Order GOBIIFORMES

Cardinalfishes

Family **APOGONIDAE**

Subfamily APOGONINAE Günther 1859

Part I: *Apogon – Lepidamia*

Apogon tricinctus. Photo by Gerald R. Allen. From: Allen, G. R. and M. V. Erdmann. 2012. Reef fishes of the East Indies. Volumes I-III. Tropical Reef Research, Perth Australia. x + 1260 pp.

Apogon

Lacepède 1801

ἀ-, privative, i.e., without; *pōgōn* (πώγων), beard, presumed to be a mullet without chin barbels (type species, *A. imberbis*, is sometimes known as "king of the mullets")

Apogon americanus **Castelnau 1855** *-anus* (L.), belonging to: America, described from Bahia, Brazil, only member of genus then known from the "waters of America" (translation)

Apogon atradorsatus **Heller & Snodgrass 1903** *atra*, from *ater* (L.), black; *dorsatus* (L), backed, presumably referring to black distal half of second dorsal fin

Apogon atricaudus **Jordan & McGregor 1898** *atri*, from *ater* (L.), black; *caudus* (L.), tail, referring to its "dusky" caudal fin

Apogon aurolineatus **(Mowbray 1927)** *auro-*, from *aurum* (L.), gold; *lineatus* (L.), lined, referring to eight "well marked" golden stripes on sides

Apogon axillaris **Valenciennes 1832** Latin for of an axil, referring to black spot at base of pectoral fin

Apogon binotatus **(Poey 1867)** *bi-*, from *bis* (L.), twice; *notatus* (L.), marked, referring to a thin dark-brown bar at end of second dorsal-fin base and another on the caudal peduncle

Apogon campbelli **Smith 1949** in honor of George Gordon Campbell (1893–1977), South African physician and naturalist, "an active worker in the cause of marine biology" (he was instrumental in establishing the South African Marine Biological Association)

Apogon caudicinctus **Randall & Smith 1988** *cauda* (L.), tail; *cinctus* (L.), belted or girdled, referring to broad blackish bar across posterior caudal peduncle and base of caudal fin, its most diagnostic color marking

Apogon ceramensis **Bleeker 1852** *-ensis*, Latin suffix denoting place: Ceram (now Seram), Indonesia, type locality

Apogon coccineus **Rüppell 1838** Latin for red like a berry, referring to its ruby-red, semi-transparent body in life

Apogon crassiceps **Garman 1903** *crassus* (L.), thick; *-ceps* (Neo-Latin), headed, referring to its "large, thick" head

Apogon dammermani **Weber & de Beaufort 1929** in honor of Dutch zoologist Karel Willem Dammerman (1885–1951), Director, Zoological Museum of Buitenzorg (Java), who loaned the authors the ichthyological collections under his charge, including holotype of this species

Apogon deetsie **Randall 1998** in honor of Edith "Deetsie" Chave, Associate Director of the Honolulu Aquarium, who helped collect holotype, for her research on the ecology of apogonid fishes of the Hawaiian Islands [a noun in apposition without the genitive "*ae*"]

Apogon dianthus **Fraser & Randall 2002** *Dianthus*, a genus of plants, some with pink flowers, referring to pink body color in life

Apogon doryssa **(Jordan & Seale 1906)** Latinization of *doryssóos* (δορυσσόος), brandishing the lance (i.e., spear bearer), referring to "very strong, flat, and sabre-like" dorsal-fin spine

Apogon dovii **Günther 1862** in honor John Melmoth Dow (1827–1892), Panama Railroad Company, ship captain and amateur naturalist, who presented holotype to the British Museum ["*w*" Latinized as a "*v*"]

Apogon erythrinus **Snyder 1904** *-inus*, Latin adjectival suffix: *erythrós* (ἐρυθρός), red, referring to its bright reddish color

Apogon erythrosoma **Gon & Randall 2003** *erythrós* (ἐρυθρός), red; *sōma* (σῶμα), body, referring to its transparent reddish-pink coloration in life

Apogon fugax **Gon, Bogorodsky, Mal & Alpermann 2020** Latin for elu-

sive, referring to how it avoided discovery despite intensive collecting efforts in the Red Sea and Indian Ocean

Apogon gouldi **Smith-Vaniz 1977** in honor of Edwin Jay Gould (1932–1993), real estate investor, wildlife conservationist and angler, sponsor of the Bermuda Expedition (1975), during which holotype was collected, for his participation in and support of ichthyological expeditions of the Academy of Natural Sciences of Philadelphia

Apogon hypselonotus **Bleeker 1855** *hypsēlós* (ὑψηλός), high; *notus*, from *nŏtos* (νῶτος), back, referring to its angular humped back ("dorso elevato angulato")

Apogon imberbis **(Linnaeus 1758)** Latin for beardless, presumed to be a mullet without chin barbels (sometimes known as "king of the mullets")

Apogon indicus **Greenfield 2001** *-icus* (L.) suffix, belonging to: Indian Ocean, type locality and where it is the only member of the *A. erythrinus* complex

Apogon kautamea **Greenfield & Randall 2004** from the Old Rapanui language of Easter Island, combining *'kua'ta* (transparent) and *mea* (red), referring to its transparent red coloration

Apogon kominatoensis **Ebina 1935** *-ensis*, Latin suffix denoting place: tidepools at Kominato, Chiba, Japan, type locality

Apogon lachneri **Böhlke 1959** in honor of Ernest A. Lachner (1916–1996), curator of fishes, U.S. National Museum, for his published work on Pacific apogonids and his continuing study of cardinalfishes on a worldwide basis

Apogon lativittatus **Randall 2001** *latus* (L.), wide or broad; *vittatus* (L.), striped or banded, referring to broad blackish midlateral stripe on body and caudal fin, wider on average than that of *A. semiornatus*

Apogon leptocaulus **Gilbert 1972** *leptós* (λεπτός), thin or slender; *caulus* (Late Latin), stem or stalk, referring to its unusually slender caudal peduncle

Apogon maculatus **(Poey 1860)** Latin for spotted, referring to black opercular spot, round black spot beneath second dorsal fin, and large black blotch in front of caudal peduncle

Apogon marquesensis **Greenfield 2001** *-ensis*, Latin suffix denoting place: Marquesas Islands, where it is endemic

Apogon mosavi **Dale 1977** acronym for Mount Saint Vincent, recognizing the College of Mt. St. Vincent's (Riverdale, New York, USA) annual summer course in marine biology, conducted in the Bahamas (type locality)

Apogon pacificus **(Herre 1935)** *-icus* (L.), belonging to: Eastern Pacific of the Galapagos Islands, type locality

Apogon phenax **Böhlke & Randall 1968** *phénax* (φέναξ), cheat or imposter, similar in general appearance to the related *A. planifrons*

Apogon pillionatus **Böhlke & Randall 1968** scientific Neo-Latin for provided with a pillion (a light posterior passenger saddle), referring to broad dusky marking over caudal peduncle

Apogon planifrons **Longley & Hildebrand 1940** *planus* (L.) flat or level; *frons* (L.), forehead, referring to its depressed head and snout

Apogon posterofasciatus **Allen & Randall 2002** *postero-*, from *posterior* (L.), coming after; *fasciatus* (L.), banded, referring to a broad dusky bar at caudal-fin base

Apogon pseudomaculatus **Longley 1932** *pseudo-*, from *pseúdēs* (ψεύδης), false, i.e., although similar to the closely related to *A. maculatus*, such an appearance is false

Apogon quadrisquamatus **Longley 1934** *quadri-*, from *quattuor* (L.), four; *squamatus* (L.), scaled, referring to how all scales are ctenoid except for four in a median row before first dorsal fin and anterior in submedian row on either side

Apogon retrosella **(Gill 1862)** *retro-* (L.), behind; *sella* (L.), saddle, referring to saddle-like band under second dorsal fin

Apogon robbyi **Gilbert & Tyler 1997** in honor of American ichthyologist C. Richard ("Robby") Robins (1928–2020), University of Miami (Florida, USA), a "leading authority" on the evolution, taxonomy, and biology of freshwater and marine fishes, particularly those of the eastern North America and western Atlantic regions

Apogon robinsi **Böhlke & Randall 1968** in honor of American ichthyologist C. Richard Robins (1928–2020), University of Miami (Florida, USA), for his "important" contributions to knowledge of West Atlantic fishes and his assistance during the authors' apogonid study

Apogon rubellus **(Smith 1961)** Latin for reddish, referring to its "brilliant" color in life (uniform brown in alcohol)

Apogon rubrifuscus **Greenfield & Randall 2004** *ruber* (L.), red; *fuscus* (L.), dark or dusky, referring to red body color overlaid by black pigment on posterior ⅔ of body

Apogon seminigracaudus **Greenfield 2007** *semi-*, from *semis* (L.), a half or moiety; *niger* (L.), dark or black; *caudus* (L.), tail, referring to black pigment on lower half of caudal fin

Apogon semiornatus **Peters 1876** *semi-*, from *semis* (L.), a half or moiety; *ornatus* (L.), decorated, allusion not explained, perhaps referring to broad reddish-brown stripe that extends halfway across body, from snout through anal-fin base

Apogon soloriens **Yoshida & Motomura 2020** Latin for rising sun, referring to its reddish-orange body color in life

Apogon susanae **Greenfield 2001** in honor of Susan G. Mondon, scientific illustrator, Department of Zoology, University of Hawaii, who prepared many illustrations for Greenfield, including the ones in the paper in which this species was described

Apogon talboti **Smith 1961** in honor of fisheries scientist Frank Talbot (1930–2024), South African Museum, who sent many "valuable" specimens to Smith, including type of this species, which he may have acquired by "bombing? at coral" (question mark in Smith's text)

Apogon townsendi **(Breder 1927)** in honor of Charles H. Townsend (1859–1944), Breder's "chief" at the New York Aquarium

Apogon tricinctus **(Allen & Erdmann 2012)** *tri-* (L.), three; *cinctus* (L.), belted or girdled (but treated as a noun by the authors), referring to three dark bands on middle of body

Apogon unicolor **Steindachner & Döderlein 1883** *uni-*, from *unus* (L.), one, presumably referring to its uniform coloration, i.e., lacking the brown bars of *A. bifasciatus* (=*Apogonichthyoides taeniatus*), with which it had been confused

Apogonichthyoides

Smith 1949

-oides, Neo-Latin from *eī́dos* (εἶδος), form or shape: presumably similar to *Apogonichthys* but with truncated (instead of rounded) caudal fin

Apogonichthyoides atripes **(Ogilby 1916)** *atri-*, from *ater* (L.), black; *pes* (L.), foot (homologous to the ventral fin), referring to its black ventral fins (dorsal and anal fins also black) [replacement name for *Apogon nigripes* Ogilby 1911, preoccupied by *Apogon* (now *Ostorhinchus*) *nigripes* Playfair 1867]

Apogonichthyoides brevicaudatus **(Weber 1909)** *brevis* (L.), short; *caudatus* (L.), tailed, referring to short (in length) but tall (in height) caudal peduncle

Apogonichthyoides cantoris **(Bleeker 1851)** *-is*, Latin genitive singular of: Danish naturalist Theodor Edvard Cantor (1809-1860), for his contributions to the knowledge of fishes from the Strait of Malacca

Apogonichthyoides cathetogramma **(Tanaka 1917)** *catheto-*, from *káthetos* (κάθετος), perpendicular or upright; *gramma*, scientific Neo-Latin derived from *grammḗ* (γραμμή), line or stroke of the pen, presumably

referring to two indefinite broad, dark crossbands on sides of body, both directing "downward and forward" (translation)

Apogonichthyoides chrysurus **(Ogilby 1889)** gold-tailed, from *chrysós* (χρυσός), gold or golden, and *ourá* (οὐρά), tail, referring to "brilliant orange" basal third of caudal fin

Apogonichthyoides enigmaticus **Smith 1961** Latin for obscure or mysterious, reflecting Smith's hesitation to describe it as new in view of the poor condition of the only specimen he has, and his failure to locate others

Apogonichthyoides erdmanni **Fraser & Allen 2011** in honor of marine biologist Mark V. Erdmann (b. 1968), Conservation International, Indonesia Marine Program, who collected and photographed holotype; he has worked closely with the second author and is responsible for numerous new discoveries, resulting from his deep scuba collections around the East Indian region

Apogonichthyoides euspilotus **(Fraser 2006)** well-spotted, from *eū-* (εὖ), well or very, and *spilōtós* (σπιλωτός), marked or stained, referring to multiple darkish spots on body

Apogonichthyoides gardineri **(Regan 1908)** in honor of British zoologist John Stanley Gardiner (1872–1946), who collected many species of Indian Ocean fishes for the British Museum, including holotype of this one

Apogonichthyoides heptastygma **(Cuvier 1828)** *heptá* (ἑπτά), seven; *stygma*, alternate spelling of *stígma* (στίγμα), mark or spot, referring to two black spots on tail and five black spots at base of dorsal fin (these latter spots usually diffuse into aggregates of several small melanophores) [often incorrectly spelled *heptastigma*]

Apogonichthyoides maculipinnis **(Regan 1908)** *macula* (L.), spot; *pinnis*, Neo-Latin adjective of *pinna* (L.), fin, i.e., finned, referring to small dark spots on anal, ventral and soft dorsal fins, and numerous dark "dots" on caudal fin

Apogonichthyoides melas **(Bleeker 1848)** *mélas* (μέλας), black, referring to black body and fin coloration

Apogonichthyoides miniatus **Fraser 2010** Latin for painted with bright or cinnabar red, referring to general coloration of head, body and fins

Apogonichthyoides niger **(Döderlein 1883)** Latin for dark or black, referring to color of dorsal, ventral and anal fins

Apogonichthyoides nigripinnis **(Cuvier 1828)** *niger* (L.), dark or black; *pinnis*, Neo-Latin adjective of *pinna* (L.), fin, i.e., finned, referring to black dorsal and anal fins

Apogonichthyoides opercularis **(Macleay 1878)** Latin for opercular, presumably referring to "margaritaceous patch with a black patch above it" on operculum

Apogonichthyoides pharaonis **(Bellotti 1874)** *-is*, Latin genitive singular

Apogonichthyoides miniatus, holotype, male, 35 mm SL. Photo by Dianne J. Bray. From: Fraser, T. H. 2010. A new deepwater species of the genus Apogonichthyoides (Apogonidae) from the Timor Sea, north-western Australia. aqua, International Journal of Ichthyology 16 (3): 93–100.

of: *pharao*, Latin spelling of *pharaoh*, presumably referring to type locality in the Gulf of Suez, Suez, Egypt

Apogonichthyoides pseudotaeniatus **(Gon 1986)** *pseudo-*, from *pseúdēs* (ψεύδης), false, i.e., although similar in appearance to and previously identified as *A. taeniatus*, such an appearance is false

