* sp. nov., *S. mitsukurii*, and other Atlantic *Squalus* species, with *S. clarkae* sp. nov. exhibiting a longer body, smaller interorbital space, shorter caudal fin, and a differently-proportioned first dorsal fin. In general, dogfish sharks in the Atlantic and GoM are characterized by similar but distinct morphology, significant genetic variation, and small species ranges.



DALY-ENGEL, T.S. & KOCH, A. & ANDERSON, J.M. & COTTON, C.F. & GRUBBS, R.D. (2018): Description of a new deep-water dogfish shark from Hawaii, with comments on the *Squalus mitsukurii* species complex in the West Pacific. *ZooKeys*, 798: 135–157

New species: *Squalus hawaiiensis*

Abstract: Dogfish sharks of the genus *Squalus* are small, deep-water sharks with a slow rate of molecular evolution that has led to their designation as a series of species complexes, with low between-species diversity relative to other taxa. The largest of these complexes is named for the Shortspine spurdog (*Squalus mitsukurii* Jordan & Snyder), a medium-sized dogfish shark common to warm upper slope and seamount habitats, with a putative circumglobal distribution that has come under investigation recently due to geographic variation in morphology and genetic diversity. The Hawaiian population of *Squalus mitsukurii* was examined using both morphological and molecular analyses, putting this group in an evolutionary context with animals from the type population in Japan and closely-related congeners. External morphology differs significantly between the Hawaiian and Japanese *S. mitsukurii*, especially in dorsal fin size and relative interdorsal length, and molecular analysis of 1,311 base pairs of the mitochondrial genes ND2 and COI show significant, species-level divergence on par with other taxonomic studies of this genus. The dogfish shark in Hawaii represents a new species in the genus, and the name *Squalus hawaiiensis*, the Hawaiian spurdog, is designated after the type location.



VAZ, D.F.B. & DE CARVALHO, M.R. (2018): New Species of *Squatina* (Squatiniformes: Squatinidae) from Brazil, with Comments on the Taxonomy of Angel Sharks from the Central and Northwestern Atlantic. *Copeia*, 106 (1): 144–160

New species: *Squatina varii*

Abstract: Morphological analysis of South- and Northwestern Atlantic specimens of *Squatina* revealed an undescribed species of angel shark occurring on the continental slope of Brazil between latitudes 11° and 22°S. The new species of *Squatina* is distinguished from western Atlantic congeners by a unique combination of dorsal color pattern, vertebral counts, morphology of lateral dermal folds, dermal denticles, female reproductive tract, clasper, and pectoral fin characters. A preliminary assessment of the taxonomy of angel shark species from the Central and Northwestern Atlantic is also provided.



DALY-ENGEL, T.S. & BAREMORE, I.E. & GRUBBS, R.D. & GULAK, S.J.B. & GRAHAM, R.T. & ENZENAUER, M.P. (2018): Resurrection of the sixgill shark *Hexanchus vitulus* Springer & Waller, 1969 (Hexanchiformes, Hexanchidae), with comments on its distribution in the northwest Atlantic Ocean. *Marine Biodiversity*, in press

New species: *Hexanchus vitulus* (Resurrection)

Abstract: The sixgill sharks of the genus *Hexanchus* (Hexanchiformes, Hexanchidae) are large, rarely encountered deep-sea sharks, thought to comprise just two species: the bluntnose sixgill *Hexanchus griseus* (Bonaterre, 1788) and the bigeye sixgill *Hexanchus nakamurai* (Teng, 1962). Their distribution is putatively worldwide in tropical and temperate waters, but many verified records for these species are lacking, and misidentification is common. Taxonomic uncertainty has long surrounded *H. nakamurai* in particular, with debate as to whether individuals from the Atlantic constitute a separate species. Using 1,310 base pairs of two mitochondrial genes, *COI* and *ND2*, we confirm that bigeye sixgill sharks from the Atlantic Ocean (Belize, Gulf of Mexico, and Bahamas) diverge from those in the Pacific and Indian Oceans (Japan, La Reunion, and Madagascar) with 7.037% sequence divergence. This difference is similar to the genetic distance between both Atlantic and Indo-Pacific bigeye sixgill sharks and the bluntnose sixgill shark (7.965% and 8.200%, respectively), and between the entire genus *Hexanchus* and its sister genus *Heptanchias* (8.308%). Such variation far exceeds previous measures of species-level genetic divergence in elasmobranchs, even among slowly-evolving deep-water taxa. Given the high degree of morphological similarity within *Hexanchus*, and the fact that cryptic diversity is common even among frequently observed shark species, we conclude that these results support the resurrection of the name *Hexanchus vitulus* Springer and Waller, 1969 for bigeye sixgill sharks in the northwest Atlantic Ocean. We propose the common name “Atlantic sixgill shark” for *H. vitulus*, and provide new locality records from Belize, as well as comments on its overall distribution.

