

Catalog of Type Specimens
of Recent Fishes in the
National Museum of Natural History,
Smithsonian Institution, 3:
Beloniformes (Teleostei)

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and
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Robert McC. Adams
Secretary
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ABSTRACT

Collette, Bruce B., N.V. Parin, and Martha S. Nizinski. Catalog of Type Specimens of Recent Fishes in the National Museum of Natural History, Smithsonian Institution, 3: Beloniformes (Teleostei). *Smithsonian Contributions to Zoology*, number 525, 16 pages, 1992.—The known type specimens of beloniform fishes in the collections of the National Museum of Natural History, Smithsonian Institution published through 1991 are listed. These include 544 specimens including 50 holotypes, 5 lectotypes, 1 neotype, 1 syntype, 461 paratypes, and 26 paralectotypes of 76 nominal species and subspecies. Syntypes of two nominal species are missing.

The list is arranged alphabetically by original genus and species. Information, as applicable, for each entry includes genus, subgenus, species, and subspecies; author(s) and date of publication; page(s) of original description and accompanying figures, plates, and tables; current type status; USNM catalog number; number of specimens and their present lengths; locality; collector; date collected; and current status of the nominal taxon. An index arranged by species follows the list.

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Introduction

The collections of type specimens in the Division of Fishes, National Museum of Natural History, Smithsonian Institution, are among the largest in the world, including specimens from the freshwaters of all continents and from marine waters of all seas. At the end of 1990 there were approximately 15,500 putative type lots of fishes in these collections. The large number of lots in the type collections, the numerous undetected types in the general collection, and the diversity of taxa that they represent make it unrealistic to attempt to produce a comprehensive listing of all type specimens in the collections within a reasonable time frame. It was decided, therefore, that type catalogs for each major taxonomic group would be prepared by appropriate specialists. Our catalog is the third of the projected series. The first (Vari and Howe, 1991) addressed the characiform fishes, the second (Springer et al., 1991), the blenniids. We treat the order Beloniformes because these fishes are the focus of ongoing research projects by the senior authors.

The type specimens of beloniform fishes in the collections of the Division of Fishes came primarily from two sources, (1) the

field work and systematic studies of curators and other researchers associated with the Division, and (2) exchanges from colleagues and institutions worldwide.

FORMAT.—The following template has been used to structure each entry in the “List of Types.”

*Genus (Subgenus) species (subspecies) Author(s),
year:page(s), figure(s), plate(s), table(s).*

Type status: USNM catalog number (number of specimens if greater than one; length(s)). Locality (country, specific locality); collector(s); date collected. If applicable, reference to lectotype, or paralectotype designation and previous depository and register number of specimens are included. For primary type specimens, important meristic and morphometric data and description of pigmentation are presented as aids for identification of the taxon and the specimen.

Our catalog includes all known beloniform types deposited in the collections of the National Museum of Natural History through 1991. The order of listing is alphabetical by family, genus, and then species. Both genus and species are spelled as they appear in the original description. Only the last names of authors are given.

The type status presented is that currently thought correct based on the original description and subsequent literature designations. Categories for primary and secondary types used herein are holotype, syntype(s), lectotype, neotype, paratype(s), and paralectotype(s) as defined in the ICZN (1985), articles 73

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and 74. Missing types are indicated. A question mark in front of the type status indicates uncertainty concerning the specimen(s) in question, with the problem discussed further under that particular entry. Discrepancies between the number of specimens originally reported and those we found in the lot are noted and discussed. The length cited for each specimen is the present standard length (SL) in millimeters (mm), except for the Belonidae, where the cited length is the body length (BL, posterior tip of opercle to caudal base). Locality data presented reflect a composite of information pooled from the original description, notes in specimen jars, ledgers in the Division of Fishes, and cruise reports. Therefore, collection location reflects corrections to and/or expansion of the original locality data. Data in addition to, or inconsistent with information given in the original species description, are discussed for each entry. Some type specimens were originally deposited in other collections. For those, the original depository and catalog number are given after the locality data. Locations of additional type specimens for species are noted under the following circumstances: when type specimens were originally cited under the catalog number of another institution and subsequently transferred to the National Museum of Natural History; when a paratype or paralectotype is not the same species as the holotype or lectotype; and when the National Museum of Natural History holdings do not include the primary type. Our identification of each taxon is indicated by an “=.” Reference(s) to published papers or manuscripts prepared for the *Fishes of the Western North Atlantic* (Collette ms a, b) validating usage of the name follow the name. The generic and subgeneric nomenclature used in this catalogue follows Collette et al. (1984) for the Beloniformes, which is based, in turn, on Parin (1961b) for the Exocoetidae, Parin (1967) and Collette (ms a) for the Belonidae, and Parin et al. (1980) and Collette (ms b) for the Hemiramphidae.

ACRONYMS.—Most specimens listed in this catalog were described under USNM register numbers. However, a number of the cited type specimens were deposited in other institutions at the time the species was described and subsequently exchanged to the National Museum of Natural History. Abbreviations for institutions and collections used in those citations follow Leviton et al. (1985).

ABBREVIATIONS.—The following abbreviations are used for the meristic and morphometric characters.

A	total number of anal-fin rays.
D	total number of dorsal-fin rays.
HdL	head length, distance from tip of upper jaw to posterior origin of opercle.
LJL	lower jaw length, distance from tip of upper jaw to tip of lower jaw.
P ₁	number of pectoral-fin rays, sometimes given separately for both left and right sides. For species of Exocoetidae, the unbranched spine-like rays are indicated by Roman numerals.
P ₁ L	pectoral fin length.
P ₁ -P ₂	distance from base of uppermost pectoral ray to base of anteriormost pelvic ray.
P ₂ -C	distance from base of anterior pelvic ray to caudal base. Also expressed as P ₂ -C extension, which is this distance extended anteriorly from base of anteriormost pelvic ray.
RGR ₁	total gill rakers on first arch on right side.
RGR ₂	total gill rakers on second arch on right side.
UJL	upper jaw length, distance from where upper jaw bends to tip of upper jaw.
UJW	upper jaw width, measured where upper jaw bends.
vertebrae	precaudal + caudal (including hypural plate) = total.

ACKNOWLEDGMENTS.—This publication builds on an earlier effort to develop a computerized listing of the putative type series and associated USNM catalog numbers (see Vari and Howe, 1991). Support in that project and in subsequent refinements of the type inventory was provided by Jeffrey Clayton, Andrew Gerberich, Janet R. Gomon, Edgar “Nat” Gramblin, Susan L. Jewett, the late Robert Kanazawa, Thomas Orrell, Victor G. Springer, Jeffrey T. Williams, and many other past and present members of the Division of Fishes who have searched for and counted specimens, pored through some 200,000 ledger entries, and in other ways provided the foundation both for this paper and future type specimen lists. Lynne R. Parenti kindly contributed the entries for the Adrianichthyidae. Valuable comments on drafts of the manuscript were provided by Eugenia B. Böhlke, Victor G. Springer, and Richard P. Vari.

List of Types

ADRIANICHTHYIDAE

- Oryzias mekongensis* Uwa and Magtoon, 1986:474–475, fig. 1.
Holotype: USNM 268540 (male, 13.0 mm SL). Thailand, Mekong basin, Yang talat, Kalasin; W. Magtoon and H. Uwa; 19 Apr 1984. D 6, A 15, no elongate fin rays.
Paratypes: USNM 268541 (3: 1 male and 2 females, 11.4–13.1). Collected with the holotype.
= *Oryzias mekongensis* Uwa and Magtoon, 1986.
- Oryzias minutillus* Smith, 1945:424–425, fig. 95.
Holotype: USNM 107958 (female, 14.0 mm SL). Siam (= Thailand), small canal in Bangkok; H.M. Smith; 10 May 1934. D 6, A 19.
Paratypes: USNM 109789 (4: 1 male and 3 females, 12.2–13.3). Collected with the holotype. Male paratype with elongate anterior dorsal- and anal-fin rays (although most rays of both fins are broken).
= *Oryzias minutillus* Smith, 1945. See Uwa and Magtoon (1986:473).