Apogonichthyoides regani **(Whitley 1951)** in honor of English ichthyologist Charles Tate Regan (1878–1943), Natural History Museum (London), who described this species as *Apogon punctatus* in 1908 but used a preoccupied name: *A. punctatus* (now *Vincentia punctata*) Klunzinger 1879

Apogonichthyoides sialis **(Jordan & Thompson 1914)** from *sialos* (σίᾰλος), a porker or fat pig, or fat (noun), but sometimes used as an adjective (i.e., plump), allusion not explained, perhaps referring to deep body, nearly equal in depth to length of head

Apogonichthyoides taeniatus **(Cuvier 1828)** Latin for banded, referring to longitudinal brown bars on sides

Apogonichthyoides timorensis **(Bleeker 1854)** *-ensis*, Latin suffix denoting place: Timor Island (Nusa Tenggara Timur, Indonesia, eastern Indian Ocean), type locality

Apogonichthyoides umbratilis **Fraser & Allen 2010** Latin for in the shade (i.e., retired or private), referring to its observed cryptic behavior, sheltering between rocks and rubble at least during daylight hours

Apogonichthyoides uninotatus **(Smith & Radcliffe 1912)** *uni-*, from *unus* (L.), one; *notatus* (L.), marked, referring to round blackish blotch midway between lateral line and pectoral fin

Apogonichthys

Bleeker 1854

ichthýs (ἰχθύς), fish, closely related to *Apogon*

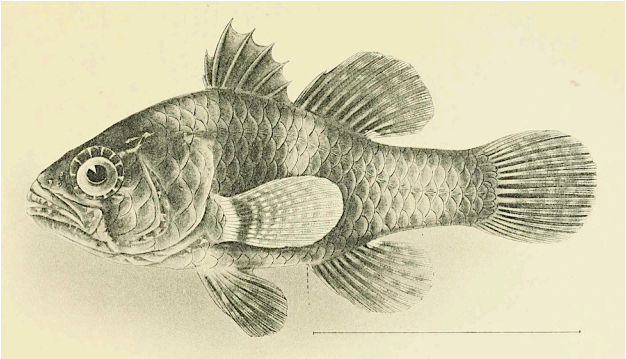
Apogonichthys ahimsa **Whitley 1959** Sanskrit term meaning nonviolence or non-injury, allusion not explained but clearly evoked in Whitley's suggested vernacular name: Gentle Gobbleguts

Apogonichthys landoni **Herre 1934** in honor of Maj. Robert Roberts Landon (1873–1938), engineer who came to Cebu, Philippines, during the Philippine-American War (1899–1902) and co-founded Visayan Electric Company in 1905; Herre described him as a friend, "to whose co-operation I am greatly indebted" [placed in *Foa* by some workers]

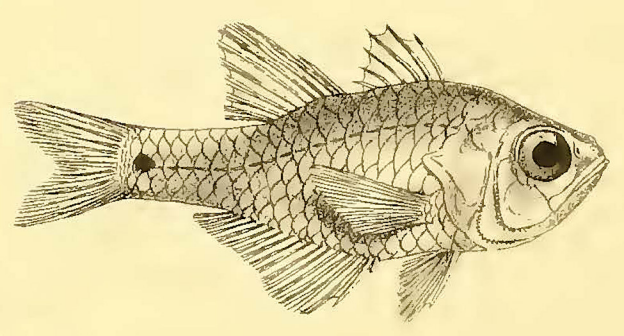
Apogonichthys ocellatus **(Weber 1913)** Latin for having little eyes (ocelli), referring to ocellus (eyespot) on first dorsal fin

Apogonichthys perdix **Bleeker 1854** *Perdix*, genus of gamebirds known collectively as the true partridges, allusion not explained, perhap referring to its partridge-like mottled brown color

Apogonichthys waikiki **Jordan & Evermann 1903** named for Waikiki, Oahu Island, Hawaiian Islands, type locality



First-published image of *Apogonichthys waikiki*, holotype. Illustration by Kako Morita. From: Jordan, D. S. and B. W. Evermann. 1905. The aquatic resources of the Hawaiian Islands. Part I. The shore fishes of the Hawaiian Islands, with a general account of the fish fauna. Bulletin of the U. S. Fish Commission 23 (1) (for 1903): i–xxviii + 1–574, Pls. 1–65, col. Pls. 1–73.



First-published image of *Archamia bleekeri*, as *Apogon notata* Day 1868, a junior synonm. From: Day, F. 1878. The fishes of India; being a natural history of the fishes known to inhabit the seas and fresh waters of India, Burma, and Ceylon. Part 4: i–xx + 553–778, Pls. 139–195.

Archamia

Gill 1863

archós (ἀρχός), anus, i.e., having more anal-fin rays than *Amia*, a nonbinominal name applied to *Apogon* by Gronow (1763), now a commonly used suffix in the family

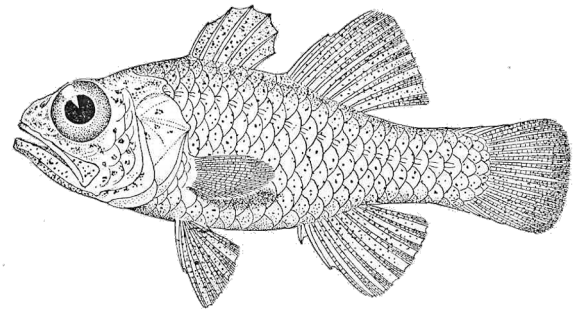
***Archamia bleekeri* (Günther 1859)** in honor of Dutch medical doctor and ichthyologist Pieter Bleeker (1819–1878), who provisionally identified this species as *Apogon macropterus* (=*Taeniamia macroptera*) in 1851

Astrapogon

Fowler 1907

astḗr (ἀστήρ), star, referring to star-like spots (with silver centers) on *A. stellatus*, proposed as a subgenus of *Apogon*

***Astrapogon alutus* (Jordan & Gilbert 1882)** Latinization of *áloutos* (ἄλουτος), unwashed, referring to body and fins "everywhere much soiled and freckled with dark points"



Probably first-published image of *Astrapogon alutus*. Illustration by A. H. Baldwin. From: Jordan, D. S. and B. W. Evermann. 1900. The fishes of North and Middle America: a descriptive catalogue of the species of fish-like vertebrates found in the waters of North America, north of the Isthmus of Panama. Part IV. Bulletin of the United States National Museum No. 47: i–ci + 3137–3313, Pls. 1–392.

***Astrapogon puncticulatus* (Poey 1867)** Latin for dotted, referring to body and fins (except ventral) heavily stippled with black dots

***Astrapogon stellatus* (Cope 1867)** Latin for studded with stars, referring to series of dark brown spots on edges of scales of each row (except lateral line), each with a silver center

Cercamia

Randall & Smith 1988

cerc-, from *kérkos* (κέρκος), tail, referring to elongate tail resulting from unique vertebral count with one fewer abdominal and one more caudal vertebrae than other cardinalfishes; *Amia*, a nonbinominal name applied to *Apogon* by Gronow (1763), now a commonly used suffix in the family

***Cercamia cladara* Randall & Smith 1988** from *kladarós* (κλαδαρός), frail or easily broken, referring to its deciduous scales and weak fin spines

***Cercamia eremia* (Allen 1987)** from *érēmos* (ἔρημος), solitary, referring to its cryptic, solitary habits, in contrast to the sympatric *Verulux cypselurus* and *Rhabdamia gracilis*, which occur in aggregations

Cercamia melanogaster, holotype, 27.3 mm SL. Photo by Mark V. Erdmann. From: Allen, G. R., M. V. Erdmann and A. Mahardini. 2015. *Cercamia melanogaster*, a new species of cardinalfish (Apogonidae) from West Papua, Indonesia. Journal of the Ocean Science Foundation 14: 57–65.

***Cercamia laamu* Fraser, Bogorodsky, Mal & Alpermann 2021** named for Laamu, one of the islands making up the Hadhdhunmathee (Haddhunmathi) Atoll, Maldives, type locality

***Cercamia mascarene* Fraser, Bogorodsky, Mal & Alpermann 2021** named for Mascarene, geographic area in southwestern Indian Ocean where Rodrigues Island (only known area of occurrence) is situated

***Cercamia melanogaster* Allen, Erdmann & Mahardini 2015** *mélanos* (μέλανος), genitive of *mélas* (μέλας), black; *gastḗr* (γαστήρ), belly or stomach, referring to its black abdomen, "the most conspicuous colour pattern feature of this otherwise mainly transparent fish"

***Cercamia spio* Fraser, Bogorodsky, Mal & Alpermann 2021** named for Spio, a mythical sea nymph, daughter of Nereus and Doris, the Nereid of sea caves, referring to its usually being seen in the vicinity of a cave, at depths of 10–30 m

Cheilodipterus

Lacepède 1801

cheílos (χεῖλος), lip, referring to extensible upper lip of *C. lineatus*; *di-*, from *dýo* (δύο), two, and *pterus*, from *pterón* (πτερόν) or *ptéryx* (πτέρυξ), fin, referring to two dorsal fins (common to all cardinalfishes)

***Cheilodipterus alleni* Gon 1993** in honor of American-born Australian ichthyologist Gerald R. Allen (b. 1942), Western Australia Museum (Perth), who collected type specimens and recognized their uniqueness

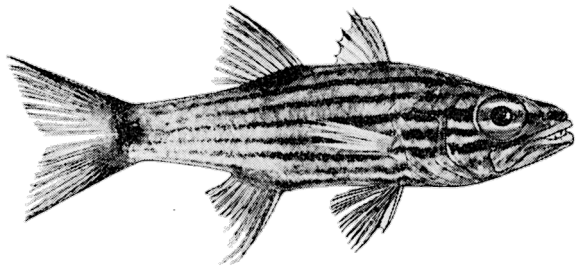
***Cheilodipterus arabicus* (Gmelin 1789)** *-icus* (L.), belonging to: Arabia, described from the Red Sea off Saudi Arabia

***Cheilodipterus artus* Smith 1961** Latin for compressed or close together, presumably referring to how its stripes are closer together compared with *C. lineatus*

***Cheilodipterus heptazona* Bleeker 1849** *heptá* (ἑπτά), seven; *zona* (L.), belt or girdle, referring to seven (actually 8–9) longitudinal stripes on body

***Cheilodipterus intermedius* Gon 1993** Latin for intermediate, referring to its "close relationship" with *C. alleni*, *C. artus* and *C. macrodon*, combining characters of these species

***Cheilodipterus isostigmus* (Schultz 1940)** *ísos* (ἴσος), equal; *stigmus*, from *stígma* (στίγμα) or *stigmḗ* (στιγμή), mark or spot, allusion not



Cheilodipterus artus, holotype. Illustration by Margaret M. Smith. From: Smith, J. L. B. 1961. Fishes of the family Apogonidae of the western Indian Ocean and the Red Sea. Ichthyological Bulletin, Department of Ichthyology, Rhodes University No. 22: 373–418, Pls. 46–52.

explained, perhaps referring to black spot at midbase of caudal-fin rays, which appears to be equal in size to its similarly black eyes

Cheilodipterus lachneri **Klausewitz 1959** in honor of Ernest A. Lachner (1916–1996), curator of fishes, U.S. National Museum, who studied the closely related *C. arabicus* and *C. lineatus* (both of which had been confused with this species) and worked out the essential differences between them

Cheilodipterus lineatus **Lacepède 1801** Latin for lined, referring to 7–10 dark-brown stripes on body

Cheilodipterus macrodon **(Lacepède 1802)** *macro-*, from *makrós* (μακρός), long or large; *odon*, from *odoús* (ὀδούς), tooth, referring to single row of long, sharp teeth on each jaw, longer than villiform teeth of presumed congeners in *Centropomus* (Carangiformes: Centropomidae)

Cheilodipterus nigrotaeniatus **Smith & Radcliffe 1912** *nigro-*, from *niger* (L.), dark or black; *taeniatus* (L.), banded, referring to four black longitudinal stripes in life

Cheilodipterus novemstriatus **(Rüppell 1838)** *novem* (L.), nine; *striatus* (L.), grooved or furrowed (i.e., striped), referring to one longitudinal stripe from above orbit to end of second dorsal fin, and four pairs of stripes on each side, for a total of nine

Cheilodipterus octovittatus **Cuvier 1828** *octo*, from *oktṓ* (ὀκτώ), eight; *vittatus* (L.), banded, referring to eight blackish longitudinal stripes from region of eye to black spot on tail

Cheilodipterus parazonatus **Gon 1993** *pará* (παρά), near, referring to its similar color pattern with that of *C. zonatus*

Cheilodipterus persicus **Gon 1993** *-icus* (L.), belonging to: Persian Gulf, where it appears to be endemic

Cheilodipterus pygmaios **Gon 1993** *pygmaíos* (πυγμαῖος), small or dwarfish, referring to small adult size, up to 50 mm SL, smallest in the genus

Cheilodipterus quinquelineatus **Cuvier 1828** *quinque* (L.), five; *lineatus* (L.), lined, referring to five narrow dark-brown stripes on body

Cheilodipterus singapurensis **Bleeker 1860** *-ensis*, Latin suffix denoting place: Singapore, type locality

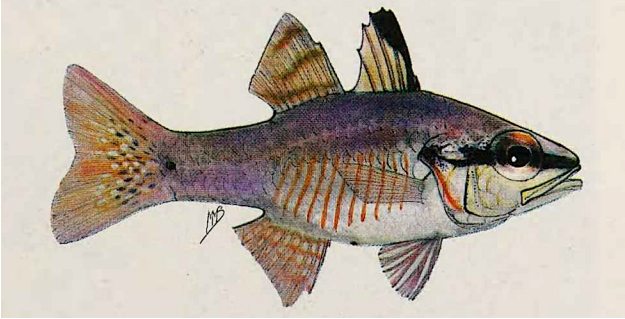
Cheilodipterus subulatus **Weber 1909** scientific Neo-Latin for subulate (slender and tapering to a point), presumably referring to its "lancet-like" (translation) canine teeth

Cheilodipterus zonatus **Smith & Radcliffe 1912** Latin for banded, referring to black stripe around snout through eye to below end of lateral line, a less distinct stripe from above eye to upper caudal-fin base, and trace of a median stripe in front of dorsal fin

Fibramia

Fraser & Mabuchi 2014

fibra (L.) thread or filament, referring to elongate second dorsal-fin spine of *F. thermalis* and narrow, pale or dark mid-line on bodies of *F. amboinensis* and *F. lateralis*; *Amia*, a nonbinominal name applied to *Apogon* by Gronow (1763), now a commonly used suffix in the family



Possibly first-published image of *Fibramia thermalis*, 132 years after its description. Illustration by Margaret M. Smith. From: Smith, J. L. B. 1961. The sea fishes of southern Africa. Fourth Edition. Central News Agency, Ltd. 1–580, Pls. 1–111.