3.4 Parasitology

3.4.1 Research Articles

- BAKENHASTER, M.D. & BULLARD, S.A. & CURRAN, S.S. & KRITSKY, D.C. & LEONE, E.H. & PARTRIDGE, L.K. & RUIZ, C.F. & SCHARER, R.M. & POULAKIS, G.R. (2018)** Parasite component community of smalltooth sawfish off Florida: diversity, conservation concerns, and research applications. *Endangered Species Research*, 35: 47-58 <http://dx.doi.org/10.3354/esr00863>
- BAKOPOULOS, V. & TSEPA, E. & DIAKOU, A. & KOKKORIS, G. & KOLYGAS, M.N. & ATHANASSOPOULOU, F. (2018)** Parasites of *Scylliorhinus canicula* (Linnaeus, 1758) in the north-eastern Aegean Sea. *Journal of the Marine Biological Association of the United Kingdom*, 98 (Special Issue 8): 2133-2143 <http://dx.doi.org/10.1017/S0025315417001552>
- BOWATER, R.O. & DENNIS, M.M. & BLYDE, D. & STONE, B. & BARNES, A.C. & DELAMARE-DEBOUTTEVILLE, J. & HORTON, M.A. & WHITE, M. & CONDON, K. & JONES, R. (2018)** Epizootics of *Streptococcus agalactiae* infection in captive rays from Queensland, Australia. *Journal of Fish Diseases*, 41 (2): 223-232 <http://dx.doi.org/10.1111/jfd.12701>
- BOXSHALL, G. (2018)** The sea lice (Copepoda: Caligidae) of Moreton Bay (Queensland, Australia), with descriptions of thirteen new species. *Zootaxa*, 4398 (1): 1-172 <http://dx.doi.org/10.11646/zootaxa.4398.1.1>
- CAIRA, J.N. & JENSEN, K. & FYLER, C.A. (2018)** A new genus of tapeworm (Cestoda: Onchoproteocephalidea) from sawfish (Elasmobranchii: Pristidae). *Journal of Parasitology*, 104 (2): 133-144 <http://dx.doi.org/10.1645/17-165>
- CANTATORE, D.M.P. & IRIGOITIA, M.M. & HOLZER, A.S. & BARTOSOVA-SOJKOVA, P. & PECKOVA, H. & FIALA, I. & TIMI, J.T. (2018)** The description of two new species of *Chloromyxum* from skates in the Argentine Sea reveals that a limited geographic host distribution causes phylogenetic lineage separation of myxozoans in Chondrichthyes. *Parasite*, 25: 47 <http://dx.doi.org/10.1051/parasite/2018051>
- CHERO, J.D. & CRUCES, C.L. & SÁEZ, G. & CAMARGO, A.C.A. & SANTOS, C.P. & LUQUE, J.L. (2018)** *Hypanocotyle bullardi* n. gen. n. sp. (Monogenea: Hexabothriidae) from gill of the diamond stingray *Hypanus dipterurus* (Jordan et Gilbert) (Myliobatiformes: Dasyatidae) in the Southeastern Pacific Ocean off Peru. *Parasitology International*, 67 (4): 425-430 <http://dx.doi.org/10.1016/j.parint.2018.03.010>
- CHERO, J.D. & CRUCES, C.L. & SÁEZ, G. & LUQUE, J.L. (2018)** A new genus and species of the Dasybatotremiinae Bychowsky, 1957 (Monogenea: Monocotylidae), parasitic on *Hypanus dipterurus* (Jordan & Gilbert) (Myliobatiformes: Dasyatidae) in the Southeastern Pacific Ocean off Peru. *Zootaxa*, 4527 (3): 347-356 <http://dx.doi.org/10.11646/zootaxa.4527.3.4>
- COLEMAN, G.M. & BEVERIDGE, I. & CAMPBELL, R.A. (2018)** New species of *Rhinebothrium* Linton, 1890 (Cestoda: Rhinebothriidae) parasitic in Australian stingrays (Elasmobranchii: Batoidea). *Systematic Parasitology*, in press <http://dx.doi.org/10.1007/s11230-018-9835-8>
- CRUZ-QUINTANA, Y. & CAÑA-BOZADA, V. & SUÁREZ-MORALES, E. & SANTANA-PIÑEROS, A.M. (2018)** A new species of *Pupulina* van Beneden, 1892 (Copepoda, Siphonostomatoida, Caligidae) from *Aetobatus* cf. *narinari* (Pisces, Myliobatidae) from the Pacific coast of Ecuador. *ZooKeys*, 777: 1-16 <http://dx.doi.org/10.3897/zookeys.777.26017>
- CUTMORE, S.C. & CRIBB, T.H. & BENNETT, M.B. & BEVERIDGE, I. (2018)** Tetraphyllidean and onchoproteocephalidean cestodes of elasmobranchs from Moreton Bay, Australia: description of two new species and new records for seven described species. *Systematic Parasitology*, 95 (8-9): 807-827 <http://dx.doi.org/10.1007/s11230-018-9817-x>
- CUTMORE, S.C. & CRIBB, T.H. & YONG, R.Q.Y. (2018)** Aporocotylids from batoid and elopomorph fishes from Moreton Bay, Queensland, Australia, including a new genus and species of blood fluke infecting the Giant shovelnose ray, *Glaucostegus typus* (Rhinopristiformes: Glaucostegidae). *Parasitology International*, 67 (6): 768-775 <http://dx.doi.org/10.1016/j.parint.2018.08.003>
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- DIPPENAAR, S.M. (2018)** Description of four new species and a revision of the genus *Tripaphylus* Richiardi in Anonymus, 1878 (Copepoda: Siphonostomatoida: Sphyrriidae). *Systematic Parasitology*, 95 (2-3): 173-200 <http://dx.doi.org/10.1007/s11230-017-9767-8>
- DIPPENAAR, S.M. (2018)** Symbiotic Siphonostomatoida (Copepoda) collected from white sharks, *Carcharodon carcharias* (Lamniformes, Lamnidae), during the OCEARCH expedition along the coast of South Africa. *Crustaceana*, 91 (1): 103-111 <http://dx.doi.org/10.1163/15685403-00003746>
- DIPPENAAR, S.M. (2018)** Resurrection of *Alebion difficile* (van Beneden, 1892) (Copepoda: Siphonostomatoida: Caligidae) with notes on other species of *Alebion* Krøyer, 1863 collected from

- elasmobranchs off South Africa and an updated key of the adult females. *Systematic Parasitology*, 95 (8-9): 881–891 <http://dx.doi.org/10.1007/s11230-018-9811-3>
- DUCATTI, R. & TAKATSUKA, V. & AZEVEDO, V.G. & SANCHES, E.G. & PASCHOAL, F. & LUQUE, J.L. (2018)** Occurrence of *Metacaligus rufus* (Wilson, 1908) (Copepoda, Caligidae) parasitizing the cownose ray *Rhinoptera bonasus* (Mitchill, 1815) (Elasmobranchii, Myliobatidae) in Brazil. *Brazilian Journal of Biology*, 78 (3): 597-599 <http://dx.doi.org/10.1590/1519-6984.175363>
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- IRIGOITIA, M.M. & BRAICOVICH, P.E. & LANFRANCHI, A.L. & FARBER, M.D. & TIMI, J.T. (2018)** Distribution of anisakid nematodes parasitizing rajiform skates under commercial exploitation in the Southwestern Atlantic. *International Journal of Food Microbiology*, 267: 20-28 <http://dx.doi.org/10.1016/j.ijfoodmicro.2017.12.009>
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- NACARI, L.A. & SEPULVEDA, F.A. & ESCRIBANO, R. & OLIVA, M.E. (2018)** *Acanthocotyle gurgesiella* n. sp (Monogenea: Acanthocotylidae) from the deep-sea skate *Gurgesiella furvescens* (Rajidae) in the south-eastern Pacific. *Journal of Helminthology*, 92 (2): 223-227 <http://dx.doi.org/10.1017/s0022149x17000220>
- OZAK, A.A. & YANAR, A. & SAKARYA, Y. & BOXSHALL, G.A. (2018)** The discovery of *Lepeophtheirus acutus* Heegaard, 1943 (Copepoda: Caligidae) from two new elasmobranch hosts in the Mediterranean Sea, and a comparative redescription of *Lepeophtheirus rhinobati* Luque, Chaves et Cezar, 1998. *Acta Parasitologica*, 63 (3): 454-473 <http://dx.doi.org/10.1515/ap-2018-0055>
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- SCHAEFFNER, B.C. (2018)** *Hispidorhynchus styraurae* n. sp. (Trypanorhyncha: Eutetrarhynchidae) From the Chupare Stingray, *Styracura schmardae* (Werner), from the Caribbean Sea, Including New Records of *Oncomegas wagneri* (Linton, 1890). *Journal of Parasitology*, 104 (6): 685-696 <http://dx.doi.org/10.1645/17-5>
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- VÉLIZ, C. & LÓPEZ, Z. & GONZÁLEZ, M.T. & ACUÑA, E. (2018)** Copépodos parásitos (Siphonostomatoida: Pandaridae) de *Prionace glauca* e *Isurus oxyrinchus*, capturados en la costa central de Chile. *Revista de Biología Marina y Oceanografía*, 53 (S1): 51-56
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3.4.2 Descriptions of new Parasites of Elasmobranchs (genera/species)