BELONIDAE

- Ablennes pacificus* Walford, 1936:4, fig. 1.
Holotype: USNM 101049 (540 mm BL). Mexico, Guerro, Zihuatanejo; L.A. Walford; Mar 1935. D 23, A 25, P₁ 14–14, vertebrae 55 + 32 = 87. The type locality was given as Mazatlan in the original description but entered as Zihuatanejo in the catalog. Material was collected from both localities on the Fleischmann Expedition. There are 15 entries from Zihuatanejo taken from 6–17 Mar 1935, and 14 lots from Mazatlan from 25–27 Mar 1935. We think it more likely that the catalog data are correct. There is some verification for this because Walford (1937:164–165) gives the range of *Ablennes pacificus* as “from Sihuatenejo [apparently a misspelling of Zihuatanejo] to Panama.”
= *Ablennes hians* (Valenciennes in Cuvier and Valenciennes, 1846). See Parin (1967:47).
- Belone depressa* Poey, 1860:296.
Holotype: USNM 4745 (190 mm BL). Cuba, Havana; Poey no. 332. D 17, A 19, P₁ 11–11, predorsal scales 140, vertebrae 47 + 26 = 73.
= *Strongylura timucu* (Walbaum, 1792). See Collette (1968:191).
- Belone exilis* Girard, 1854:149.
Holotype: USNM 485 (207 mm BL). California, San Diego; Lt. Trowbridge; 1854. D 16, A 19, P₁ 12–12, vertebrae 45 + 27 = 72, predorsal scales ~265.
= *Strongylura exilis* (Girard, 1854). See Collette and Berry (1965:392).
- Belone jonesii* Goode, 1877:295–296.
Lectotype: USNM 21392 (391 mm BL). Bermuda; G.B. Goode; 1877. Designated by Collette and Parin (1970:44). D 25, A 23, P₁ 13–13, vertebrae 63 + 31 = 94.
Paralectotypes: USNM 202591 (2, 358–376). Bermuda; G.B. Goode; 1877.
= *Tylosurus acus acus* (Lacepède, 1803). See Collette and Parin (1970:41).
- Belone melanochira* Poey, 1860:294–295.
Syntype: USNM 4744 (243 mm BL). Cuba; Poey no. 541. D 24, A 21, P₁ 14–14, vertebrae 55 + 29 = 84. Other syntypes MCZ 624 (2, 300–322 mm BL).
= *Tylosurus crocodilus crocodilus* (Peron and LeSueur in LeSueur, 1821). See Collette and Parin (1970:52).
- Belone scrutator* Girard, 1858:170.
Lectotype: USNM 834 (198 mm BL). Texas, St. Joseph’s Island; G. Wurdemann; 1853. Designated herein by Collette. D 14, A 18, P₁ 12–12; vertebrae 45 + 26 = 71; predorsal scales 245; female with only right ovary.
Paralectotype: USNM 309268 (212). Collected with the lectotype.
= *Strongylura marina* (Walbaum, 1792). See Collette (ms a).
- Belone svetovidovi* Collette and Parin, 1970:21–23, figs. 1, 3, tables 2–4.
Holotype: MCZ 41387 (320 mm BL).
Paratypes: USNM 203158 (3, 145–235). Mediterranean Sea, Tunisia, Gabes Beach, 33°50’N, 10°07’E; commercial fishermen; 14 Oct 1967.
USNM 202717 (294). Spain, Galicia, Rfo Vigo, from the Vigo Fish Market; 19 Jul 1961.
USNM 202616 (2, 210). Italy, Genoa Bay, Camogli; E. Tortonese; 1966.
= *Belone svetovidovi* Collette and Parin, 1970.
- Belonion apodion* Collette, 1966:12–14, figs. 1b, c.
Holotype: AMNH 20805 (40.1 mm BL).
Paratypes: USNM 199539 (3, 33.5–41.8). Bolivia, laguna 3 km SW of Costa Margues, Brazil, Rio Guapore; R.M. Bailey, field no. 64-48; 1 Oct 1964. Collected with the holotype.

- USNM 199540 (27: 22 + 5 cleared and stained, 21.0–37.9). Brazil, Lago Acara, Borba, Estado Amazonas, Madeira River drainage; A. Parko; Sep 1943. The original description listed 28 specimens in this lot, of which 4 were cleared and stained. There were originally 29 paratypes in this lot. Two paratypes were exchanged to RMNH 26113 subsequent to publication of the original description, and one additional specimen was cleared and stained.
= *Belonion apodion* Collette, 1966.
- Belonion dibranchodon* Collette, 1966:9–12, fig. 1a.
Holotype: MNHN 87–836 (34.0 mm BL).
Paratypes: USNM 199463 (7: 6 + 1 cleared and stained, 27.1–38.2). Venezuela, Río Atabapo on Venezuela–Colombia border; J. Chaffanjon; 1887. Collected with the holotype.
= *Belonion dibranchodon* Collette, 1966.
- Platybelone argalus annobonensis* Collette and Parin, 1970:33–34, fig. 4, table 4.
Holotype: USNM 201500 (192 mm BL). Annobon Island; Pillsbury sta 273; 19 May 1965. D 13, A 17, P₁ 11, vertebrae 43 + 25 = 68, predorsal scales 126.
Paratypes: USNM 202715 (12, 161–214). Collected with the holotype.
= *Platybelone argalus annobonensis* Collette and Parin, 1970.
- Potamorrhaphis petersi* Collette, 1974a:34–38, figs. 1–3.
Holotype: USNM 210546 (162 mm BL). Colombia, Orinoco drainage, Laguna Coco NE of Puerto Inírida, pool near junction of Río Inírida and Río Guaviare; P. Cala; 17 Jan 1972. D 39, A 34, P₁ 8–7, vertebrae 40 + 40 = 80, predorsal scales 130, P₁–P₂ distance 73.0 mm, P₂–C distance 85.3 mm.
Paratypes: USNM 210547 (137). Collected with the holotype.
USNM 210861 (108). Venezuela, Territorio Federal Amazonas, Orinoco drainage, Río Atabapo at San Fernando de Atabapo; J. Chaffanjon; Oct 1886.
= *Potamorrhaphis petersi* Collette, 1974. See Collette (1982a:722).
- Rhaphiobelone dammermani* Fowler, 1934:323, fig. 76.
Holotype: USNM 93065 (85.7 mm BL). Philippines, Taal anchorage; *Albatross*; 20 Feb 1909. D 19, A 25, P₁ ?–11, vertebrae 48 + 31 = 79, predorsal scales 140.
Paratypes: USNM 93066 (2, 56.4–77.9). Collected with the holotype.
= *Strongylura leiura* (Bleeker, 1850). See Parin (1967:32).
- Rhaphiobelone robusta* Schultz, 1953:164–165, pl. 17a.
Holotype: USNM 141749 (73.5 mm BL). Marshall Islands, Rongelap Atoll, Yugui Island, 1/2 mi offshore, field no. S-46-303; E.S. Herald; 30 Jul 1946. D 20, A 22, P₁ 11–12, vertebrae 47 + 28 = 75, predorsal scales 105.
Paratypes: USNM 93067 (36.3). Philippines, Pandanon Island; *Albatross*; 24 Mar 1909.
USNM 93072 (85.1). Philippines, Maculabo Island, Luzon; *Albatross*; 13 Jun 1909.
USNM 93073 (81.2). Philippines, Mindoro, Varadero Bay; *Albatross* dredging sta 5290; 23 Jul 1908.
USNM 139774 (113). Marianas Islands, Guam; D.G. Frey; 26 Nov 1945.
USNM 141750 (101). Marshall Islands, Bikini Atoll, Enyu Island, ocean reef at channel entrance, field no. S-46-483; L.P. Schultz, V.E. Brock, and R.W. Hiatt; 1 Aug 1947.
= *Strongylura incisa* (Valenciennes in Cuvier and Valenciennes, 1846). See Parin (1967:28).
- Strongylura auloiceps* Fowler and Bean, 1923:12–13.
Holotype: USNM 83422 (481 mm BL). Fiji or Samoa; Wilkes Expedition. D 24, A 22, P₁ 13–12, vertebrae 62 + 31 = 93.
= *Tylosurus acus melanotus* (Bleeker, 1850). See Parin (1967:55).
- Strongylura fijiense* Fowler and Bean, 1923:13–14.
Holotype: USNM 83421 (300 mm BL). Fiji or Samoa; Wilkes Expedition. D 22, A 17, P₁ 14–14, vertebrae 51 + 28 = 79, predorsal scales ~215.
= *Tylosurus gavioloides* (Castelnau, 1873). See Mees (1964:318).
- Strongylura hubbsi* Collette, 1974c:612–616, figs. 1–2, tables 1–4.
Holotype: UMMZ 194998 (183 mm BL).
Paratypes: USNM 211620 (3, 207–239). Guatemala, El Petén, Río de la Pasión, immediately above mouth of Arroyo de Petexbatúm at Sayaxché; C.L. Hubbs; 22 Apr 1935.
USNM 214022 (7, 98.9–244). Guatemala, El Petén, Laguna San Juan Acul, 16°33'30"N, 90°16'10"W, field no. BR-71; R.M. Bailey; 16 Apr 1966. Originally AMNH 25785.
= *Strongylura hubbsi* Collette, 1974.
- Strongylura tahitiensis* Fowler and Bean, 1923:10–12.
Holotype: USNM 83424 (508 mm BL). "Tahiti," but probably from Peru; Wilkes Expedition. D 16, A 19, P₁ 12–12, vertebrae 49 + 27 = 76, predorsal scales 283.
= *Strongylura exilis* (Girard, 1854). See Mees (1964:316).
- Tylosurus acus rafale* Collette and Parin, 1970:49–52, fig. 12, tables 4, 13–15.
Holotype: USNM 188847 (201 mm BL). Sierra Leone, Freetown; *La Rafale*; B.B. Collette 920; 20 Nov 1963. D 23, A 21, P₁ 13–13, vertebrae 57 + 30 = 87, predorsal scales 315.