Fibramia amboinensis **(Bleeker 1853)** *-ensis*, Latin suffix denoting place: Ambon Island, Molucca Islands, Indonesia, type locality

Fibramia lateralis **(Valenciennes 1832)** Latin for of the side, presumably referring to fine black line running from shoulder to middle of tail

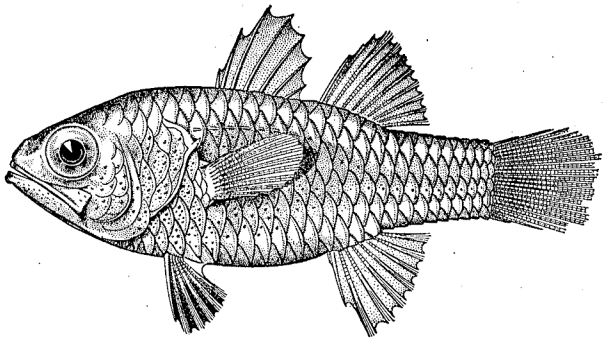
Fibramia thermalis **(Cuvier 1829)** Neo-Latin for of or relating to hot springs or water, referring to occurrence in the warm springs of Cania, Sri Lanka (type locality)

Foa

Jordan & Evermann 1905

from *fō*, Samoan name for cardinalfishes

Foa brachygramma **(Jenkins 1903)** *brachýs* (βραχύς), short; *gramma*, scientific Neo-Latin derived from *grammḗ* (γραμμή), line or stroke of the pen, referring to short lateral line, comprising an anterior portion of ~10 tubes below front of second dorsal fin and a posterior portion of "very rudimentary tubes" at base of caudal fin



Foa brachygramma, holotype, 35 mm SL. Illustration by W. S. Atkinson. From: Jenkins, O. P. 1903. Report on collections of fishes made in the Hawaiian Islands, with descriptions of new species. Bulletin of the U. S. Fish Commission 22 (for 1902): 417–511, Pls. 1–4.

Foa fo **Jordan & Seale 1905** *fō*, Samoan name for cardinalfishes [at just five characters, the shortest binomen of any Recent fish species]

Foa hyalina **(Smith & Radcliffe 1912)** from *hyálinos* (ὑάλινος), of crystal (here meaning glassy or transparent), referring to its "hyalin pearl" ground color in life

Foa leisi **Fraser & Randall 2011** in honor of Jeffrey M. Leis (b. 1949), Australian Museum (Sydney), who led larval-fish research in atolls in French Polynesia, showing that *Foa* and other reef fishes can complete their development within lagoons

Foa longimana **Weber 1909** *longus* (L.), long; *manus* (L.), hand, referring to long pectoral fins, almost as long as body height

Foa madagascariensis **Petit 1931** *-ensis*, Latin suffix denoting place: off Sarodrano, Tuléar, Madagascar, type locality

Foa nivosa **Fraser & Randall 2011** Latin for snowy or full of snow, referring to numerous whitish spots on body

Foa winterbottomi **Fraser 2020** in honor of Zambian-born Canadian ichthyologist Richard Winterbottom (b. 1944), Royal Ontario Museum, who has collected and photographed many species of apogonids and is one of the authors of extensive checklists of fishes from Chagos Archipelago

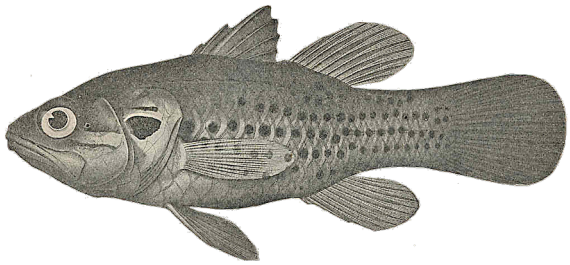
Foa yamba **Fraser 2014** Australian aboriginal name of uncertain meanings, one of which refers to a kind of oyster, the other to the headland near the river mouth, which is the name of the city at the mouth of the Clarence River, New South Wales, type locality

Fowleria

Jordan & Evermann 1903

-ia (L. suffix), belonging to: American ichthyologist Henry Weed Fowler (1878–1965), Academy of Natural Sciences of Philadelphia, and a student of Jordan's at Stanford University

Fowleria amblyuroptera **(Bleeker 1853)** *amblýs* (ἀμβλύς), blunt; *uro*, from *ourá* (οὐρά), tail; *ptera*, from *pterón* (πτερόν) or *ptéryx* (πτέρυξ), fin (here treated as an adjective, finned), presumably referring to blunt



Fowleria isostigma, holotype. From: Jordan, D. S. and A. Seale. 1906. The fishes of Samoa. Description of the species found in the archipelago, with a provisional check-list of the fishes of Oceania. Bulletin of the Bureau of Fisheries 25 (for 1905): 173–488, Pls. 33–53.

and convex shape of caudal fin

***Fowleria aurita* (Valenciennes 1831)** Latin for eared, referring to black spot, surrounded by a circle of silver, on operculum

***Fowleria flammea* Allen 1993** Latin for flaming or fiery (but proposed as a noun, fire), referring to red color pattern in life

***Fowleria isostigma* (Jordan & Seale 1906)** *ísos* (ἴσος), equal; *stígma* (στίγμα), mark or spot, presumably referring to large distinct spots on body, about one on each scale, arranged in regular lines

***Fowleria marmorata* (Alleyne & Macleay 1877)** Latin for marbled, referring to reddish-yellow body "transversely marbled with brown"

***Fowleria polystigma* (Bleeker 1854)** *polý-* (πολύ), many; *stígma* (στίγμα), mark or spot, presumably referring to blackish-brown dots on scales

***Fowleria punctulata* (Rüppell 1838)** diminutive of *punctum* (L.), spot, i.e., having tiny spots, referring to many "closely packed bouquet-green dots" on body (translation)

***Fowleria vaiulae* (Jordan & Seale 1906)** in honor of Vaiula, a Samoan fisherman at Apia, Upolu Island, Samoa Islands, type locality

***Fowleria variegata* (Valenciennes 1832)** Latin for "of different sorts" (particularly colors), referring to reddish body color mottled with "varied cloudy spots" (translation)

Glossamia

Gill 1863

glŏssa (γλῶσσα), tongue, referring to small patch of teeth on tongue of *G. aprion*; *Amia*, a nonbinominal name applied to *Apogon* by Gronow (1763), now a commonly used suffix in the family

***Glossamia abo* (Herre 1935)** local name for this fish at Koragu, Sepik River, New Guinea, type locality

***Glossamia aprion* (Richardson 1842)** ἀ-, privative, i.e., without; *príōn* (πρίων), saw, referring to "total absence of serrations" on preoperculum

***Glossamia arguni* Hadiaty & Allen 2011** named freshwater streams in the Arguni Bay region of West Papua Province, Indonesia, type locality

***Glossamia beauforti* (Weber 1907)** in honor of Weber's colleague Lieven Ferdinand de Beaufort (1879–1968), University of Amsterdam, who illustrated this species while participating in the Dutch North New Guinea Expedition (1903), during which holotype was collected

***Glossamia gillii* (Steindachner 1867)** patronym not identified but almost certainly in honor of American zoologist Theodore Gill (1837–1914), Smithsonian Institution (Washington, D.C.)

***Glossamia gjellerupi* (Weber & de Beaufort 1929)** in honor of Danish health officer Knud Gjellerup (1876–1950), who collected fishes for Weber and de Beaufort (but it is not clear if he collected this one)

***Glossamia heurni* (Weber & de Beaufort 1929)** in honor of Dutch zoologist Willem Cornelis van Heurn (1887–1972), who collected fishes for Weber and de Beaufort in New Guinea (but it is not clear if he collected this one)

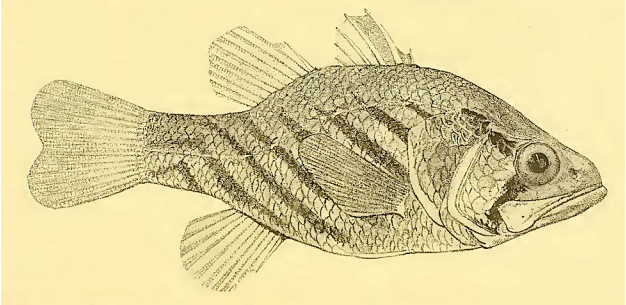
***Glossamia narindica* Roberts 1978** *naris* (L.), nostril; *indica*, India, as in India ink, referring to large, well-defined, intensely black spot immediately ventrolateral to posterior nostril (Tyson R. Roberts, pers. comm.)

***Glossamia sandei* (Weber 1907)** in honor of Dutch army physician and anthropologist Gijsbert van der Sande (1863–1910), who participated in the Dutch North New Guinea Expedition (1903), during which holotype was collected

***Glossamia timika* Allen, Hortle & Renyaan 2000** named for the Timika region of Papua, Indonesia, where it occurs

***Glossamia trifasciata* (Weber 1913)** *tri-* (L.), three; *fasciata* (L.), banded, referring to three transverse bands: between first dorsal and ventral fins, second dorsal and anal fins, and end of caudal peduncle

***Glossamia wichmanni* (Weber 1907)** in honor of German geologist-mineralogist Carl Ernst Arthur Wichmann (1851–1927), who participated in the Dutch North New Guinea Expedition (1903), during which holotype was collected (he also edited the publication in which the description appeared)



Glossamia wichmanni. Illustration by Joan François Obbes. From: Weber, M. 1907. Süsswasserfische von Neu-Guinea. Ein Beitrag zur Frage nach dem früheren Zusammenhang von Neu-Guinea und Australien. *In*: Wichmann, A. (ed.): Nova Guinea. Résultats de l'expédition scientifique Néerlandaise à la Nouvelle-Guinée en 1903. E. J. Brill, Leiden. v. 5 (Zool.) pt 2: 201–267, Pls. 11–13.

Jaydia

Smith 1961

etymology not explained nor evident

***Jaydia albomarginata* (Smith & Radcliffe 1912)** *albus* (L.), white; *marginata* (L.), edged or bordered, referring to white margins on ventral and anal fins, and distinct white lower edge on caudal fin

***Jaydia argyrogaster* (Weber 1909)** *árgyros* (ἄργυρος), white metal (i.e., silver); *gastḗr* (γαστήρ), belly or stomach, referring to subcutaneous silver luster on abdomen (which Weber did not realize is a bioluminescent organ)

***Jaydia carinata* (Cuvier 1828)** Latin for keeled, referring to a succession of small hulls on scales

***Jaydia catalai* (Fourmanoir 1973)** in honor of René Catala (1901–1988), director of the biological station at Nouméa, New Caledonia, who collected holotype

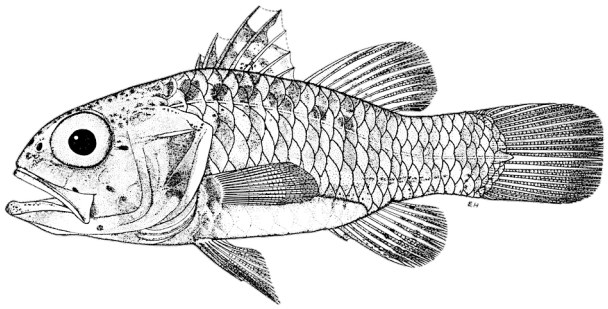
***Jaydia ellioti* (Day 1875)** in honor of British naturalist Walter Elliot (1803–1887), "formerly of the Madras Civil Service, who most liberally placed at my disposal the whole of his beautiful and accurate coloured illustrations of the Fishes of Madras and Waltair which he had had executed by native artists from the fresh specimens," including an illustration of this species

***Jaydia erythrophthalma* Gon, Liao & Shao 2015** red-eyed, from *erythrós* (ἐρυθρός), red, and *ophthalmós* (ὀφθαλμός), eye, referring to its reddish-orange iris

***Jaydia fuscomaculata* (Allen & Morrison 1996)** *fuscus* (L.), dark or dusky; *maculata* (L.), spotted, referring to 3–4 rows of large, irregular brown spots on sides

***Jaydia heraldi* (Herre 1943)** in honor of American ichthyologist Earl S. Herald (1914–1973), an "able and enthusiastic student of pipefishes" (although, of course, this species is not a pipefish)

***Jaydia hungi* (Fourmanoir & Do-Thi 1965)** in honor of Nguyen Dinh



Jaydia photogaster, holotype, 49 mm SL. Illustration by Elaine Heemstra. From: Gon, O. and G. R. Allen. 1998. A new luminous cardinalfish of the genus *Apogon* (Perciformes: Apogonidae) from the western Pacific Ocean. The J.L.B Smith Institute of Ichthyology Special Publication 62: 1–9.

Hung, former director of the Vietnamese Oceanographic Institute, who hired the authors to study the fishes in the Institute's collection, which included holotype of this species

***Jaydia lineata* (Temminck & Schlegel 1843)** Latin for lined, referring to 8–10 brownish vertical lines on body

***Jaydia melanopus* (Weber 1911)** *mélanos* (μέλανος), genitive of *mélas* (μέλας), black; *poús* (πούς), foot (homologous to the ventral fins), referring to its black ventral fins

***Jaydia novaeguineae* (Valenciennes 1832)** of Papua New Guinea, type locality

***Jaydia photogaster* (Gon & Allen 1998)** *phōtō-* (φωτω-), combining form of *phṓs* (φῶς), light; *gastḗr* (γαστήρ), belly or stomach, referring to its "ventral bioluminescent system"

***Jaydia poeciloptera* (Cuvier 1828)** *poecilio-*, from *poikílos* (ποικίλος), varicolored; *ptera*, from *pterón* (πτερόν) or *ptéryx* (πτέρυξ), fin (here treated as an adjective, finned), referring to spots at base of second dorsal fin

***Jaydia quartus* (Fraser 2000)** Latin for fourth, referring to the longest of its seven first-dorsal fin spines

***Jaydia queketti* (Gilchrist 1903)** patronym not identified, probably in honor of London-born conchologist John Frederick Whitlie Quekett (1849–1913), Curator, Durban Museum (South Africa)

***Jaydia smithi* (Kotthaus 1970)** in honor of J. L. B. Smith (1897–1968), South African ichthyologist-chemist, for his 1961 monograph on the apogonids of the Indian Ocean (in which this genus was proposed)

***Jaydia striata* (Smith & Radcliffe 1912)** Latin for striated (marked with long, thin parallel streaks), referring to 10 "bistre" (brown-yellow) bands crossing body

***Jaydia striatodes* (Gon 1997)** *-odes*, alternative spelling of *-oides*, Neo-Latin from *eídos* (εἶδος), form or shape: referring to close resemblance of its color pattern to that of *J. striata*

***Jaydia tchefouensis* (Fang 1942)** *-ensis*, Latin suffix denoting place: Chefoo (Tche-Fou, now known as Yantai), Shantung Province, China, type locality

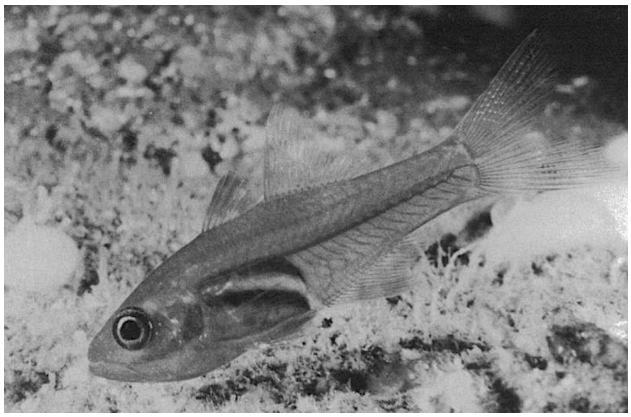
***Jaydia truncata* (Bleeker 1855)** Latin for truncate, referring to its truncated caudal fin compared with most of its presumed congeners in *Apogon*

Lachneratus

Fraser & Struhsaker 1991

-atus (L.), having the nature of: Ernest A. Lachner (1916-1996), i.e., Lachnerian, Curator Emeritus of fishes, U.S. National Museum, for his contributions to the systematics of Indo-West Pacific cardinalfishes

***Lachneratus phasmaticus* Fraser & Struhsaker 1991** Neo-Latin for phantom-like, referring to its "elusive phantomlike nature" (known from single specimens collected in 1964 and 1974, its identity proved elusive until more specimens were located in 1982 and 1983)



Lachneratus pshasmaticus. Photo by John E. Randall. From: Fraser, T. H. and P. J. Struhsaker. 1991. A new genus and species of cardinalfish (Apogonidae) from the Indo-West Pacific, with a key to Apogonine genera. Copeia 1991 (3): 718–722.