3.4.2.1 List of new Parasites of Elasmobranchs (genera)

<i>Aloculibothrium</i>	MANNA & MANNA, 2018	(Onchoproteocephalideadea: Onchobothriidae)
<i>Alveobothrium</i>	BOUDAYA, NEIFAR & EUZET, 2018	(Rhinebothriidea: Anthocephaliidae)
<i>Hypanocotyle</i>	CHERO, CRUCES, SÁEZ, CAMARGO, SANTOS & LUQUE, 2018	(Diclybothriidea: Hexabothriidae)
<i>Matticestus</i>	CAIRA, JENSEN & FYLER, 2018	(Onchoproteocephalidea)
<i>Ogawaia</i>	CUTMORE, CRIBB & YONG, 2018	(Diplostomida: Aporocotylidae)
<i>Peruanocotyle</i>	CHERO, CRUCES, SÁEZ & LUQUE, 2018	(Monocotylidea: Monocotylidae)

3.4.2.2 List of new Parasites of Elasmobranchs (species)

<i>Acanthobothrium marquesi</i>	RODRIGUEZ-IBARRA, PULIDO- FLORES, VIOLANTE-GONZALEZ & MONKS, 2018	(Onchoproteocephalideadea: Onchobothriidae)
<i>Acanthobothrium stefaniae</i>	FRANZESE & IVANOV, 2018	(Onchoproteocephalideadea: Onchobothriidae)
<i>Acanthocotyle gurgesiella</i>	NACARI, SEPULVEDA, ESCRIBANO & OLIVA, 2018	(Gyrodactyliidea: Acanthocotylidae)
<i>Aloculibothrium dasyatii</i>	MANNA & MANNA, 2018	(Onchoproteocephalideadea: Onchobothriidae)
<i>Alveobothrium grabatum</i>	BOUDAYA, NEIFAR & EUZET, 2018	(Rhinebothriidea: Anthocephaliidae)
<i>Alveobothrium zarzisense</i>	BOUDAYA, NEIFAR & EUZET, 2018	(Rhinebothriidea: Anthocephaliidae)
<i>Alveobothrium jeancadenati</i>	BOUDAYA, NEIFAR & EUZET, 2018	(Rhinebothriidea: Anthocephaliidae)
<i>Anthocephalum blairi</i>	HERZOG & JENSEN, 2018	(Rhinebothriidea: Anthocephaliidae)
<i>Anthocephalum gravisii</i>	HERZOG & JENSEN, 2018	(Rhinebothriidea: Anthocephaliidae)
<i>Anthocephalum haroldsoni</i>	HERZOG & JENSEN, 2018	(Rhinebothriidea: Anthocephaliidae)
<i>Anthocephalum mounseyi</i>	HERZOG & JENSEN, 2018	(Rhinebothriidea: Anthocephaliidae)
<i>Anthocephalum ruhnekei</i>	HERZOG & JENSEN, 2018	(Rhinebothriidea: Anthocephaliidae)
<i>Caligus elasmobranchi</i>	BOXSHALL, 2018	(Siphonostomatoida: Caligidae)
<i>Chloromyxum atlantoraji</i>	CANTATORE, IRIGOITIA, HOLZER, BARTOSOVA-SOJKOVA, PECKOVA, FIALA & TIMI, 2018	(Bivalvulida: Chloromyxidae)

<i>Chloromyxum zearaji</i>	CANTATORE, IRIGOITIA, HOLZER, BARTOSOVA-SOJKOVA, PECKOVA, FIALA & TIMI, 2018	(Bivalvulida: Chloromyxidae)
<i>Hypanocotyle bullardi</i>	CHERO, CRUCES, SÁEZ, CAMARGO, SANTOS & LUQUE, 2018	(Diclybothriidea: Hexabothriidae)
<i>Matticestus annea</i>	CAIRA, JENSEN & FYLER, 2018	(Onchoproteocephalidea)
<i>Matticestus kathleenae</i>	CAIRA, JENSEN & FYLER, 2018	(Onchoproteocephalidea)
<i>Neonchocotyle violantei</i>	QUITERIO-RENDON & MONKS & PULIDO-FLORES, 2018	(Diclybothriidea: Hexabothriidae)
<i>Ogawaia glaucostegi</i>	CUTMORE, CRIBB & YONG, 2018	(Diplostomida: Aporocotylidae)
<i>Parachristianella mendozai</i>	SCHAEFFNER & MARQUES, 2018	(Trypanorhyncha: Eutetrarhynchidae)
<i>Parachristianella kuchtai</i>	SCHAEFFNER & MARQUES, 2018	(Trypanorhyncha: Eutetrarhynchidae)
<i>Parachristianella campbelli</i>	SCHAEFFNER & MARQUES, 2018	(Trypanorhyncha: Eutetrarhynchidae)
<i>Parachristianella soldanovae</i>	SCHAEFFNER & MARQUES, 2018	(Trypanorhyncha: Eutetrarhynchidae)
<i>Parachristianella dollfusi</i>	SCHAEFFNER & MARQUES, 2018	(Trypanorhyncha: Eutetrarhynchidae)
<i>Peruanocotyle chisholmae</i>	CHERO, CRUCES, SÁEZ & LUQUE, 2018	(Monocotylidea: Monocotylidae)
<i>Pupulina keiri</i>	BOXSHALL, 2018	(Siphonostomatoida: Caligidae)
<i>Pupulina mantensis</i>	CRUZ-QUINTANA, CAÑA-BOZADA, SUÁREZ-MORALES & SANTANA-PIÑEROS, 2018	(Siphonostomatoida: Caligidae)
<i>Rhinebothrium dasyatidis</i>	COLEMAN, BEVERIDGE & CAMPBELL, 2018	(Rhinebothriidea: Rhinebothriidae)
<i>Rhinebothrium bunburyense</i>	COLEMAN, BEVERIDGE & CAMPBELL, 2018	(Rhinebothriidea: Rhinebothriidae)
<i>Rhinebothrium vandiemeni</i>	COLEMAN, BEVERIDGE & CAMPBELL, 2018	(Rhinebothriidea: Rhinebothriidae)
<i>Rhinebothrium fluviorum</i>	COLEMAN, BEVERIDGE & CAMPBELL, 2018	(Rhinebothriidea: Rhinebothriidae)
<i>Rhinebothrium urolophi</i>	COLEMAN, BEVERIDGE & CAMPBELL, 2018	(Rhinebothriidea: Rhinebothriidae)
<i>Rhinebothrium nickoli</i>	COLEMAN, BEVERIDGE & CAMPBELL, 2018	(Rhinebothriidea: Rhinebothriidae)
<i>Rhinebothrium fungiforme</i>	COLEMAN, BEVERIDGE & CAMPBELL, 2018	(Rhinebothriidea: Rhinebothriidae)
<i>Stillabothrium allisonae</i>	DEDRICK & REYDA, 2018	(Tetraphyllidea: Escherbothriidae)
<i>Stillabothrium charlotteae</i>	IWANYCKYJ, DEDRICK & REYDA, 2018	(Tetraphyllidea: Escherbothriidae)
<i>Yorkeria williamsi</i>	CUTMORE, CRIBB, BENNETT & BEVERIDGE, 2018	(Tetraphyllidea: Onchobothriidae)
<i>Yorkeria moretonensis</i>	CUTMORE, CRIBB, BENNETT & BEVERIDGE, 2018	(Tetraphyllidea: Onchobothriidae)