- Paratypes: USNM 188867 (252). 8°34'N, 14°14'W; B.B. Collette 926; 24 Nov 1963.
- USNM 200838 (~415). Angola, Luanda Harbor; *Crawford* Cruise 10; 4 Mar 1957.
- USNM 200840 (240). Gulf of Guinea, 3°28'S, 10°19'E; *Geronimo*; 6 Sep 1963.
- USNM 200841 (2, 286–293). Sierra Leone, Freetown; *La Rafale*; B.B. Collette 921; 21–22 Nov 1963.
- USNM 200842 (6, 282–356). Sierra Leone, Freetown; *La Rafale*; B.B. Collette 959; 2 Dec 1963.
- USNM 200843 (207). Sierra Leone, Freetown, 10°23'N, 16°25'W; *La Rafale*; B.B. Collette 963; 5 Dec 1963.
- USNM 266614 (10, 448–550). Angola, 3 mi N of Lobito; *Undaunted*; 9 Apr 1968. Originally TABL 68-281.
- USNM 266615 (2, 440–500). Angola, Lobito Harbor; *Undaunted*; 3 Apr 1968. Originally TABL 68-277.
- USNM 266616 (2, 395–481). Angola, Baía Farta, 12°36'S, 13°12'E; *Undaunted*; 5 Apr 1968. Originally TABL 68-279.
- USNM 266617 (478). Angola, Lobito Harbor; *Undaunted*; 10 Apr 1968. Originally TABL 68-282.
- USNM 266618 (490). Angola, Moçamedes Harbor; *Undaunted*; 20–21 Mar 1968. Originally TABL 68-256.
- USNM 266619 (3, 300–465). Angola, Lobito Harbor; *Undaunted*; 11 Apr 1968. Originally TABL 68-284.
- USNM 266620 (4, 376–441). Angola, Luanda; *Undaunted*; 29 Feb 1968. Originally TABL 68-231.
- = *Tylosurus acus rafale* Collette and Parin, 1970.
- Tylosurus euryops* Bean and Dresel, 1884:168.
Holotype: USNM 32073 (181 mm BL). Jamaica, Public Museum, Institute of Jamaica. D 16, A 18, P₁ 11–11, predorsal scales ~130.
= *Strongylura timucu* (Walbaum, 1792). See Collette (1968:191).
- Tylosurus fodiator* Jordan and Gilbert, 1882a:459–460.
Holotype: USNM 28190 (574 mm BL). Mazatlan; C.H. Gilbert. D 20, A 18, P₁ 14–15, vertebrae 45 + 24 = 69, predorsal scales 391.
Paratype: USNM 28323 (671). Mazatlan; C.H. Gilbert.
= *Tylosurus crocodilus fodiator* Jordan and Gilbert, 1882. See Collette and Berry (1965:392).
- Tylosurus gladius* Bean in Goode and Bean, 1882:430–431.
Holotype: USNM 30151 (460 mm BL). Florida, Pensacola; S. Stearns; 7 Jan 1882. D 23, A 21, P₁ 14–14, vertebrae 54 + 28 = 82.
= *Tylosurus crocodilus crocodilus* (Peron and LeSueur in LeSueur, 1821). See Collette and Parin (1970:52).
- Tylosurus jordani* Starks, 1906:781–782, fig. 6.
Holotype: USNM 53469 (210 mm BL). Ecuador, Guayaquil; P.O. Simons. D 13, A 14, P₁ 10–10, vertebrae 40 + 22 = 62, predorsal scales 207.
= *Strongylura scapularis* (Jordan and Gilbert, 1882). See Collette and Berry (1965:392).
- Tylosurus pterurus* Osburn and Nichols, 1916:152, fig. 6.
Holotype: USNM 201341 (237 mm BL). Mexico, Gulf of California, Carmen Island, *Albatross* dredging sta 5682; 3 Apr 1911. D 13, A 16, P₁ 11–11, vertebrae 40 + 23 = 63, predorsal scales 103. Originally AMNH 5202.
= *Platybelone argalus pterura* (Osburn and Nichols, 1916). See Parin (1967:18) and Collette and Parin (1970:29–30).
- Tylosurus sagitta* Jordan and Gilbert, 1884:25–26.
Lectotype: USNM 34965 (194 mm BL). Florida, Key West; D.S. Jordan. Designated by Collette (1968:191). D 16, A 19, P₁ 12–12; vertebrae 48 + 25 = 73.
= *Strongylura timucu* (Walbaum, 1792). See Collette (1968:191).
- Tylosurus scapularis* Jordan and Gilbert, 1882b:307–308.
Syntypes: USNM 29427; Panama; C.H. Gilbert. Missing.
USNM 29438; Panama; C.H. Gilbert. Missing.
USNM 29435 is also listed as a type in the original description. However, the ledger lists USNM 29435 as being *Centropomus armatus*. This lot is not in the collection nor is there any record of this catalog number in the computerized database.
These specimens were probably missing prior to 1962 because Mees (1962) did not include them in his preliminary revision of the Belonidae. These lots were probably still in Jordan's collection at the University of Indiana which was struck by lightning and burned on 12 July 1883 (*Science, Notes and News*, 27 July 1883, p. 116; Jordan, 1922:279).
= *Strongylura scapularis* (Jordan and Gilbert, 1882). See Collette and Berry (1965:392).
- Tylosurus sierrita* Jordan and Gilbert, 1882a:458–459.
?Syntypes: USNM 28162; Mazatlan; C.H. Gilbert. Missing.
USNM 28265; Mazatlan; C.H. Gilbert. Missing.
USNM 28377; Mazatlan; C.H. Gilbert. Missing.
USNM 28378; Mazatlan; C.H. Gilbert. Missing.
USNM 29227; Mazatlan? Listed in original description.
The ledger has *Pomadasys leuciscus* listed for USNM 29227, however, the jar is not in the collection nor is there any record of this number in the computerized database.
USNM 29562; Mazatlan; C.H. Gilbert. Missing. Not listed in original description but USNM ledgers have this number designated as a type specimen of *T. sierrita*.
USNM 29564; Mazatlan; C.H. Gilbert. Missing. Not listed in the original description but USNM ledgers have this number designated as a type specimen of *T. sierrita*.