Lepidamia

Gill 1863

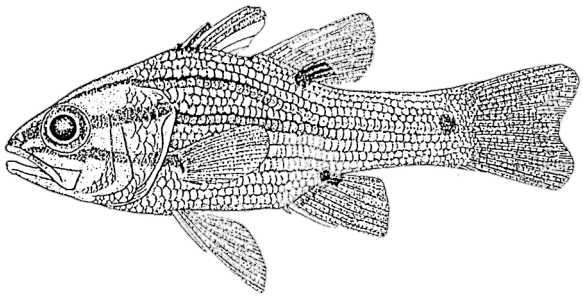
lepídos (λεπίδος), genitive of *lepís* (λεπίς), scale, i.e., having more lateral line scales than *Amia*, a nonbinominal name applied to *Apogon* by Gronow (1763), now a commonly used suffix in the family

***Lepidamia kalosoma* (Bleeker 1852)** *kállos* (κάλλος), beauty; *sṓma* (σῶμα), body, referring to how its golden body is "very beautifully marked" (translation) with two wider and several narrower longitudinal bands

***Lepidamia multitaeniata* (Cuvier 1828)** *multi-* (L.), many; *taeniatus* (L.), banded, referring to multiple brown longitudinal lines on pink body

***Lepidamia natalensis* (Gilchrist & Thompson 1908)** *-ensis*, Latin suffix denoting place: KwaZulu-Natal, South Africa, southwestern Indian Ocean, type locality

***Lepidamia omanensis* (Gon & Mee 1995)** *-ensis*, Latin suffix denoting place: Indian Ocean off Oman, where it appears to be endemic



Lepidamia omanensis, holotype, female, 54.5 mm SL. Illustration by Dave P. Voorvelt. From: Gon, O. 1995. Revision of the cardinalfish subgenus *Lepidamia* (Perciformes, Apogonidae, Apogon). Israel Journal of Zoology 41: 1–22.

Order GOBIIFORMES

Cardinalfishes

Family **APOGONIDAE**

Subfamily APOGONINAE Günther 1859

Part II: *Neamia – Zoramia*

Ostorhinchus pallidus, ~45–50 mm SL. Photo by Gerald R. Allen. From: Allen, G. R. and M. V. Erdmann. 2017. A new species of cardinalfish (*Ostorhinchus*: Apogonidae) from the Solomon Islands. aqua, International Journal of Ichthyology 23 (1): 33–39.

Neamia

Smith & Radcliffe 1912

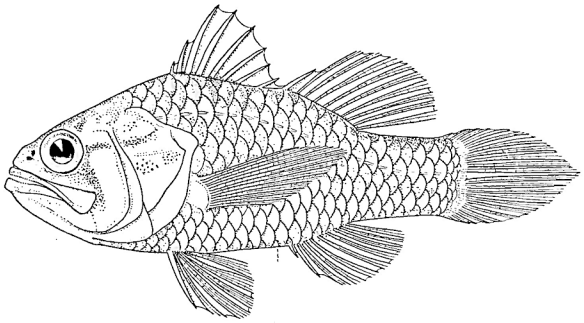
néos (νέος), new; *Amia*, a nonbinominal name applied to *Apogon* by Gronow (1763), now a commonly used suffix in the family, i.e., a new *Amia*

Neamia articycla **Fraser & Allen 2006** *artios* (ἄρτιος), complete or perfect; *cycla*, from *kyklos* (κύκλος), referring to dark spot on opercle, its edge forming a complete or perfect circle

Neamia notula **Fraser & Allen 2001** diminutive of *nota* (L.), mark, referring to spot on opercle

Neamia octospina **Smith & Radcliffe 1912** *octo*, from *oktṓ* (ὀκτώ), eight; *spina* (L.), thorn or spine, referring to eight first-dorsal fin spines, compared with seven on *Fowleria*

Neamia xenica **Fraser 2010** *xenikós* (ξενικός), strange or foreign (i.e., different), referring to its depth of capture more than twice as deep as any other species of *Neamia*



Neamia octospina, holotype. From: Radcliffe, L. 1912. Descriptions of fifteen new fishes of the family Cheilodipteridae, from the Philippine Islands and contiguous waters. Proceedings of the United States National Museum 41 (1868): 431–446, Pls. 34–38.

Nectamia

Jordan 1917

etymology not explained, perhaps *nḗktēs* (νήκτης), swimmer, allusion not evident (*Nectamia* are not particularly strong swimmers); *Amia*, a nonbinominal name applied to *Apogon* by Gronow (1763), now a commonly used suffix in the family

Nectamia annularis **(Rüppell 1829)** Latin for ring-shaped, referring to silver-colored ring around pupil of eye and/or broad black-brown "ring" at base of tail

Nectamia bandanensis **(Bleeker 1854)** *-ensis*, Latin suffix denotin place: Banda Neira (Banda Islands, Indonesia), type locality

Nectamia fusca **(Quoy & Gaimard 1825)** Latin for dusky, dark or swarthy, referring to its brown body color

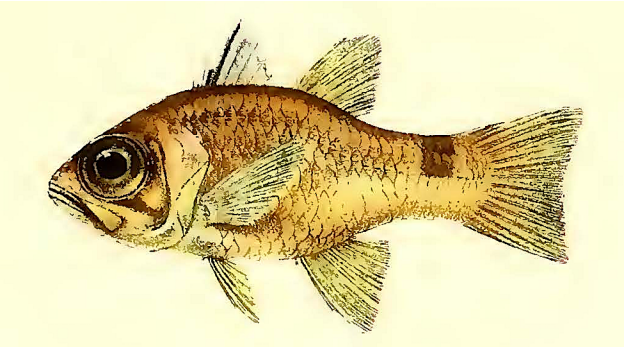
Nectamia ignitops **Fraser 2008** *ignitus* (L.), glowing (of a fire); *ōps* (ὦψ), eye, referring to color of iris

Nectamia luxuria **Fraser 2008** Latin for luxury, extravagance or excess, (i.e., profusion), referring to its numerous pale bars

Nectamia savayensis **(Günther 1872)** *-ensis*, Latin suffix denoting place: Savay (now Savai'i) Island, Samoa, type locality

Nectamia similis **Fraser 2008** Latin for like or similar, referring to pale bars on body similar to *N. luxuria*, and saddles and caudal mark similar to *N. bandanensis*

Nectamia viria **Fraser 2008** Latin for a type of bracelet or armlet often



First-published image of *Nectamia savayensis*. From: Günther, A. 1873, Andrew Garrett's Fische der Südsee. L. Friederichsen & Co., Hamburg. (Band I) Heft I. Journal des Museum Godeffroy 2 (3): i–iv + 1–24, Pls. 1–20.

worn by men in antiquity, referring to band around caudal peduncle

Nectamia zebrina **(Fraser, Randall & Lachner 1999)** derived from the Amharic *zebra*, referring to its zebra-like color pattern ("somewhat variable" dark and light bars on body)

Ostorhinchus

Lacepède 1802

osteo-, from *ostéon* (ὀστέον), bone; *rhynchus*, from *rhýnchos* (ῥύγχος), snout, referring to bony jaws of *O. fleurieu*, very much advanced and jagged, taking the place of teeth

Subgenus ***Ostorhinchus***

Ostorhinchus angustatus **(Smith & Radcliffe 1911)** Latin for narrowed, probably referring to "narrower" interorbital and/or "narrower" stripes compared to *Amia robusta* (=*O. cookii*)

Ostorhinchus aphanes **Fraser 2012** *aphanḗs* (ἀφανής), invisible, secret or unknown (Fraser said obscure), referring to difficulty of identifying this species without carefully examining premaxillary and dentary teeth

Ostorhinchus apogonoides **(Bleeker 1856)** *-oides*, Neo-Latin from *eĭdos* (εἶδος), form or shape: *Apogon*, i.e., related to that genus

Ostorhinchus aroubiensis **(Hombron & Jacquinot 1853)** *-ensis*, Latin suffix denoting place: Aroub, Malaysia, type locality

Ostorhinchus aterrimus **(Günther 1867)** superlative of *ater* (L.), black, i.e., very black, referring to its entirely uniform deep-black coloration

Ostorhinchus atrogaster **(Smith & Radcliffe 1912)** *atro-*, from *ater* (L.), black; *gastḗr* (γαστήρ), belly or stomach, referring to its "jet black" stomach

Ostorhinchus aureus **(Lacepède 1802)** Latin for golden, referring to its "golden copper-red" color (translation)

Ostorhinchus brevispinis **(Fraser & Randall 2003)** *brevis* (L.), short; *spinis*, from *spinus* (L.), thorn, referring to "tiny" first dorsal-fin spine

Ostorhinchus bryx **(Fraser 1998)** *brýx* (βρύξ), the depths of the sea, referring to relatively deep water (146–155 m) from which it was collected

Ostorhinchus capricornis **(Allen & Randall 1993)** *-is* (L.), genitive singular of: Capricorn Group of islands, Great Barrier Reef, Australia, where most known specimens occur

Ostorhinchus cavitensis **(Jordan & Seale 1907)** *-ensis*, Latin suffix denoting place: Cavite (presumably Cavite La Punta, a peninsula), Luzon Island, Philippines, type locality

Ostorhinchus chalcius **(Fraser & Randall 1986)** alternate spelling of *chalceus* (L.), brazen or of brass, referring to its coloration in life, "bronze, becoming coppery on head and base of caudal fin"

Ostorhinchus cheni **(Hayashi 1990)** in honor of Jen-Ping Chen, Institute of Zoology of Academia Sinica, for his studies on the apogonids of Taiwan; he also loaned specimens for study

Ostorhinchus chrysopomus **(Bleeker 1854)** *chrysós* (χρυσός), gold; *pṓma* (πῶμα), lid or cover, i.e., opercle, referring to orange spots on cheek of adults

Ostorhinchus chrysotaenia **(Bleeker 1851)** *chrysós* (χρυσός), gold; *taenia*, from *tainía* (ταινία), band or ribbon, referring to golden lines or bands running from head to tail (in juveniles)

Ostorhinchus cladophilos **(Allen & Randall 2002)** *clado-*, from *kládos* (κλάδος), branch; *philos* (φίλος), friend or fond of, referring to its habit of sheltering among branches of antipatharian and alcyonarian corals as well as sea urchins

Ostorhinchus compressus **(Smith & Radcliffe 1911)** Latin for squeezed or pressed together, referring to its "strongly compressed" body

Ostorhinchus cookii **(Macleay 1881)** patronym not identified but almost certainly in honor of James Cook (1728–1779), British explorer, navigator, cartographer and naval captain, who named the type locality (Endeavour River, Queensland, Australia) after his ship, HMS *Endeavour*, when he was forced to beach it there for repairs in 1770

Ostorhinchus cyanosoma **(Bleeker 1853)** *cyano-*, from *kýanos* (κύανος), dark blue; *sṓma* (σῶμα), body, referring to blue-tinged body color in life (with six orange-yellow stripes)

Ostorhinchus cyanotaenia **(Bleeker 1853)** *cyano-*, from *kýanos* (κύανος), dark blue; *taenia*, from *tainía* (ταινία), band or ribbon, referring to blue longitudinal streaks on head

Ostorhinchus dispar **(Fraser & Randall 1976)** Latin for dissimilar, referring to its unusual shape (somewhat compressed) and body color (semi-transparent pinkish with a narrow reddish midlateral stripe from tip of snout ending in a large red spot on caudal peduncle) compared with presumed congeners in *Apogon*

Ostorhinchus diversus **(Smith & Radcliffe 1912)** Latin for opposite or contrary(i.e., different), a "trim little fish [that] appears to be quite distinct from related forms, distinguishable by its coloration and deep, compressed body"

Ostorhinchus elizabethae **(Jordan & Seale 1905)** a "pretty" species named in honor of Miss Elizabeth Putnam (no other information available), for her "deep interest in biological research"

Ostorhinchus doederleini **(Jordan & Snyder 1901)** in honor of German zoologist Ludwig Döderlein (1855–1936), formerly connected with the Imperial University at Tokyo, for his "assiduous" work on the fishes of Japan

Ostorhinchus endekataenia **(Bleeker 1852)** *éndeka* (ένδεκα), eleven; *taenia* (L.), from *tainía* (ταινία), band or ribbon, referring to 11 blackish longitudinal bands on body

Ostorhinchus fasciatus **(Shaw 1790)** Latin for banded, referring to longitudinal brown bands on body

Ostorhinchus flagelliferus **Smith 1961** *flagellum*, diminutive of *flagrum* (L.), whip; *ferus*, from *fero* (L.), to have or bear, referring to its "usually" filamentous second dorsal-fin ray

Ostorhinchus flavus **(Allen & Randall 1993)** Latin for yellow, referring to the color that covers most of its body

Ostorhinchus fleurieu **Lacepède 1802** in honor of "celebrated" colleague and friend Charles Pierre Claret, comte de Fleurieu (1738–1810), French explorer and hydrographer, "for his [published] works, which have enriched navigators, geographers and naturalists, and especially for his recently published and beautiful" *Nomenclature of the Oceans* (translations) [a noun in apposition, without the genitive "*i*"]

Ostorhinchus franssedai **(Allen, Kuiter & Randall 1994)** in honor of Franciscus "Frans" Seda (1926–2009), Indonesian politician, government minister, and owner of Flores Sao Wisata Resort (near outer Maumere Bay, Flores, Indonesia, type locality), who encouraged the study of Maumere Bay fishes and provided logistical support during the authors' visits