3.4.3 Papers of new parasites genera/species

RODRIGUEZ-IBARRA, E. & PULIDO-FLORES, G. & VIOLANTE-GONZALEZ, J. & MONKS, S. (2018): A new species of *Acanthobothrium* (Eucestoda: Onchobothriidae) in *Aetobatus* cf. *narinari* (Myliobatidae) from Campeche, Mexico. *Revista Brasileira De Parasitologia Veterinaria*, 27 (1): 67-74

New species: *Acanthobothrium marquesi*

Abstract: The helminthological examination of nine individuals of *Aetobatus* cf. *narinari* (spotted eagle ray; raya pinta; arraia pintada) revealed the presence of an undescribed species of cestode of the genus *Acanthobothrium*. The stingrays were collected from four locations in México: Laguna Términos, south of Isla del Carmen and the marine waters north of Isla del Carmen and Champotón, in the State of Campeche, and Isla Holbox, State of Quintana Roo. The new species, nominated *Acanthobothrium marquesi*, is a category 3 species (i.e. the strobila is long, has more than 50 proglottids, the numerous testicles greater than 80, and has asymmetrically-lobed ovaries); at the present, the only category 3 species that has been reported in the Western Atlantic Ocean is *Acanthobothrium tortum*. *Acanthobothrium marquesi* n. sp. can be distinguished from *A. tortum* by length (26.1 cm vs. 10.6 cm), greater number of proglottids (1,549 vs. 656), a larger scolex (707 µm long by 872 µm wide vs. 699 µm long by 665 µm wide), larger bothridia (626 µm long by 274 µm wide vs. 563 µm long by 238 µm wide). This is the first report of a species of *Acanthobothrium* from the Mexican coast of the Gulf México.

FRANZESE, S. & IVANOV, V.A. (2018): Hyperapolytic species of *Acanthobothrium* (Cestoda: Onchoproteocephalidea) from batoids off Argentina. *Journal of Helminthology*, 92 (2): 223-227

New species: *Acanthobothrium stefaniae*

Abstract: Two hyperapolytic species of *Acanthobothrium* Blanchard, 1848 have been collected from *Discopyge tschudii* Heckel, 1846 and *Zapteryx brevirostris* (Muller et Henle) along the coast of Argentina. *Acanthobothrium stefaniae* sp. n. from *D. tschudii* is a category one species (i.e., it is less than 15 mm in total length, possesses fewer than 50 proglottids, fewer than 80 testes and essentially symmetrical ovary), and differs from all congeners by the following combination of features: proglottid hyperapolysis, hook morphology, size and shape of the cirrus sac, and by having spinitriches in the distal bothridial surface. This is the first record of *Acanthobothrium* in *Discopyge* Heckel, 1846. The specimens from *Z. brevirostris* conform to the morphology of *Acanthobothrium zapteryicum* Ostrowski de NUfiez, 1971. A redescription of this species is presented, which expands most ranges of measurements originally given, and provides details omitted in the original description, including the microtrix pattern. This study allowed us to observe the intraspecific variation in ovarian symmetry in *A. zapteryicum*, which shed some doubt on the validity of this as a diagnostic feature. The reproductive strategy (apolysis) of several species of *Acanthobothrium* was reviewed and summarized.

NACARI, L.A. & SEPULVEDA, F.A. & ESCRIBANO, R. & OLIVA, M.E. (2018): *Acanthocotyle gurgesiella* n. sp. (Monogenea: Acanthocotylidae) from the deep-sea skate *Gurgesiella furvescens* (Rajidae) in the south-eastern Pacific. *Journal of Helminthology*, 92 (2): 223-227

New species: *Acanthocotyle gurgesiella*

Abstract: Little is known about the diversity of parasites of the deep-sea fish of the world's oceans. Here, a new species of monogenean parasite of the deep-sea skate *Gurgesiella furvescens* is described. Specimens of parasites were obtained from the skin of two specimens of the dusky finless skate, *G. furvescens* (Rajidae), in the vicinity of Valparaiso (33 degrees S, 72 degrees W), central Chile, from midwater trawl fishing at depths of 350-450 m. Both morphological and molecular analyses were conducted to provide a full description of the new species, named *Acanthocotyle gurgesiella*. For the molecular analyses, nuclear large subunit (LSU) rDNA and the mitochondrial gene cytochrome c oxidase 1 (COI) were used. From the morphological analysis and a comparison with the known species of the genus, *A. gurgesiella* can be identified by a combination of morphological characteristics, including the number of testes, number of radial rows of sclerites in the

pseudohaptor, aperture of the genital pore and shape of the vitelline follicles. The results from the DNA analysis indicated that *A. gurgesiella* has a genetic divergence of 3.2-3.7% (LSU rDNA gene) from *A. urolophi*, the only congener species for which molecular data are available.

MANNA, S. & MANNA, B. (2018): A New Genus of the Tetracanthocephalid Cestodes from *Dasyatis sephen* Forsskal, 1775 Captured from Digha Coastal Water, Bay of Bengal, India. *Proceedings of the Zoological Society*, 71 (4): 305–312

New species: *Aloculibothrium dasyatii*

Abstract: *Aloculibothrium dasyatii* n. gen. n. sp. is described from the spiral intestine of *Dasyatis sephen* Forsskal, 1775 captured at Digha coastal waters, Bay of Bengal, India. This species is placed under the family Onchobothriidae (Braun, 1900) and erected a new genus *Aloculibothrium* to accommodate this specimen. The body is 24.22–36.58 mm long and with 310–325 proglottids; scolex rectangular with two parts; anterior bearing four bothridia with paired bifurcated hooks, divided into inner and outer prong and posterior with fleshy collar. The cestode has been compared with all the existing twelve different valid genera under the family Onchobothriidae but to accommodate the present specimens a new genera *Aloculibothrium* is erected.

BOUDAYA, L. & NEIFAR, L. & EUZET, L. (2018): A new genus and three new species of *Anthocephaliidae* (Cestoda, Rhinebothriidea) from the round fantail stingray, *Taeniurops grabata* (Chondrichthyes, Dasyatidae) from the Mediterranean Sea and Atlantic Ocean. *Systematic Parasitology*, in press

New species: *Alveobothrium grabatum* *Alveobothrium zarzisense*, *Alveobothrium jeancadenati*

Abstract: The spiral intestines of a total of 16 round fantail stingrays *Taeniurops grabata* from the Mediterranean Sea off Tunisia were examined for cestodes. A new genus is erected in the Anthocephaliidae (Rhinebothriidea) as *Alveobothrium* gen. n., with *Alveobothrium grabatum* sp. n. as its type species; the new genus differs from the other genera in the order in that its members possess bothridia with an apical sucker, marginal loculi and multiple staggered rows of facial loculi. *Alveobothrium zarzisense* sp. n. is also described. The species differ in the number of marginal loculi and in proglottid anatomy. Another anthocephaliid belonging to the genus *Anthocephalum* is also described from *T. grabata*. *Anthocephalum jeancadenati* sp. n. is most similar to *A. alicae* and *A. michaeli*, but differs in size of terminal proglottid and number of proglottids. All these new species are also found in formalin-preserved cestodes from *T. grabata* collected at Gorée Island (Senegal) between 1946 and 1954 by the French ichthyologist J. Cadenat and conserved in the personal collection of the late L. Euzet. The presence of the same rhinebothriideans species parasitizing *T. grabata* in both the Mediterranean (Tunisia) and the eastern Atlantic (Senegal) is discussed.

