

California Academy of Sciences

ANNOTATED CHECKLISTS OF FISHES

Number 19

September 2003

Family Scombridae Rafinesque 1815

mackerels, tunas, and bonitos

By

Bruce B. Collette

*National Marine Fisheries Service Systematics Laboratory
National Museum of Natural History, Washington, DC 20560-0153, U.S.A.
email: Collette.Bruce@nmnh.si.edu*

The Scombridae is the largest and most advanced of the four families of scombroid fishes (Collette et al. 1984 [ref. 11421]), excluding the billfishes, now placed in the suborder Xiphioidi (Collette et al. 2001 [ref. 25629]). Body elongate and fusiform, moderately compressed in some genera. Snout pointed, premaxillae beaklike, free from nasal bones which are separated by the ethmoid bone; mouth rather large; teeth in jaws strong, moderate, or weak; no true canines; palate and tongue may bear teeth. First dorsal fin usually short and separated from second dorsal fin, depressible into a groove; finlets behind second dorsal and anal fins; pelvic fins moderate or small; caudal fin deeply forked with supporting caudal rays completely covering hypural plate. At least 2 small keels on each side of caudal fin base, a larger keel in between on caudal peduncle in more advanced species. Lateral line simple. Vertebrae 31–66. Body covered with small to moderate scales or a scaly corselet developed (area behind head and around pectoral fins covered with large thick scales) and rest of body naked or covered with tiny scales. Scombrids are swift, epipelagic predators; some species occur in coastal waters, others far from shore. Mackerels (*Scomber* and *Rastrelliger*) filter plankton out of the water with their long gill rakers. Spanish mackerels, bonitos, and tunas feed on larger prey, including small fishes, crustaceans, and squids. The main predators of smaller scombrids are other predacious fishes, particularly large tunas and billfishes. Scombrids are dioecious (separate sexes) and most display little or no sexual dimorphism in structure or color pattern. Females of many species attain larger sizes than males. Batch spawning of most species takes place in tropical and subtropical waters, frequently inshore. The eggs are pelagic and hatch into planktonic larvae.

The Scombridae contains 15 genera and 51 species (Collette et al. 2001 [ref. 25629]). Type catalogs have been published for scombrids in two major collections: RMNH (Boeseman 1964 [ref. 20805]) and MNHN (Collette 1966 [ref. 14641]). The family is divisible into two subfamilies: Gasterochismatinae, which contains only the peculiar Southern Ocean *Gasterochisma melampus*, and Scombrinae. Some of their major morphological features were discussed by Collette (1979 [ref. 26991]). On the basis of internal osteological characters, Collette and Chao (1975 [ref. 5573]) and Collette and Russo (1979 [ref. 26994]) divided the Scombrinae into two groups of tribes. The more primitive mackerels (Scombrini) and Spanish mackerels (Scomberomorini) are characterized by: (1) a distinct notch in the hypural plate that supports the caudal fin rays; (2) absence of a bony support for the median fleshy keel (when present); and (3) preural vertebrae centra not greatly shortened as compared to those of the other vertebrae. Bonitos (tribe Sardini) are a grade of four genera and seven species that are morphologically intermediate between Spanish mackerels (tribe Scomberomorini) and higher tunas (tribe Thunnini). They lack any trace of a specialized subcutaneous vascular system or dorsally projecting cartilaginous ridges on the tongue, and the bony structure underlying their median fleshy caudal peduncle keel is incompletely developed; they also lack the

prominent paired frontoparietal fenestra on the dorsal surface of the skull characteristic of most Thunnini. The Thunnini contains five genera, four of which (all except *Allothunnus*) are unique among bony fishes in having counter-current heat exchanger systems that allow them to retain metabolic heat so that the fish is warmer than the surrounding water. Three genera of this tribe (*Auxis*, *Euthynnus*, and *Katsuwonus*) and the yellowfin group of *Thunnus* have central and lateral heat exchangers, while the specialized bluefin group of *Thunnus* have lost the central heat exchanger and evolved very well-developed lateral heat exchangers (Graham and Dickson 2001 [ref. 26992]).

Mackerels and tunas support very important commercial and recreational fisheries as well as substantial artisanal fisheries throughout the tropical and temperate waters of the world. Catches in cold and warm temperate waters predominate over tropical catches, with more than half of the world catch being taken in the northwestern Pacific, the northeastern Atlantic, and the southeastern Pacific. Many species of tunas and mackerels are the target of long-distance fisheries. The principal fishing methods used for fish schooling near the surface include purse seining, driftnetting, hook and line/bait boat fishing, and trolling; standard and deep longlining are used for (usually bigger) fish occurring at least temporarily in deeper water. Recreational fishing involves mostly surface trolling and pole-and-line fishing, while numerous artisanal fisheries deploy a great variety of gear including bag nets, cast nets, lift nets, gill (drift) nets, beach seines, hook-and-line, handlines, harpoons, specialized traps, and fish corrals. Descriptions, figures, distribution maps, and summaries of biology for scombrid species are included in Collette and Nauen (1983 [ref. 5375]).

Genus *Acanthocybium* Gill 1862

Acanthocybium Gill 1862:125 [ref. 1659]. Type species *Cybium sara* Lay & Bennett 1839. Type by original designation (also monotypic).

***Acanthocybium solandri* (Cuvier 1832)**

Cybium solandri Cuvier in Cuvier & Valenciennes 1832:192 [ref. 1000] (no locality). No types known.
Cybium sara Lay & Bennett 1839:63, Pl. 20 (fig. 2) [ref. 2730] (Ryukyu Is., Japan). No types known.
Cybium petus Poey 1860:234, Pl. 16 (fig. 1) [ref. 3499] (Havana, Cuba). No types known.
Cybium verany Döderlein 1872:126, Pl. 4 (fig. 2) [ref. 17412] (Sicily, Italy). Holotype: MZUP.
Acanthocybium forbesi Seale 1912:283, Pl. 1 [ref. 14870] (Leyte coast, Philippines). Holotype (unique): BSMP 7253 (apparently destroyed).
Scomber amarui Curtiss 1938:58 [ref. 18057] (open sea off Tautira, Tahiti, Society Is.). No types known.

DISTRIBUTION: Cosmopolitan in tropical and subtropical waters.

Genus *Allothunnus* Serventy 1948

Allothunnus Serventy 1948:132 [ref. 4008]. Type species *Allothunnus fallai* Serventy 1948. Type by monotypy.

***Allothunnus fallai* Serventy 1948**

Allothunnus fallai Serventy 1948:132, Pls. 28–29 [ref. 4008] (Timaru, South Island, New Zealand). Holotype: CMC uncataloged.

DISTRIBUTION: Circumglobal in the Southern Ocean from 20 to 50 degrees S.

Genus *Auxis* Cuvier 1829

Auxis Cuvier 1829:199 [ref. 995]. Type species *Scomber rochei* Risso 1810. Type by monotypy.

***Auxis rochei* (Risso 1810)**

Scomber rochei Risso 1810:165 [ref. 3755] (Nice, France). Holotype: MNHN A-5808.
Scomber bisus Rafinesque 1810:45, Pl. 2 (fig. 1) [ref. 3594] (Sicily). No types known.

- Thynnus rocheanus* Risso 1827:417 [ref. 3757] (Nice, France). Holotype: MNHN A-5808.
- Auxis vulgaris* Cuvier in Cuvier & Valenciennes 1832:139, Pl. 216 [ref. 1000] (Nice, France).
Lectotype: MNHN A-5808.
- Auxis thynnoides* Bleeker 1855:301 [ref. 16839] (Ternate, Moluccas, Indonesia). Holotype (unique):
RMNH 6049.
- Auxis ramsayi* Castelnau 1879:382 [ref. 764] (Sydney market, N.S.W., Australia). Holotype (unique):
MNHN A-1241.
- Auxis maru* Kishinouye 1915:24 [14], Pl. 1 (Fig. 19) [ref. 18416] (Japanese and Chinese seas). No
types known.
- Auxis rochei eudorax* Collette & Aadland 1996:438, Fig. 13C [ref. 22199] (Twenty-three Fathom
Bank, California, U.S.A.). Holotype: LACM 6712-1 (1).

DISTRIBUTION: Cosmopolitan in warm waters. See Remarks.

REMARKS: Two subspecies were recognized by Collette and Aadland (1996 [ref. 22199]): *Auxis rochei rochei* in the Atlantic and Indo-western Pacific and *A. rochei eudorax* in the eastern Pacific.

The record of *Auxides vulgaris* Cuvier 1833 in Eschmeyer (1998:1777 [ref. 23416]) was an error for *Auxis vulgaris* Cuvier 1832.

***Auxis thazard* (Lacepède 1800)**

- Scomber thazard* Lacepède (ex Commerson) 1800:599 [ref. 2709] (Kampung Loleba, Wasile District, Halmahera I., Moluccas, Indonesia, 0°58'N, 127°56'E). Neotype: USNM 265418.
- Scomber taso* Cuvier (ex Commerson) in Cuvier & Valenciennes 1832:146 [ref. 1000] (near coasts of New Guinea 6–7°S). No types known.
- Auxis tapeinosoma* Bleeker 1854:408 [ref. 13964] (Nagasaki, Japan). Holotype (unique): RMNH 6050.
- Auxis hira* Kishinouye 1915:23 [13 of separate], Pl. 1 (fig. 16) [ref. 18416] (Japanese and Chinese seas). No types known.
- Auxis thazard brachydorax* Collette & Aadland 1996:434, Fig. 9B [ref. 22199] (Olympia, 7°51'N, 99°51'W). Holotype: USNM 320406.

DISTRIBUTION: Cosmopolitan in warm waters. See Remarks.

REMARKS: Two subspecies were recognized by Collette and Aadland (1996 [ref. 22199]): *Auxis thazard thazard* in the Atlantic and Indo-western Pacific and *A. thazard brachydorax* in the eastern Pacific.

Genus *Cybiosarda* Whitley 1935

Cybiosarda Whitley 1935:236 [ref. 4683]. Subgenus of *Scomberomorus*. Type species *Scomberomorus (Cybiosarda) elegans* Whitley 1935. Type by monotypy.

***Cybiosarda elegans* (Whitley 1935)**

- Scomberomorus (Cybiosarda) elegans* Whitley 1935:236 [ref. 4683] (Goat I., Moreton Bay, Queensland, Australia). Holotype (unique): QM I.5413.
- DISTRIBUTION: Northern three quarters of Australia plus the southern coast of Papua New Guinea.

Genus *Euthynnus* Lütken 1883

- Euthynnus* Lütken in Jordan & Gilbert 1883:429 [ref. 2476]. Type species *Thynnus thunina* Cuvier 1829. Type by original designation.
- Thynnichthys* Giglioli 1880:25 [ref. 1617]. Type species *Thynnus thunina* Cuvier 1829. Type by subsequent designation.
- Wanderer* Whitley 1937:229 [ref. 4690]. Type species *Thynnus thunina* Cuvier 1829. Type by being a replacement name.

REMARKS: Type species were given as *Thynnus thunnina* Cuvier & Valenciennes by Jordan and Gilbert (1883:429 [ref. 2476]), Jordan (1919:402 [ref. 4904]), and Whitley (1937:229 [ref. 4690]); and as *Thynnichthys thunnina* by Dresslar and Fesler (1889:435 [ref. 27065]).

Thynnichthys Giglioli 1880 is preoccupied by *Thynnichthys* Bleeker 1860 in fishes and was replaced by *Wanderer* Whitley 1937. The type species of *Thynnichthys* Giglioli 1880 was designated by Dressler and Fesler (1889:435 [ref. 27065]).

***Euthynnus affinis* (Cantor 1849)**

Thynnus affinis Cantor 1849:1088 [106 of separate] [ref. 715] (Sea of Penang, Malaysia). Holotype (unique): BMNH 1860.3.19.214 (skin).

Euthynnus yaito Kishinouye 1915:22 [13 of separate], Pl. 1 (fig. 15) [ref. 18416] (“southern waters” of Japan [not Japan Sea]). No types known.

Wanderer wallisi Whitley 1937:230, Pl. 14 (fig. 3) [ref. 4690] (Sydney fish market, N.S.W., Australia). Holotype: AMS IA.3474.

DISTRIBUTION: Throughout warm waters of the Indo-western Pacific plus a few strays in the eastern tropical Pacific.

***Euthynnus alletteratus* (Rafinesque 1810)**

Scomber alletteratus Rafinesque 1810:46, Pl. 2 (fig. 3) [ref. 3594] (Palermo, Sicily).

Scomber quadripunctatus Geoffroy Saint-Hilaire 1817, Pl. 24 (fig. 5) [ref. 4184] (Red Sea). No types known.

Thynnus leachianus Risso 1827:416 [ref. 3757] (Nice, France). No types known.

Thynnus thunina Cuvier 1829:198 [ref. 995] (Mediterranean Sea). Holotype (unique): whereabouts unknown.

Thynnus brasiliensis Cuvier in Cuvier & Valenciennes 1832:110 [ref. 1000] (Brazil). Holotype (unique): MNHN A-5571 (dry).

Thynnus brevipinnis Cuvier in Cuvier & Valenciennes 1832:112, Pl. 213 [ref. 1000] (Nice, France). Holotype: MNHN A-5810.

Euthynnus alletteratus aulolitoralis Fraser-Brunner 1949:626, Fig. 2b [ref. 13011] (Accra, Ghana). Holotype: BMNH 1939.7.12.32.

DISTRIBUTION: Tropical and subtropical waters of the Atlantic Ocean and Mediterranean Sea.

REMARKS: *Thynnus thunina* is based on pl. 25, fig. 4 of U. Aldrovandi (1613. De piscibus libri V, et de cetis liber unus. Bononiae.) so the type is the specimen that was figured.

***Euthynnus lineatus* Kishinouye 1920**

Euthynnus lineatus Kishinouye 1920:113 [ref. 18417] (Manzanillo, Mexico). No types known.

DISTRIBUTION: Eastern tropical Pacific from San Simeon, California to northern Peru and the Galápagos Islands.

Genus *Gasterochisma* Richardson 1845

Gasterochisma Richardson 1845:346 [ref. 3741]. Type species *Gasterochisma melampus* Richardson 1845. Type by monotypy.

Lepidothynnus Günther 1889:15 [ref. 2017]. Type species *Lepidothynnus huttonii* Günther 1889. Type by monotypy.

Chenogaster Lahille 1903:375 [ref. 2711]. Type species *Chenogaster holmbergi* Lahille 1903. Type by monotypy.

***Gasterochisma melampus* Richardson 1845**

Gasterochisma melampus Richardson 1845:346 [ref. 3741] (Port Nicholson, New Zealand). Holotype: BMNH 1855.9.19.158.

Lepidothynnus huttonii Günther 1889:15, Pl. 6 (figs. A–A') [ref. 2017] (shore of Lyttelton Harbour, New Zealand). Holotype (unique): Christchurch Museum (skeleton).

Chenogaster holmbergi Lahille 1903:375 [ref. 2711] (Montevideo, Uruguay). No types known.