Ostorhinchus fukuii **(Hayashi 1990)** in honor of Syojiro Fukui, Japan Ichthyological Society, who collected holotype

Ostorhinchus griffini **(Seale 1910)** in honor of American herpetologist Lawrence Edmonds Griffin (1874–1949), who collected holotype

Ostorhinchus gularis **(Fraser & Lachner 1984)** Neo-Latin for throated or of the throat, referring to position of anus, which approaches the thoracic region

Ostorhinchus hartzfeldii **(Bleeker 1852)** in honor of German physician Joseph Hartzfeld (1815–1885), Principal Medical Officer of the Royal Dutch East Indies Army, whose collections, Bleeker said, improved the scientific knowledge of Ambon Island's fish fauna

Ostorhinchus hoevenii **(Bleeker 1854)** in honor of Bleeker's Dutch colleague, zoologist Jan van der Hoeven (1801–1868)

Ostorhinchus holotaenia **(Regan 1905)** *hólos* (ὅλος), whole or entire; *taenia*, from *tainía* (ταινία), band or ribbon, referring to black bands on body, one of which runs entire length of body, from tip of snout through eye and along middle of side to end of caudal fin (in contrast to shorter bands on the similar *O. fasciatus*)

Ostorhinchus ishigakiensis **(Ida & Moyer 1974)** *-ensis*, Latin suffix denoting place: Ishigaki-jima, Ryukyu Islands, Japan, type locality

Ostorhinchus jenkinsi **(Evermann & Seale 1907)** in honor of Oliver Peebles Jenkins (1850–1935), physiology professor, Stanford University (California, USA), who also worked as an ichthyologist, describing *Pristiapogon menesemus* in 1903

Ostorhinchus kiensis **(Jordan & Snyder 1901)** *-ensis*, Latin suffix denoting place: Wakanoura, Kii Province (now Wakayama Prefecture), Japan, type locality ("one of the richest collecting grounds for fishes yet known in any part of the world")

Ostorhinchus komodoensis **(Allen 1998)** *-ensis*, Latin suffix denoting place: Rinca Island, Komodo Island Group, Indonesia, type locality

Ostorhinchus leptofasciatus **(Allen 2001)** *leptós* (λεπτός), thin or slender; *fasciatus* (L.), banded, referring to narrow black stripes on upper body

Ostorhinchus leslie **Schultz & Randall 2006** in honor of Leslie Whaylen Clift (b. 1970), aquatic scientist and environmental planner, who discovered this species while diving, realized it was undescribed, and persisted in making sure specimens and photographs were obtained [a noun in apposition, without the genitive "*ae*"]

Ostorhinchus limenus **(Randall & Hoese 1988)** Latinization of *limēn* (λιμήν), harbor or refuge, referring to its frequent occurrence in harbors and bays

Ostorhinchus lineomaculatus **(Allen & Randall 2002)** *lineo*, from *linea* (L.), line; *maculatus* (L.), spotted, referring to narrow black stripe along middle of side and large black spot at base of caudal fin

Ostorhinchus luteus **(Randall & Kulbicki 1998)** Latin for yellow, referring to its coloration in life

Ostorhinchus maculiferus **(Garrett 1864)** *macula* (L.), spot; *fero* (L.), to have or bear, referring to longitudinal rows of small olivaceous spots on upper ⅔ of body

Ostorhinchus margaritophorus **(Bleeker 1855)** *margarita* (L.), pearl; *phorus*, from *phoreús* (φορεύς), bearer or carrier, allusion not explained, perhaps referring to row of white spots between midlateral reddish stripes

Ostorhinchus melanoproctus **(Fraser & Randall 1976)** *mélanos* (μέλανος), genitive of *mélas* (μέλας), black; *proctus*, from *prōktós* (πρωκτός), anus, referring to black pigment that completely surrounds anus

Ostorhinchus microspilos **(Allen & Randall 2002)** *micro-*, from *mikrós* (μικρός), small; *spílos* (σπίλος), mark or spot, referring to unusually small dark spot at midbase of caudal fin

Ostorhinchus moluccensis **(Valenciennes 1832)** *-ensis*, Latin suffix denoting place: Molucca (Maluku) Islands, Indonesia, type locality

Ostorhinchus monospilus **(Fraser, Randall & Allen 2002)** *mono-*, from *mónos* (μόνος), one or single; *spilus*, from *spílos* (σπίλος), mark or spot, referring to single whitish or yellowish spot behind posterior base of second dorsal fin in life

Ostorhinchus multilineatus **(Bleeker 1874)** *multi-* (L.), many, *lineatus* (L.), lined, referring to numerous narrow, dark-brown stripes on body

Ostorhinchus mydrus **(Jordan & Seale 1905)** *mýdros* (μύδρος), an anvil or lump of metal, allusion not explained, perhaps referring to its bluish-black color in spirits

Ostorhinchus nanus **(Allen, Kuiter & Randall 1994)** Latin for a dwarf, referring to its small size, up to 30 mm SL

Ostorhinchus nigripes **(Playfair 1867)** *nigro-*, from *niger* (L.), dark or black; *pes* (L.), foot (homologous to the ventral fin), referring to black ventral fins

Ostorhinchus nigrocincta **(Smith & Radcliffe 1912)** *nigro-*, from *niger* (L.), dark or black; *cincta* (L.), belted or girdled, presumably referring to a "narrow black girdle" that encircles caudal peduncle at base of caudal fin

Ostorhinchus nigrofasciatus **(Lachner 1953)** *nigro-*, from *niger* (L.), dark or black; *fasciatus* (L.), banded, referring to five horizontal black stripes

Ostorhinchus norfolcensis **(Ogilby 1888)** *-ensis*, Latin suffix denoting place: Norfolk Island (between Australia, New Zealand and New Caledonia), type locality

Ostorhinchus notatus **(Houttuyn 1782)** Latin for marked, referring to a round jet-black spot on each side of nape and at base of caudal fin

Ostorhinchus noumeae **(Whitley 1958)** of Nouméa, New Caledonia, type locality

Ostorhinchus novemfasciatus **(Cuvier 1828)** *novem* (L.), nine; *fasciatus* (L.), banded, referring to nine black longitudinal bands, one on back, three on each side, and two under the body

Ostorhinchus ocellicaudus **(Allen, Kuiter & Randall 1994)** diminutive of *oculus* (L.), eye (but here meaning eyespot); *caudus* (L.), tail, referring to large ocellated black spot covering most of caudal-fin base

Ostorhinchus oxina **(Fraser 1999)** Greek (ὀξίνα) for rake or harrow, referring to vertical bars on side reaching stripe on upper body

Ostorhinchus oxygrammus **(Allen 2001)** *oxýs* (ὀξύς), sharp or pointed; *grammus*, scientific Neo-Latin derived from *grammḗ* (γραμμή), line or stroke of the pen, referring to intense black stripe from edge of eye to end of caudal-fin rays, tapering to a point on caudal fin

Ostorhinchus pallidofasciatus **(Allen 1987)** *pallidus* (L.), pale; *fasciatus* (L.), banded, referring to "faint, nearly indistinguishable" pattern of 4–6 stripes on sides

Ostorhinchus pallidus **Allen & Erdmann 2017** Latin for pale, referring to overall color pattern, in contrast with its similar but more vividly patterned relative *O. lineomaculatus*

Ostorhinchus pleuron **(Fraser 2005)** Latin for rib, referring to dark rib-like markings extending below mid-line stripe on body

Ostorhinchus properuptus **(Whitley 1964)** etymology not explained, perhaps *prope* (L.), near, and *ruptus* (L.), broken, referring to yellow stripes on head and body, the first stripe running half-way along posterior dorsal-fin rays, "broken up" into a row of dark patches on the membranes

Ostorhinchus pselion **(Randall, Fraser & Lachner 1990)** *psélion* (ψέλιον), an armlet worn by the Persians, referring to a ring of black around posterior caudal peduncle, its most distinctive color marking

Ostorhinchus quinquestriatus **(Regan 1908)** *quinque* (L.), five; *striatus*

(L.), grooved or furrowed (i.e., striped), referring to dorsal, ventral and three lateral stripes across body

Ostorhinchus radcliffei **(Fowler 1918)** in honor of American ichthyologist-malacologist Lewis Radcliffe (1880–1950), scientific assistant for the U.S. Bureau of Fisheries, who studied the cardinalfishes of the Philippines

Ostorhinchus regula **(Fraser & Randall 2003)** Latin for a straightedge or rule (authors say ruler, measure or pattern), referring to a re-occurring pattern of alternating three broad (darker) stripes and three (lighter) narrow stripes on caudal peduncle (a pattern shared with many dark-striped congeners)

Ostorhinchus relativus **(Randall 2001)** Latin for related or akin to, referring to its similarity to *O. angustatus*, a common, wide-ranging species in the Indo-Pacific, but not found in the Marquesas, where this species occurs

Ostorhinchus rubrimacula **(Randall & Kulbicki 1998)** *ruber* (L.), red; *macula* (L.), mark or spot, referring to red spot at base of caudal fin

Ostorhinchus rueppellii **(Günther 1859)** patronym not identified but almost certainly in honor of German explorer-naturalist Eduard Rüppell (1794–1884), who described several apogonids in his 1828-30 work on Red Sea fishes

Ostorhinchus schlegeli **(Bleeker 1855)** in honor of German ornithologist-herpetologist Hermann Schlegel (1804–1884), author, along with Coenraad Jacob Temminck, of the *Fauna Japonica* monograph series (1833–1850), in which this species was reported as *Apogon* (now *Ostorhinchus*) *novemfasciatus*

Ostorhinchus sealei **(Fowler 1918)** in honor of American ichthyologist Alvin Seale (1871–1958), Stanford University, for his work on Philippine fisheries

Ostorhinchus selas **(Randall & Hayashi 1990)** *sélas* (σέλας) light, flash or meteor, referring to Japanese common name, *Nagareboshi*, which means "shooting star"

Ostorhinchus semilineatus **(Temminck & Schlegel 1843)** *semi-*, from *semis* (L.), a half or moiety; *lineatus* (L.), lined, presumably referring to blackish line on upper part of body that extends from head to just beyond origin of second dorsal fin

Ostorhinchus septemstriatus **(Günther 1880)** *septem* (L.), seven; *striatus*, (L.), grooved or furrowed (i.e., striped), referring to three well-defined narrow black streaks on each side, and a seventh stripe running along median line of head and nape

Ostorhinchus sinus **(Randall 2001)** Latin for bay or gulf, referring to its being found only in well-protected bays

Ostorhinchus spilurus **(Regan 1905)** *spílos* (σπίλος), mark or spot; *ourá* (οὐρά), tail, referring to blackish spot on each side at base of caudal fin

Ostorhinchus taeniophorus **(Regan 1908)** *taenia*, from *tainía* (ταινία), band or ribbon; *phorus*, from *phoreús* (φορεύς), bearer or carrier, referring to four dark longitudinal stripes on sides

Ostorhinchus unitaeniatus **(Allen 1995)** *uni-*, from *unus* (L.), one; *taeniatus* (L.), banded, referring to relatively narrow midlateral brown stripe from upper edge of preopercle to base of caudal fin, tapering in width posteriorly

Ostorhinchus urostigmus **(Bleeker 1874)** *uro*, from *ourá* (οὐρά), tail; *stigmus*, from *stígma* (στίγμα), mark or spot, referring to large brown spot on tail above lateral line [placed in *Pristiapogon* by some workers]

Ostorhinchus victoriae **(Günther 1859)** of Victoria, type locality, referring to Province of Victoria, a name given in the 1840s to a large area between Perth and Carnarvon in Western Australia

Ostorhinchus wassinki **(Bleeker 1861)** in honor of Geerlof Wassink (1811–1864), Dutch physician and military officer, chief of the medical service in the Dutch East Indies (based on Bleeker's description of *Homalopteroides wassinkii* [Cypriniformes: Balitoridae], Wassink may have sent or made holotype available]

Ostorhinchus wilsoni **(Fowler 1918)** in honor of botanist William Powell Wilson (1844–1927), Director, Commercial Museums of Philadelphia, who made his institution's collection of Philippine fishes available to Fowler

Ostorhinchus yamato **Yoshida, Hayashi & Motomura 2018** early historic name for Japan, referring to its currently being known only from Japanese waters

Subgenus ***Brephamia***

Jordan 1922

brephos (βρέφος), infant, baby, or young child, referring to small size (and perhaps juvenile appearance) of the neotenic *O. parvulus*; *Amia*, a nonbinominal name applied to *Apogon* by Gronow (1763), now a commonly used suffix in the family

Ostorhinchus neotes **(Allen, Kuiter & Randall 1994)** *neótes* (νεότη) youth, referring to juvenile appearance of this neotenic species

Ostorhinchus parvulus **(Smith & Radcliffe 1912)** diminutive of *parvus* (L)., small, referring to its size (described at 3.9 cm in length)

Ozichthys

Fraser 2014

Oz, colloquial English name for *Australia*, referring to restricted distribution to tropical marine waters of Australia and southern New Guinea; *ichthýs* (ἰχθύς), fish

Ozichthys albimaculosus **(Kailola 1976)** *albus* (L.), white; *maculatus* (L.), spotted, referring to distinctive rows of large white spots on body

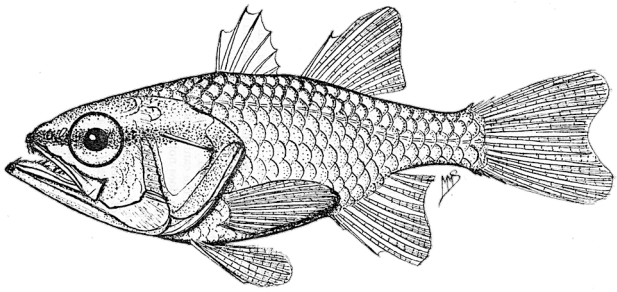
Ozichthys albimaculosus, holotype, 66 mm SL. From: Kailola, P. J. 1976. A new species of cardinalfish (Apogonidae) from northern Queensland and Papua New Guinea. Records of the Australian Museum 30 (8): 129–136.

Paroncheilus

Smith 1964

etymology not explained nor evident, perhaps *paron*, a variation of *pará* (παρά), near or beside, and *cheĩlos* (χεῖλος), lip, perhaps referring to presumed relationship (based on pattern of dentition) with *Cheilodipterus*

Paroncheilus affinis **(Poey 1875)** Latin for related, i.e., allied to *Cheilodipterus macrodon*, its presumed congener at the time



Possibly first-published image of *Paroncheilus affinis* (as *P. stauchi*, a junior synonym), 89 years after its description. Illustration by Margaret M. Smith. From: Smith, J. L. B. 1964. A new apogonid fish from deeper water of the Gulf of Guinea. Annals and Magazine of Natural History (Series 13) 6 (70) (for 1963): 621–624.