HERZOG, K.S. & JENSEN, K. (2018): Five new species of the tapeworm genus *Anthocephalum* (Rhinebothriidea: Anthocephaliidae) parasitizing a single species of Indo-Pacific stingray, and a revised diagnosis of the genus. *Journal of Parasitology*, 104 (5): 505-522

New species: *Anthocephalum blairi*, *Anthocephalum gravisi*, *Anthocephalum haroldsoni*, *Anthocephalum mounseyi*, *Anthocephalum ruhnkei*

Abstract: Five new species of the elasmobranch tapeworm genus *Anthocephalum* Linton, 1890 (Rhinebothriidea: Anthocephaliidae Ruhnke, Caira and Cox, 2015) are described from the mangrove whipray, *Urogymnus granulatus* (Macleay) from the Solomon Islands and northern Australia. *Anthocephalum blairi* n. sp., *Anthocephalum gravisi* n. sp., *Anthocephalum haroldsoni* n. sp., *Anthocephalum mounseyi* n. sp., and *Anthocephalum ruhnkei* n. sp. differ from one another and their congeners based on quantitative and qualitative features of the scolex and proglottid anatomy. Species boundaries recognized by these distinguishing morphological features are supported by a maximum likelihood phylogenetic analysis based on combined 18S rDNA and 28S rDNA (D1–D3) sequence data showing the new species as independent lineages among 13 of the 18 species of *Anthocephalum* described to date. Several morphological features (the possession of columns of vitelline follicles that are interrupted by the ovary, a uterus that does not extend to the anterior margin of the proglottid but stops short in the anterior region of the field of testes, proximal surfaces of the marginal loculi covered with acicular filitriches only throughout, or with gladiate spinitriches and acicular filitriches throughout, and proximal bothridial surfaces with gladiate spinitriches and acicular filitriches)

are collectively exhibited by the 5 new species and have not been documented previously in other species of *Anthocephalum*. The genus is herein amended to reflect these features. Additionally, the replacement name *Anthocephalum centrurum* (Southwell, 1925) Ruhnke, 1994 is reinstated as the valid name for the type species of the genus, *Anthocephalum gracile* Linton, 1890, with the latter being the junior secondary homonym of *A. gracile* (Wedl, 1855) Ruhnke, 1994. The description of these new species increases the number of valid species of *Anthocephalum* from 18 to 23.

BOXSHALL, G. (2018): The sea lice (Copepoda: Caligidae) of Moreton Bay (Queensland, Australia), with descriptions of thirteen new species. *Zootaxa*, 4398 (1): 1-172

New species: *Caligus elasmobranchi*, *Pupulina keiri*

Abstract: Fifty species of sea lice, members of the family Caligidae, were collected from the marine fishes of Moreton Bay, Queensland, during two workshops held in 2016. Only 21 of these species had previously been reported from Australian waters: of the remaining 29 species, 13 are new to science and another 16 are recorded from Australia for the first time. An illustrated differential diagnosis is presented for well known species; but for new or poorly known species a full description is provided. The 13 new species are: *Anuretes amplus* sp. nov. and *A. amymichaelae* sp. nov., both from *Diagramma pictum* (Thunberg, 1792); *Caligus abigailae* sp. nov. from *Sphyræna obtusata* Cuvier, 1829; *C. elasmobranchi* sp. nov. from *Himantura uarnak* (Gmelin, 1789), *H. toshi* Whitley, 1939, *Dasyatis fluviorum* Ogilby, 1908, *Aetobatus ocellatus* (Kuhl, 1823) and *Pastinachus atrus* (Macleay, 1883); *C. hyporhamphi* sp. nov. from *Hyporhamphus quoyi* (Valenciennes, 1847); *C. nataliae* sp. nov. from *Herklotsichthys castelnaui* (Ogilby, 1897) and *Neoarius graeffei* (Kner & Steindachner, 1867); *C. neoaricolus* sp. nov. and *C. paranengai* sp. nov. both from *Neoarius graeffei*; *C. pseudorhombi* sp. nov. from *Pseudorhombus arsius* (Hamilton, 1822); *C. turbidus* sp. nov. from *Tripodichthys angustifrons* (Hollard, 1854); *C. upeneisp.* nov. from *Upeneus tragula* Richardson, 1846; *Lepeophtheirus robertaesp.* nov. from *Scarus ghobghan* Forsskål, 1775 and *Pupulina keiri* sp. nov. from *Aetobatus ocellatus*. The rare species *Caligodes alatus* Heegaard, 1945 is redescribed and transferred to the genus *Caligus* Müller, 1785, but requires a replacement name due to secondary homonymy: *Caligus alepicolus* nom. nov. is proposed. Similarly, *Parapetalus spinosus* Byrnes, 1986 is redescribed and transferred to the genus *Caligus* where it becomes a secondary homonym: the replacement name *Caligus seriolicolus* nom. nov. is proposed. Five large species-groups within the genus *Caligus* are recognised here on the basis of suites of morphological character states. They are based around the following species: *C. bonito* Wilson, 1905, *C. confusus* Pillai, 1961, *C. diaphanus* von Nordmann, 1832, *C. macarovi* Gusev, 1951 and *C. productus* Dana, 1852. These species-groups can be used to navigate this relatively large genus, but their monophyletic status should not be assumed.

CANTATORE, D.M.P. & IRIGOITIA, M.M. & HOLZER, A.S. & BARTOSOVA-SOJKOVA, P. & PECKOVA, H. & FIALA, I. & TIMI, J.T. (2018): The description of two new species of *Chloromyxum* from skates in the Argentine Sea reveals that a limited geographic host distribution causes phylogenetic lineage separation of myxozoans in Chondrichthyes. *Parasite*, 25: 47

New species: *Chloromyxum atlantoraji*, *Chloromyxum zearaji*

Abstract: During a survey on the myxosporean fauna of Rajiformes from the Atlantic coast of Argentina, in waters off Buenos Aires Province (34–42S; 53–62W), the gall bladders of 217 specimens belonging to seven species of skates, representatives of two families, were examined. As a result, three species of *Chloromyxum* Mingazzini, 1890, namely *C. atlantoraji* n. sp., *C. zearaji* n. sp. and *C. riorajum* Azevedo, Casal, Garcia, Matos, Teles-Grilo and Matos, 2009 were found infecting three endemic host species, the spotback skate *Atlantoraja castelnaui* (Arhynchobatidae), the yellownose skate *Zearaja chilensis* (Rajidae) and the Rio skate *Rioraja agassizii* (Arhynchobatidae), respectively. These species were described based on myxospore morphology and morphometry characterization, as well as by providing their small subunit ribosomal DNA (SSU rDNA) sequences. The SSU rDNA-based phylogenetic analyses showed that these three species constituted a well-established monophyletic subclade within the marine *Chloromyxum* clade, while branches subtending the other *Chloromyxum* species were poorly resolved or unresolved, independently of the host taxonomic identities (Carchariniformes, Myliobatiformes, Orectolobiformes, Pristiophoriformes, Rajiformes, Squaliformes and Torpediniformes) and/or host geographic distribution (Atlantic coast of Portugal, Atlantic coast of the USA,

Australian waters or Mediterranean Sea). The possible causes of these discrepancies are discussed, providing new insights into the phylogeny of the marine *Chloromyxum* clade.