Gastrochisma boulengeri Lahille 1913:7, Pls. 3–4 [ref. 2712] (Mar de la Plata, Buenos Aires, Argentina). Holotype: Mus. Nac. Buenos Aires (skeleton).

DISTRIBUTION: Circumglobal in Southern Ocean temperate waters, mostly between 35 and 50 degrees S.

REMARKS: The generic spelling in the combination *Gastrochisma boulengeri* Lahille 1913 is an error for *Gasterochisma*.

Genus *Grammatorcynus* Gill 1862

Grammatorcynus Gill 1862:125 [ref. 1659]. Type species *Thynnus bilineatus* Rüppell 1836. Type by original designation (also monotypic).

Nesogrammus Evermann & Seale 1907:61 [ref. 1285]. Type species *Nesogrammus piersoni* Evermann & Seale 1907. Type by original designation (also monotypic).

REMARKS: Originally spelled *Grammatorycynus*, which was regarded as a misspelling and corrected to *Grammatorcynus* by authors (suffix apparently based on *Orcynus* of Cuvier, wrongly cited by Gill as *Orycynus*). *Grammatorcynus* is the spelling in current usage.

***Grammatorcynus bicarinatus* (Quoy & Gaimard 1825)**

Thynnus bicarinatus Quoy & Gaimard 1825:357, Pl. 61 (fig. 1) [ref. 3574] (Shark Bay, western Australia). No types known.

DISTRIBUTION: Northern coasts of Australia.

***Grammatorcynus bilineatus* (Rüppell 1836)**

Thynnus bilineatus Rüppell 1836:39, Pl. 12 (fig. 2) [ref. 3844] (Massawa, Eritrea, Red Sea). Holotype (unique): SMF 2755 (dry).

Nesogrammus piersoni Evermann & Seale 1907:61, Fig. 3 [ref. 1285] (Bulan, Sorsogon Prov., Philippines). Holotype (unique): USNM 55899.

DISTRIBUTION: Tropical and subtropical waters of the Indo-western Pacific.

Genus *Gymnosarda* Gill 1862

Gymnosarda Gill 1862:125 [ref. 1659]. Type species *Thynnus (Pelamis) unicolor* Rüppell 1836. Type by original designation (also monotypic).

***Gymnosarda unicolor* (Rüppell 1836)**

Thynnus (Pelamis) unicolor Rüppell 1836:40, Pl. 12 (fig. 1) [ref. 3844] (Jidda, Saudi Arabia, Red Sea). Holotype (unique): SMF 2739 (stuffed).

Pelamys nuda Günther 1860:368 [ref. 1963] (Jidda, Saudi Arabia, Red Sea). Holotype (unique): SMF 2739 (stuffed).

Scomber vau Curtiss 1938:57 [ref. 18057] (ocean outside reef off Tautira, Society Is.). No types known.

DISTRIBUTION: Tropical Indo-western Pacific.

Genus *Katsuwonus* Kishinouye 1915

Katsuwonus Kishinouye 1915:21 [ref. 18416]. Type species *Scomber pelamis* Linnaeus 1758. Type by original designation (also monotypic).

***Katsuwonus pelamis* (Linnaeus 1758)**

Scomber pelamis Linnaeus 1758:297 [ref. 2787] (pelagic, between the tropics). No types known.

Scomber pelamides Lacepède 1801:14 [ref. 2710] (Pacific and Atlantic oceans). No types known.

Thynnus vagans Lesson 1829:279 [ref. 13391] (Tahiti, Society Is.). No types known.

DISTRIBUTION: Cosmopolitan in tropical and subtropical waters.

Genus *Orcynopsis* Gill 1862

Orcynopsis Gill 1862:125 [ref. 1659]. Type species *Scomber unicolor* Geoffroy St. Hilaire 1817.
Type by original designation (also monotypic).

Pelamichthys Giglioli 1880:25 [ref. 1617]. Type species *Scomber unicolor* Geoffroy St. Hilaire 1817. Type by original designation (also monotypic).

***Orcynopsis unicolor* (Geoffroy Saint-Hilaire 1817)**

Scomber unicolor Geoffroy Saint-Hilaire 1817, Pl. 24 (fig. 6) [ref. 4184] (Alexandria, Egypt). No types known.

Cybium bonapartii Verany 1847:493 [ref. 17882] (Genova [Genoa], Italy). No types known.

Cybium altipinne Guichenot in Duméril 1861:260 [ref. 1149] (Goreé, Senegal, West Africa).
Holotype (unique): MNHN A-5797.

Thynnus peregrinus Collett 1879:20, Pl. 1 [ref. 21044] (Oslo, Norway). Lectotype: ZMUO J4632.

DISTRIBUTION: Eastern Atlantic from Oslo, Norway, south to Dakar, Senegal, including the Mediterranean.

Genus *Rastrelliger* Jordan & Starks 1908

Rastrelliger Jordan & Starks in Jordan & Dickerson 1908:607 [ref. 2438]. Type species *Scomber brachysoma* Bleeker 1851. Type by original designation.

***Rastrelliger brachysoma* (Bleeker 1851)**

Scomber brachysoma Bleeker 1851:356 [ref. 326] (Jakarta [Batavia], Java, Indonesia). Holotype (unique): RMNH 6040.

Scomber neglectus van Kampen 1907:7, Pl. [ref. 15148] (Java, Indonesia). No types known.

DISTRIBUTION: Central Indo-western Pacific from the Andaman Sea east to Fiji.

***Rastrelliger faughni* Matsui 1967**

Rastrelliger faughni Matsui 1967:74, Figs. 1, 5 [ref. 7974] (Oyster Inlet, Ulugan Bay, Philippines). Holotype: USNM 190018.

DISTRIBUTION: Central Indo-western Pacific from India east to Fiji.

***Rastrelliger kanagurta* (Cuvier 1816)**

Scomber kanagurta Cuvier 1816:313 [ref. 993] (Vishakhapatnam [Vizagapatam], India). No types known.

Scomber loo Lesson 1829:277 [ref. 13391] (Port Praslin, New Ireland I., Bismarck Archipelago).
Holotype (unique): MNHN 2910 (poor condition).

Scomber canagurta Cuvier 1829:197 [ref. 995] (Vishakhapatnam [Vizagapatam], India). No types known.

Scomber delphinalis Cuvier (ex Commerson) in Cuvier & Valenciennes 1832:53 [ref. 1000] (Fort Dauphin, Madagascar). No types known.

Scomber chrysozonus Rüppell 1836:37, Pl. 11 (fig. 1) [ref. 3844] (Massawa, Eritrea, Red Sea).
Lectotype: SMF 487.

Scomber microlepidotus Rüppell 1836:38, Pl. 11 (fig. 2) [ref. 3844] (Massawa, Eritrea, Red Sea).
Syntypes: SMF 503 (3).

Scomber moluccensis Bleeker 1856:40 [ref. 311] (Ambon I., Moluccas Is., Indonesia). Syntypes: (3) RMNH 6038 (2, other not found).

Scomber uam Montrouzier 1857:449 [171 of separate] [ref. 17789] (Woodlark I., South Pacific). No types known.

Scomber reani Day 1871:690 [14 of separate] [ref. 1078] (Andaman Is., east of Bay of Bengal). Syntypes: AMS B.8140 (1); ZSI 1841 (1), B.109 (1).

Scomber lepturus Agassiz 1874, Pl. 2 [ref. 15837] (no locality). No types known.

Rastrelliger serventyi Whitley 1944:268 [ref. 4705] (Port Hedland, western Australia). Holotype (unique): WAM P.181-001 [not P.18].

DISTRIBUTION: Indo-western Pacific and migrant into eastern Mediterranean.

Genus *Sarda* Cuvier 1829

Sarda Cuvier 1829:199 [ref. 995]. Type species *Scomber sarda* Bloch 1793. Type by monotypy (also by absolute tautonymy).

Palamita Bonaparte 1831:173 [ref. 4978]. Subgenus of *Thynnus*. Type species *Scomber sarda* Bloch 1793. Type by being a replacement name.

Pelamys Cuvier in Cuvier & Valenciennes 1832:149 [ref. 1000]. Type species *Scomber sarda* Bloch 1793. Type by subsequent designation.

Creotroctes Gistel 1848:x [ref. 1822]. Type species *Scomber sarda* Bloch 1793. Type by being a replacement name.

REMARKS: The earliest type species designation found for *Pelamys* Cuvier 1832 was by Dresslar and Fesler (1889:440 [ref. 27065]). *Palamita* Bonaparte 1831 was intended as a replacement for *Pelamys* Cuvier 1832 (although the former predated the latter) which was misspelled as *Pelamis* (possibly seen in Cuvier's ms), and thus thought to be preoccupied by *Pelamis* Oken 1816 in Reptilia. *Creotroctes* Gistel 1848 is an unneeded replacement for *Sarda* Cuvier 1829.

Sarda australis (Macleay 1881)

Pelamys australis Macleay 1881:557 [ref. 2869] (Port Jackson, Sydney, N.S.W., Australia). Holotype (unique): AMS I.16296-001 [ex MAMU F333].

Pelamys schlegeli McCoy 1888:207, Pl. 155 [ref. 17756] (Port Phillip, Victoria, Australia). Holotype (unique): NMV 52626 (dry, right side).

DISTRIBUTION: Southeastern Australia, Norfolk I., and New Zealand.

Sarda chiliensis (Cuvier 1832)

Pelamys chiliensis Cuvier in Cuvier & Valenciennes 1832:163 [ref. 1000] (Valparaíso, Chile). Holotype (unique): MNHN A-5608 (dry).

Pelamys lineolata Girard 1858:106 [ref. 4911] (San Diego, California, U.S.A.). Holotype (unique): USNM 688.

DISTRIBUTION: Eastern Pacific. See Remarks.

REMARKS: Two subspecies were recognized by Collette and Chao (1975 [ref. 5573]): the southern *S. c. chiliensis* occurs from the Gulf of Guayaquil, Peru, south to Talcahuano and Valdivia, Chile; and the northern *S. c. lineolata* occurs from Alaska south to the tip of Baja California.

Sarda orientalis (Temminck & Schlegel 1844)

Pelamys orientalis Temminck & Schlegel 1844:99, Pl. 52 [ref. 4372] (Japan). Lectotype: RMNH D2286 (dry).

Sarda velox Meek & Hildebrand 1923:320, Pl. 24 [ref. 2963] (market, Panama City, Panama [Pacific coast]). Holotype (unique): USNM 81060.

Sarda orientalis serventyi Whitley 1945:41 [ref. 4707] (Albany, western Australia). Holotype: WAM P.3512.

DISTRIBUTION: Widespread in tropical and subtropical waters of the Indo-Pacific.

***Sarda sarda* (Bloch 1793)**

Scomber sarda Bloch 1793:44, Pl. 334 [ref. 4868] (Europe). Lectotype: whereabouts unknown.

Scomber pelamis Brännich 1768:68 [ref. 17290] (Adriatic Sea). No types known.

Scomber mediterraneus Bloch & Schneider 1801:23 [ref. 471] (Adriatic Sea). No types known.

Scomber palamitus Rafinesque 1810:44, Pl. 2 (fig. 2) [ref. 3594] (Palermo, Sicily). No types known.

Scomber ponticus Pallas 1814:217 [ref. 3351] (“ad littora Taurica” [Black Sea, Crimea]). No types known.

Thynnus brachypterus Cuvier 1829:198 [ref. 995] (Mediterranean Sea). No types known.

DISTRIBUTION: Tropical and temperate coasts of the Atlantic.

REMARKS: *Scomber mediterraneus* Bloch & Schneider 1801 is a replacement name for *Scomber pelamis* Brännich 1768.

Genus *Scomber* Linnaeus 1758

Scomber Linnaeus 1758:297 [ref. 2787]. Type species *Scomber scombrus* Linnaeus 1758. Type by subsequent designation.

Cordylus Gronow in Gray 1854:163 [ref. 1911]. Type species *Scomber scombrus* Linnaeus 1758. Type by monotypy.

Pneumatophorus Jordan & Gilbert 1883:593 [ref. 2473]. Subgenus of *Scomber*. Type species *Scomber pneumatophorus* Delaroche 1809. Type by absolute tautonymy (or by monotypy).

REMARKS: Two subgenera were recognized by Collette (1999 [ref. 23936]): the monotypic *Scomber* (*Scomber*) for *S. scombrus* and *Scomber* (*Pneumatophorus*) for the other three species in the genus, *S. australasicus*, *S. colias*, and *S. japonicus*.

The type species of *Scomber* Linnaeus 1758 was designated by Gill (1862:125 [ref. 1659]). *Cordylus* Gronow 1854 is preoccupied by *Cordylus* Laurenti 1768 in Reptilia and by *Cordylus* Wagler 1828 in Amphibia.

***Scomber australasicus* Cuvier 1832**

Scomber australasicus Cuvier in Cuvier & Valenciennes 1832:49 [ref. 1000] (King George Sound, western Australia). Holotype (unique): MNHN A-5312 (poor condition).

Scomber tapeinocephalus Bleeker 1854:407 [ref. 13964] (Nagasaki, Japan). Holotype (unique): RMNH 6041.

Scomber antarcticus Castelnau 1872:106 [ref. 757] (Melbourne market, Victoria, Australia). Holotype (unique): MNHN B-2125 (dry, mounted, poor condition).

DISTRIBUTION: Red Sea, Persian Gulf, western Pacific from Japan south to Australia and New Zealand, east to Hawaii and Socorro Island off Mexico in the eastern Pacific.

***Scomber colias* Gmelin 1789**

Scomber colias Gmelin 1789:1329 [ref. 18139] (Sardinia, Mediterranean Sea). No types known.

Scomber scomber var. *lacertus* Walbaum 1792:209 [ref. 4572] (no locality stated). No types known.

Scomber pneumatophorus Delaroche 1809:334 [48] [ref. 17380] (Iviça, Balearic Is., Spain). Holotype (unique): MNHN A-5284.

Scomber macrophthalmus Rafinesque 1810:20, 53 [ref. 3595] (Sicily). No types known.

Scomber grex Mitchill 1814:11 [ref. 3030] (New York, U.S.A.). No types known.

Scomber capensis Cuvier in Cuvier & Valenciennes 1832:56 [ref. 1000] (Cape of Good Hope, South Africa). No types known.

Scomber maculatus Couch 1832:22, Fig. 8 [ref. 5557] (Cornwall, England). No types known.

Scomber undulatus Swainson 1839:409 [ref. 4303] (coasts of Sicily). No types known.

Scomber gracilis Swainson 1839:238, 410 [ref. 4303] (coasts of Sicily). No types known.

Scomber dekayi Storer 1855:130 [ref. 18851] (New York, Massachusetts, Connecticut, to Carolina, U.S.A.). Syntypes: whereabouts unknown.

Scomber gigas Fowler 1935:378, Fig. 16 [ref. 1421] (Durban, Natal, South Africa). Holotype: ANSP 25844 (discarded).

Pneumatophorus japonicus marplatensis López 1955:25 [ref. 19689] (Mar del Plata, Argentina). Syntypes: MACN uncataloged (10), only 6 found in 1966.

DISTRIBUTION: Coasts of eastern and western Atlantic.