First-published image of *Phaeoptyx conklini*. From: Silvester, C. F. 1918. Fishes new to the fauna of Porto Rico, with descriptions of eight new species. Carnegie Institution of Washington Publications 252: 19–24, Pls. 1–4.

Phaeoptyx

Fraser & Robins 1970

phaiós (φαιός), dark or gray (authors say brown); *ptýx* (πτύξ), layer or fold, referring to two important characters of the genus (then consisting of *P. pigmentaria*, *Paroncheilus affinis* and *Apogon imberbis*): brown color and posteroventral fleshy flap on preopercle

***Phaeoptyx conklini* (Silvester 1915)** in honor of American embryologist Edwin Grant Conklin (1863–1952)

***Phaeoptyx pigmentaria* (Poey 1860)** scientific Neo-Latin for having dots or points on the skin, referring to small black dots on body, most distinct on jaws and cheeks

***Phaeoptyx xenus* (Böhlke & Randall 1968)** *xénos* (ξένος), guest, stranger or foreigner, referring to its habit of living in sponges

Pristiapogon

Klunzinger 1870

pristis, from *prístēs* (πρίστης), sawyer (but here likely meaning saw), referring to serrated preopercular ridge of *P. fraenatus*; proposed as a subgenus of *Apogon*

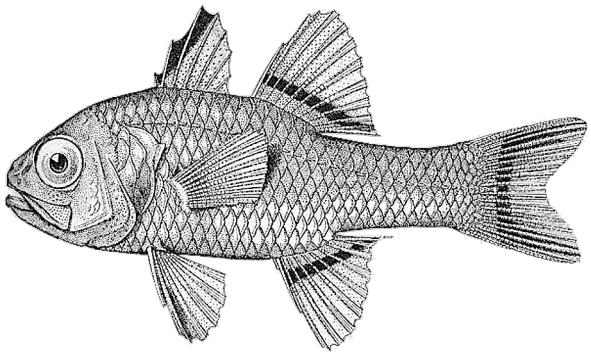
***Pristiapogon abrogramma* (Fraser & Lachner 1985)** *abro-*, from *abrogare* (L.), to repeal or evade; *gramma*, from *grammḗ* (γραμμή), line or stroke of the pen, referring to faint lateral line

***Pristiapogon exostigma* (Jordan & Starks 1906)** *éxō* (ἔξω), outer or external; *stígma* (στίγμα), mark or spot, presumably referring to conspicuous round black spot on caudal peduncle at base of caudal-fin rays

***Pristiapogon fraenatus* (Valenciennes 1832)** Latin for bridled, referring to black lateral band that extends through eye and across muzzle, connecting to band on opposite side

***Pristiapogon kallopterus* (Bleeker 1856)** *kállos* (κάλλος), beauty; *pterus*, from *pterón* (πτερόν) or *ptéryx* (πτέρυξ), fin, presumably referring to yellow anterior margin on first dorsal fin

***Pristiapogon menesemus* (Jenkins 1903)** *mēnē* ((μήνη), moon; *semus*, from *sēma* (σῆμα), sign, mark or token, referring to "crescent-shaped" black band at base of caudal fin



Pristiapogon menesemus. Illustration by W. S. Atkinson. From: Jenkins, O. P. 1903. Report on collections of fishes made in the Hawaiian Islands, with descriptions of new species. Bulletin of the U. S. Fish Commission 22 (for 1902): 417–511, Pls. 1–4.

***Pristiapogon taeniopterus* (Bennett 1836)** ribbon-finned, from *tainía* (ταινία), band or ribbon, and *pterón* (πτερόν) or *ptéryx* (πτέρυξ), wing or fin, referring to black band on upper and lower margins of caudal fin

Pristicon

Fraser 1972

pristis, from *prístēs* (πρίστης), sawyer (but here likely meaning saw), referring to serrated bones on head; *icon*, from *eikṓn* (εἰκών), image or resemblance, referring to similarity with *Pristiapogon*

***Pristicon rhodopterus* (Bleeker 1852)** *rhódon* (ῥόδον), rose; *pterus*, from *pterón* (πτερόν) or *ptéryx* (πτέρυξ), wing or fin, presumably referring to its "red and orange" (translation) fins (which appear pale to slightly dusky in contemporary photos of living specimens)

***Pristicon rufus* (Randall & Fraser 1999)** Latin for red or reddish, referring to its ground color in life

Pristicon rufus, holotype, 67.5 mm SL. From: Randall, J. E. and T. H. Fraser. 1999. Clarification of the western Pacific cardinalfish species *Apogon trimaculatus* and *A. rhodopterus*, with decription of a similar new species. Raffles Bulletin of Zoology 47 (2): 617–633.

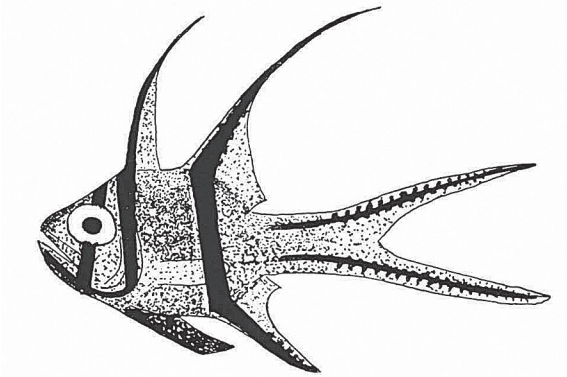
***Pristicon trimaculatus* (Cuvier 1828)** *tri-* (L.), three; *maculatus* (L.), spotted, referring to three clusters of black spots, one under each dorsal fin and a third one on tail

Pterapogon

Koumans 1933

ptera, from *pterón* (πτερόν) or *ptéryx* (πτέρυξ), wing or fin, presumably referring to long dorsal, anal and caudal fins; *Apogon*, type genus of family

***Pterapogon kauderni* Koumans 1933** in honor of Swedish herpetologist Walter Kaudern (1881–1942), who collected holotype



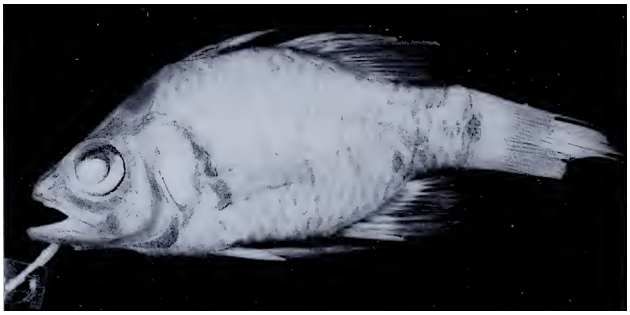
Pterapogon kauderni. From: Koumans, F. P. 1933. On a new genus and species of Apogonidae. Zoologische Mededeelingen (Leiden) 16 (1–2): 78, Pl. 1.

Quinca

Mees 1966

etymology not explained, perhaps a Latinization of the Spanish *quince*, 15, referring to 15 rays on second dorsal fin (one spine and 14 soft rays)

***Quinca mirifica* Mees 1966** Latin for wonderful or strange (i.e., different), showing "aberrant characters," namely, having 14 soft rays in second dorsal fin whereas other apogonids known at the time have 10



Quinca mirifica, holotype, 80 mm SL. From: Mees, G. F. 1966. A new fish of the family Apogonidae from tropical Western Australia. Journal of the Royal Society of Western Australia 49 (3): 83–84.

Rhabdamia

Weber 1909

rhábdos (ῥάβδος), rod, wand or staff, referring to long and numerous (~22) gill rakers of *R. clupeiformis* (=*gracilis*); *Amia*, a nonbinominal name applied to *Apogon* by Gronow (1763), which this genus resembles

Subgenus ***Rhabdamia***

***Rhabdamia gracilis* (Bleeker 1856)** Latin for thin or slender, referring to its slender and elongate (for an apogonid) body

***Rhabdamia novaluna* Yoshida, Mabuchi & Motomura 2018** *nova*, feminine nominative singular of *novus* (L.), new; *luna* (L.), moon, referring to subdermal black blotch or spot on lower caudal peduncle

Rhabdamia novaluna, paratype, 29.6 mm SL. From: Yoshida, T., K. Mabuchi and H. Motomura. 2018. *Rhabdamia novaluna*, a new species of cardinalfish (Perciformes: Apogonidae) from the western Pacific Ocean, with comments on the synonymy of *Rhabdamia gracilis*. Ichthyological Research 66 (1): 129–139.

***Rhabdamia spilota* Allen & Kuiter 1994** from *spilōtós* (σπιλωτός), marked or stained (but treated as a noun, spot), referring to distinctive spot above pectoral fin

Subgenus ***Bentuviaichthys***

Smith 1961

in honor of Polish-born Israeli ichthyologist Adam Ben-Tuvia (1919–1999), Hebrew University of Jerusalem, who provided holotype of *R. nigrimentum* and declined Smith's invitation to describe it; *ichthýs* (ἰχθύς), fish

***Rhabdamia nigrimentum* (Smith 1961)** *nigri-*, from *niger* (L.), dark or black; *mentum* (L.), chin, presumably referring to "conspicuously black" tip of lower jaw

Siphamia

Weber 1909

síphōn (σίφων), pipe or tube, referring to silvery dusky tubiform gland of *S. tubifer*, running from beneath tongue, along lower sides of body, past vent, almost to caudal-fin base (later discovered to be bioluminescent); *Amia*, a nonbinominal name applied to *Apogon* by Gronow (1763), now a commonly used suffix in the family

***Siphamia arabica* Gon & Allen 2012** *-ica* (L.), belonging to; Arabian Peninsula (Oman and United Arab Emirates), where type specimens were collected

***Siphamia argentea* Lachner 1953** Latin for silvery, referring to its lateral body color

***Siphamia arnazae* Allen & Erdmann 2019** in honor of the second author's wife Arnaz Mehta, who discovered this fish while diving in

Siphamia arnazae, holotype, female, 21.4 mm SL. Photo by Mark V. Erdmann. From: Allen, G. R. and M. V. Erdmann. 2019. *Siphamia arnazae*, a new species of cardinalfish (Teleostei: Apogonidae) from Papua New Guinea. Journal of the Ocean Science Foundation 33: 1–8.

December 2016

***Siphamia brevilux* Gon & Allen 2012** *brevis* (L.), short; *lux* (L.), light, referring to length of light organ, the shortest for the genus and an essential character for separating this species from its nearest relatives

***Siphamia cephalotes* (Castelnau 1875)** Latinization of *kephalotos* (κεφαλωτός), headed, presumably referring to its prominent head, "not contained three times" in TL

***Siphamia corallicola* Allen 1993** *-cola* (L.), dweller or inhabitant, i.e., coral-dwelling, referring to its habitat

***Siphamia cuneiceps* Whitley 1941** *cuneus* (L.), wedge; *-ceps* (Neo-Latin), headed, referring to wedge-shaped head

***Siphamia cyanophthalma* Gon & Allen 2012** blue-eyed, from *kýanos* (κύανος), dark blue (but here meaning blue in general), and *ophthalmós* (ὀφθαλμός), eye, referring to pair of blue stripes through eye, an excellent field character for its recognition

***Siphamia elongata* Lachner 1953** Latin for prolonged, referring to its "comparatively slender" body

***Siphamia fistulosa* (Weber 1909)** scientific Neo-Latin for full of pipes (i.e., tubes), referring to 11–13 tubed lateral-line scales

***Siphamia fraseri* Gon & Allen 2012** in honor of Thomas H. Fraser, Mote Marine Laboratory (Sarasota, Florida, USA), for his numerous contributions to our knowledge of apogonid systematics

***Siphamia fuscolineata* Lachner 1953** *fuscus* (L.), dark or dusky; *lineata* (L.), lined, referring to dark brown stripes on body

***Siphamia goreni* Gon & Allen 2012** in honor of Israeli ichthyologist Menachem Goren, Tel-Aviv University, who collected holotype, for his contribution to our knowledge of Red Sea fishes

***Siphamia guttulata* (Alleyne & Macleay 1877)** diminutive of *guttata* (L.), dotted, referring to silvery body "speckled all over with minute black dots"

***Siphamia jebbi* Allen 1993** in honor of Irish botanist Matthew Jebb (b. 1958), Director, Christensen Research Institute (Madang Province, Papua New Guinea), for lab equipment, boats, diving assistance, and funding for Allen's research

***Siphamia majimai* Matsubara & Iwai 1958** in honor of shell collector Toyohiko Majima, who helped the authors with their ichthyological collections at Ankyaba and Urasokari (type locality), Amami Oshima Island, Japan

***Siphamia mossambica* Smith 1955** *-ica* (L.), belonging to: Mozambique, western Indian Ocean, type locality

***Siphamia papuensis* Gon, Allen, Erdmann & Gouws 2014** *-ensis*, Latin suffix denoting place: West Papua Province, Indonesia, type locality

***Siphamia permutata* Klausewitz 1966** Latin for altered or changed, presumably referring to how it changes colors when chased and captured, and/or to "very different" (translation) coloration between living and preserved specimens

***Siphamia randalli* Gon & Allen 2012** in honor of American ichthyologist

John E. Randall (1924–2020), Bishop Museum (Honolulu), for "numerous and noteworthy" contributions to our knowledge of reef-fish taxonomy, and "a genuine inspiration to everyone in the field of ichthyology"; moreover, his *Siphamia* collections and specimen photographs, including this species, formed an essential part of the authors' revision

Siphamia roseigaster **(Ramsay & Ogilby 1887)** *roseus* (L.), rosy or pink; *gastḗr* (γαστήρ), belly or stomach, referring to "roseate" lower part of body

Siphamia senoui **Gon & Allen 2012** in honor of Hiroshi Senou, Kanagawa Prefectural Museum of Natural History, who, in collaboration with various Japanese colleagues, is largely responsible for a marked increase in our knowledge of tropical reef fishes occurring in southern Japan and the adjacent Ryukyu Archipelago; he also collected and photographed holotype and most paratypes of this species

Siphamia spinicola **Gon & Allen 2012** *spina* (L.), thorn or spine; *-cola* (L.), dweller or inhabitant, referring to its habit of living among the spines of echinoderms

Siphamia stenotes **Gon & Allen 2012** *stenótes* (στενότης), narrowness, referring to its dark body stripes, which are the narrowest of any of the striped species in the genus

Siphamia tubifer **Weber 1909** *tubus* (L.), pipe or tube; *-ifer*, from *fero* (L.), to have or bear, to have or bear, referring to silvery dusky tubiform gland running from beneath tongue, along lower sides of body, past vent, almost to caudal-fin base (later discovered to be bioluminescent)

Siphamia tubulata **(Weber 1909)** Latin for formed like a pipe or tubular, referring to silvery subcutaneous tube that runs across both side of body from above anus to end of tail (later discovered to be bioluminescent)

Siphamia versicolor **(Smith & Radcliffe 1911)** Latin for variegated or of various colors, described as "black as in deep-sea fishes" when first taken from the water, and paler later, with reddish shades and vermilion paired fins

Siphamia zaribae **Whitley 1959** of a zariba, a fence made of thorns, referring to its occurrence between the spines of a sea urchin (per Whitley in a follow-up publication later that year)

Sphaeramia

Fowler & Bean 1930

sphaero-, from *sphaĩra* (σφαῖρα), ball, referring "spherical profile" of *S. nematoptera*; *Amia*, a nonbinominal name applied to *Apogon* by Gronow (1763), now a commonly used suffix in the family

Sphaeramia nematoptera **(Bleeker 1856)** *nḗmatos* (νήματος), threaded; *ptera*, from *pterón* (πτερόν) or *ptéryx* (πτέρυξ), wing or fin, referring to first and second rays of second dorsal fin produced into filaments

Probably first-published image of *Sphaeramia nematoptera*. Illustration by Ludwig Speigler. From: Bleeker, P. 1871–76. Atlas ichthyologique des Indes Orientales Néêrlandaises, publié sous les auspices du Gouvernement colonial néêrlandais. Tome VII. Percoides I, Priacanthiformes, Serraniformes, Grammisteiformes, Percaeformes, Datniaeformes. 7: 1–126, Pls. 279–320. [This plate published 1875.]