These last two lots were probably destroyed by fire at the University of Indiana (see *Tylosurus scapularis* account).

- = *Strongylura exilis* (Girard, 1854). Considered a synonym of *T. stoltzmanni* by Jordan and Fordice (1887) which is another junior synonym of *S. exilis*. See Collette and Berry (1965:392).

EXOCEOETIDAE

Cypselurus albimaculatus Fowler, 1934:327-328, fig. 81.

Holotype: USNM 65810 (219 mm SL). Guam, Ladrone Islands, field no. A 200; *Albatross*, 1899. D 11, A 11, P₁ II 17-17, RGR₁ 9 + 17 = 26, vertebrae 28 + 19 = 47, predorsal scales 28, HdL 52.2 mm, P₁L 149 mm, pectoral fin with oblique transparent band.

- = *Hirundichthys (Danichthys) albimaculatus* (Fowler, 1934). See Parin (1961b:178).

Cypselurus antarei Beebe and Hollister, 1933:83-85, fig. 15.

Holotype: USNM 170921 (67 mm SL). British West Indies, 21°50'N, 63°32'W, about 200 mi N of Sombrero, flew aboard; *Antares* Expedition no. 6; 30 Jun 1932. D 13, A 9, P₁ I 13-14, RGR₁ 7 + 16 = 23, vertebrae 28 + 15 = 43, predorsal scales 24, P₁-P₂ 24.0 mm, P₂-C 23.9 mm, single long (68 mm) mental barbel present.

- = *Cypselurus (Cypselurus) comatus* (Mitchill, 1815). See Bruun (1935:52).

Cypselurus antoncichi Woods and Schultz, 1953:181-183, fig. 35.

Holotype: USNM 140291 (female, 246 mm SL). Marshall Islands, Eniwetok Atoll, SW passage, leeward side of reef, 2 mi S of Rigili Island, field no. S-46-183; L.P. Schultz; 24 May 1946. D 12, A 10, P₁ I 14-13, RGR₁ 4 + 15 = 19, vertebrae 30 + 16 = 46, predorsal scales 30, all fins unpigmented, lower jaw a little extended.

Paratypes: USNM 140293 (17, 237-284). Collected with the holotype.

USNM 65809 (248). Marshall Islands, Arhno Atoll; *Albatross*; 1899-1900. Tin tag A184.

USNM 140288 (2, 238-274). Marshall Islands, Bikini Atoll, Boro Channel, field no. S-46-53; L.P. Schultz and V.E. Brock; 6-7 Apr 1946. Tin tags 59-60.

USNM 140289 was listed as a paratype in the original description but was exchanged to FMNH in 1959.

- = *Cheilopogon (Ptenichthys) antoncichi* (Woods and Schultz, 1953). Not *C. (P.) unicolor* (Valenciennes in Cuvier and Valenciennes, 1846) as suggested by Parin (1961a:82). Herein considered a valid species.

Cypselurus atrisignis Jenkins, 1904:436, pl. 111.

Holotype: USNM 50713 (263 mm SL). Hawaii, Honolulu, field no. 197; O.P. Jenkins; 1889. D 15, A 10, P₁ I 13-13, RGR₁ 6 + 16 = 22, vertebrae 29 + 15 = 44,

predorsal scales 34, HdL 62.0 mm, end of dorsal-fin base to anteriormost upper caudal ray 80.7 mm, P₁-P₂ 91.3 mm, P₂-C 114.3 mm, pectoral fin brownish with numerous dark spots anteriorly and posteriorly, dorsal fin with a dark blotch.

- = *Cheilopogon (Maculocoetus) atrisignis* (Jenkins, 1904). See Parin (1961b:171).

Cypselurus caudimaculatus Fowler, 1934:328, fig. 82.

Holotype: USNM 93070 (62 mm SL). Philippines, Jolo Island, Tutu Bay; *Albatross*, dredging sta 5561; 19 Sep 1909. D 11, A 7, P₁ I 13-13, RGR₁ 7 + 18 = 25, vertebrae 29 + 14 = 43, predorsal scales ~29, P₁-P₂ 26.8 mm, P₂-C 21.0 mm, single, but proximally divided, short (4.2 mm), mental barbel present, pectoral fins pale with two large black blotches, a black spot at origin of upper caudal lobe.

Paratypes: USNM 93071 (7, 37.5-50.5). Collected with the holotype.

- = *Cypselurus (Cypselurus) opisthopus* (Bleeker, 1866). Herein considered a valid species.

Cypselurus milleri Gibbs and Staiger, 1970:437-443, figs. 1-2.

Holotype: USNM 193732 (275 mm SL). Liberia, Monrovia, Free Port harbor area, field no. 1676; G.C. Miller; 17 Aug 1953. D 12, A 10, P₁ 13-13, RGR₁ 5 + 15 = 20, vertebrae 29 + 15 = 44, predorsal scales 37, palatine teeth present, dorsal fin grey, pectoral fins uniformly dark except for innermost membranes, which are pale.

Paratypes: USNM 193707 (3, 233-256). Liberia, off Monrovia; G.C. Miller; 26 Jan 1954.

USNM 203088 (147). SE Atlantic, 3°54'S, 4°35'E; *Equalant II* sta 18(?); Aug 1963.

USNM 203089 (258). NE Atlantic, 9°15'30"N, 14°35'30"W; *La Rafale*, Transect 7, sta 3; 15 May 1964.

USNM 203090 (2, 211-234). NE Atlantic, ~10°7'N, 16°42'W; *La Rafale*, Transect 4, ~sta. 8; B.B. Collette 968; 6 Dec 1963.

USNM 203091 (223). NE Atlantic, ~10°05'N, 14°41'W; *La Rafale*, Transect 6; B.B. Collette 949; 30 Nov 1963.

USNM 203092 (230). NE Atlantic, 7°12'-35'N, 12°46'-13°17'W; *La Rafale*, Transect 10; B.B. Collette 904; 16 Nov 1963.

USNM 203093 (2, 243-245). NE Atlantic, 10°23'N, 16°25'W; *La Rafale*, Transect 4, ~sta. 4; B.B. Collette 963; 5 Dec 1963.

USNM 203472 (269). SE Atlantic, off Angola, running toward Baia dos Tigres; *Undaunted*, Cruise 6801; 16 Mar 1968. Originally TABL 68-245.

USNM 203648 (4, 72.2-148). E Atlantic, 4°52'N, 5°34'E; *Undaunted*, Cruise 6801, sta 158; 25 Apr 1968. Originally TABL 68-303.

USNM 203649 (185). E Atlantic, 1°20'N, 7°55'E; *Undaunted*, Cruise 6801, sta 138; 19 Apr 1968. Originally TABL 68-296.

= *Cheilopogon (Procypselurus) milleri* (Gibbs and Staiger, 1970). Herein considered a valid species.

Exocoetus californicus Cooper, 1863:93, fig. 20.

Holotype: USNM 8140 (315 mm SL). California, Catalina Island. D 12, A 11, P₁ I 13-13, RGR₁ 7 + 14 = 21, vertebrae 36 + 14 = 50, predorsal scales ~45, head 64.5 mm, fleshy orbit 19.0, maximum depth 44.6 mm, caudal peduncle depth 17.0 mm, no palatine teeth, dorsal fin with vestigial black spot.

= *Cheilopogon (Cheilopogon) pinnatibarbatus californicus* (Cooper, 1863). See Parin (1961b:171).

Exocoetus dowii Gill, 1864:167.

Holotype: USNM 37667 (239 mm SL). "Western coast of Central America"; Capt. J.M. Dow. D 12, A 13, P₁ II 15-16, RGR₁ 6 + 17 = 23, vertebrae 29 + 17 = 46, predorsal scales 28, HdL 52.0 mm, P₁L 185+ mm, pectoral fins uniformly dark with a narrow, pale posterior margin, pelvic fins with a black spot. D and A counts are very close to those given in the original description (D 12, A 12).