REMARKS: *Scomber maculatus* Couch 1832 is preoccupied by *Scomber maculatus* Mitchill 1815.

***Scomber japonicus* Houttuyn 1782**

Scomber japonicus Houttuyn 1782:331 [ref. 2220] (Japan). No types known.

Scomber scombrus japonicus Temminck & Schlegel 1844:92 [ref. 4372] (Japan). Holotype (unique): RMNH 1259.

Scomber saba Bleeker 1854:405 [ref. 13964] (Nagasaki, Japan). Syntypes: RMNH 6035 (2).

Scomber janesaba Bleeker 1854:406 [ref. 13964] (Nagasaki, Japan). Syntypes: RMNH 6036 (3).

Scomber diego Ayres 1856:92 [ref. 18922] (Santa Barbara Channel area, California, U.S.A.). No types known.

Pneumatophorus peruanus Jordan & Hubbs 1925:211 [ref. 2486] (Bay of Callao, Peru). Holotype: FMNH 58739 [ex CM 7847].

DISTRIBUTION: Indo-Pacific.

***Scomber scombrus* Linnaeus 1758**

Scomber scombrus Linnaeus 1758:297 [ref. 2787] (Atlantic). Lectotype: ZMUU Linn. Coll. 94.

Scomber glauciscus Pallas 1814:215, Pl. 46 (fig. 1) [ref. 3351] (Neograecis et Rossis in Tauri[c]a [Black Sea, Crimea]). No types known.

Scomber vernalis Mitchill 1815:423 [ref. 13292] (Sandy Hook, New Jersey, U.S.A.). No types known.

Scomber vulgaris Fleming 1828:217 [ref. 1339] (British seas). No types known.

Scomber vulgaris S. D. W. 1837:208 [ref. 12605] (no locality stated). No types known.

Scomber punctatus Couch 1849:xxix, Fig. [ref. 18051] (Looe, Cornish coast, England). Holotype (unique): whereabouts unknown.

Scomber scriptus Couch 1863:84, Pl. 81 (fig. 2) [ref. 18053] (Great Britain). Syntypes: (3) whereabouts unknown.

DISTRIBUTION: North Atlantic.

REMARKS: The spelling “*Scomber scomber*” in Linnaeus (1766:492 [ref. 2786]) and by other authors is a misspelling or unjustified emendation.

Genus *Scomberomorus* Lacepède 1801

Scomberomorus Lacepède 1801:292 [ref. 2710]. Type species *Scomberomorus plumierii* Lacepède 1801. Type by monotypy.

Polipturus Rafinesque 1815:84 [ref. 3584]. Type species *Scomberomorus plumierii* Lacepède 1801. Type by being a replacement name.

Cybium Cuvier 1829:199 [ref. 995]. Type species *Scomber commerson* Lacepède 1800. Type by subsequent designation.

Apolectus Bennett 1831:146 [ref. 5778]. Type species *Apolectus immunis* Bennett 1831. Type by subsequent designation.

Apodontis Bennett 1832:169 [ref. 4944]. Type species *Apolectus immunis* Bennett 1831. Type by being a replacement name.

Chriomitra Lockington 1879:133 [ref. 2816]. Type species *Chriomitra concolor* Lockington 1879. Type by monotypy.

Sierra Fowler 1905:766 [ref. 1368]. Subgenus of *Scomberomorus*. Type species *Cybium cavalla* Cuvier 1829. Type by original designation (also monotypic).

Sawara Jordan & Hubbs 1925:214 [ref. 2486]. Type species *Cybium niponium* Cuvier 1832. Type by original designation (also monotypic).

Pseudosawara Munro 1943:68 [ref. 3056]. Subgenus of *Scomberomorus*. Type species *Cybium kuhlii* Cuvier 1832. Type by original designation.

Indocybium Munro 1943:68 [ref. 3056]. Subgenus of *Scomberomorus*. Type species *Cybium semifasciatum* Macleay 1883. Type by original designation.

REMARKS: The type species of *Cybium* Cuvier 1829 and *Apolectus* Bennett 1831 were designated by Gill (1862:126 [ref. 1659]). *Polipturus* Rafinesque 1815 is an unneeded replacement for *Scomberomorus* Lacepède 1801. *Apodontis* Bennett 1832 is an unneeded replacement name for *Apolectus* Bennett 1831 (possibly thought by Bennett to be preoccupied by *Apolectus* Cuvier 1832 [Carangidae]).

***Scomberomorus brasiliensis* Collette, Russo & Zavala-Camin 1978**

Scomberomorus brasiliensis Collette, Russo & Zavala-Camin 1978:274, Fig. 2 [ref. 8942] (Belém market, Brazil). Holotype: USNM 217550.

DISTRIBUTION: Caribbean and Gulf of Mexico coasts of Central and South America from Belize at least as far south as Rio Grande do Sul, Brazil.

***Scomberomorus cavalla* (Cuvier 1829)**

Cybium cavalla Cuvier 1829:200 [ref. 995] (Brazil). No types known.

Cybium caballa Cuvier in Cuvier & Valenciennes 1832:187 [ref. 1000] (Brazil and Antilles). Syntypes: MNHN A-5521 (1, dry) Antilles, A-5567 (1, dry) Brazil, A-5575 (1, dry) Brazil, A-5610 (1, dry) Puerto Rico.

Cybium clupeioides Cuvier in Cuvier & Valenciennes 1832:178 [ref. 1000] (Norfolk I., s. Pacific [probably in error for w. Atlantic]). Holotype (unique): MNHN A-5784.

Cybium acervum Cuvier in Cuvier & Valenciennes 1832:186 [ref. 1000] (Santo Domingo). Lectotype: MNHN A-5781.

Cybium immaculatum Cuvier in Cuvier & Valenciennes 1832:191 [ref. 1000] (Martinique I., West Indies). Lectotype: MNHN A-5720 (poor condition).

DISTRIBUTION: Western Atlantic from Massachusetts through the West Indies to Rio de Janeiro, Brazil.

***Scomberomorus commerson* (Lacepède 1800)**

Scomber commerson Lacepède (ex Commerson) 1800:598, 600, Pl. 20 (fig. 1) [ref. 2709] (No locality). No types known.

Scomber maculosus Shaw 1803:592 [ref. 4014] (Vizagapatam, India). No types known.

Cybium konam Bleeker 1851:357 [ref. 326] (Jakarta [Batavia], Java, Indonesia). Lectotype: RMNH 6051.

Cybium multifasciatum Kishinouye 1915:9 [5 of separate], Pl. 1 (fig. 3) [ref. 18416] (Kawajiri, north coast of Yamaguchi Pref., Japan). Holotype (unique): whereabouts unknown.

DISTRIBUTION: Widespread throughout tropical and subtropical waters of the Indo-western Pacific and has traversed the Suez Canal into the eastern Mediterranean.

***Scomberomorus concolor* (Lockington 1879)**

Chromitra concolor Lockington 1879:134 [ref. 2816] (San Francisco market; probably from Monterey, California, U.S.A.). Holotype (unique): CAS (lost in 1906).

DISTRIBUTION: Eastern tropical Pacific, apparently now confined to the Gulf of California.

***Scomberomorus guttatus* (Bloch & Schneider 1801)**

Scomber guttatus Bloch & Schneider 1801:23, Pl. 5 [ref. 471] (Tranquebar, India). Lectotype: ZMB 8759 (dry).

Scomber leopardus Shaw 1803:591 [ref. 4014] (Coromandel coast of India). No types known.

Cybium kuhlii Cuvier in Cuvier & Valenciennes 1832:178 [ref. 1000] (Java, Indonesia). Lectotype: MNHN A-5771.

Cybium interruptum Cuvier in Cuvier & Valenciennes 1832:172 [ref. 1000] (Pondicherry, India). Holotype: MNHN A-5522 (dry, poor condition).

Cybium croockewitii Bleeker 1851:161 [ref. 324] (strait near Muntok, Bangka [Banka], Indonesia). Holotype (unique): RMNH 6054.

DISTRIBUTION: Indo-western Pacific coasts from the Persian Gulf east through the East Indies and north to the Sea of Japan.

REMARKS: *Scomber leopardus* Shaw 1803 was based on Russell (1803, Pl. 134 [ref. 13862]).

***Scomberomorus koreanus* (Kishinouye 1915)**

Cybium koreanum Kishinouye 1915:11 [6 of separate], Pl. 1 (fig. 6) [ref. 18416] (Yojiro Wakiya, w. coast of Korea). Holotype (unique): whereabouts unknown.

DISTRIBUTION: Continental Indo-western Pacific from Bombay, India, east to Singapore and north to the Sea of Japan.

***Scomberomorus lineolatus* (Cuvier 1829)**

Cybium lineolatum Cuvier 1829:200 [ref. 995] (Vishakhapatnam [Vizagapatam], India). No types known.

DISTRIBUTION: Continental Indo-western Pacific from Bombay, India, east to the Gulf of Thailand and Java.

***Scomberomorus maculatus* (Mitchill 1815)**

Scomber maculatus Mitchill 1815:426, Pl. 6 (fig. 8) [ref. 13292] (New York, U.S.A.). Holotype (unique): whereabouts unknown.

DISTRIBUTION: Western Atlantic from Cape Cod, Massachusetts, to Miami, Florida, and the Gulf of Mexico from Florida to Yucatan, Mexico.

***Scomberomorus multiradiatus* Munro 1964**

Scomberomorus multiradiatus Munro 1964:168, Fig. 12 [ref. 3058] (off n. mouth of Fly R., Gulf of Papua, Papua New Guinea). Holotype (unique): CSIRO C3172.

DISTRIBUTION: Restricted to the Gulf of Papua off the mouth of the Fly River.

***Scomberomorus munroi* Collette & Russo 1980**

Scomberomorus munroi Collette & Russo 1980:243, Fig. 1a [ref. 8727] (Deception Bay, north of Brisbane, Queensland, Australia). Holotype: AMS I.21029-001.

DISTRIBUTION: Coasts of the northern three quarters of Australia and the southern coast of Papua New Guinea.

***Scomberomorus niphonius* (Cuvier 1832)**

Cybium niphonium Cuvier in Cuvier & Valenciennes 1832:180 [ref. 1000] (Japan). No types known.

Cybium gracile Günther 1873:378 [ref. 18198] (Chefoo, Shantung Province, China). Holotype (unique): BMNH 1873.9.23.4.

DISTRIBUTION: Subtropical and temperate waters of China, the Yellow Sea, and the Sea of Japan north to Vladivostok.

***Scomberomorus plurilineatus* Fourmanoir 1966**

Scomberomorus plurilineatus Fourmanoir 1966:223, Fig. 1 [ref. 9030] (near Nosy Be [Nossi-Bé], Madagascar). Holotype (unique): apparently discarded.

DISTRIBUTION: Western Indian Ocean from Kenya and Zanzibar, the west coast of Madagascar, and the Seychelle Islands south to Natal, South Africa.

***Scomberomorus queenslandicus* Munro 1943**

Scomberomorus (*Cybium*) *queenslandicus* Munro 1943:82, Pls. 7 (fig. B), 8 (fig. 1) [ref. 3056] (Cape Cleveland, n. Queensland, Australia). Holotype (unique): QM I.6588.

DISTRIBUTION: Inshore coastal waters of southern Papua New Guinea and the northern three quarters of Australia.

***Scomberomorus regalis* (Bloch 1793)**

Scomber regalis Bloch 1793:38, Pl. 333 [ref. 4868] (Martinique, West Indies). No types known.

Scomberomorus plumierii Lacepède 1801:292, 293 [ref. 2710] (Martinique I., West Indies). No types known.

DISTRIBUTION: Tropical and subtropical waters of the western Atlantic from Massachusetts to Rio de Janeiro, Brazil.

***Scomberomorus semifasciatus* (Macleay 1883)**

Cybium semifasciatum Macleay 1883:205 [ref. 14342] (Lower Burdekin R., Queensland, Australia). Holotype (unique): AMS I.18288.

Cybium tigris De Vis 1884:545 [ref. 4899] (Cape York, Queensland, Australia). Holotype (unique): QM I.119.

DISTRIBUTION: Estuarine and coastal waters of southern Papua New Guinea and the northern three quarters of Australia.

***Scomberomorus sierra* Jordan & Starks 1895**

Scomberomorus sierra Jordan & Starks in Jordan 1895:428 [ref. 2394] (Mazatlán, Sinaloa, w. Mexico). Lectotype: SU 1720.

DISTRIBUTION: Eastern tropical Pacific from southern California to northern Chile and the Galápagos Islands.

***Scomberomorus sinensis* (Lacepède 1800)**

Scomber sinensis Lacepède 1800:599 [ref. 2709] (China). No types known.

Cybium chinense Cuvier in Cuvier & Valenciennes 1832:180 [ref. 1000] (no locality). No types known.

Cybium cambodgiense Durand 1940:37, Pl. 6 [ref. 13008] (Phnom-Penh, Cambodia). Holotype (unique): apparently lost.

DISTRIBUTION: Western Pacific from Japan and China south to Vietnam and Cambodia where it enters the Mekong River.

***Scomberomorus tritor* (Cuvier 1832)**

Cybium tritor Cuvier in Cuvier & Valenciennes 1832:176, Pl. 218 [ref. 1000] (Gorée, Senegal). Lectotype: MNHN A-6871.

Apolectus immunis Bennett 1831:146 [ref. 5778] (Atlantic coast of North Africa). No types known.

Scomberomorus argyreus Fowler 1905:764, Pl. 51 (lower fig.) [ref. 1368] (Cape Palmas, Liberia).
Holotype (unique): ANSP 11400.

DISTRIBUTION: Eastern Atlantic, concentrated in the Gulf of Guinea from the Canary Islands south to southern Angola; rare in the Mediterranean Sea.

REMARKS: Believing that *Cybium tritor* and *Apolectus immunis* were both described in 1831, Collette and Russo (1985 [ref. 5221]) followed common usage and selected *Scomberomorus tritor* for this species, and current usage should be maintained.

Genus *Thunnus* South 1845

Thunnus South 1845:620 [ref. 4170]. Type species *Scomber thynnus* Linnaeus 1758. Type by being a replacement name.

Thynnus Cuvier 1816:313 [ref. 993]. Type species *Scomber thynnus* Linnaeus 1758. Type by monotypy (also by absolute tautonymy).

Orcynus Cuvier 1816:314 [ref. 993]. Type species *Scomber germo* Lacepède 1801. Type by subsequent designation.

Thinnus S. D. W. [S. D. Wood?] 1837:208 [ref. 12605]. Type species *Scomber thynnus* Linnaeus 1758. Type by being a replacement name.

Albacora Jordan 1888:180 [ref. 2389]. Type species *Scomber thynnus* Linnaeus 1758. Type by being a replacement name.

Germo Jordan 1888:180 [ref. 2389]. Type species *Scomber germo* Lacepède 1801. Type by being a replacement name.

Parathunnus Kishinouye 1923:442 [ref. 2609]. Type species *Thunnus mebachi* Kishinouye 1915. Type by monotypy.

Neothunnus Kishinouye 1923:445 [ref. 2609]. Type species *Thynnus macropterus* Temminck & Schlegel 1844. Type by subsequent designation.