SCHAEFFNER, B.C. (2018): *Hispidorhynchus styracuræ* n. sp. (Trypanorhyncha: Eutetrarhynchidae) From the Chupare Stingray, *Styracura schmardæ* (Werner), from the Caribbean Sea, Including New Records of *Oncomegas wagneri* (Linton, 1890). *Journal of Parasitology*, 104 (6): 685-696

New species: *Hispidorhynchus styracuræ*

Abstract: Species of the eutetrarhynchid genus *Hispidorhynchus* Schaeffner and Beveridge, 2012 possess an uncinat macrohook on the bothrial surface of the basal swelling of each tentacle. This unique feature of the oncotaxy is only shared with the closely related genus *Oncomegas* Dollfus, 1929. A new species of *Hispidorhynchus* is described from specimens infecting *Styracura schmardæ* (Werner, 1904) (Potamotrygonidae) from the western Caribbean Sea off the coast of Belize and Panama. *Hispidorhynchus styracuræ* n. sp. differs from its 3 congeners in the possession of smaller and narrower bulbs, fewer principle hooks in the metabasal armature, size of the macrohook, and different scolex proportions. Scanning electron microscopy reveals new information on the microthrix morphology of the genus. A diagnostic key for the differentiation of species of *Hispidorhynchus* is provided. In addition, new host and locality records are reported for *Oncomegas wagneri* (Linton, 1890) Dollfus, 1929, collected from *Hypanus guttatus* (Bloch and Schneider, 1801) (Dasyatidae) off the coast of Maceió, Alagoas (Brazil). This considerably expands the geographical distribution of this species in the western Atlantic Ocean.

CHERO, J.D. & CRUCES, C.L. & SÁEZ, G. & CAMARGO, A.C.A. & SANTOS, C.P. & LUQUE, J.L. (2018): *Hypanocotyle bullardi* n. gen. n. sp. (Monogenea: Hexabothriidae) from gill of the diamond stingray *Hypanus dipterurus* (Jordan et Gilbert) (Myliobatiformes: Dasyatidae) in the Southeastern Pacific Ocean off Peru. *Parasitology International*, 67 (4): 425-430

New genus: *Hypanocotyle*

New species: *Hypanocotyle bullardi*

Abstract: A new genus and species of monogenean belonging to Hexabothriidae, *Hypanocotyle bullardi* n. gen. n. sp., is described based on specimens collected from the gill filaments of the diamond stingray, *Hypanus dipterurus* (Jordan et Gilbert) (Myliobatiformes: Dasyatidae), a demersal chondrichthyan collected off the coast of Callao, Peru. *Hypanocotyle* n. gen. has the following combination of diagnostic features that differentiate it from other hexabothriid genera: haptor symmetrical; vasa efferentia having proximal (narrow, with thin glandular wall) and distal (expanded, interlaced, with thick glandular wall) portions, joining medially to form vas deferens; vas deferens having proximal (expanded, sinuous, with thick glandular wall) and distal (narrow, strongly sinuous, with thin glandular wall) portions; male copulatory organ unarmed, proximal portion slightly sinuous and tube-like, distal portion funnel-shaped; prostatic glands present, distributed around of the MCO; seminal receptacle present; ootype lacking longitudinal rows of large cells (no oötype côtelé); vaginae parallel, with well-differentiated proximal (glandular, narrow, tube-like, slightly sinuous) and distal (musculoglandular, convoluted) portions; gland cells surrounding the vaginal duct along the entire length of distal portion, densely clustered in middle portion; uterine eggs with 2 elongate filaments. Phylogenetic reconstructions by maximum-likelihood method, based on newly obtained partial 18S and 28S sequences, shows that *H. bullardi* n. gen. is included within the family Hexabothriidae, order Dicybothriidea. This is the second hexabothriid genus recorded from a diamond stingray (Dasyatidae), and the fourth hexabothriid species recorded from Peru. A key to hexabothriid genera is provided.

CAIRA, J.N. & JENSEN, K. & FYLER, C.A. (2018): A new genus of tapeworm (Cestoda: Onchoproteocephalidea) from sawfish (Elasmobranchii: Pristidae). *Journal of Parasitology*, 104 (2): 133-144

New genus: *Matticestus*

New species: *Matticestus annea*, *Matticestus kathleenae*

Abstract: Collections from the dwarf sawfish, *Pristis clavata*, near Darwin, Australia in 1997 led to the discovery of the new onchoproteocephalidean genus *Matticestus* n. gen.—a taxon that has been referred to in molecular phylogenetic analyses in which it has been included as "New genus 8." Its type species, *Matticestus anneae* n. gen., n. sp., and a second species, *Matticestus kathleenae* n. sp. are described. Placement of this taxon in the Onchoproteocephalidea is supported morphologically in that both species bear a scolex with 4 bothridia each with a pair of bipronged hooks and spinitriches that extend throughout the length of the body. Sequence data for the D1-D3 region of the 28S rDNA gene also place the genus solidly among the other elasmobranch-hosted members of the order. The new genus differs from the other elasmobranch-hosted genera in the order in its possession of a combination of biloculated bothridia with lateral lappets on the posterior margin of the anterior loculus and a pair of bipronged hooks with a distinctive configuration of tubercles and internal channels. Its members are also extremely small. In summary, *Matticestus* n. gen. is an unusually tiny, "spiny," genus of cestode that appears to exclusively parasitize sawfish of the genus *Pristis*.

QUITERIO-RENDON, G. & MONKS, S. & PULIDO-FLORES, G. (2018): *Neonchocotyle violantei* n. sp. (Monogenea, Hexabothriidae) from *Pseudobatos lentiginosus* (Rhinopristiformes, Rhinobatidae) of Yucatan, Gulf of Mexico. *Revista Brasileira De Parasitologia Veterinaria*, 27 (1): 33-41

New species: *Neonchocotyle violantei*

Abstract: *Neonchocotyle violantei* n. sp. (Monogenea: Hexabothriidae) infects the gill of the Atlantic guitarfish, *Pseudobatos lentiginosus* (Rhinopristiformes, Rhinobatidae) from littoral waters of Celestun, Yucatan, Mexico. It is assigned to *Neonchocotyle* because it has, among other features, an asymmetrical haptor, a seminal receptacle, a smooth ootype, and an egg with two elongate filaments. It differs from *Neonchocotyle pastinacae*, the only congener, by having a small body (821 long by 315 wide, length to width = 2.6:1), two pairs of microhooks between the haptor appendices suckers, extra-caecal (submarginal) vaginal pores, and 5-9 testes. This is the first record of a species of *Neonchocotyle* in the Gulf of Mexico, the first monogenean reported from *P. lentiginosus* in Mexico and the second species of Hexabothriidae reported from Mexico.