A note in the jar, written by G.S. Myers and dated 12 Jan 1935, states that "Breder in going over our [USNM] flying-fishes, finds two fishes listed as types of *dowi*. According to Gill's original description, there was only 'one specimen nearly thirteen inches long.' Evidently the larger fish in this bottle, with long anal is the type, and other got in by mistake." The smaller specimen has been removed and recataloged as USNM 314980.

= *Hirundichthys (Danichthys) rondeletii* (Valenciennes in Cuvier and Valenciennes, 1846). Herein considered a valid species. However, this subtropical species has not been reported from the tropical Eastern Pacific.

USNM 314980: D 14, A 10, P₁ I 14-15, vertebrae 30 + 13 = 43, predorsal scales 25, 3rd dorsal-fin ray length 30.5 mm, pectoral fins almost black with greyish oblique band, dorsal fin with a black blotch between 5th and 13th rays, pelvic fins with no spot, caudal fin uniformly grey.

= *Cheilopogon (Procypselurus)* sp. Herein considered an undescribed species related to *C. (P.) nigricans* (Bennett, 1840). See below.

Exocoetus nigricans Bennett, 1840:287.

Neotype: USNM 204626 (225 mm SL). SE Atlantic, Angola, off Baia dos Tigres; *Undaunted*; 6-7 Mar 1968. Originally TABL 68-244. Designated by Gibbs and Staiger (1970). D 13, A 10, P₁ I 13-13, RGR₁ 7 + 16 = 23, vertebrae 29 + 15 = 44, palatine teeth present, 3rd dorsal-fin ray length 28.9 mm, pectoral fins dark

with greyish oblique band, dorsal fin with a black blotch behind 6th ray, pelvic fins unpigmented, caudal fin uniformly grey.

= *Cheilopogon (Procypselurus) nigricans* (Bennett, 1840). Herein considered a valid species. The original description was based on specimens "taken in both the Atlantic and Pacific oceans, in lat. 5°N" (Bennett, 1840:287), but distinct species occur in each ocean. The neotype designated by Gibbs and Staiger (1970:443) applies to the eastern Atlantic species.

Exocoetus vinciguerrae Jordan and Meek, 1885:56-57.

Holotype: USNM 21870 (202 mm SL). Open sea south of Newfoundland, 41°40'N?, 62°28'W?; Carl Schultz; N. McPhee; 15 Oct 1878. D 10, A 11, P₁ II 15-15, RGR₁ 8 + 17 = 25, vertebrae 28 + 17 = 45, predorsal scales 28, 1st anal-fin ray under 1st-dorsal fin ray, pectoral fins dark brown with a narrow, pale, posterior margin, pelvic fins with a dark blotch.

= *Hirundichthys (Danichthys) rondeletii* (Valenciennes in Cuvier and Valenciennes, 1846). See Breder (1938:35).

Exocoetus volador Jordan, 1884:34.

Holotype: USNM 34975 (170 mm SL). Florida, Pensacola; S. Stearns. D 11, A 11, P₁ II 16-16, RGR₁ 7 + 18 = 25, vertebrae 28 + 16 = 44, predorsal scales 29, 1st anal-fin ray opposite 2nd dorsal-fin ray, pectoral fins dark with very narrow, pale, posterior margin, pelvic fins black posteriorly.

= *Hirundichthys (Danichthys) rondeletii* (Valenciennes in Cuvier and Valenciennes, 1846). See Breder (1938:85).

Exocoetus xenopterus Gilbert, 1890:58-59.

Holotype: USNM 44388 (193 mm SL). Mexico, Revillagigado group, Clarion Island, taken from a booby-bird; *Albatross*. D 13, A 10, P₁ I 12-12, RGR₁ 6 + 16 = 22, vertebrae 30 + 14 = 44, predorsal scales ~27, palatine teeth present, pectoral fins dark with greyish oblique band, pelvic fins with a black spot at the middle, dorsal fin grey, caudal fin lobes contrastingly unpigmented distally.

= *Cheilopogon (Procypselurus) xenopterus* (Gilbert, 1890). See Parin (1961b:168).

Exonastes gilbertii Snyder, 1904:522, fig. 13, pl. 7.

Holotype: USNM 50872 (207 mm SL). Hawaii; *Albatross*, between sta 3799-3800, ~28.5°N, 140°W; 1902. D 10, A 10, P₁ II 15-16, RGR₁ 9 + 18 = 27, vertebrae 30 + 16 = 46, predorsal scales 31, 1st anal-fin ray opposite 2nd dorsal-fin ray, pectoral fins dark brown with narrow, pale, posterior margin, pelvic fins with unpigmented membranes.

= *Hirundichthys (Danichthys) rondeletii* (Valenciennes in

Cuvier and Valenciennes, 1846). See Abe (1956:1097).

Exonautus nonsuchae Beebe and Tee-Van, 1932:112-113.

Holotype: USNM 170912 (20.2 mm SL). Bermuda, St. David's Island, near shore in sargassum weed; Bermuda Oceanographic Expedition; 15 May 1929. Originally cited as No. 9983, Department of Tropical Research, New York Zoological Society. D 12, A 13, P₁ 17-17, pectoral-fin rays unbranched, gradually increasing from 1st (4.2 mm) to 5th (10.5 mm).

= *Hirundichthys (Danichthys) rondeletii* (Valenciennes in Cuvier and Valenciennes, 1846). Herein considered a valid species. Not *H. (Hirundichthys) speculiger* (Valenciennes in Cuvier and Valenciennes, 1846), as proposed by Bruun (1935:72).

HEMIRAMPHIDAE

Chriodorus atherinoides Goode and Bean, 1882:432.

Holotype: USNM 26593 (114 mm SL). Florida, Key West, field no. 171; S. Stearns; 1880. D 17, A 17, P₁ 13-14, RGR₁ 6 + 17 = 23.

= *Chriodorus atherinoides* Goode and Bean, 1882.

Dermogenys bakeri Fowler and Bean, 1922:15-16, fig. 3.

Holotype: USNM 84275 (male, 32.6 mm SL). Philippines, Zamboanga, field no. 55; F. Baker; 27 Feb 1914. D 10, A 15, P₁ 12-11, vertebrae 24 + 16 = 40, predorsal scales ~32, P₁-P₂ 8.1 mm, P₂-C 13.2 mm.

= *Dermogenys viviparus* (Peters, 1865). See Mohr (1936:51).

Dermogenys pectoralis Fowler, 1934:326-327, fig. 80.

Holotype: USNM 93068 (male, 33.7 mm SL). Philippines, Luzon, Bubucan; *Albatross*; 19 Dec 1907. D 11, A 17, vertebrae 21 + 17 = 38, predorsal scales 47, P₁-P₂ 8.8 mm, P₂-C 13.7 mm, LJL 5.3 mm. Originally published as USNM 93058, but the ledger lists USNM 93068 as the correct number and USNM 93058 as being *Theragra chalcogramma fucensis*.

Paratypes: USNM 93069 (3, 15.6-31.1). Collected with the holotype.

= *Dermogenys* sp. Perhaps a valid species.

Hemiramphus archipelagicus Collette and Parin, 1978:732-737, fig. 1a.

Holotype: USNM 218371 (190 mm SL). Vietnam, 8°21'N, 104°38'E; Dodo Expedition, sta 264; T. Matsui et al.; 10 Nov 1965. Originally SIO 65-43. D 13, A 11, P₁ 12, RGR₁ 6 + 21 = 27, RGR₂ 4 + 16 = 20, predorsal scales 36, vertebrae 37 + 15 = 52, HdL 44.2 mm, LJL 54.1 mm, P₁L 30.1 mm, pectoral fin length projected forward reaches anterior margin of orbit.

Paratypes: USNM 218372 (4, 143-200). Collected with the holotype. Originally SIO 65-43. These paratypes were inadvertently omitted from the original description.

= *Hemiramphus archipelagicus* Collette and Parin, 1978. See Parin et al. (1980:127).

Hemiramphus bermudensis Collette, 1962:432-437, fig. 1.

Holotype: FMNH 48115 (272 mm SL).