Kishinoella Jordan & Hubbs 1925:219 [ref. 2486]. Type species *Thunnus rarus* Kishinouye 1915. Type by original designation (also monotypic).

Semathunnus Fowler 1933:163 [ref. 1415]. Type species *Semathunnus guildi* Fowler 1933. Type by original designation (also monotypic).

REMARKS: Two subgenera were recognized by Collette (1999 [ref. 23936]): *Thunnus* (*Thunnus*) for *T. alalunga*, *T. maccoyii*, *T. obesus*, *T. orientalis*, and *T. thynnus*; and *Thunnus* (*Neothunnus*) for *T. albacares*, *T. atlanticus*, and *T. tonggol*.

The type species of *Orcynus* Cuvier 1816 was designated by Jordan (1888:180 [ref. 2389]). *Orcynus* Cuvier 1816 is preoccupied by *Orcynus* Rafinesque 1815 in fishes and was replaced by *Germo* Jordan 1888. *Thunnus* South 1845 is a replacement name for *Thynnus* Cuvier 1816 (preoccupied by *Thynnus* Fabricius 1775 in Hymenoptera). The type species of *Neothunnus* Kishinouye 1923 was designated by Jordan and Hubbs (1925:218 [ref. 2486]). *Thinnus* S. D. W. 1837 is an unjustified emendation of *Thynnus* Cuvier 1816 and was suppressed for purposes of priority but not homonymy and placed on the Official Index (Opinion 809). The type species of *Thinnus* S. D. W. 1837 was designated unnecessarily by Whitley (1955:51 [ref. 4724]). *Albacora* Jordan 1888 is an unneeded replacement for *Thynnus* Cuvier 1816, which had been replaced earlier by *Thunnus* South 1845. *Germo* Jordan 1888 is a replacement for *Orcynus* Cuvier 1816 (preoccupied by *Orcynus* Rafinesque 1815 in fishes).

Thunnus alalunga (Bonnaterre 1788)

Scomber alalunga Bonnaterre 1788:139 [ref. 4940] (Sardinia, Mediterranean Sea). No types known.

Scomber albicans Walbaum 1792:216 [ref. 4572] (Atlantic Ocean). No types known.

Scomber germon Lacepède 1800:598 [ref. 2709] (eastern Indian Ocean at about 27°S, 103°W). No types known.

Scomber germo Lacepède 1801:1 [ref. 2710] (eastern Indian Ocean at about 27°S, 103°W). No types known.

Thynnus pacificus Cuvier in Cuvier & Valenciennes 1832:133 [ref. 1000] (Pacific Ocean and Indian seas). Syntypes: MNHN A-6862 (1) Indian seas.

Scomber germo Bennett 1840:278 [ref. 260] (Pacific Ocean). No types known.

Orcynus pacificus Cooper 1863:75, Fig. 19 [ref. 905] (s. coast of California, U.S.A.). Holotype (unique): [ex Calif. State Coll. 1033] (whereabouts unknown).

Germo germon steadi Whitley 1933:81, Pl. 11 (fig. 1) [ref. 4677] (N.S.W., Australia). Holotype: AMS IA.2457.

DISTRIBUTION: Cosmopolitan in tropical and temperate waters.

REMARKS: The descriptions of *Scomber germon* Lacepède 1800 and *Scomber germo* Lacepède 1801 are in reference to the same species but appeared in separate volumes published in different years with different spellings because the section on “les scombres” was started at the end of Lacepède (1800 [v. 2]) and continued at the beginning of Lacepède (1801 [v. 3]); therefore, both are treated as independent descriptions.

***Thunnus albacares* (Bonnaterre 1788)**

Scomber albacares Bonnaterre 1788:140 [ref. 4940] (Jamaica). No types known.

Scomber sloanei Cuvier in Cuvier & Valenciennes 1832:148 [ref. 1000] (Jamaica). No types known.

Thynnus albacora Lowe 1839:77 [ref. 2829] (off Madeira). No types known.

Thynnus macropterus Temminck & Schlegel 1844:98, Pl. 51 [ref. 4372] (sw. Japan). No types known.

Orcynus subulatus Poey 1875:145 [71], Pl. 7 [3] (figs. 4–5) [ref. 3509] (Cuba). Holotype (unique): whereabouts unknown.

Thunnus allisoni Mowbray 1920:9, Fig. [ref. 15319] (Biscayne Bay, Miami, Florida and in Gulf Stream, U.S.A.). Syntypes: (3, whereabouts unknown).

Neothunnus catalinae Jordan & Evermann 1926:19, Pl. 4 [ref. 15593] (off Santa Catalina I., s. California, U.S.A.). Holotype (unique): CAS 597 (photograph only).

Kishinoella zacalles Jordan & Evermann 1926:27, Pl. 7 [ref. 15593] (Honolulu market, Oahu I., Hawaiian Is., U.S.A.). Holotype: CAS 599 (photograph only).

Neothunnus itosibi Jordan & Evermann 1926:22, Pl. 6 [ref. 15593] (Honolulu market, Oahu I., Hawaiian Is., U.S.A.). Holotype (unique): CAS 598 (photograph only).

Semathunnus guildi Fowler 1933:164, Pl. 12 [ref. 1415] (Tahiti, Society Is.). Holotype (unique): ANSP 55982 (dry).

Neothunnus albacora forma *longipinna* Bellón & Bárdan de Bellón 1949:15, Fig. 1B [ref. 19690] (Canary Is.). Syntypes: 3, whereabouts unknown; presumably discarded.

Neothunnus albacora forma *brevipinna* Bellón & Bárdan de Bellón 1949:15, Fig. 1A [ref. 19690] (Canary Is.). Syntypes: 11, whereabouts unknown; presumably discarded.

DISTRIBUTION: Cosmopolitan in tropical and subtropical seas.

***Thunnus atlanticus* (Lesson 1831)**

Thynnus atlanticus Lesson 1831:165 [ref. 2776] (Trindade, Martin Vaz Is., off se. Brazil, South Atlantic, 20°31'S, 29°19'W). Holotype (unique): whereabouts unknown.

Thynnus balteatus Cuvier in Cuvier & Valenciennes 1832:136 [ref. 1000] (by way of Trindade, Martin Vaz Is., off se. Brazil, South Atlantic, 20°31'S, 29°19'W). No types known.

Parathunnus rosengarteni Fowler 1934:354, Figs. 3–5 [ref. 16421] (Key Largo, Florida, U.S.A.). Holotype (unique): ANSP 60174 (dry, mounted).

Parathunnus ambiguus Mowbray 1935 [ref. 21058] (Bermuda). No types known.

DISTRIBUTION: Western Atlantic from Martha's Vineyard, Massachusetts, south to Trinidad Island and Rio de Janeiro, Brazil.

***Thunnus maccoyii* (Castelnau 1872)**

Thynnus maccoyii Castelnau 1872:104 [ref. 757] (Melbourne market, Victoria, Australia). Holotype: MNHN 0515 (not found).

Thunnus phillipsi Jordan & Evermann 1926:13, Pl. 2 (fig. 4) [ref. 15593] (Bay of Islands, New Zealand). Holotype (unique): CAS 596 (photograph only).

DISTRIBUTION: Southern Ocean south of 30 degrees S, except moving to nw. Australia for spawning.

***Thunnus obesus* (Lowe 1839)**

Thynnus obesus Lowe 1839:78 [ref. 2829] (off Madeira). No types known.

Thynnus sibi Temminck & Schlegel 1844:97, Pl. 50 [ref. 4372] (Japan). Lectotype: RMNH D2327 (dry).

Thunnus mebachi Kishinouye 1915:19 [11 of separate], Pl. 1 (fig. 11) [ref. 18416] (Ruykyu Is., Japan; Taiwan). No types known.

DISTRIBUTION: Cosmopolitan in tropical and subtropical waters.

***Thunnus orientalis* (Temminck & Schlegel 1844)**

Thynnus orientalis Temminck & Schlegel 1844:94 [ref. 4372] (Japan). Holotype (unique): RMNH D794 (dry).

Orcynus schlegelii Steindachner in Steindachner & Döderlein 1884:178 [10 of separate], Pl. 3 (fig. 1) [ref. 4248] (Tokyo, Japan). Holotype (unique): NMW (not found).

Thunnus saliens Jordan & Evermann 1926:10, Pls. 1, 2 (figs. 1–3) [ref. 15593] (off Santa Catalina I., California, U.S.A.). Holotype (unique): CAS 595 (photograph only).

DISTRIBUTION: North Pacific from the Gulf of Alaska to California in the east and southern Okhotsk Sea south to the northern Philippine Islands in the west.

REMARKS: Formerly considered a subspecies of *T. thynnus* until raised to specific status by Collette (1999 [ref. 23936]) and Collette et al. (2001 [ref. 25629]).

***Thunnus thynnus* (Linnaeus 1758)**

Scomber thynnus Linnaeus 1758:297 [ref. 2787] (pelagic, between the tropics). No types known.

Thynnus mediterraneus Risso 1827:414 [ref. 3757] (Nice, France). No types known.

Thynnus vulgaris Cuvier in Cuvier & Valenciennes 1832:58, Pl. 210 [ref. 1000] (Europe). No types known.

Thynnus secundodorsalis Storer 1855:143, Pl. 12 (fig. 4) [ref. 18851] (Cape Ann and Provincetown, Massachusetts, U.S.A.). Syntypes: (2) whereabouts unknown.

Thynnus linnei Malm 1877:412 [ref. 2881] (Göteborg and Bohusläns, on the Kattegat, Sweden). No types known.

DISTRIBUTION: North Atlantic from Labrador and Newfoundland south to Venezuela and northern Brazil in the west and from the Lofoten Islands off Norway to the Canary Islands in the east but also found off South Africa.

***Thunnus tonggol* (Bleeker 1851)**

Thynnus tonggol Bleeker 1851:356 [ref. 326] (Jakarta [Batavia], Java, Indonesia). Neotype: RMNH 6406.

Thunnus rarus Kishinouye 1915:28 [12 of separate], Pl. 1 (fig. 13) [ref. 18416] (Tokyo market, Japan). Holotype (unique): whereabouts unknown.

Thunnus nicolsoni Whitley 1936:30, Fig. 2 [ref. 4687] (between Lindeman and Maher Is., Cumberland Group, Queensland, Australia, 2 fm). Holotype (unique): AMS IA.6553 (head).

DISTRIBUTION: Indo-western Pacific.

Summary Lists

Genus-Group Names of Family Scombridae

Acanthocybium Gill 1862 = *Acanthocybium* Gill 1862
Albacora Jordan 1888 = *Thunnus* South 1845
Allothunnus Serventy 1948 = *Allothunnus* Serventy 1948
Apodontis Bennett 1832 = *Scomberomorus* Lacepède 1801
Apolectus Bennett 1831 = *Scomberomorus* Lacepède 1801
Auxis Cuvier 1829 = *Auxis* Cuvier 1829
Chenogaster Lahille 1903 = *Gasterochisma* Richardson 1845
Chriomitra Lockington 1879 = *Scomberomorus* Lacepède 1801
Cordylus Gronow 1854 = *Scomber* Linnaeus 1758
Creotroctes Gistel 1848 = *Sarda* Cuvier 1829
Cybiosarda Whitley 1935 = *Cybiosarda* Whitley 1935
Cybium Cuvier 1829 = *Scomberomorus* Lacepède 1801
Euthynnus Lütken 1883 = *Euthynnus* Lütken 1883
Gasterochisma Richardson 1845 = *Gasterochisma* Richardson 1845
Germo Jordan 1888 = *Thunnus* South 1845
Grammatorcynus Gill 1862 = *Grammatorcynus* Gill 1862
Gymnosarda Gill 1862 = *Gymnosarda* Gill 1862
Indocybium Munro 1943 = *Scomberomorus* Lacepède 1801
Katsuwonus Kishinouye 1915 = *Katsuwonus* Kishinouye 1915
Kishinoella Jordan & Hubbs 1925 = *Thunnus* South 1845
Lepidothynnus Günther 1889 = *Gasterochisma* Richardson 1845
Neothunnus Kishinouye 1923 = *Thunnus* South 1845
Nesogrammus Evermann & Seale 1907 = *Grammatorcynus* Gill 1862
Orcynopsis Gill 1862 = *Orcynopsis* Gill 1862
Orcynus Cuvier 1816 = *Thunnus* South 1845
Palamita Bonaparte 1831 = *Sarda* Cuvier 1829
Parathunnus Kishinouye 1923 = *Thunnus* South 1845
Pelamichthys Giglioli 1880 = *Orcynopsis* Gill 1862
Pelamys Cuvier 1832 = *Sarda* Cuvier 1829
Pneumatophorus Jordan & Gilbert 1883 = *Scomber* Linnaeus 1758
Polipturus Rafinesque 1815 = *Scomberomorus* Lacepède 1801
Pseudosawara Munro 1943 = *Scomberomorus* Lacepède 1801
Rastrelliger Jordan & Starks 1908 = *Rastrelliger* Jordan & Starks 1908
Sarda Cuvier 1829 = *Sarda* Cuvier 1829
Sawara Jordan & Hubbs 1925 = *Scomberomorus* Lacepède 1801
Scomber Linnaeus 1758 = *Scomber* Linnaeus 1758
Scomberomorus Lacepède 1801 = *Scomberomorus* Lacepède 1801
Semathunnus Fowler 1933 = *Thunnus* South 1845
Sierra Fowler 1905 = *Scomberomorus* Lacepède 1801
Thinnus S. D. W. 1837 = *Thunnus* South 1845
Thunnus South 1845 = *Thunnus* South 1845
Thynnichthys Giglioli 1880 = *Euthynnus* Lütken 1883

Thynnus Cuvier 1816 = *Thunnus* South 1845

Wanderer Whitley 1937 = *Euthynnus* Lütken 1883

Incertae Sedis Genus-Group Names

None

Unavailable Genus-Group Names

Pelamys Klein 1775:176 [ref. 2618]. Suppressed. In the synonymy of *Scomber* Linnaeus 1758.

Thynnus Browne 1789:451 [ref. 669]. Suppressed.