CUTMORE, S.C. & CRIBB, T.H. & YONG, R.Q.Y. (2018): Aporocotyliids from batoid and elopomorph fishes from Moreton Bay, Queensland, Australia, including a new genus and species of blood fluke infecting the Giant shovelnose ray, *Glaucostegus typus* (Rhinopristiformes: Glaucostegidae). *Parasitology International*, 67 (6): 768-775

New genus: *Ogawaia*

New species: *Ogawaia glaucostegi*

Abstract: Fishes of the elasmobranch superorder Batoidea and the basal teleost superorder Elopomorpha were assessed for blood flukes (Digenea: Aporocotyliidae) during a parasitological survey conducted in Moreton Bay, Queensland, Australia. A new blood fluke genus and species, *Ogawaia glaucostegi* n. gen., n. sp., is described from the Giant shovelnose ray, *Glaucostegus typus* (Anonymous [Bennett]) (Rhinopristiformes: Glaucostegidae). *Ogawaia glaucostegi* differs from species of all other aporocotyliid genera in the combination of the absence of anterior caeca and oral sucker, having a pronounced distal oesophageal chamber, a strongly coiled testis and a common genital pore. The new species most closely resembles *Myliobaticola richardheardi* Bullard & Jensen, 2008, from which it differs in lacking an oral sucker and in possessing a straight (rather than coiled) oesophagus, longer caeca in proportion to the oesophageal and total body length, and a much longer testis relative to body length. *Ogawaia glaucostegi* is just the eighth aporocotyliid described from chondrichthyans, of which four belong to monotypic genera. This is the first description of a blood fluke from the order Rhinopristiformes, and the first of a chondrichthyan-infecting aporocotyliid from Australian waters. *Elopicola bristowi* Orelis-Ribeiro & Bullard, 2017 is reported from Australia for the first time, from the type-host, *Elops hawaiiensis* Regan (Elopiformes: Elopidae). This species is identified by morphological and molecular data and distinctions between our specimens and those of the original description are discussed.

SCHAEFFNER, B.C. & MARQUES, F.P.L. (2018): Integrative taxonomy unravels the species diversity of *Parachristianella* (Cestoda : Trypanorhyncha) from both sides of the Panamanian isthmus. *Invertebrate Systematics*, 32 (2): 278-318

New species: *Parachristianella mendozai*, *Parachristianella kuchtai*, *Parachristianella campbelli*, *Parachristianella soldanovae*, *Parachristianella dollfusi*

Abstract: The uplift of the Panamanian isthmus in the Pliocene caused the termination of gene flow among members of many ancestral populations of marine lineages leading the diversification of geminate species confined to opposite sides of Central America. This palaeogeographical event has been evoked to explain the diversification of few lineages of batoids with trans-isthmian distribution. As such, there is the expectation that this vicariance event also affected lineages of parasites associated with them. Our study suggests that this event can explain the diversification of *Parachristianella* Dollfus, 1946 (Trypanorhyncha : Eutetrarhynchidae) in the Caribbean Sea and tropical eastern Pacific Ocean. We provide molecular, morphological and biogeographical evidence to recognise five lineages within this genus inhabiting the coastal waters of Panama, including *P. parva* Campbell & Beveridge, 2007 and four new species: *P. mendozai*, sp. nov., *P. kuchtai*, sp. nov., *P. campbelli*, sp. nov. and *P. soldanovae*, sp. nov. These species can be diagnosed by unambiguous sets of molecular characters. The morphological cohesiveness of sister species, which most likely diverged from around 3 million years ago through the uplift of the Panamanian isthmus, suggests that the traditional emphasis on the tentacular armature to circumscribe species within trypanorhynchs might underestimate the diversity of recently diverged lineages.

CHERO, J.D. & CRUCES, C.L. & SÁEZ, G. & LUQUE, J.L. (2018): A new genus and species of the Dasybatotreminae Bychowsky, 1957 (Monogenea: Monocotylidae), parasitic on *Hypanus dipterurus* (Jordan & Gilbert) (Myliobatiformes: Dasyatidae) in the Southeastern Pacific Ocean off Peru. *Zootaxa*, 4527 (3): 347–356

New genus: *Peruanocotyle*

New species: *Peruanocotyle chisholmae*

Abstract: *Peruanocotyle* n. gen. is proposed to accommodate *Peruanocotyle chisholmae* n. sp. (Monogenea: Monocotylidae). The new species is a gill parasite of the diamond stingray, *Hypanus dipterurus* (Jordan & Gilbert) (Myliobatiformes: Dasyatidae), a demersal chondrichthyan collected off the coast of Callao, Peru. *Peruanocotyle* n. gen. is placed in the Dasybatotreminae Bychowsky, 1957 because its anterior attachment organ has multiple glandular openings. *Peruanocotyle chisholmae* n. gen., n. sp. is unique among the Dasybatotreminae, by having: a well-developed, broadly ovoid anterior attachment organ with numerous grooves and an anteromedial notch; three prominent anterior glands that are connected to numerous peripheral glands; an unusual whip-shaped male copulatory organ composed of four connate tubes; an ejaculatory duct with slightly sclerotized walls where the proximal end has criss-crossed creases and the distal portion is highly convoluted; an ejaculatory bulb with one bipartite internal seminal vesicle; a wheel-shaped haptor with one central loculus and eight peripheral loculi; anchors that are much shorter than the width of marginal membrane and have an accessory sclerotized piece present; four oval testes, arranged in two groups; an ovary that has six clavate, proximal lobules and a distal portion that is strongly coiled; intestinal ceca with large lateral and medial diverticula; an oral opening surrounded by numerous small dome-like papillae; and a single vagina with sclerotized walls. Dasybatotreminae is amended to accommodate the new genus, and the new species is fully described and illustrated herein. The present finding adds to the other three marine monocotylids previously reported from Peru, namely *Anoplocotylodes chorrillensis* Luque & Iannaccone, 1991; *Anoplocotylodes papillatus* (Doran, 1953) Young, 1967 and *Monocotyle luquei* Chero, Cruces, Iannaccone, Sanchez, Minaya, Sáez & Alvaríño, 2016.