Paratypes: USNM 12699 (263). Bermuda; G.B. Goode. A handwritten note in the jar states that this specimen has been cataloged under three different numbers. USNM records show at least two numbers (10344 and 12699) have been assigned to this specimen. Because a USNM 12699 tag is tied to the specimen and is the published number, this number will be used for this specimen. Other USNM numbers associated with this lot will be cross-referenced back to USNM 12699.

USNM 21245 (244). Bermuda; J.M. Jones.

USNM 21377 (9: 6, 187-300 + 3 heads of specimens that were about 150-190 mm). Bermuda; G.B. Goode; 1876.

USNM 21884 (5, 157-297). Bermuda; G.B. Goode; 1876.

USNM 187565 (3, 109-122). St. George's Harbor, Bermuda; R.H. Gibbs; 4 Feb 1957.

= *Hemiramphus bermudensis* Collette, 1962.

Hemiramphus mioprurus Jordan and Dickerson, 1908:111-112, fig.

Holotype: USNM 61053 (195 mm SL). Japan, Nagasaki; R.C. McGregor; 20 Nov 1901. D 16, A 16, P₁ 12, RGR₁ 8 + 19 = 27, RGR₂ 5 + 18 = 23, vertebrae 35 + 18 = 53, HdL 43.8 mm, LJL 26.6 mm, UJL 5.9 mm, UJW 10.6 mm, P₁-P₂ 71.9 mm, P₂-C 80.8 mm, preorbital canal with wide posterior branch.

= *Hyporhamphus (Reporhamphus) quoyi* (Valenciennes in Cuvier and Valenciennes, 1846). See Collette and Su (1986:281).

Hemirhamphodon kapuasensis Collette in Anderson and Collette, 1991:169, fig.7.

Holotype: ZSM 27958 (male, 48.5).

Paratypes: USNM 313652 (6, 28.7-49.2). Borneo, Kalimantan Barat, Insiluk, 16 km WNW Sanggau on road to Pontianak; M. Kottelat et al. loc. 1990-29; 23 Apr 1990. Out of ZSM/CMK 6727.

= *Hemirhamphodon kapuasensis* Collette, 1991.

Hemirhamphodon tengah Collette in Anderson and Collette, 1991:171, fig. 9.

Holotype: ZSM 27902 (male, 33.8).

Paratypes: USNM 317896 (4, 32.4-33.7). Borneo, Kalimantan Tengah, 5 km S Pankalanbun Raja on road to Kumali; H. Linke loc. 1990:11; Jul 1990. Out of ZSM 27924.

USNM 317897 (7, 30.2-32.0). Borneo, Kalimantan Tengah, creeks in Pudukuali, Sukakara, and Tarrantang; H. Linke loc. 1990:8-10; Jul 1990. Out of ZSM 27905.

= *Hemirhamphodon tengah* Collette, 1991.

Hemirhamphus cotnog Smith, 1902:170.

Holotype: USNM 50537 (75.3 mm SL). Philippines, Lake Buih; F.W. Richardson; 5 Jul 1901. D 12, A 13?, P₁ 11–11, RGR₁ 4 + 14 = 18, RGR₂ 1 + 13 = 14, vertebrae 29 + 14 = 43, HdL 20.3 mm, LJL 24.0 mm, P₁–P₂ 30.5 mm, P₂–C 23.4 mm.

= *Zenarchopterus* sp. Herein considered as an unidentifiable species of *Zenarchopterus*.

Hemirhamphus filamentosus Poey, 1860:297–298.

Lectotype: MCZ 8775. Designated by Collette (1965:226).
Paralectotype: USNM 4746 (182 mm SL). Cuba; Poey no. 50. The original description and lectotype represent *H. brasiliensis*. USNM 4746 was labeled as a type of *H. filamentosus* but is a specimen of *Hemirhamphus balao* LeSueur (Collette, 1965:226).

Hemirhamphus macrochirus Poey, 1860:299.

Lectotype: MCZ 693, Poey no. 199. Designated by Collette (1965:223).

Paralectotype: USNM 4748 (242 mm SL). Cuba; Poey no. 199. The original description and lectotype represent *H. balao*. USNM 4748 was labeled as a type of *H. macrochirus* but is a specimen of *H. brasiliensis* (Linnaeus) (Collette, 1965:223).

Hemirhamphus rosae Jordan and Gilbert, 1880:335–336.

Lectotype: USNM 24917 (96.2 mm SL). California, San Diego; Jan 1880. Designated herein. D 14, A 15, P₁ 10–10, RGR₁ 8 + 23 = 31, RGR₂ 4 + 20 = 24, P₁–P₂ 38.3 mm, P₂–C 37.5 mm, LJL 29.4 mm, HdL 20.9 mm, interorbital width 5.6 mm, orbit 5.3 mm.

No catalog numbers were listed in the original description; however, Jordan and Jouy (1881) listed the types as being USNM 24917 and 26790. Previously, R.R. Miller had separated the largest fish from the rest of the specimens. This specimen (USNM 24917) appears to be the one measured in the original description and is, therefore, designated the lectotype. All other syntypic specimens (USNM 26790) are, therefore, considered paralectotypes.

Paralectotypes: USNM 26790 (5, 55.7–67.0); California, San Diego; D.S. Jordan.

= *Hyporhamphus* (*Hyporhamphus*) *rosae* (Jordan and Gilbert, 1880). See Miller (1945:191).

Hemirhamphus saltator Gilbert and Starks, 1904:53, fig. 16, pl. 9.

Holotype: CAS-SU 6806 (270 mm SL).
Paratype: USNM 50446 (248). Panama; C.H. Gilbert.
= *Hemirhamphus saltator* Gilbert and Starks, 1904.

Hyporhamphus gilli Meek and Hildebrand, 1923:240, fig. 1, pl. 17.

Holotype: USNM 81736 (123 mm SL). Panama, Panama Bay, Canal Zone, Balboa; S.E. Meek and S.F. Hildebrand; 27 Mar 1912. D 14, A 16, P₁ 12–12,

RGR₁ 13 + 34 = 47, RGR₂ 7 + 32 = 39, vertebrae 33 + 17 = 50, P₁–P₂ 40.5 mm, P₂–C 56.7 mm, LJL 23.7 mm.

Paratypes: USNM 79671 (13, 96.6–126). Collected with the holotype.

USNM 79672 (118). Panama, Canal Zone, Balboa; S.E. Meek and S.F. Hildebrand; 6 May 1912.

USNM 81737 (2, 101–110). Panama, Canal Zone, Balboa; S.E. Meek and S.F. Hildebrand; 25 Mar 1912.

= *Hyporhamphus* (*Hyporhamphus*) *gilli* Meek and Hildebrand, 1923.

Hyporhamphus hildebrandi Jordan and Evermann, 1927:503–504.

Lectotype: FMNH 8260. Designated by Weed (1933:61).
Paralectotypes: USNM 79662 (2, 87.5–91.0). Panama, Fox Bay, Colon; S.E. Meek; 5 Jan 1911.

USNM 79663 (2, 58.5–86.0). Panama, Fox Bay, Colon; S.E. Meek; 3 Jan 1911.

USNM 79664 (2, 99.0–100). Panama, Fox Bay, Colon, field no. 731; S.E. Meek; 31 Mar 1911.

USNM 82111 (104). Panama, Toro Point, Fox Bay, Colon; S.E. Meek; 19 May 1911.

= *Hyporhamphus* (*Hyporhamphus*) *roberti hildebrandi* (Jordan and Evermann, 1927). See Collette (ms b).

Hyporhamphus kurumeus Jordan and Starks, 1903:534–535, fig. 1.

Holotype: CAS-SU 7126 (128 mm SL).
Paratypes: USNM 50742 (13, 103–125). Japan, Chikugo, Kurume; D.S. Jordan.
USNM 217417 (6, 100–120). Japan, Kurume, Chikugo River; D.S. Jordan and J.O. Snyder; 1900.
= *Hyporhamphus* (*Hyporhamphus*) *intermedius* (Cantor, 1842). See Collette and Su (1986:263).

Hyporhamphus (*Hyporhamphus*) *melanopterus* Collette and Parin, 1978:738–742, fig. 2a.