Species-Group Names of Family Scombridae

acervum, *Cybium* Cuvier 1832 = *Scomberomorus cavalla* (Cuvier 1829)

affinis, *Thynnus* Cantor 1849 = *Euthynnus affinis* (Cantor 1849)

alalunga, *Scomber* Bonnaterre 1788 = *Thunnus alalunga* (Bonnaterre 1788)

albacares, *Scomber* Bonnaterre 1788 = *Thunnus albacares* (Bonnaterre 1788)

albacora, *Thynnus* Lowe 1839 = *Thunnus albacares* (Bonnaterre 1788)

albicans, *Scomber* Walbaum 1792 = *Thunnus alalunga* (Bonnaterre 1788)

alletteratus, *Scomber* Rafinesque 1810 = *Euthynnus alletteratus* (Rafinesque 1810)

allisoni, *Thunnus* Mowbray 1920 = *Thunnus albacares* (Bonnaterre 1788)

altipinne, *Cybium* Guichenot 1861 = *Orcynopsis unicolor* (Geoffroy Saint-Hilaire 1817)

amarui, *Scomber* Curtiss 1938 = *Acanthocybium solandri* (Cuvier 1832)

ambiguus, *Parathynnus* Mowbray 1935 = *Thunnus atlanticus* (Lesson 1831)

antarcticus, *Scomber* Castelnau 1872 = *Scomber australasicus* Cuvier 1832

argyreus, *Scomberomorus* Fowler 1905 = *Scomberomorus tritor* (Cuvier 1832)

atlanticus, *Thynnus* Lesson 1831 = *Thunnus atlanticus* (Lesson 1831)

aurolitoralis, *Euthynnus alletteratus* Fraser-Brunner 1949 = *Euthynnus alletteratus* (Rafinesque 1810)

australasicus, *Scomber* Cuvier 1832 = *Scomber australasicus* Cuvier 1832

australis, *Pelamys* Macleay 1881 = *Sarda australis* (Macleay 1881)

balteatus, *Thynnus* Cuvier 1832 = *Thunnus atlanticus* (Lesson 1831)

bicarinatus, *Thynnus* Quoy & Gaimard 1825 = *Grammatorcynus bicarinatus* (Quoy & Gaimard 1825)

bilineatus, *Thynnus* Rüppell 1836 = *Grammatorcynus bilineatus* (Rüppell 1836)

bisus, *Scomber* Rafinesque 1810 = *Auxis rochei rochei* (Risso 1810)

bonapartii, *Cybium* Verany 1847 = *Orcynopsis unicolor* (Geoffroy Saint-Hilaire 1817)

boulengeri, *Gastrochisma* Lahille 1913 = *Gasterochisma melampus* Richardson 1845

brachydorax, *Auxis thazard* Collette & Aadland 1996 = *Auxis thazard brachydorax* Collette & Aadland 1996

brachypterus, *Thynnus* Cuvier 1829 = *Sarda sarda* (Bloch 1793)

brachysoma, *Scomber* Bleeker 1851 = *Rastrelliger brachysoma* (Bleeker 1851)

brasiliensis, *Scomberomorus* Collette, Russo & Zavala-Camin 1978 = *Scomberomorus brasiliensis* Collette, Russo & Zavala-Camin 1978

brasiliensis, *Thynnus* Cuvier 1832 = *Euthynnus alletteratus* (Rafinesque 1810)

brevipinna, *Neothynnus albacora* Bellón & Bárdan de Bellón 1949 = *Thunnus albacares* (Bonnaterre 1788)

brevipinnis, *Thynnus* Cuvier 1832 = *Euthynnus alletteratus* (Rafinesque 1810)

caballa, *Cybium* Cuvier 1832 = *Scomberomorus cavalla* (Cuvier 1829)

cambodgiense, *Cybium* Durand 1940 = *Scomberomorus sinensis* (Lacepède 1800)

canagurta, *Scomber* Cuvier 1829 = *Rastrelliger kanagurta* (Cuvier 1816)

capensis, *Scomber* Cuvier 1832 = *Scomber colias* Gmelin 1789

catalinae, *Neothynnus* Jordan & Evermann 1926 = *Thunnus albacares* (Bonnaterre 1788)

cavalla, *Cybium* Cuvier 1829 = *Scomberomorus cavalla* (Cuvier 1829)
chiliensis, *Pelamys* Cuvier 1832 = *Sarda chiliensis* (Cuvier 1832)
chinense, *Cybium* Cuvier 1832 = *Scomberomorus sinensis* (Lacepède 1800)
chrysozonus, *Scomber* Rüppell 1836 = *Rastrelliger kanagurta* (Cuvier 1816)
clupeoideum, *Cybium* Cuvier 1832 = *Scomberomorus cavalla* (Cuvier 1829)
colias, *Scomber* Gmelin 1789 = *Scomber colias* Gmelin 1789
commerson, *Scomber* Lacepède 1800 = *Scomberomorus commerson* (Lacepède 1800)
concolor, *Chriomitra* Lockington 1879 = *Scomberomorus concolor* (Lockington 1879)
croockewitii, *Cybium* Bleeker 1851 = *Scomberomorus guttatus* (Bloch & Schneider 1801)
dekayi, *Scomber* Storer 1855 = *Scomber colias* Gmelin 1789
delphinalis, *Scomber* Cuvier 1832 = *Rastrelliger kanagurta* (Cuvier 1816)
diego, *Scomber* Ayres 1856 = *Scomber japonicus* Houttuyn 1782
elegans, *Scomberomorus* (*Cybiosarda*) Whitley 1935 = *Cybiosarda elegans* (Whitley 1935)
eudorax, *Auxis rochei* Collette & Aadland 1996 = *Auxis rochei eudorax* Collette & Aadland 1996
fallai, *Allothunnus* Serventy 1948 = *Allothunnus fallai* Serventy 1948
faughni, *Rastrelliger* Matsui 1967 = *Rastrelliger faughni* Matsui 1967
forbesi, *Acanthocybium* Seale 1912 = *Acanthocybium solandri* (Cuvier 1832)
germo, *Scomber* Bennett 1840 = *Thunnus alalunga* (Bonnaterre 1788)
germo, *Scomber* Lacepède 1801 = *Thunnus alalunga* (Bonnaterre 1788)
germon, *Scomber* Lacepède 1800 = *Thunnus alalunga* (Bonnaterre 1788)
gigas, *Scomber* Fowler 1935 = *Scomber colias* Gmelin 1789
glauciscus, *Scomber* Pallas 1814 = *Scomber scombrus* Linnaeus 1758
gracile, *Cybium* Günther 1873 = *Scomberomorus niphonius* (Cuvier 1832)
gracilis, *Scomber* Swainson 1839 = *Scomber colias* Gmelin 1789
grex, *Scomber* Mitchill 1814 = *Scomber colias* Gmelin 1789
gildi, *Semathunnus* Fowler 1933 = *Thunnus albacares* (Bonnaterre 1788)
guttatus, *Scomber* Bloch & Schneider 1801 = *Scomberomorus guttatus* (Bloch & Schneider 1801)
hira, *Auxis* Kishinouye 1915 = *Auxis thazard thazard* (Lacepède 1800)
holmbergi, *Chenogaster* Lahille 1903 = *Gasterochisma melampus* Richardson 1845
huttonii, *Lepidothynnus* Günther 1889 = *Gasterochisma melampus* Richardson 1845
immaculatum, *Cybium* Cuvier 1832 = *Scomberomorus cavalla* (Cuvier 1829)
immunis, *Apolectus* Bennett 1831 = *Scomberomorus tritor* (Cuvier 1832)
interruptum, *Cybium* Cuvier 1832 = *Scomberomorus guttatus* (Bloch & Schneider 1801)
itosibi, *Neothunnus* Jordan & Evermann 1926 = *Thunnus albacares* (Bonnaterre 1788)
janesaba, *Scomber* Bleeker 1854 = *Scomber japonicus* Houttuyn 1782
japonicus, *Scomber* Houttuyn 1782 = *Scomber japonicus* Houttuyn 1782
japonicus, *Scomber scombrus* Temminck & Schlegel 1844 = *Scomber japonicus* Houttuyn 1782
kanagurta, *Scomber* Cuvier 1816 = *Rastrelliger kanagurta* (Cuvier 1816)
konam, *Cybium* Bleeker 1851 = *Scomberomorus commerson* (Lacepède 1800)
koreanum, *Cybium* Kishinouye 1915 = *Scomberomorus koreanus* (Kishinouye 1915)
kuhlii, *Cybium* Cuvier 1832 = *Scomberomorus guttatus* (Bloch & Schneider 1801)
lacertus, *Scomber scomber* Walbaum 1792 = *Scomber colias* Gmelin 1789
leachianus, *Thynnus* Risso 1827 = *Euthynnus alletteratus* (Rafinesque 1810)
leopardus, *Scomber* Shaw 1803 = *Scomberomorus guttatus* (Bloch & Schneider 1801)
lepturus, *Scomber* Agassiz 1874 = *Rastrelliger kanagurta* (Cuvier 1816)

lineatus, *Euthynnus* Kishinouye 1920 = *Euthynnus lineatus* Kishinouye 1920
lineolata, *Pelamys* Girard 1858 = *Sarda chiliensis lineolata* (Girard 1858)
lineolatum, *Cybium* Cuvier 1829 = *Scomberomorus lineolatus* (Cuvier 1829)
linnei, *Thynnus* Malm 1877 = *Thunnus thynnus* (Linnaeus 1758)
longipinna, *Neothunnus albacora* Bellón & Bárdan de Bellón 1949 = *Thunnus albacares* (Bonnaterre 1788)
loo, *Scomber* Lesson 1829 = *Rastrelliger kanagurta* (Cuvier 1816)
maccoyii, *Thynnus* Castelnau 1872 = *Thunnus maccoyii* (Castelnau 1872)
macrophthalmus, *Scomber* Rafinesque 1810 = *Scomber colias* Gmelin 1789
macropterus, *Thynnus* Temminck & Schlegel 1844 = *Thunnus albacares* (Bonnaterre 1788)
maculatus, *Scomber* Couch 1832 = *Scomber colias* Gmelin 1789
maculatus, *Scomber* Mitchill 1815 = *Scomberomorus maculatus* (Mitchill 1815)
maculosus, *Scomber* Shaw 1803 = *Scomberomorus commerson* (Lacepède 1800)
marplatensis, *Pneumatophorus japonicus* López 1955 = *Scomber colias* Gmelin 1789
maru, *Auxis* Kishinouye 1915 = *Auxis rochei rochei* (Risso 1810)
mebachi, *Thunnus* Kishinouye 1915 = *Thunnus obesus* (Lowe 1839)
mediterraneus, *Scomber* Bloch & Schneider 1801 = *Sarda sarda* (Bloch 1793)
mediterraneus, *Thynnus* Risso 1827 = *Thunnus thynnus* (Linnaeus 1758)
melampus, *Gasterochisma* Richardson 1845 = *Gasterochisma melampus* Richardson 1845
microlepidotus, *Scomber* Rüppell 1836 = *Rastrelliger kanagurta* (Cuvier 1816)
moluccensis, *Scomber* Bleeker 1856 = *Rastrelliger kanagurta* (Cuvier 1816)
multifasciatum, *Cybium* Kishinouye 1915 = *Scomberomorus commerson* (Lacepède 1800)
multiradiatus, *Scomberomorus* Munro 1964 = *Scomberomorus multiradiatus* Munro 1964
munroi, *Scomberomorus* Collette & Russo 1980 = *Scomberomorus munroi* Collette & Russo 1980
neglectus, *Scomber* van Kampen 1907 = *Rastrelliger brachysoma* (Bleeker 1851)
nicolsoni, *Thunnus* Whitley 1936 = *Thunnus tonggol* (Bleeker 1851)
niphonium, *Cybium* Cuvier 1832 = *Scomberomorus niphonium* (Cuvier 1832)
nuda, *Pelamys* Günther 1860 = *Gymnosarda unicolor* (Rüppell 1836)
obesus, *Thynnus* Lowe 1839 = *Thunnus obesus* (Lowe 1839)
orientalis, *Pelamys* Temminck & Schlegel 1844 = *Sarda orientalis* (Temminck & Schlegel 1844)
orientalis, *Thynnus* Temminck & Schlegel 1844 = *Thunnus orientalis* (Temminck & Schlegel 1844)
pacificus, *Orcynus* Cooper 1863 = *Thunnus alalunga* (Bonnaterre 1788)
pacificus, *Thynnus* Cuvier 1832 = *Thunnus alalunga* (Bonnaterre 1788)
palamitus, *Scomber* Rafinesque 1810 = *Sarda sarda* (Bloch 1793)
pelamides, *Scomber* Lacepède 1801 = *Katsuwonus pelamis* (Linnaeus 1758)
pelamis, *Scomber* Brünnich 1768 = *Sarda sarda* (Bloch 1793)
pelamis, *Scomber* Linnaeus 1758 = *Katsuwonus pelamis* (Linnaeus 1758)
peregrinus, *Thynnus* Collett 1879 = *Orcynopsis unicolor* (Geoffroy Saint-Hilaire 1817)
peruanus, *Pneumatophorus* Jordan & Hubbs 1925 = *Scomber japonicus* Houttuyn 1782
petus, *Cybium* Poey 1860 = *Acanthocybium solandri* (Cuvier 1832)
phillipsi, *Thunnus* Jordan & Evermann 1926 = *Thunnus maccoyii* (Castelnau 1872)
piersoni, *Nesogrammus* Evermann & Seale 1907 = *Grammatorcynus bilineatus* (Rüppell 1836)
plumierii, *Scomberomorus* Lacepède 1801 = *Scomberomorus regalis* (Bloch 1793)
plurilineatus, *Scomberomorus* Fourmanoir 1966 = *Scomberomorus plurilineatus* Fourmanoir 1966
pneumatophorus, *Scomber* Delaroche 1809 = *Scomber colias* Gmelin 1789
ponticus, *Scomber* Pallas 1814 = *Sarda sarda* (Bloch 1793)