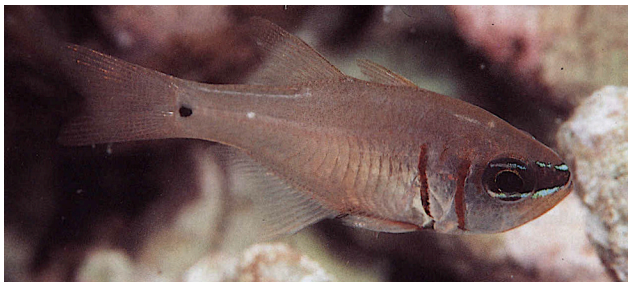
Sphaeramia orbicularis **(Cuvier 1828)** Latin for circular or disc-shaped, referring to its body shape, "very high in the middle, and very short" (translation)

Taeniamia

Fraser 2013

taenia, from *tainía* (ταινία), band or ribbon, referring to vertically wide bars and near-vertical to curved narrow bars as lines on most of species in the genus; *Amia*, a nonbinominal name applied to *Apogon* by Gronow (1763), now a commonly used suffix in the family

Taeniamia ataenia **(Randall & Satapoomin 1999)** *á-* (ἄ), privative, without; *taenia*, from *tainía* (ταινία), band or ribbon, referring to absence of broad black bar as seen on the closely related *T. zosterophora* [an unusual instance of a fish's generic and specific names contradicting each other]



Taeniamia ataenia. Photo by John E. Randall. From: Randall, J. E. and U. Satapoomin. 1999. *Archamia ataenia*, a new species of cardinalfish (Perciformes: Apogonidae) from the Andaman Sea and Mentawai Islands. Phuket Marine Biological Center Research Bulletin 62: 1–8.

Taeniamia biguttata **(Lachner 1951)** *bi-*, from *bis* (L.), twice; *guttatus* (L.), spotted, referring to two dark spots, one on humerus and the other at midbase of caudal fin

Taeniamia bilineata **(Gon & Randall 1995)** *bi-*, from *bis* (L.), twice; *lineata* (L.), lined, referring to two dark stripes on body

Taeniamia buruensis **(Bleeker 1856)** *-ensis*, Latin suffix denoting place: Buru Island, Molucca Islands, Indonesia, type locality

Taeniamia dispilus **(Lachner 1951)** *di-*, from *dýo* (δύο), two; *spílos* (σπίλος), mark or spot, referring to two dark spots on body

Taeniamia flavofasciata **(Gon & Randall 2003)** *flavus* (L.), yellow; *fasciata* (L.), barred or striped, referring to dusky yellow bars on body

Taeniamia fucata **(Cantor 1849)** Latin for painted or colored, presumably referring to body and fins (except pectorals), "silvery carmine with rainbow reflections"

Taeniamia kagoshimana **(Döderlein 1883)** *-ana* (L.), belonging to: Kagoshima, Japan, type locality

Taeniamia leai **(Waite 1916)** in honor of Australian entomologist Arthur Mills Lea (1868–1932), who collected holotype

Taeniamia lineolata **(Cuvier 1828)** Latin for marked with fine lines, referring to 12–14 reddish-brown vertical lines on body

Taeniamia macroptera **(Cuvier 1828)** big-finned, from *makrós* (μακρός), long or large, and *pterón* (πτερόν) or *ptéryx* (πτέρυξ), wing or fin, referring to longer anal fin compared with most congeners then placed in *Apogon*

Taeniamia melasma **(Lachner & Taylor 1960)** *mélasma* (μέλασμα), black spot, referring to black humeral spot

Taeniamia mozambiquensis **(Smith 1961)** *-ensis*, Latin suffix denoting place: Island of Mozambique, western Indian Ocean, type locality

Taeniamia pallida **(Gon & Randall 1995)** Latin for pale, referring to its whitish appearance

Taeniamia sansibaricus **(Pfeffer 1893)** *-icus* (L.), belonging to: off the coast of Sansibar, German spelling of Zanzibar, Tanzania, type locality

Taeniamia zosterophora **(Bleeker 1856)** *zōstêros* (ζωστῆρος), genitive singular of *zōstḗr* (ζωστήρ), belt or girdle; *phora*, from *phoreús* (φορεύς), bearer or carrier, referring to broad violet-brown band that encircles body

Verulux

Fraser 1972

veru (L.), javelin or dart, referring to body shape of *V. cypselurus*; *lux* (L.), light, referring to its auto-enzymatic bioluminescent organs

Verulux cypselurus **(Weber 1909)** *kypselos* (κύψελος), a bird of the swallow kind; *ourá* (οὐρά), tail, presumably referring to deeply forked caudal fin with pointed lobes, like that of a swallow

Verulux solmaculata **Yoshida & Motomura 2016** *sol* (L.), sun; *maculata* (L.), spotted, referring to distinct black blotch, like a sunspot, on caudal-fin base

Verulux solmaculata, 35.8 mm SL. From: Yoshida, T. and H. Motomura. 2016. A new cardinalfish, *Verulux solmaculata* (Perciformes: Apogonidae), from Papua New Guinea and Australia. Ichthyological Research 64 (1): 64–70.

Vincentia

Castelnau 1872

-ia (L. suffix), belonging to: St. Vincent Gulf, South Australia, type locality of *C. waterhousii* (=*conspersa*)

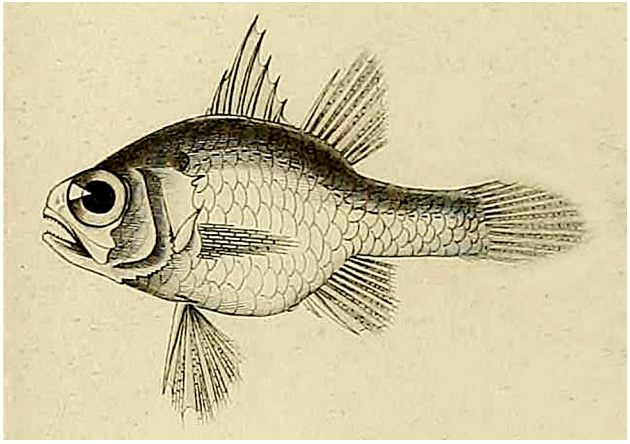
Vincentia badia **Allen 1987** Latin for red-brown or chestnut-colored, referring to its overall and characteristic coloration

Vincentia conspersa **(Klunzinger 1872)** Latin for speckled, referring to scattered black spots on anterior part of body, especially on pectoral fins and head

Vincentia macrocauda **Allen 1987** *macro-*, from *makrós* (μακρός), long or large; *cauda* (L.), tail, referring to its elongate caudal peduncle

Vincentia novaehollandiae **(Valenciennes 1832)** of New Holland, historic name for Australia, type locality and primary distribution

Vincentia punctata **(Klunzinger 1879)** Latin for spotted, referring to numerous black spots or dots on trunk and along lateral line, and one on tail



Vincentia novaehollandiae. Illustration by Achilles Valenciennes. From: Valenciennes, A. 1832. Descriptions de plusieurs espèces nouvelles de poissons du genre Apogon. Nouvelles Annales du Muséum d'Histoire Naturelle (Paris) 1: 51–60, Pl. 4.

Xeniamia atrithorax, holotype, female, 25.1 mm SL. Scale bar = 4 mm. Photo by Thomas H. Fraser. From: Fraser, T. H. and A. M. Prokofiev. 2016. A new genus and species of cardinalfish (Percomorpha, Apogonidae, Sphaeramiini) from the coastal waters of Vietnam: luminescent or not? Zootaxa 4144 (2): 227–242.

Xeniamia

Fraser & Prokofiev 2016

xénos (ξένος), stranger, referring to a combination of melanophore patterns and internal characters unique among known apogonids, making this genus a "stranger" in the family; *Amia*, a nonbinominal name applied to *Apogon* by Gronow (1763), now a commonly used suffix in the family

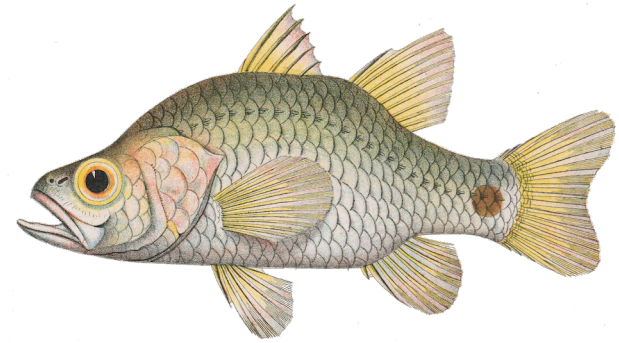
Xeniamia atrithorax **Fraser & Prokofiev 2016** *atri-*, from *ater* (L.), black; *thṓrax* (θώραξ), breast or chest, referring to position of numerous melanophores as a dark spot in advance of pelvic-fin base

Yarica

Whitley 1930

etymology not explained nor evident

Yarica hyalosoma **(Bleeker 1852)** *hýalos* (ὕαλος), any transparent substance; *sṓma* (σῶμα), body, referring to its "yellowish-hyaline" (translation) body (and fins) in life



Probably first-published image of *Yarica hyalosoma*, with unrealistic peduncular spot. Illustration by Ludwig Speigler. See *Sphaeramia nematoptera* caption for source.

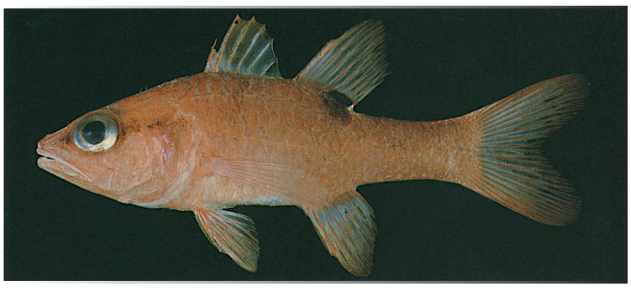
Zapogon

Fraser 1972

zá- (ζά), intensive particle, i.e., well or very, described as "very similar" in appearance to *Apogon*

Zapogon evermanni **(Jordan & Snyder 1904)** in honor of American ichthyologist Barton Warren Evermann (1853–1932), U.S. Bureau of Fisheries

Zapogon isus **(Randall & Böhlke 1981)** from *ísos* (ἴσος), like or equal, "remarkably similar" to *Z. evermanni* and the equal size of its scales



Zapogon isus, holotype, female, 54 mm SL. Photo by John E. Randall. From: Randall, J. E. and J. E. Böhlke. 1981. The status of the cardinalfishes *Apogon evermanni* and *A. anisolepis* (Perciformes: Apogonidae) with description of a related new species from the Red Sea. Proceedings of the Academy of Natural Sciences of Philadelphia 133: 129–140, Pl. 1.

Zoramia

Jordan 1917

etymology not explained, perhaps *zōrós* (ζωρός), sheer, referring to their partial transparency; *Amia*, a nonbinominal name applied to *Apogon* by Gronow (1763), now a commonly used suffix in the family

***Zoramia flebila* Greenfield, Langston & Randall 2005** Latin for tearful, referring to teardrop-shaped marks on cheek

***Zoramia fragilis* (Smith 1961)** Latin for fragile or brittle, allusion not explained, perhaps referring to its translucency in life, with "delicate" colors

***Zoramia gilberti* (Jordan & Seale 1905)** in honor of Jordan's colleague at Stanford University, ichthyologist and fisheries biologist Charles H. Gilbert (1859–1928), who provided "material assistance in the comparison of specimens"

***Zoramia leptacanthus* (Bleeker 1856)** *leptós* (λεπτός), thin or slender; *acanthus* (L.), from *ákantha* (ἄκανθα), thorn or spine, referring to thread-like extension of first dorsal fin

***Zoramia perlita* (Fraser & Lachner 1985)** Latin for smeared or covered over, referring to large, dark, diffuse cluster of chromatophores on caudal peduncle

***Zoramia viridiventer* Greenfield, Langston & Randall 2005** *viridis* (L.), green; *venter* (L.), belly or abdomen, referring to green coloration usually present on abdomen in life

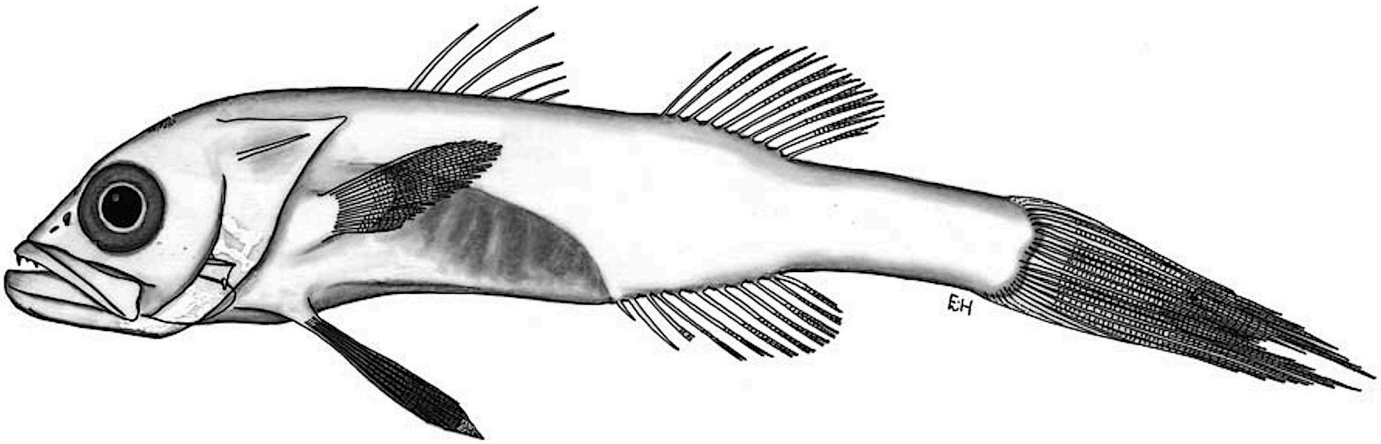
Zoramia viridiventer. From: Greenfield, D. W., R. C. Langston and J. E. Randall. 2005. Two new cardinalfishes of the Indo-Pacific fish genus *Zoramia* (Apogonidae). Proceedings of the California Academy of Sciences 56 (33): 625–637.