Holotype: USNM 218363 (124 mm SL). Indonesia, North Borneo, Sandakan harbor; *Te Vega*, Cruise 6, sta 210; D.M. Cohen and W.P. Davis; 28 Jan 1965. D 16, A 17, P₁ 11–12, RGR₁ 8 + 18 = 26, RGR₂ 4 + 15 = 19, predorsal scales 38, vertebrae 32 + 19 = 51, HdL 28.0 mm, LJL 26.9 mm, UJL 4.1 mm, UJW 9.1 mm, P₁–P₂ 40.0 mm, P₂–C 59.4 mm.

Paratypes: USNM 217450 (7, 92.4–110). Collected with the holotype.

USNM 137632 (2, 154). Indonesia, Borneo, Sandakan; *Albatross*; 1 Mar 1908.

USNM 227882 (134). Thailand, S of Klong Wan, Prachuab Khiri Khan province; S.P. Monkolprasit; 13 Dec 1964. Originally KUMF collection number L64:1322.

= *Hyporhamphus* (*Hyporhamphus*) *melanopterus* Collette and Parin, 1978. See Parin et al. (1980:36).

- Hyporhamphus (Hyporhamphus) neglectissimus* Parin, Collette, and Shcherbachev, 1980:34–36, fig. 5.
 Holotype: ZIL 44886 (144 mm SL).
 Paratypes: USNM 220502 (2, 124–130). New Guinea, Lae; Vityaz, Cruise 57; 14 Apr 1975.
 = *Hyporhamphus (Hyporhamphus) neglectissimus* Parin, Collette, and Shcherbachev, 1980.
- Hyporhamphus patris* Miller, 1945:187–192, pl. 11.
 Holotype: USNM 129956 (118 mm SL). Mexico, Sinaloa, Río del Fuerte, 1/2 mi above the town of El Fuerte, which is about 20 mi NE of San Blas, field no. X2-42; R.G. Miller; 4 May 1942. D 14, A 16, P₁ 10–10, RGR₁ 9 + 24 = 33, RGR₂ 4 + 25 = 29, P₁–P₂ 45.8 mm, P₂–C 45.9 mm, LJL 33.9 mm, HdL 24.3 mm.
 Paratypes: USNM 129957 (11, 107–131). Collected with the holotype.
 = *Hyporhamphus rosae* (Jordan and Gilbert, 1880).
- Hyporhamphus salvatoris* Fowler and Bean, 1923:9–10.
 Holotype: USNM 83286 (137 mm SL). Brazil, Rio de Janeiro; Wilkes Expedition. D 15, A ~15, P₁ ~12, RGR₁ 12 + 25 = 37, RGR₂ 4 + 24 = 28, vertebrae 33 + 17 = 50, P₁–P₂ 50.5 mm, P₂–C 54.5 mm, P₂–C extension falls on rear of opercle.
 = *Hyporhamphus (Hyporhamphus) roberti roberti* (Valenciennes in Cuvier and Valenciennes, 1846). See Collette (ms b).
- Hyporhamphus snyderi* Meek and Hildebrand, 1923:240–241, fig. 2, pl. 17.
 Holotype: USNM 81760 (124 mm SL). Panama, Panama Bay, Balboa, Canal Zone; S.E. Meek and S.F. Hildebrand; 5–6 May 1911. D 15, A 17, P₁ 10–10, RGR₁ 12 + 35 = 47, RGR₂ 5 + 35 = 40, vertebrae 34 + 18 = 52, P₁–P₂ 44.7, P₂–C 53.2, LJL 28.7 mm.
 Paratypes: USNM 81759 (9, 80.0–139). Collected with the holotype.
 USNM 79673 (80). Panama, Chame Point; R. Tweedlie; Jun–Jul 1912.
 USNM 79674 (3, 114–133). Panama, Balboa beach, Canal Zone; S.E. Meek and S.F. Hildebrand; 8 May 1911.
 USNM 79675 (2, 100–102). Panama, Balboa, Canal Zone; S.E. Meek and S.F. Hildebrand; 8 May 1911.
 USNM 79676 (118). Panama, Panama Bay, Balboa, Canal Zone; S.E. Meek and S.F. Hildebrand; 27 Mar 1912.
 USNM 82070 (27, 24.1–132). Panama, Chame Point; R. Tweedlie; 26 Jul 1913.
 = *Hyporhamphus (Hyporhamphus) snyderi* Meek and Hildebrand, 1923.
- Hyporhamphus (Hyporhamphus) taiwanensis* Collette and Su, 1986:276, fig. 2d, tables 1–9.
 Holotype: USNM 191155 (143 mm SL). Taiwan, Taipei Hsien, Shih-lin, Keelung River, field no. F.F. 108; Kuntz and Wells, 1 Dec 1969. D 14, A 15, P₁ 11–11, predorsal scales 57, vertebrae 32 + 18 = 50, RGR₁ 8 + 21 = 29, RGR₂ 3 + 20 = 23, HdL 26.8 mm, LJL 36.0 mm, UJL 5.3 mm, UJW 6.1 mm, P₁–P₂ 54.3 mm, P₂–C 58.2 mm, preorbital canal without posterior branch, both arms very narrow.
 Paratypes: USNM 278991 (6, 129–151). Collected with the holotype.
 = *Hyporhamphus (Hyporhamphus) taiwanensis* Collette and Su, 1986.
- Hyporhamphus tricuspidatus* Gill, 1859:131.
 Holotype: USNM 3407 (~180 mm SL). Barbados; T. Gill. D 15, A 15, P₁ 11–11, RGR₁ 10 + 23 = 33, LJL 35.3 mm.
 = *Hyporhamphus (Hyporhamphus) unifasciatus* (Ranzani, 1842). See Collette (ms b).
- Hyporhamphus (Hyporhamphus) unicuspis* Collette and Parin, 1978: 743–746, fig. 2c.
 Holotype: USNM 218364 (mature female, 120 mm SL). Thailand, S tip of Ko Talibong, 7°11'60"N, 99°22'05"E; 5th Thai-Danish Expedition; V.A. Gallardo; 9 Feb 1966. D 15, A 16, P₁ 11–11, RGR₁ 10 + 21 = 31, RGR₂ 6 + 19 = 25, predorsal scales 39, vertebrae 33 + 18 = 51, HdL 28.0 mm, LJL 30.0 mm, UJL 6.5 mm, UJW 5.8 mm, P₁–P₂ 42.6 mm, P₂–C 49.2 mm, P₂–C distance extended forward falls on anterior margin of opercle, dorsal-fin base 18.6 mm, anal-fin base 18.4 mm, orbit length 6.7 mm, preorbital distance 4.3 mm, maximum body depth 13.3 mm, maximum body width 8.4 mm.
 Paratypes: USNM 218365 (4, 84.0–114). Collected with the holotype.
 USNM 218361 (2, 104–107). India, Kerala, Kottayam; S.D. Trividi; 18 Jul 1975.
 = *Hyporhamphus (Hyporhamphus) unicuspis* Collette and Parin, 1978. See Parin et al. (1980:48).
- Hyporhamphus (Reporhamphus) yuri* Collette and Parin, 1978:737–738, fig. 1b.
 Holotype: USNM 218481 (168 mm SL). Japan, Okinawa, Naha market; *Albatross*; D.S. Jordan and J.O. Snyder; 1906. D 17, A 19, P₁ 12–12, RGR₁ 11 + 27 = 38, RGR₂ 5 + 28 = 33, vertebrae 41 + 19 = 60, HdL 38.6 mm, LJL 43.7 mm, UJL 7.3 mm, UJW 7.5 mm, P₁–P₂ 68.9 mm, P₂–C 61.1 mm, P₂–C distance projected forward falls on middle third of adpressed pectoral fin, orbit length 8.8 mm, preorbital distance 8.1 mm.
 Paratypes: USNM 75494 (7, 140–171). Collected with the holotype.
 = *Hyporhamphus (Reporhamphus) yuri* Collette and Parin, 1978. See Parin et al. (1980:72).
- Oxyporhamphus convexus bruuni* Parin, Collette, and Shcherbachev, 1980:159–160.