punctatus, *Scomber* Couch 1849 = *Scomber scombrus* Linnaeus 1758
quadripunctatus, *Scomber* Geoffroy Saint-Hilaire 1817 = *Euthynnus alletteratus* (Rafinesque 1810)
queenslandicus, *Scomberomorus* (*Cybium*) Munro 1943 = *Scomberomorus queenslandicus* Munro 1943
ramsayi, *Auxis* Castelnau 1879 = *Auxis rochei rochei* (Risso 1810)
rarus, *Thunnus* Kishinouye 1915 = *Thunnus tonggol* (Bleeker 1851)
reani, *Scomber* Day 1871 = *Rastrelliger kanagurta* (Cuvier 1816)
regalis, *Scomber* Bloch 1793 = *Scomberomorus regalis* (Bloch 1793)
rocheanus, *Thynnus* Risso 1827 = *Auxis rochei rochei* (Risso 1810)
rochei, *Scomber* Risso 1810 = *Auxis rochei rochei* (Risso 1810)
rosengarteni, *Parathunnus* Fowler 1934 = *Thunnus atlanticus* (Lesson 1831)
saba, *Scomber* Bleeker 1854 = *Scomber japonicus* Houttuyn 1782
saliens, *Thunnus* Jordan & Evermann 1926 = *Thunnus orientalis* (Temminck & Schlegel 1844)
sara, *Cybium* Lay & Bennett 1839 = *Acanthocybium solandri* (Cuvier 1832)
sarda, *Scomber* Bloch 1793 = *Sarda sarda* (Bloch 1793)
schlegeli, *Pelamys* McCoy 1888 = *Sarda australis* (Macleay 1881)
schlegelii, *Orcynus* Steindachner 1884 = *Thunnus orientalis* (Temminck & Schlegel 1844)
scombrus, *Scomber* Linnaeus 1758 = *Scomber scombrus* Linnaeus 1758
scriptus, *Scomber* Couch 1863 = *Scomber scombrus* Linnaeus 1758
secundodorsalis, *Thynnus* Storer 1855 = *Thunnus thynnus* (Linnaeus 1758)
semifasciatum, *Cybium* Macleay 1883 = *Scomberomorus semifasciatus* (Macleay 1883)
serventyi, *Rastrelliger* Whitley 1944 = *Rastrelliger kanagurta* (Cuvier 1816)
serventyi, *Sarda orientalis* Whitley 1945 = *Sarda orientalis* (Temminck & Schlegel 1844)
sibi, *Thynnus* Temminck & Schlegel 1844 = *Thunnus obesus* (Lowe 1839)
sierra, *Scomberomorus* Jordan & Starks 1895 = *Scomberomorus sierra* Jordan & Starks 1895
sinensis, *Scomber* Lacepède 1800 = *Scomberomorus sinensis* (Lacepède 1800)
sloanei, *Scomber* Cuvier 1832 = *Thunnus albacares* (Bonnaterre 1788)
solandri, *Cybium* Cuvier 1832 = *Acanthocybium solandri* (Cuvier 1832)
steadii, *Germo germon* Whitley 1933 = *Thunnus alalunga* (Bonnaterre 1788)
subulatus, *Orcynus* Poey 1875 = *Thunnus albacares* (Bonnaterre 1788)
tapeinocephalus, *Scomber* Bleeker 1854 = *Scomber australasicus* Cuvier 1832
tapeinosoma, *Auxis* Bleeker 1854 = *Auxis thazard thazard* (Lacepède 1800)
taso, *Scomber* Cuvier 1832 = *Auxis thazard thazard* (Lacepède 1800)
thazard, *Scomber* Lacepède 1800 = *Auxis thazard thazard* (Lacepède 1800)
thunina, *Thynnus* Cuvier 1829 = *Euthynnus alletteratus* (Rafinesque 1810)
thynnoides, *Auxis* Bleeker 1855 = *Auxis rochei rochei* (Risso 1810)
thynnus, *Scomber* Linnaeus 1758 = *Thunnus thynnus* (Linnaeus 1758)
tigris, *Cybium* De Vis 1884 = *Scomberomorus semifasciatus* (Macleay 1883)
tonggol, *Thynnus* Bleeker 1851 = *Thunnus tonggol* (Bleeker 1851)
tritor, *Cybium* Cuvier 1832 = *Scomberomorus tritor* (Cuvier 1832)
uam, *Scomber* Montrouzier 1857 = *Rastrelliger kanagurta* (Cuvier 1816)
undulatus, *Scomber* Swainson 1839 = *Scomber colias* Gmelin 1789
unicolor, *Scomber* Geoffroy Saint-Hilaire 1817 = *Orcynopsis unicolor* (Geoffroy Saint-Hilaire 1817)
unicolor, *Thynnus* (*Pelamis*) Rüppell 1836 = *Gymnosarda unicolor* (Rüppell 1836)
vagans, *Thynnus* Lesson 1829 = *Katsuwonus pelamis* (Linnaeus 1758)
vau, *Scomber* Curtiss 1938 = *Gymnosarda unicolor* (Rüppell 1836)

velox, *Sarda* Meek & Hildebrand 1923 = *Sarda orientalis* (Temminck & Schlegel 1844)
verany, *Cybium* Döderlein 1872 = *Acanthocybium solandri* (Cuvier 1832)
vernalis, *Scomber* Mitchill 1815 = *Scomber scombrus* Linnaeus 1758
vulgaris, *Auxis* Cuvier 1832 = *Auxis rochei rochei* (Risso 1810)
vulgaris, *Scomber* Fleming 1828 = *Scomber scombrus* Linnaeus 1758
vulgaris, *Scomber* S. D. W. 1837 = *Scomber scombrus* Linnaeus 1758
vulgaris, *Thynnus* Cuvier 1832 = *Thunnus thynnus* (Linnaeus 1758)
wallisi, *Wanderer* Whitley 1937 = *Euthynnus affinis* (Cantor 1849)
yaito, *Euthynnus* Kishinouye 1915 = *Euthynnus affinis* (Cantor 1849)
zacalles, *Kishinoella* Jordan & Evermann 1926 = *Thunnus albacares* (Bonnaterre 1788)

Incertae Sedis Species-Group Names

argentivittatus, *Thynnus* Cuvier in Cuvier & Valenciennes 1832:134 [ref. 1000].
auratus, *Scomber* Houttuyn 1782:331 [ref. 2220].
aureus, *Scomber* Lacepède 1800:599 [ref. 2709].
capensis, *Scomber* Forster in Bloch & Schneider 1801:35 [ref. 471].
coretta, *Scomber* Cuvier 1829:198 [ref. 995]. Usually dated to 1832 but available as *Scomber coretta* Cuvier 1829 from footnote as, “*Sc. coretta*, N., Sloane, Jam., I, i, 3.” [on Sloane 1701:Pl. 1 (fig. 3)]. Also appeared as *Thynnus coretta* Cuvier in Cuvier & Valenciennes 1832:102 [ref. 1000] with additional specimen MNHN A-5380 from Martinique, which is *Thunnus atlanticus*; however, the original description was based only on the figure from Sloane (1701) and is unidentifiable.
japonicus, *Scomber pneumatophorus* Temminck & Schlegel 1844:93, Pl. 47 (figs. 1–2) [ref. 4372].
maldivicus, *Scomber* Bloch & Schneider 1801:26 [ref. 471].
mertensii, *Cybium* Cuvier in Cuvier & Valenciennes 1832:179 [ref. 1000].
ocellatus, *Scomber* Bloch & Schneider 1801:37 [ref. 471].
ocellatus, *Scomber* Walbaum 1792:223 [ref. 4572].
paiuy, *Scomber* Basilewsky 1855:224 [ref. 200].
talling, *Scomber* Walbaum 1792:222 [ref. 4572].

Unavailable Species-Group Names

alalunga, *Scomber* Cetti 1777:31 [ref. 18872]. In the synonymy of *Thunnus alalunga* (Bonnaterre 1788).
alatunga, *Scomber* Gmelin 1789:1330 [ref. 18139]. Misspelling. In the synonymy of *Thunnus alalunga* (Bonnaterre 1788).
albacorus, *Scomber* Lacepède 1800:599 [ref. 2709], Misspelling. In the synonymy of *Thunnus albacares* (Bonnaterre 1788). Also in Lacepède 1801:48 [ref. 2710].
atripinnis, *Pelamys* Günther 1860:371 [ref. 1963]. Nomen nudum.
australiensis, *Scomber* Peters 1877:836 [ref. 3454]. Nomen nudum.
bimaculatus, *Scomber* Bloch in Cuvier & Valenciennes 1833:later than 49 [ref. 1002]. Nomen nudum.
gomfudensis, *Scomber* Boeseman (ex Rüppell) 1964:464 [ref. 20805]. Nomen nudum.
gracharus, *Scomber* Hasselquist 1762:407 [ref. 18250]. Suppressed. Not available, published in a rejected work (ICZN, Opinion 57).
immaculatus, *Scomber* Commerson in Lacepède 1801:9 [ref. 2710]. Appeared as “*Scomber immaculatus*, *pinnulis dorsalibus octo*, ...” in account of *Scomber thazard*; regarded as nonbinominal and not available. See ICZN Opinion 89.
lazardus, *Scomber* Nardo (ex Chierighini), 1847:col. 125 [ref. 17994], Nomen nudum.
major, *Scomber pneumatophorus japonicus* Temminck & Schlegel 1844:94, Pl. 47 (fig. 1) [ref. 4372]. Infrasubspecific.
minor, *Scomber pneumatophorus japonicus* Temminck & Schlegel 1844:94, Pl. 47 (fig. 2) [ref. 4372]. Infrasubspecific.

oceanicus, *Thynnus* Plumier in Lacepède 1801:22 [ref. 2710]. Nomen nudum.
pelamys, *Scomber* Cornide 1788:250 [ref. 5057]. A misspelling of *Scomber pelamis* Linnaeus 1758.
thonus, *Scomber* Nardo (ex Chiareghini) 1847:col. 125 [ref. 17994], Nomen nudum.
wingeram, *Scomber* Russell 1803:26, Pl. 83 [ref. 13862]. Not available from Russell; a native common name.

Literature Cited

- Agassiz, L. 1874 [ref. 15837]. Pisces Celebes. Icones Piscium. London. Pls. 1–2, 4–5.
- Ayres, W. O. 1856 (20 Oct.) [ref. 18922]. [Description of a new species of mackerel]. Proc. Calif. Acad. Sci. (Ser. 1) v. 1 (pt. 2): 92.
- Basilewsky, S. 1855 [ref. 200]. Ichthyographia Chinae Borealis. Nouv. Mém. Soc. Imp. Natur. Moscou v. 10: 215–263, Pls. 1–9.
- Bellón, L. and E. Bardán de Bellón. 1949 (8 Aug.) [ref. 19690]. Algunos datos sobre los “Thunnidae” de Canarias. Bol. Inst. Esp. Oceanogr. v. 19: 1–28.
- Bennett, E. T. 1831 (6 Dec.) [ref. 5778]. Characters of new genera and species of fishes from the Atlantic coast of northern Africa presented by Captain Belcher, R.N. Proc. Zool. Soc. Lond. 1830–31 (pt. 1): 145–148.
- Bennett, E. T. 1832 (2 Mar.) [ref. 4944]. Observations on a collection of fishes from the Mauritius, presented by Mr. Telfair, with characters of new genera and species. Proc. Zool. Soc. Lond. 1830–31 (pt. 1): 165–169.
- Bennett, F. D. 1840 [ref. 260]. Narrative of a whaling voyage round the globe, from the year 1833 to 1836. London. v. 2: 1–395.
- Bleeker, P. 1851 [ref. 326]. Over eenige nieuwe geslachten en soorten van Makreelachtige visschen van den Indischen Archipel. Natuurkd. Tijdschr. Neder. Indië v. 1: 341–372.
- Bleeker, P. 1851 [ref. 324]. Visschen van Banka. Natuurkd. Tijdschr. Neder. Indië v. 1: 159–161.
- Bleeker, P. 1854 [ref. 13964]. Faunae ichthyologicae japonicae. Species Novae. Natuurkd. Tijdschr. Neder. Indië v. 6: 395–426.
- Bleeker, P. 1855 [ref. 16839]. Vijfde bijdrage tot de kennis der ichthyologische fauna van Ternate. Natuurkd. Tijdschr. Neder. Indië v. 8: 295–304.
- Bleeker, P. 1856 [ref. 311]. Beschrijvingen van nieuwe en weinig bekende vischsoorten van Amboina, verzameld op eene reis door den Molukschen Archipel gedaan in het gevolg van den Gouverneur Generaal Duymaer van Twist, in September en Oktober 1855. Acta Soc. Sci. Indo-Neerl. v. 1: 1–76.
- Bloch, M. E. 1793 [ref. 4868]. Naturgeschichte der ausländischen Fische. Berlin. v. 7: i–xiv + 1–144, Pls. 325–360.
- Bloch, M. E. and J. G. Schneider. 1801 [ref. 471]. M. E. Blochii, Systema Ichthyologiae iconibus ex illustratum. Post obitum auctoris opus inchoatum absolvit, correxit, interpolavit Jo. Gottlob Schneider, Saxo. Berolini. Sumtibus Auctoris Impressum et Bibliopolio Sanderiano Commissum. i–lx + 1–584, Pls. 1–110.
- Boeseman, M. 1964 [ref. 20805]. Scombroid types in the Leiden Museum collections. In: Symposium on scombroid fishes part I. Mar. Biol. Assoc. India Symp. Ser. No. 1 (pt. 1): 461–468, Pls. 1–5 (figs. 1–19).
- Bonaparte, C. L. 1831–32 [ref. 4978]. Saggio di una distribuzione metodica degli animali vertebrati, (1831) 78 pp. Saggio d’una distribuzione ... vertebrati a sangue freddo, (1832) 86 pp. Giornale Arcadico di Scienze Lettere ed Arti, vol. 52 (1831): with fishes on pp. 155–189. Also 1832 edition; fishes on pp. 89–123.
- Bonnaterre, J. P. 1788 [ref. 4940]. Tableau encyclopédique et méthodique des trois règnes de la nature Ichthyologie. Paris. i–lvi + 1–215, Pls. A–B + 1–100.
- Browne, P. 1789 [ref. 669]. The civil and natural history of Jamaica. Second edition. i–viii + 1–490, 49 pls.
- Brünnich, M. T. 1768 [ref. 17290]. Ichthyologia Massiliensis, sistens piscium descriptiones eorumque apud incolas nomina. Accedunt Spolia Maris Adriatici. Hafniae et Lipsiae [Copenhagen and Leipzig]. i–xvi + 1–110.
- Cantor, T. E. 1849 (Oct.–Dec.) [ref. 715]. Catalogue of Malayan fishes. J. Asiatic Soc. Bengal v. 18 (pt. 2): i–xii + 983–1443, Pls. 1–14.
- Castelnau, F. L. 1872 (15 July) [ref. 757]. Contribution to the ichthyology of Australia. No. 1.—The Melbourne fish market (pp. 29–242). No. II.—Note on some South Australian fishes (pp. 243–247). Proc. Zool. Acclim. Soc. Victoria v. 1: 29–247 plus 1 p. Errata.
- Castelnau, F. L. 1879 (May) [ref. 764]. Essay on the ichthyology of Port Jackson. Proc. Linn. Soc. N.S.W. v. 3 (pt. 4): 347–402.