Order GOBIIFORMES

Cardinalfishes

Family **APOGONIDAE**

Subfamily PSEUDAMIINAE Smith 1954



Gymnapogon melanogaster, holotype, 23 mm SL. Illustration by Elaine Heemstra. From: Gon, O. and D. Golani. 2002. A new species of the cardinalfish genus *Gymnapogon* (Perciformes, Apogonidae) from the Red Sea. Ichthyological Research 49 (4): 346–349.

Gymnapogon

Regan 1905

gymnós (γυμνός), bare or naked, referring to scaleless head and body of *G. japonicus*; *Apogon*, type genus of family

***Gymnapogon africanus* Smith 1954** *-anus* (L.), belonging to: Africa, the first African representative (from Shimoni, Kenya, Western Indian Ocean) of a genus hitherto known only from the Pacific

***Gymnapogon annona* (Whitley 1936)** etymology not explained, perhaps alluding in some way to *Annona*, a genus of flowering plants that includes the custard apple, or to *Annona*, a Roman goddess who personifies the yearly grain harvest

***Gymnapogon foraminosus* (Tanaka 1915)** Latin for full of holes, presumably referring to neuromasts on head and body

***Gymnapogon janus* Fraser 2016** named for Janus, a Roman God represented by two faces, referring to rounded caudal fin when scales have been sloughed off like some specimens of *Pseudamia* but with internal characters and preopercular spine of *Gymnapogon*

***Gymnapogon japonicus* Regan 1905** *-icus* (L.), belonging to: Japan, where type locality (Inland Sea) is situated

***Gymnapogon melanogaster* Gon & Golani 2002** *mélanos* (μέλανος), genitive of *mélas* (μέλας), black; *gastḗr* (γαστήρ), belly or stomach, compared with the pale stomach of *G. africanus*

***Gymnapogon philippinus* (Herre 1939)** *-inus* (L.), pertaining to: the Philippines, where type locality (Nasugbu, Batangas Province, Luzon Island) is situated

***Gymnapogon sagittarius* Yoshida, Kawai & Motomura 2019** Latin for archer or bowman, referring to long, narrow, arrow-like shape of body

***Gymnapogon urospilotus* Lachner 1953** *uro*, from *ourá* (οὐρά), tail; *spilotus*, from *spilōtós* (σπιλωτός), marked or stained, referring to spots at end of caudal peduncle

***Gymnapogon vanderbilti* (Fowler 1938)** in honor of American yachtsman and explorer George W. Vanderbilt III (1914–1961), who organized 1937 expedition to the South Pacific, during which holotype was collected

***Gymnapogon velum* Fraser 2019** Latin for a sail, referring to its long and deep dorsal and anal fins

Pseudamia

Bleeker 1865

pseudo-, from *pseúdēs* (ψεύδης), false, allusion not explained, presumably referring to its presumed close relationship with *Amia*, a nonbinominal name applied to *Apogon* by Gronow (1763), now a commonly used suffix in the family

***Pseudamia amblyuroptera* (Bleeker 1856)** *amblýs* (ἀμβλύς), blunt; *uro*, from *ourá* (οὐρά), tail; *ptera*, finned, from *pterón* (πτερόν) or *ptéryx* (πτέρυξ), fin, presumably referring to blunt and convex shape of caudal fin

***Pseudamia gelatinosa* Smith 1956** Latin for gelatinous or jelly-like, referring to its translucent body in life

***Pseudamia hayashii* Randall, Lachner & Fraser 1985** in honor of Masayoshi Hayashi, Curator, Yokosuka City Museum, for his studies of the apogonids of Japan; he also loaned a specimen of this species when he learned of the authors' research on the genus

***Pseudamia nigra* Allen 1992** Latin for black or dark, referring to its uniform dark brown to blackish coloration in life

***Pseudamia rubra* Randall & Ida 1993** Latin for red, referring to its prevalent orange-red coloration in life

***Pseudamia tarri* Randall, Lachner & Fraser 1985** in honor of ichthyologist A. Bradley Tarr, University of Petroleum and Minerals (Dhahran,

Pseudamia gelatinosa, holotype, 77 mm TL. Illustration by Margaret M. Smith. From: Smith, J. L. B. 1956. The fishes of Aldabra. Part II. Annals and Magazine of Natural History (Series 12) 8 (93) (for Sept. 1955): 689–697, Pl. 18.

Saudi Arabia), who helped collect holotype

Pseudamia zonata **Randall, Lachner & Fraser 1985** Latin for banded, referring to alternating broad dark and light bars on body

Pseudamiops

Smith 1954

ṓps (ὦψ), eye or face (i.e., appearance), similar to *Pseudamia*, differing mainly in the absence of a lateral line

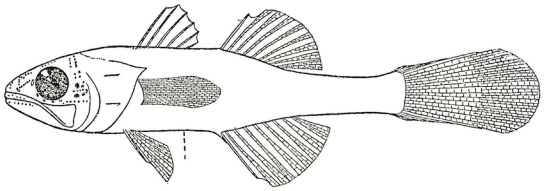
Pseudamiops diaphanes **Randall 1998** *diaphanḗs* (διαφανής), translucent (i.e., to shine through), a transparent species with dark markings in life

Pseudamiops gracilicauda **(Lachner 1953)** *gracilis* (L.), thin or slender; *cauda* (L.), tail, referring to its slender, elongate caudal peduncle

Pseudamiops pellucidus **Smith 1954** Latin for translucently clear, referring to its almost completely transparent coloration in life and a uniform translucent milky yellow in spirits

Pseudamiops phasma **Randall 2001** *phásma* (φάσμα), phantom or apparition, referring to its transparency in life

Pseudamiops springeri **Gon & Bogorodsky 2013** in honor of American ichthyologist Victor G. Springer (1928–2022), U.S. National Museum, who collected holotype in 1969



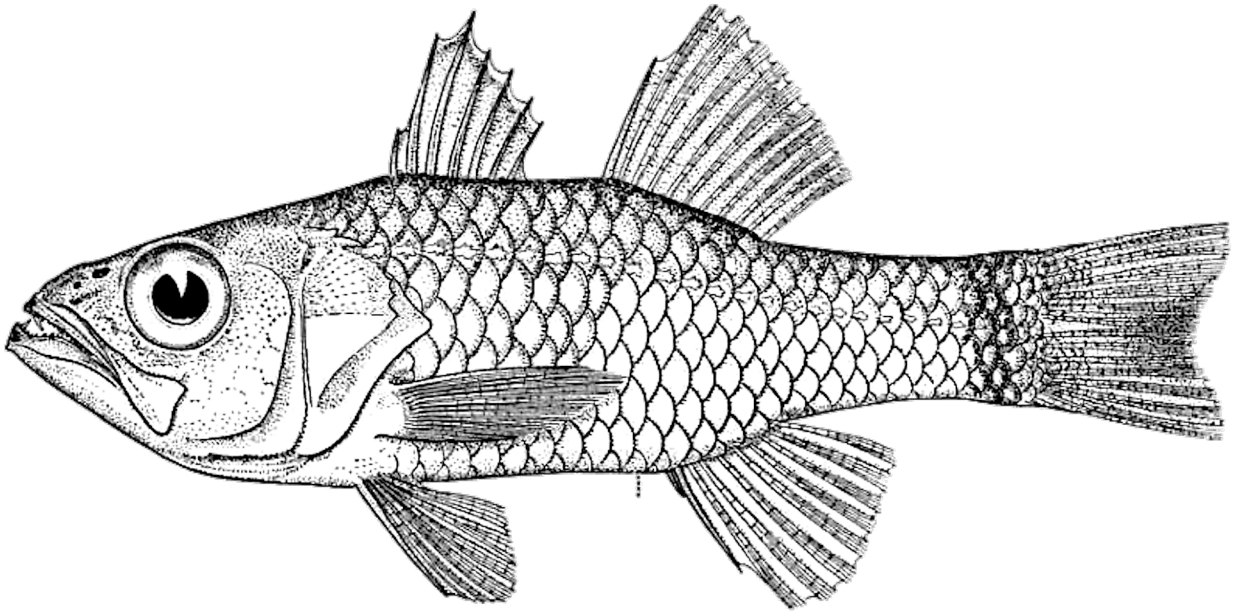
Pseudamiops gracilicauda, holotype, 33.5 mm SL. Illustration by Aime M. Awl. From: Lachner, E. A. 1953. Family Apogonidae: cardinal fishes. *In*: Schultz et al., Fishes of the Marshall and Marianas Islands. Bulletin of the United States National Museum 202 (1): 412–498.

Order GOBIIFORMES

Cardinalfishes

Family **APOGONIDAE**

Subfamily AMIOIDINAE Fraser & Mabuchi 2014



Amioides grossidens, holotype. From: Radcliffe, L. 1912. Descriptions of fifteen new fishes of the family Cheilodipteridae, from the Philippine Islands and contiguous waters. Proceedings of the United States National Museum 41 (1868): 431–446, Pls. 34–38.

Amioides

Smith & Radcliffe 1912

-oides, Neo-Latin from *eĭdos* (εἶδος), form or shape: proposed as a subgenus of *Amia*, a nonbinominal name applied to *Apogon* by Gronow (1763), now a commonly used suffix in the family

***Amioides grossidens* (Smith & Radcliffe 1912)** *grossus* (L.), big, coarse or thick; *dens* (L.), tooth, referring to its "much stronger teeth than in any other species of *Amia* [=*Apogon*]"

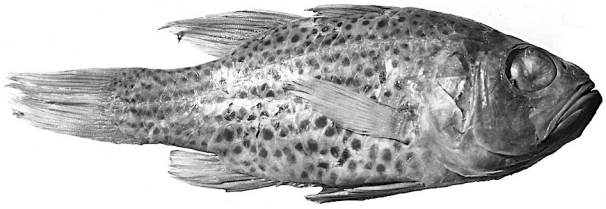
***Amioides polyacanthus* (Vaillant 1877)** *polý-* (πολύ-), many; *acanthus*, (L.), from *ákantha* (ἄκανθα), thorn or spine, referring to seven first dorsal-fin spines vs. six among presumed congeners in *Cheilodipterus*

Holapogon

Fraser 1973

hólos (ὅλος), whole or entire, referring to how this genus most represents the ancestor of the diverse genus *Apogon* (both genera in subfamily are now believed to be basal to all apogonids)

***Holapogon maximus* (Boulenger 1888)** Latin for greatest or largest, presumably referring to large size (25.4 cm) compared with presumed congeners in *Apogon*



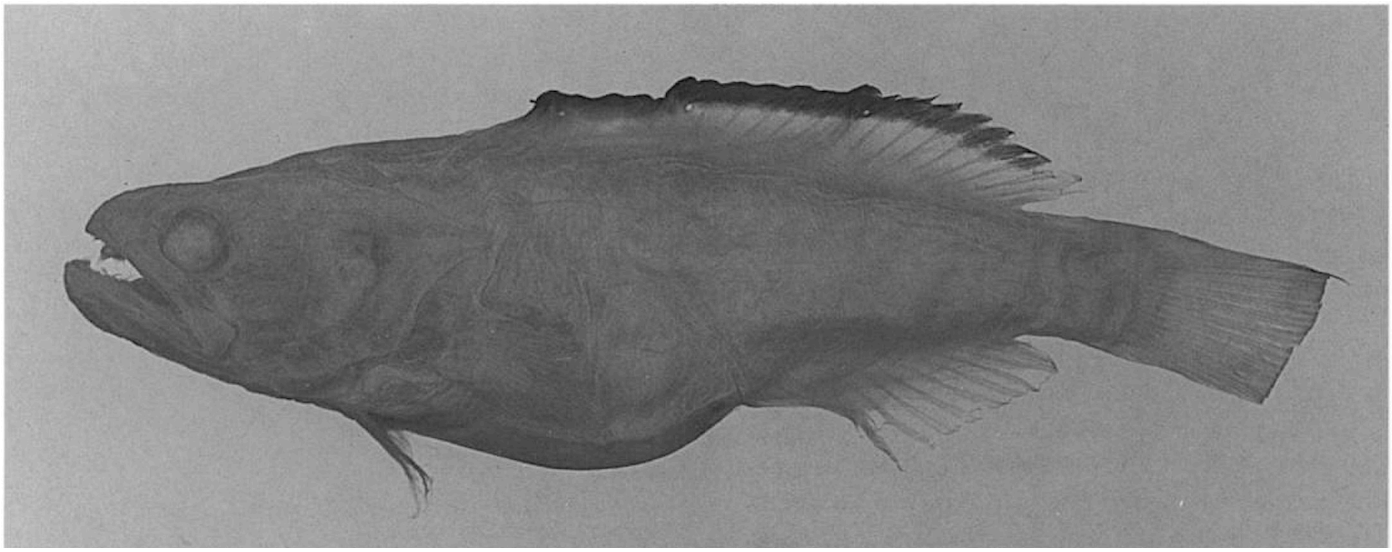
First published image of *Holapogon maximus*, 85 years after its description, adult, 198 mm SL. From: Fraser, T. H. 1973. Evolutionary significance of *Holapogon*, a new genus of cardinal fishes (Apogonidae), with a redescription of its type-species, *Apogon maximus*. The J.L.B Smith Institute of Ichthyology Special Publication 10: 1–7.

Order GOBIIFORMES

Cardinalfishes

Family **APOGONIDAE**

Subfamily PAXTONINAE Fraser & Mabuchi 2014



Paxton concilians, holotype, 63.6 mm SL. Photo by Don Hurlbert. From: Baldwin, C. C. and G. D. Johnson. 1999. *Paxton concilians*: a new genus and species of pseudamine apogonid (Teleostei: Percoidei) from northwestern Australia: The sister group of the enigmatic *Gymnapogon*. Copeia 1999 (4): 1050–1071.

Paxton

Baldwin & Johnson 1999

named for friend and colleague John R. Paxton (1938–2023), American-born Australian ichthyologist, Australian Museum (Sydney), who provided type specimens, as a "good-natured reminder that 'you can't judge a fish by its cover'" (Paxton initially believed that the specimens represented an undescribed genus of soapfish, Grammistidae)

Paxton concilians **Baldwin & Johnson 1999** Latin for uniting or bringing together, i.e., to unite separate parts into a whole (consilience), referring to its single (or continuous) dorsal fin