CRUZ-QUINTANA, Y. & CAÑA-BOZADA, V. & SUÁREZ-MORALES, E. & SANTANA-PIÑEROS, A.M. (2018): A new species of *Pupulina* van Beneden, 1892 (Copepoda, Siphonostomatoida, Caligidae) from *Aetobatus* cf. *narinari* (Pisces, Myliobatidae) from the Pacific coast of Ecuador. *ZooKeys*, 777: 1-16

New species: *Pupulina mantensis*

Abstract: A new caligid copepod species, *Pupulina mantensis* sp. n. is described based on female and male specimens collected from the gills of the myliobatid elasmobranch *Aetobatus* cf. *narinari* Euphrasen, 1790 captured off the Pacific coast of Ecuador. The new species has a unique combination of characters that diverges from its known congeners, including: (i) weakly developed posterolateral processes on the genital complex; (ii) large spines on posterior surface of maxilliped basis (iii) abdomen slender, unsegmented, approximately 1/2 length and 1/5 width of genital complex; (iv) third exopodal segment of leg II with single long naked spine adjacent to minute, naked lateral spine; (v) velum of leg II with adjacent patch of denticles; (vi) caudal rami slightly less than half the length of genital complex; (vii) post-antennal process with robust, posteriorly directed tine, sclerotized stump posterolaterally, and two multi-sensillate papillae located on or near base of process (viii) post-oral process oval. The overall prevalence of *P. mantensis* sp. n. on its host was 37.5% and its mean abundance was 1.87 specimens per host. This is the second record of the genus *Pupulina* from Ecuador and the second record of *Pupulina* infecting rays of the Myliobatinae genus *Aetobatus*, of the subfamily Myliobatinae, after its discovery on *A. ocellatus* in Australia, thus confirming this expansion of its previously known host range to a new elasmobranch subfamily.

COLEMAN, G.M. & BEVERIDGE, I. & CAMPBELL, R.A. (2018): New species of *Rhinebothrium* Linton, 1890 (Cestoda: Rhinebothriidea) parasitic in Australian stingrays (Elasmobranchii: Batoidea). *Systematic Parasitology*, in press

New species: *Rhinebothrium dasyatidis*, *Rhinebothrium bunburyense*, *Rhinebothrium vandiemeni*, *Rhinebothrium fluviorum*, *Rhinebothrium urolophi*, *Rhinebothrium nickoli*, *Rhinebothrium fungiforme*

Abstract: Seven new species of the cestode genus *Rhinebothrium* Linton, 1890 are reported from the spiral intestines of batoid elasmobranchs from the coasts of Australia. The new species are: *Rhinebothrium dasyatidis* n. sp. from the smooth stingray *Bathytoshia brevicaudata* (Hutton) from Spencer Gulf, South Australia; *Rhinebothrium bunburyense* n. sp. from the southern eagle ray, *Myliobatis tenuicaudatus* Hector from off Bunbury, Western Australia; *Rhinebothrium vandiemeni* n. sp. from the reticulate whipray, *Himantura australis* Last, Naylor & Manjaji-Matsumoto from off Cape van Diemen, Northern Territory; *Rhinebothrium fluviorum* n. sp. from the estuary stingray, *Hemistrygon fluviorum* (Ogilby) from Moreton Bay, Queensland; *Rhinebothrium urolophi* n. sp. from the wide stingaree *Urolophus expansus* McCulloch from off Beachport, South Australia; *Rhinebothrium nickoli* n. sp. from the brown whipray *Maculabatis toshi* (Whitley) and the reticulate whipray, *Himantura australis* Last, Naylor & Manjaji-Matsumoto, from Nickol Bay, Western Australia and from the white-spotted guitarfish *Rhynchobatus australiae* (Whitley) from off Broome, Western Australia and *Rhinebothrium fungiforme* n. sp. from the estuary stingray, *Hemistrygon fluviorum* (Ogilby) from Fog Bay in the Northern Territory.

DEDRICK, E.A. & REYDA, F.B. & IWANYCKYJ, E.K. & RUHNKE, T.R. (2018): Two new species of *Stillabothrium* (Cestoda: Rhinebothriidea) from stingrays of the genus *Fontitrygon* from Senegal. *Folia Parasitologica*, 65: 014

New species: *Stillabothrium allisonae*, *Stillabothrium charlotteae*

Abstract: Morphological and molecular analyses of cestode specimens collected during survey work of batoid elasmobranchs and their parasites in Senegal revealed two new species of the rhinebothriidean cestode genus *Stillabothrium* Healy et Reyda 2016. *Stillabothrium allisonae* Dedrick et Reyda sp. n. and *Stillabothrium charlotteae* Iwanyckyj, Dedrick et Reyda sp. n. are both described from *Fontitrygon margaritella* (Compagno et Roberts) and *Fontitrygon margarita* (Günther). Both new cestode species overlap in geographic distribution, host use and proglottid morphology, but are distinguished from each other, and from the other seven described species of *Stillabothrium*, on the basis of their pattern of bothridial loculi. Phylogenetic analyses based on sequence data for 1,084 bp from the D1–D3 region of 28S rDNA that included multiple specimens of both new species and eight other species of *Stillabothrium* corroborated the morphologically-determined species boundaries. The phylogenetic analyses indicate that *S. allisonae* sp. n. and *S. charlotteae* sp. n. are sister species, a noteworthy pattern given that the two species of the stingray genus *Fontitrygon* they both parasitise, *F. margaritella* and *F. margarita*, are also sister species. Although species of *Stillabothrium* vary widely in their patterns of facial loculi, the variation does not appear to correlate with phylogeny. Most species of *Stillabothrium* parasitise myliobatiform elasmobranch genera of the Dasyatidae Jordan. This study brings the

number of described species of *Stillabothrium* to nine, three of which occur in the eastern Atlantic, two of which occur off the northern coast of Australia, and four of which are from coastal Borneo.

CUTMORE, S.C. & CRIBB, T.H. & BENNETT, M.B. & BEVERIDGE, I. (2018): Tetracystid and onchoproteocephalidean cestodes of elasmobranchs from Moreton Bay, Australia: description of two new species and new records for seven described species. *Systematic Parasitology*, 95 (8-9): 807–827

New species: *Yorkeria williamsi*. *Yorkeria moretonensis*

Abstract: Parasitological examination of elasmobranchs of Moreton Bay, Queensland, Australia, resulted in the discovery of cestodes belonging to several armed genera of the Tetracystida and Onchoproteocephalida. Two new tetracystids, *Yorkeria moretonensis* n. sp. and *Yorkeria williamsi* n. sp., are described from *Chiloscyllium* cf. *punctatum* (Hemiscylliidae). *Yorkeria moretonensis* n. sp. differs from its congeners in the possession of vitelline follicles that are discontinuous in the region of the ovary and in the length of its pedicels. *Yorkeria williamsi* n. sp. is most similar to *Y. parva* Southwell, 1927, but has larger, oval bothridia, longer pedicels and differences in the sizes of the scolex hooks. *Yorkeria longstaffae* Caira, Jensen & Rajan, 2007 is reported from Moreton Bay for the first time, and *Spiniloculus mavensis* Southwell, 1925 is re-reported from the type-locality and likely type-host (Moreton Bay and *Chiloscyllium* cf. *punctatum*, respectively), over 90 years after its original description. Six known onchoproteocephalideans, *Acanthobothrium cannoni* Campbell & Beveridge, 2002, *A. chisholmae* Campbell & Beveridge, 2002, *A. ocallaghani* Campbell & Beveridge, 2002, *A. margieae* Fyler, 2011, *Megalonchos shawae* Caira, Reyda & Mega, 2007 and *M. sumansinghai* Caira, Reyda & Mega, 2007, are reported from Moreton Bay for the first time, representing significant range extensions for all species.

3.5 Distribution

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3.8 Size

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