- Cetti, F. 1777 [ref. 18872]. Anfibi e pesci di Sardegna. Vol. 3 of Storia naturale di Sardegna. Sassari. 1774–1777. 1–208, 5 pls.
- Collett, R. 1879 [ref. 21044]. Meddelelser om Norges Fiske i Aarene 1875–78. Forh. Vidensk. Selsk. Christiania v. 1: 1–107, Pl. 1–2 (combined).
- Collette, B. B. 1966 [ref. 14641]. Revue critique des types de Scombridae des collections du Muséum National d'Histoire Naturelle de Paris. Bull. Mus. Natl. Hist. Nat. (Sér. 2) v. 38 (no. 4): 362–375.
- Collette, B. B. 1979 [ref. 26991]. Adaptations and systematics of the mackerels and tunas. In: G. D. Sharp and A. E. Dizon, eds. The physiological ecology of tunas. Academic Press, New York: 7–39.
- Collette, B. B. 1999 [ref. 23936]. Mackerels, molecules, and morphology. In: B. Séret and J.-Y. Sire, eds. Proc. 5th Indo-Pac. Fish Conf., Noumea, 1997: 149–164.
- Collette, B. B. and C. R. Aadland. 1996 (23 Jan.) [ref. 22199]. Revision of the frigate tunas (Scombridae, *Auxis*), with descriptions of two new subspecies from the eastern Pacific. Fish. Bull. v. 94 (no. 3): 423–441.
- Collette, B. B. and L. N. Chao. 1975 [ref. 5573]. Systematics and morphology of the bonitos (*Sarda*) and their relatives (Scombridae, Sardini). Fish. Bull. v. 73 (no. 3): 516–625.
- Collette, B. B. and C. E. Nauen. 1983 [ref. 5375]. FAO species catalogue. Vol. 2. Scombrids of the world. An annotated and illustrated catalogue of tunas, mackerels, bonitos and related species known to date. FAO Fish. Synop. No. 125: i–vii + 1–137.
- Collette, B. B., T. Potthoff, W. J. Richards, S. Ueyanagi, J. L. Russo and Y. Nishikawa. 1984 [ref. 11421]. Scombroidei: development and relationships. In: H. G. Moser et al., eds. Ontogeny and systematics of fishes. Am. Soc. Ichthyol. Herpetol. Spec. Publ. No. 1: 591–620.
- Collette, B. B., C. Reeb and B. A. Block. 2001 [ref. 25629]. Systematics of the tunas and mackerels (Scombridae). In: B. A. Block and E. D. Stevens, eds. Tuna: physiology, ecology, and evolution. Fish Physiology, v. 19. Academic Press, San Diego: 1–33.
- Collette, B. B., J. L. Russo and L. A. Zavala-Camin. 1978 [ref. 8942]. *Scomberomorus brasiliensis*, a new species of Spanish mackerel from the western Atlantic. Fish. Bull. v. 76 (no. 1): 273–280.
- Collette, B. B. and J. L. Russo. 1979 [ref. 26994]. An introduction to the Spanish mackerels, genus *Scomberomorus*. In: E. L. Nakamura and H. R. Bullis, Jr., eds. Proceedings of the Mackerel Colloquium. Gulf States Marine Fisheries Commission, Publ. No. 4. Ocean Springs, Mississippi: 3–16.
- Collette, B. B. and J. L. Russo. 1980 [ref. 8727]. *Scomberomorus munroi*, a new species of Spanish mackerel from Australia and New Guinea. Aust. J. Mar. Freshwater Res. v. 31 (no. 2): 241–250.
- Collette, B. B. and J. L. Russo. 1985 (Oct.) [ref. 5221]. Morphology, systematics, and biology of the Spanish mackerels (*Scomberomorus*, Scombridae). Fish. Bull. v. 82 (no. 4): 545–692.
- Cooper, J. G. 1863 (Nov.) [ref. 905]. On new genera and species of California fishes—No. I. Proc. Calif. Acad. Sci. (Ser. 1) v. 3 (sig. 5): 70–77.
- Cornide, J. 1788 [ref. 5057]. Ensayo de una historia de los peces y otras producciones marinas de la costa de Galicia, arreglado al sistema del Caballero Cárlos Linneo. Con un tratado de las diversas pescas, y de las redes y aparejos con que se practican. i–xxxviii + 1–263.
- Couch, J. 1832 [ref. 5557]. Fishes new to the British fauna, contained in Couch's "History of the Fishes of Cornwall." Mag. Nat. Hist. v. 5 (no. 23, art. 4): 15–24.
- Couch, J. 1849 [ref. 18051]. Description of *Scomber punctatus*, a species of mackerel not hitherto recognized by naturalists. Zoologist (Lond.) v. 7 (Appendix, art. 4): xxix–xxxi.
- Couch, J. 1863 [ref. 18053]. The history of the fishes of the British islands. v. 2: 1–265, Pls. 58–120.
- Curtiss, A. 1938 [ref. 18057]. A short zoology of Tahiti in the Society islands. Guide Printing Company, Inc., Brooklyn, New York. i–xvi + 1–193.
- Cuvier, G. 1816 (Nov.) [ref. 993]. Le Règne Animal distribué d'après son organisation pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Les reptiles, les poissons, les mollusques et les annélides. Edition 1. v. 2: i–xviii + 1–532 [Pls. 9–10, in v. 4].
- Cuvier, G. 1829 (Mar.) [ref. 995]. Le Règne Animal, distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Edition 2. v. 2: i–xv + 1–406.
- Cuvier, G. and A. Valenciennes. 1832 (Jan.) [ref. 1000]. Histoire naturelle des poissons. Tome huitième. Livre neuvième. Des Scombéroïdes. v. 8: i–xix + 5 pp. + 1–509, Pls. 209–245.
- Cuvier, G. and A. Valenciennes. 1833 (Mar.) [ref. 1002]. Histoire naturelle des poissons. Tome neuvième. Suite du livre neuvième. Des Scombéroïdes. v. 9: i–xxix + 3 pp. + 1–512, Pls. 246–279.

- Day, F. 1871 (Apr.) [ref. 1078]. On the fishes of the Andaman Islands. Proc. Zool. Soc. Lond. 1870 (pt. 3): 677–705 [1–29].
- De Vis, C. W. 1884 (29 Nov.) [ref. 4899]. New fishes in the Queensland Museum. No. 3. Proc. Linn. Soc. N.S.W. v. 9 (pt. 3): 537–547.
- Delaroche, F. E. 1809 [ref. 17380]. Suite du mémoire sur les espèces de poissons observées à Iviça. Observations sur quelques-uns des poissons indiqués dans le précédent tableau et descriptions des espèces nouvelles ou peu connues. Ann. Mus. Hist. Nat. Paris. v. 13: 313–361, Pls. 20–25.
- Döderlein, P. 1872 [ref. 17412]. Descrizione di una notevole specie di Sgomberoide (Cybium Verany Doderl.) presa di recente nelle acque di Sicilia. Giorn. Sci. Nat. Econ. Palermo v. 8 (pt. 1): 125–136, Pl. 4.
- Dresslar, F. B. and B. Fesler. 1889 [ref. 27065]. A review of the mackerels (Scombrinae) of America and Europe. Bull. U. S. Fish Comm. v. 7: 429–446, Pls. 1–11.
- Duméril, A. H. A. 1861 [ref. 1149]. Poissons de la côte occidentale d’Afrique. Arch. Mus. Natl. Hist. Nat. (Paris) v. 10 [for 1858]: 241–268, Pls. 20–23.
- Durand, J. 1940 (31 Aug.) [ref. 13008]. Notes sur quelques poissons d’espèces nouvelles ou peu connues des eaux douces cambodgiennes. Inst. Océanogr. L’Indochine Note 34: 1–40, table, Pls. 1–8.
- Eschmeyer, W. N., editor. 1998 (May) [ref. 23416]. Catalog of fishes. Center for Biodiversity Research and Information, Spec. Publ. 1. California Academy of Sciences, San Francisco. 3 vols. 1–2905.
- Evermann, B. W. and A. Seale. 1907 (11 Jan.) [ref. 1285]. Fishes of the Philippine Islands. Bull. Bur. Fish. v. 26 (for 1906): 49–110.
- Fleming, J. 1828 [ref. 1339]. A history of British animals, exhibiting the descriptive characters and systematical arrangement of the genera and species of quadrupeds, birds, reptiles, fishes, mollusca, and radiata of the United Kingdom; including the indigenous, extirpated, and extinct kinds, together with periodical and occasional visitants. Edinburgh. i–xxiii + 1–565.
- Fourmanoir, P. 1966 (15 Nov.) [ref. 9030]. Nouvelle dénomination proposée pour un Scombridae du Canal de Mozambique. *Scomberomorus plurilineatus* nov. sp. Bull. Mus. Natl. Hist. Nat. (Sér. 2) v. 38 (no. 3): 223–226.
- Fowler, H. W. 1905 (16–31 Jan.) [ref. 1368]. New, rare or little known scombroids. No. 1. Proc. Acad. Nat. Sci. Phila. v. 56 (for 1904): 757–771.
- Fowler, H. W. 1933 (21 July) [ref. 1415]. Description of a new long-finned tuna (*Semathunnus guildi*), from Tahiti. Proc. Acad. Nat. Sci. Phila. v. 85: 163–164, Pl. 12.
- Fowler, H. W. 1934 (2 Aug.) [ref. 16421]. The buckler dory and descriptions of three new fishes from off New Jersey and Florida. Proc. Acad. Nat. Sci. Phila. v. 86: 353–361.
- Fowler, H. W. 1935 (1 Nov.) [ref. 1421]. South African fishes received from Mr. H. W. Bell-Marley in 1935. Proc. Acad. Nat. Sci. Phila. v. 87: 361–408.
- Fraser-Brunner, A. 1949 (7 Oct. [for Aug.]) [ref. 13011]. On the fishes of the genus *Euthynnus*. Ann. Mag. Nat. Hist. (Ser. 12) v. 2 (no. 20): 622–627.
- Geoffroy Saint-Hilaire, E. 1817 [ref. 4184]. Poissons du Nil, de la mer Rouge et de la Méditerranée. In: Description de l’Égypte, ... histoire naturelle. v. 1, Pls. 18–27.
- Giglioli, E. H. 1880 [ref. 1617]. Elenco dei mammiferi, degli uccelli e dei rettili ittiofagi appartenenti alla fauna italica e catalogo degli anfibi e dei pesci italiani. Firenze [Florence]. 1–55.
- Gill, T. N. 1862 (before 27 May) [ref. 1659]. On the limits and arrangement of the family of scombroids. Proc. Acad. Nat. Sci. Phila. v. 14: 124–127.
- Girard, C. F. 1858 [ref. 4911]. Fishes. In: General report upon the zoology of the several Pacific railroad routes, 1857. In: Reports of explorations and surveys, to ascertain the most practicable and economical route for a railroad from the Mississippi River to the Pacific Ocean, v. 10: i–xiv + 1–400, 21 pls. [Includes plates 7–8, 13–14, 17–18, 22c, 26, 29–30, 34, 37, 40–41, 48, 53, 59, 61, 64–65, 71.] [Volume dated 1859, Girard’s work originally was published as a separate in 1858.]
- Gistel, J. 1848 [ref. 1822]. Naturgeschichte des Thierreichs, für höhere Schulen. Stuttgart. i–xvi + 1–216, Pls. 1–32.
- Gmelin, J. F. 1789 [ref. 18139]. Caroli a Linné, Systema Naturae per regna tria naturae, secundum classes, ordines, genera, species; cum characteribus, differentiis, synonymis, locis. Editio decimo tertia, aucta, reformata. 3 vols. in 9 parts. Lipsiae [Leipzig], 1788–93. v. 1 (pt. 3): 1033–1516 [fishes on pp. 1126–1516].
- Graham, J. B. and K. A. Dickson. 2001 [ref. 26992]. Anatomical and physiological specializations for endothermy. In: B. A. Block and E. D. Stevens, eds. Tuna: physiology, ecology, and evolution. Fish Physiology, v. 19. Academic Press, San Diego:121–165.

- Gray, J. E. 1854 [ref. 1911]. Catalogue of fish collected and described by Laurence Theodore Gronow, now in the British Museum. London. i–vii + 1–196.
- Günther, A. 1860 (13 Oct.) [ref. 1963]. Catalogue of the Acanthopterygian fishes in the collection of the British Museum. 2. Squamipinnes, Cirrhitidae, Triglidae, Trachinidae, Sciaenidae, Polynemidae, Sphyraenidae, Trichiuridae, Scombridae, Carangidae, Xiphiidae. London. i–xxi + 1–548.
- Günther, A. 1873 (for Nov.) [ref. 18198]. On a collection of fishes from Chefoo, north China. *Ann. Mag. Nat. Hist.* (Ser. 4) v. 12 (no. 71): 377–380.
- Günther, A. 1889 [ref. 2017]. Report on the pelagic fishes collected by H. M. S. Challenger during the years 1873–76. *Rep. Sci. Res. Voy. H.M.S. Challenger* v. 31 (pt. 78): 1–47, Pls. 1–6.
- Hasselquist, F. 1762 [ref. 18250]. *Reise nach Palästina in dem Jahren 1749 bis 1762*. Herausgegeben von C. Linnaeus. Aus dem Schwedischen [übersetzt von T. H. Gadebusch]. Rostok. i–xviii + 1–606.
- Houttuyn, M. 1782 [ref. 2220]. Beschryving van eenige Japanese visschen, en andere zee-schepzelen. *Verh. Holl. Maatsch. Wet. Haarlem* v. 20 (pt. 2): 311–350.
- Jordan, D. S. 1888 (7 Aug.) [ref. 2389]. On the generic name of the tunny. *Proc. Acad. Nat. Sci. Phila.* v. 40: 180.
- Jordan, D. S. 1895 [ref. 2394]. The fishes of Sinaloa. *Proc. Calif. Acad. Sci.* (Ser. 2) v. 5: 377–514, Pls. 26–55.
- Jordan, D. S. 1917 (Aug.) [ref. 2407]. The genera of fishes, from Linnaeus to Cuvier, 1758–1833, seventy-five years, with the accepted type of each. A contribution to the stability of scientific nomenclature. (Assisted by Barton Warren Evermann.) *Leland Stanford Jr. Univ. Publ., Univ. Ser. No. 27*: 1–161.
- Jordan, D. S. 1919 [ref. 4904]. The genera of fishes, part III, from Guenther to Gill, 1859–1880, twenty-two years, with the accepted type of each. A contribution to the stability of scientific nomenclature. *Leland Stanford Jr. Univ. Publ., Univ. Ser. No. 39*: 285–410 [also includes index to part III; pp. i–xv].
- Jordan, D. S. and M. C. Dickerson. 1908 (14 Sept.) [ref. 2438]. On a collection of fishes from Fiji, with notes on certain Hawaiian fishes. *Proc. U. S. Natl. Mus.* v. 34 (no. 1625): 603–617.
- Jordan, D. S. and B. W. Evermann. 1926 (30 Sept.) [ref. 15593]. A review of the giant mackerel-like fishes, tunnies, spearfishes and swordfishes. *Occas. Pap. Calif. Acad. Sci.* v. 12: 1–113, Pls. 1–20.
- Jordan, D. S. and C. H. Gilbert. 1883 (early Apr.) [ref. 2476]. Synopsis of the fishes of North America. *Bull. U. S. Natl. Mus. No. 16*: i–liv + 1–1018.
- Jordan, D. S. and C. H. Gilbert. 1883 (28 Apr.–22 May) [ref. 2473]. Notes on a collection of fishes from Charleston, South Carolina, with descriptions of three new species. *Proc. U. S. Natl. Mus.* v. 5 (no. 328): 580–620.
- Jordan, D. S. and C. L. Hubbs. 1925 (27 June) [ref. 2486]. Record of fishes obtained by David Starr Jordan in Japan, 1922. *Mem. Carnegie Mus.* v. 10 (no. 2): 93–346, Pls. 5–12.
- Kishinouye, K. 1915 (May) [ref. 18416]. A study of the mackerels, cybiids, and tunas. *Suisan Gakkai Ho* v. 1 (no. 1): 1–24.
- Kishinouye, K. 1920 [ref. 18417]. [Mexican little tuna]. *Suisan Gakkai Ho* v. 3 (no. 2): 113–114.
- Kishinouye, K. 1923 (30 Mar.) [ref. 2609]. Contributions to the comparative study of the so-called scombroid fishes. *J. Coll. Agric. Imp. Univ. Tokyo* v. 8 (no. 3): 293–475, Pls. 13–34.
- Klein, J. T. 1775 [ref. 2618]. *Neuer Schauplatz der Natur, nach den Richtigsten Beobachtungen und Versuchen, in alphabetischer Ordnung, vorgestellt durch eine Gesellschaft von Gelehrten*. Weidmann, Leipzig. [= “Gesellschaft Schauplatz”; see Jordan 1917:34–37 [ref. 2407]]. v. 1: i–xiv + 1–1044.
- Lacepède, B. G. E. 1800 (20 July) [ref. 2709]. *Histoire naturelle des poissons*. v. 2: i–lxiv + 1–632, Pls. 1–20.
- Lacepède, B. G. E. 1801 (18 Oct.) [ref. 2710]. *Histoire naturelle des poissons*. v. 3: i–lxvi + 1–558, Pls. 1–34.
- Lahille, F. 1903 [ref. 2711]. Nota sobre un género nuevo de escómbrido. *An. Mus. Nac. Hist. Nat. B. Aires* (Ser. 3) v. 2: 375–376.
- Lahille, F. 1913 (1 Mar.) [ref. 2712]. Nota sobre siete peces de las costas Argentinas. *An. Mus. Nac. Hist. Nat. B. Aires* v. 24: 1–24, Pls. 1–7.
- Lay, G. T. and E. T. Bennett. 1839 [ref. 2730]. *Fishes*. In: *The zoology of Captain Beechey’s voyage; compiled from the collections and notes made by Captain Beechey, the officers and naturalists of the expedition, during a voyage to the Pacific and Behring’s Straits performed in His Majesty’s ship Blossom, under the command of Captain F. W. Beechey in the years 1825, 26, 27 and 28*. H. G. Bohn, London: 41–75, Pls. 15–23.
- Lesson, R. P. 1829–30 [ref. 13391]. *Pisces accounts*. In: *Dictionnaire classique d’histoire naturelle*. v. 15–16.
- Lesson, R. P. 1830–31 [ref. 2776]. *Poissons*. In: L. I. Duperrey. *Voyage autour du monde, exécuté par ordre du roi, sur la corvette de Sa Majesté, La Coquille, pendant les années 1822, 1823, 1824 et 1825, sous la Ministère Zoologie*. v. 2 (pt. 1): 66–238, Atlas: Pls. 1–38.