- Holotype: ZIL 42670 (132 mm SL).
 Paratypes: USNM 266307 (37.0). Gulf of Aden, 12°51'N, 45°57'E; *Atlantis*; R.W. Risebrough; 6 Jun 1958.
 USNM 266308 (70.0). Gulf of Aden, NE of Socotra, 10°12'N, 54°57'E; *Atlantis*; R.W. Risebrough; 1 Jun 1958.
 USNM 266309 (47.8). Gulf of Aden, 13°51'N, 48°27'E; *Atlantis*; R.W. Risebrough; 4 Jun 1958.
 = *Oxyporhamphus convexus bruuni* Parin, Collette, and Shcherbachev, 1980.
- Rhynchorhamphus malabaricus* Collette, 1976:84-87, fig. 8b.
 Holotype: USNM 214081 (167 mm SL). Ceylon, Myliddy near Kankesanturai, north tip of Ceylon; T.R. Roberts; 18 Mar 1970. D 14, A 13, P₁ 11-11, RGR₁ 19 + 47 = 66, RGR₂ 10 + 50 = 60, predorsal scales 38, vertebrae 38 + 17 = 55, UJL 8.6 mm, UWJ 8.0 mm.
 Paratypes: USNM 214937 (6: 5 + 1 cleared and stained, 160-173). Collected with the holotype.
 USNM 213561 (156). Ceylon, Hikkaduwa; C.C. Koenig 69-54; 13 Jan 1970.
 USNM 213563 (13, 166-215). Ceylon, Mannar Island, 1 mi west of Pesalai, on south shore of island; *Beruwalla*; F.J. Schwartz 69-52; 17 Mar 1969.
 USNM 213566 (195). Ceylon, Mannar Island, near Pesalai northwest coast, caught on south side of island in Gulf of Mannar, bought at Colombo fish market; F.J. Schwartz 69-26; 4 Mar 1969.
 USNM 213834 (161). India, Bay of Bengal, Pondichery state, Vaithikuppam fishing village, Pondichery market; F.H. Berry 66-22; 22 Sep 1966.
 USNM 213836 (8, 147-178). India, Madras state, Enore area, purchased from Madras State Fish Department, Marine Biological Station, Enore; F.H. Berry 66-62; 14 Sep 1966.
 USNM 213837 (4, 152-177). Ceylon, Kalupitiya fish market; C.C. Koenig 69-80; 25 Jan 1970.
 USNM 214082 (15, 149-226). India, Gulf of Mannar, Pambam, Mandapam Camp; M. Devaraj; 7 Feb 1975.
 = *Rhynchorhamphus malabaricus* Collette, 1976. See Parin et al. (1980:104).
- Rhynchorhamphus naga* Collette, 1976:87-90, fig. 9a.
 Holotype: USNM 214085 (female, 165 mm SL). Gulf of Thailand, 7°46'N, 103°40'E; Naga Expedition; *Stranger*, Cruise 51-8; Swarn and Kosol; 22 Oct 1959. D 14, A 14, P₁ 11-11, RGR₁ 14 + 39 = 53, RGR₂ 8 + 38 = 46, predorsal scales 39, vertebrae 39 + 17 = 56.
 Paratypes: USNM 206077 (8, 147-172). Collected with the holotype.
 USNM 206080 (9: 8 + 1 cleared and stained, 83.8-158). South China Sea, 41 mi from Paulo Obi, 7°48'30"N, 105°08'00"E; Naga Expedition 60-263; *Stranger*; Matsui and Ansini; 23 Jun 1960.
 USNM 214083 (23, 64.0-163). Gulf of Thailand, anchor-
 age 1.9 mi from Songkhla, 7°15'N, 100°35'E; Naga Expedition; *Stranger*; 17 Nov 1960.
 USNM 214084 (13, 91.2-161). Gulf of Thailand, 1.4 mi from Songkhla, 7°15'N, 100°35'E; Naga Expedition 59-61, sta 60-427; 18 Nov 1960.
 = *Rhynchorhamphus naga* Collette, 1976. See Parin et al. (1980:110).
- Zenarchopterus atrodorsalis* Fowler, 1934:323, 325, fig. 77.
 Holotype: USNM 93060 (male, 74.3 mm SL). Indonesia, Borneo, Sandakan; *Albatross*; 29 Feb 1908. D 14, A 14, P₁ 11-11, predorsal scales 28, RGR₁ 6 + 13 = 19, RGR₂ 1 + 15 = 16, vertebrae 26 + 17 = 43, LJL 35.8 mm, P₁-P₂ 30.0 mm, P₂-C 24.0 mm.
 = *Zenarchopterus pappenheimi* Mohr, 1926. See Collette (1982b: 265).
- Zenarchopterus basudensis* Fowler, 1934:326.
 Holotype: USNM 93061 (male, 136 mm SL). Philippines, Luzon, east coast, Basud River; *Albatross*; 15 Jun 1909. D 13, A 13, P₁ 10-10, RGR₁ 4 + 13 = 17, RGR₂ 2 + 15 = 17, predorsal scales 35, vertebrae 29 + 16 = 45, LJL 42.8 mm, P₁-P₂ 56.4, P₂-C 46.3 mm.
 Paratypes: USNM 93062 (5: 2 males and 3 females, 102-120). Collected with the holotype.
 = *Zenarchopterus kampeni* (Weber, 1913). See Collette (1982b:265).
- Zenarchopterus ornithocephala* Collette, 1985:107-111, fig. 2.
 Holotype: NCIP 5419 (male, 124 mm SL).
 Paratype: USNM 266413 (male, 94.5). Indonesia, Irian Jaya, Vogelkop peninsula, stream at Senopi village, 00°50'S, 132°56'E; G.R. Allen and W. Tins; 18 Nov 1982. Taken with the holotype, originally WAM P27868-004.
 = *Zenarchopterus ornithocephala* Collette, 1985.
- Zenarchopterus robertsi* Collette, 1982b:266-268, fig. 2.
 Holotype: AMS I.22029-001 (male, 131 mm SL).
 Paratypes: USNM 219299 (11, 45.3-128). Papua New Guinea, northern district of Papua, Ovi Creek (tributary to Kumusi River), 10-13 km ESE of Kokoda; T.R. Roberts; 5 Aug 1975.
 = *Zenarchopterus robertsi* Collette, 1982. See Collette (1985:109).
- Zenarchopterus vaisiganis* Jordan and Seale, 1906:208, fig. 11.
 Lectotype: USNM 51718 (male, 97.1 mm SL). Samoa, Vaisigano River at Apia; Jordan and Kellogg; 1902. The specimen with the metal tag no. 51718 tied on it is herein designated as the lectotype by Collette. D 12, A 13, P₁ 9-9, RGR₁ 5 + 13 = 18, RGR₂ 1 + 13 = 14, predorsal scales 32, vertebrae 28 + 15 = 43, LJL 33.4 mm.

Paralectotypes: USNM 126363 (6 males, 90.6–100). Collected with the holotype.

USNM 309269 (3 males, 89.7–98.7). Collected with the holotype, removed from USNM 51718.

= *Zenarchopterus dispar* (Valenciennes in Cuvier and Valenciennes, 1846). See Collette (1974b:96).

SCOMBERESOCIDAE

Nanichthys simulans Hubbs and Wisner, 1980:531–534, fig. 5.
Holotype: SIO 63-546 (89.5 mm SL).

Paratypes: USNM 204257 (2, 68–101). Angola, west of Baia Dos Tigre, in South Atlantic Ocean, 15°45'S, 8°45'E; *Crawford* sta 150; 21 Apr 1957.

USNM 204258 (4, 42–66). Middle North Atlantic Ocean, 32°57'N, 39°21'W; *Delaware*, Cruise 63-4, sta 16; B.B. Collette 826; 19 May 1963.

USNM 222664 (8, 46–69). S Atlantic Ocean, 29°51'30"S, 11°07'W; *Lusiad* Expedition, sta 30; 12 Jun 1963. Originally SIO 63-545.

= *Scomberesox simulans* (Hubbs and Wisner, 1980). See Collette et al. (1984:336).

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