- Linnaeus, C. 1758 (1 Jan.) [ref. 2787]. *Systema Naturae*, ed. X. (*Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Tomus I. Editio decima, reformata.*) Holmiae [Stockholm]. i–ii + 1–824.
- Linnaeus, C. 1766 [ref. 2786]. *Systema naturae sive regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Laurentii Salvii, Holmiae [Stockholm].* 12th ed. v. 1 (pt. 1): 1–532.
- Lockington, W. N. 1879 (13 May) [ref. 2816]. On a new genus and species of Scombridae. *Proc. Acad. Nat. Sci. Phila.* v. 31: 133–136.
- López, R. B. 1955 [ref. 19689]. La caballa del mar Argentino. Datos sobre su biología y pesca. *Revta. Asoc. Argent. Diet.* v. 13: 25–33.
- Lowe, R. T. 1839 (Oct.) [ref. 2829]. A supplement to a synopsis of the fishes of Madeira. *Proc. Zool. Soc. Lond.* 1839 (pt. 7): 76–92.
- Macleay, W. 1881 (20 May) [ref. 2869]. Descriptive catalogue of the fishes of Australia. Part II. *Proc. Linn. Soc. N.S.W.* v. 5 (pt. 4): 510–629, 2 pls.
- Macleay, W. 1883 (17 July) [ref. 14342]. Notes on a collection of fishes from the Burdekin and Mary rivers, Queensland. *Proc. Linn. Soc. N.S.W.* v. 8 (pt. 2): 199–213.
- Malm, A. W. 1877 [ref. 2881]. Göteborgs och Bohusläns fauna, Rygggradsdjuren. Göteborg. 1–674, Pls. 1–9.
- Matsui, T. 1967 (20 Mar.) [ref. 7974]. Review of the mackerel genera *Scomber* and *Rastrelliger* with description of a new species of *Rastrelliger*. *Copeia* 1967 (no. 1): 71–83.
- McCoy, F. 1878–90 [ref. 17756]. *Prodromus of the zoology of Victoria; figures and descriptions of the living species of all classes of the Victorial indigenous animals.* Government Printer, Melbourne. 20 decades in 2 vols.
- Meek, S. E. and S. F. Hildebrand. 1923 (20 Dec.) [ref. 2963]. The marine fishes of Panama. Part I. *Field Mus. Nat. Hist. Publ. Zool. Ser.* v. 15 (publ. 215): i–xi + 1–330, Pls. 1–24.
- Mitchill, S. L. 1814 (1 Jan.) [ref. 3030]. Report, in part, of Samuel L. Mitchill, M. D., ... on the fishes of New York. New York. 1–28.
- Mitchill, S. L. 1815 [ref. 13292]. The fishes of New York described and arranged. *Trans. Lit. Phil. Soc. N. Y.* v. 1: 355–492, Pls. 1–6.
- Montrouzier, X. 1857 [ref. 17789]. Essai sur le faune de l'île de Woodlark ou Moïou. *Ichthyologie. Ann. Soc. Imp. Agric. Hist. Nat. Lyon* v. 8 (1856): 417–504.
- Mowbray, L. L. 1920 (11 Feb.) [ref. 15319]. Description of a *Thunnus* believed to be new. *Copeia* No. 78: 9–10.
- Mowbray, L. L. 1935 [ref. 21058]. Description of the Bermuda large-eyed tuna *Parathunnus ambiguus*, n. sp. Bermuda Gov't. Aquarium: 3 pp.
- Munro, I. S. R. 1943 (6 Nov.) [ref. 3056]. Revision of Australian species of *Scomberomorus*. *Mem. Queensl. Mus.* v. 12 (pt. 2): 65–95, Pls. 6–8.
- Munro, I. S. R. 1964 [ref. 3058]. Additions to the fish fauna of New Guinea. *Papua New Guinea Agric. J.* v. 16 (no. 4): 141–186.
- Nardo, G. D. 1847 [ref. 17994]. Sinonimia moderna delle specie registrate nell' opera intitolata: “Descrizione de' crostacei, de' testacei e de' pesci che abitano le lagune e golfo veneto rappresentati in figure à chiaro-scuro ed a colori.” Venezia [Venice].
- Pallas, P. S. 1814 [ref. 3351]. *Zoographia Rosso-Asiatica, sistens omnium animalium in extenso Imperio Rossico et adjacentibus maribus observatorum recensionem, domicilia, mores et descriptiones anatomem atque icones plurimorum.* 3 vols [1811–1814]. Petropoli [St. Petersburg]. v. 3: i–vii + 1–428 + index (i–cxxv), Pls. 1, 13, 14, 15, 20 and 21.
- Peters, W. (C. H.). 1877 [ref. 3454]. Übersicht der während der von 1874 bis 1876 unter der Commando des Hrn. Capitän z. S. Freiherrn von Schleinitz ausgeführten Reise S. M. S. Gazelle gesammelten und von der Kaiserlichen Admiralität der Königlichen Akademie der Wissenschaften übersandten Fische. *Monatsb. Akad. Wiss. Berlin* 1876: 831–854.
- Poey, F. 1858–61 [ref. 3499]. *Memorias sobre la historia natural de la Isla de Cuba, acompañadas de sumarios Latinos y extractos en Francés. Tomo 2. La Habana [Havana].* [Sections have subtitles.] v. 2: 1–96 (1858), 97–336 (1860), 337–442 (1861), Pls. 1–19.
- Poey, F. 1875 (Apr. and Oct.) [ref. 3509]. *Enumeratio piscium cubensium (Parte Primera).* *An. Soc. Esp. Hist. Nat. Madrid* v. 4: 75–112 (7 Apr.), 113–161 (6 Oct.), Pls. 1–3.

- Quoy, J. R. C. and J. P. Gaimard. 1824–25 [ref. 3574]. Description des Poissons. Chapter IX. In: L. de Freycinet. Voyage autour du monde fait par order du Roi sur les corvettes de S.M. l'Uranie et la Physicienne pendant les années 1817, 1818, 1819 et 1820. Paris: 192–401 [1–328 in 1824; 329–616 in 1825], Atlas Pls. 43–65.
- Rafinesque, C. S. 1810 [ref. 3595]. Indice d'ittologia siciliana; ossia, catalogo metodico dei nomi latini, italiani, e siciliani dei pesci, che si rinvencono in Sicilia disposti secondo un metodo naturale e seguito da un appendice che contiene la descrizione de alcuni nuovi pesci siciliani. Messina. 1–70, Pls. 1–2.
- Rafinesque, C. S. 1810 [ref. 3594]. Caratteri di alcuni nuovi generi e nuove specie di animali e piante della sicilia, con varie osservazioni sopra i medisimi. (Part 1: [i–iv] + 3–69 [70 blank]; Part 2 [with slightly different title]: ia–iva + 71–105 [106 blank]); Pls. 1–20.
- Rafinesque, C. S. 1815 [ref. 3584]. Analyse de la nature, ou tableau de l'univers et des corps organisés. Palerme [Palermo]. 1–224.
- Richardson, J. 1845 (for May) [ref. 3741]. Generic characters of *Gasteroschisma melampus*, a fish which inhabits Port Nicholson, New Zealand. Ann. Mag. Nat. Hist. (N. S.) v. 15 (no. 99): 346.
- Risso, A. 1810 [ref. 3755]. Ichthyologie de Nice, ou histoire naturelle des poissons du département des Alpes Maritimes. F. Schoell, Paris. i–xxxvi + 1–388, Pls. 1–11.
- Risso, A. 1827 (22 Sept.) [ref. 3757]. Histoire naturelle des principales productions de l'Europe méridionale, et particulièrement de celles des environs de Nice et des Alpes maritimes. F. G. Levrault, Paris and Strasbourg. v. 3: i–xvi + 1–480, Pls. 1–16.
- Rüppell, W. P. E. S. 1835–38 [ref. 3844]. Neue Wirbelthiere zu der Fauna von Abyssinien gehörig. Fische des Rothen Meeres. Frankfurt-am-Main. 1–148, Pls. 1–33. [1835:1–28, Pls. 1–7; 1836:29–52, Pls. 8–14; 1837:53–80, Pls. 15–21; 1838:81–148, Pls. 22–33.]
- Russell, P. 1803 [ref. 13862]. Descriptions and figures of two hundred fishes; collected at Vizagapatam on the coast of Coromandel. London, in 2 vols. v. 1–2: i–vii + 78 pp. + 85 pp., 197 pls.
- S. D. W. 1837 [ref. 12605]. The fishes (Pisces) of Britain, systematically arranged. Analyst v. 5 (no. 18): 204–215.
- Seale, A. 1912 [ref. 14870]. Description of a new *Acanthocybium* from the Philippine Islands. Philipp. J. Sci. Sec. D v. 7 (no. 4): 283–287, Pl. 1.
- Serventy, D. L. 1948 (27 Feb.) [ref. 4008]. *Allothunnus fallai* a new genus and species of tuna from New Zealand. Rec. Canterbury Mus. v. 5 (no. 3): 131–135, Pls. 28–29.
- Shaw, G. 1803 [ref. 4014]. General zoology or systematic natural history ... Pisces. G. Kearsley, London, 1800–1826. Pisces in vol. 4 (1803) and vol. 5 (1804). [Series is 14 vols., 1800–1826.] v. 4: (pt. 1), i–v + 1–186, Pls. 1–25; (pt. 2), i–xi + 187–632, Pls. 26–92.
- South, J. F. 1845 [ref. 4170]. Encyclopedia metropolitana; or, Universal dictionary of knowledge. Edition for 1845. v. 25.
- Steindachner, F. and L. Döderlein. 1884 [ref. 4248]. Beiträge zur Kenntniss der Fische Japan's. (III). Denkschr. Akad. Wiss. Wien v. 49 (1. Abth.): 171–212, Pls. 1–7.
- Storer, D. H. 1855 [ref. 18851]. A history of fishes of Massachusetts. Mem. Am. Acad. Arts Sci. (N. S.) v. 5: 122–168, Pls. 9–16.
- Swainson, W. 1839 [ref. 4303]. The natural history and classification of fishes, amphibians, and reptiles, or monocardian animals. London. v. 2: i–vi + 1–448.
- Temminck, C. J. and H. Schlegel. 1844 (18 Dec.) [ref. 4372]. Pisces. In: Fauna Japonica, sive descriptio animalium quae in itinere per Japoniam suscepto annis 1823–30 collegit, notis observationibus et adumbrationibus illustravit P. F. de Siebold. Parts 5–6: 73–112.
- van Kampen, P. N. 1907 [ref. 15148]. Über zwei *Scomber*-Arten des Indischen Archipels. Bull. Dép. Agric. Indes Néerl. v. 8: 1–8, 1 pl.
- Verany, J. B. 1847 [ref. 17882]. Aggiunta al catalogo de' pesci della Liguria. Atti Soc. Ital. Sci. Nat. Milano no. 8: 492–494.
- Walbaum, J. J. 1792 [ref. 4572]. Petri Artedi sueci genera piscium in quibus systema totum ichthyologiae proponitur cum classibus, ordinibus, generum characteribus, specierum differentiis, observationibus plurimis. Redactis speciebus 242 ad genera 52. Ichthyologiae, pars iii. Ant. Ferdin. Rose, Grypeswaldiae [Greifswald]. Pt. 3: 1–723, Pls. 1–3.
- Whitley, G. P. 1933 (2 Aug.) [ref. 4677]. Studies in ichthyology. No. 7. Rec. Aust. Mus. v. 19 (no. 1): 60–112, Pls. 11–15.

- Whitley, G. P. 1935 (19 Sept.) [ref. 4683]. Studies in ichthyology. No. 9. Rec. Aust. Mus. v. 19 (no. 4): 215–250, Pl. 18.
- Whitley, G. P. 1936 (17 Apr.) [ref. 4687]. More ichthyological miscellanea. Mem. Queensl. Mus. v. 11 (pt. 1): 23–51, Pl. 4.
- Whitley, G. P. 1937 (12 Mar.) [ref. 4690]. The Middleton and Elizabeth reefs, South Pacific Ocean. Aust. Zool. v. 8 (pt. 4): 199–231, Pls. 13–17.
- Whitley, G. P. 1944 (10 May) [ref. 4705]. New sharks and fishes from Western Australia. Aust. Zool. v. 10 (pt. 3): 252–273.
- Whitley, G. P. 1945 (11 June) [ref. 4707]. New sharks and fishes from Western Australia. Part 2. Aust. Zool. v. 11 (pt. 1): 1–42, Pl. 1.
- Whitley, G. P. 1955 (4 Mar.) [ref. 4724]. Taxonomic notes on fishes. Proc. R. Zool. Soc. N.S.W. v. for 1953–54: 44–57.

Acknowledgments

This checklist could not have been completed without creation of the Catalog of Fishes database by William N. Eschmeyer and the dedicated assistance of the CAS checklist staff. Mark Sabaj assisted completion of this checklist by supplying a copy of a difficult to find publication.

Suggested citation format:

Collette, B. B. 2003. Family Scombridae Rafinesque 1815 — mackerels, tunas, and bonitos. Calif. Acad. Sci. Annotated Checklists of Fishes No. 19. 28 pp.

Copyright © 2003 by the California Academy of Sciences
San Francisco, California, U.S.A.