

***Diplacanthopoma* Günther, 1887**

Type species: *Diplacanthopoma brachysoma* Günther, 1887 by monotypy.

Synonyms: *Myxocephalus* Steindachner and Döderlein, 1887, type species *Myxocephalus japonicus* Steindachner and Döderlein, 1887; *Sarcocara* Smith and Radcliffe *in* Radcliffe, 1913, type species *Diplacanthopoma (Sarcocara) brunnea* Smith and Radcliffe *in* Radcliffe, 1913.

Number of recognized species: 8.

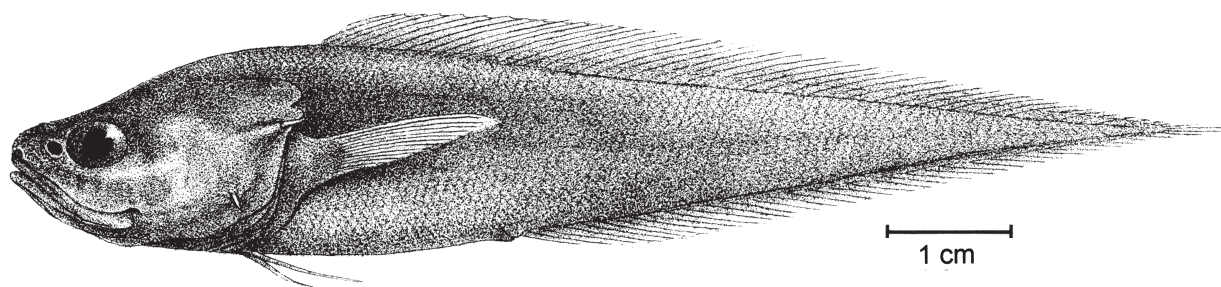


Fig. 100 *Diplacanthopoma brachysoma* (from Günther, 1887)

Diagnosis and description: Body tapers to a slender tail (regenerated in many specimens); imbricate scales present on body, absent from head and bases of dorsal and anal fins; opercular spine strong; a prominent skin flap ending in a large pore above the upper angle of the opercle; palatine teeth present; developed rakers on the first arch 3 or 4; branchiostegal rays 8; male intromittent organ on a broad fleshy pad or stalk; pectoral fins mounted on a broad lobe; pectoral-fin rays 21 to 28; precaudal vertebrae 14 to 20.

Revisions: Although not a revision, Gosline (1954) discusses the taxonomy of many of the species referred to this genus.

Geographical distribution: Circumglobal in tropical and subtropical seas.

Habitat and biology: Benthopelagic fishes of the upper continental slope.

Interest to fisheries: None.

Size: At least 434 mm.

Key to species: Additional research is required.

List of nominal species

Diplacanthopoma alcockii Goode and Bean, 1896. Andaman Sea at 900 m. Rare.

D. brachysoma Günther, 1887. Benthopelagic in the tropical western Atlantic at 460 to 1 670 m. Locally abundant.

D. brunnea Smith and Radcliffe *in* Radcliffe, 1913. The Philippines at 685 m. Possibly Arabian Sea as well. Rare.

D. japonicus (Steindachner and Döderlein, 1887). Japan. Rare.

D. jordani Garman, 1899. Equatorial eastern Pacific at 705 m. Rare.

D. nigripinnis Gilchrist and von Bonde, 1924. Western Indian Ocean off Natal at 410 to 1 210 m. Rare.

D. raniceps Alcock, 1898. Gulf of Aden and Andaman Sea at 550 to 1 080 m. Rare.

D. rivers-andersoni Alcock, 1895. Arabian Sea at 1640 m; perhaps Hawaii as well. Rare.

Remarks: Several undescribed species remain to be named.

Grammonus Gill in Goode and Bean, 1896

Type species: *Oligopus ater* Risso, 1810 by monotypy.

Synonyms: *Bathystorreus* Howell Rivero, 1934. Type species *Benthocometes claudei* Torre, 1930. *Eutyx* Heller and Snodgrass, 1903. Type species *Eutyx diagrammus* Heller and Snodgrass, 1903. *Gadopsis* (not of Agassiz, 1845 or Richardson, 1848) Filippi and Kolliker, 1856. Type species *Oligopus ater* Risso, 1810. *Grammonoides* Smith, 1934. Type species *Grammonoides opisthodon* Smith, 1934. *Verater* Jordan, 1919. Type species *Oligopus ater* Risso, 1810.

Number of recognized species: 6.

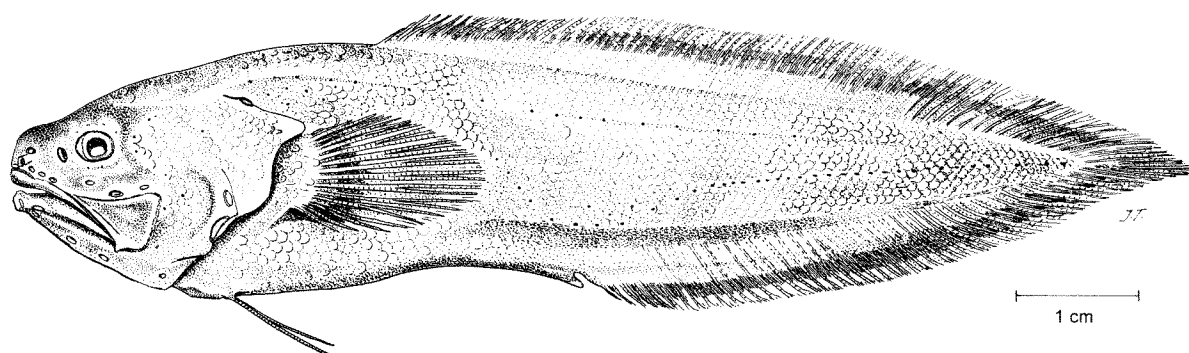


Fig. 101 *Grammonus ater* (adult) (from Nielsen et al., 1968)

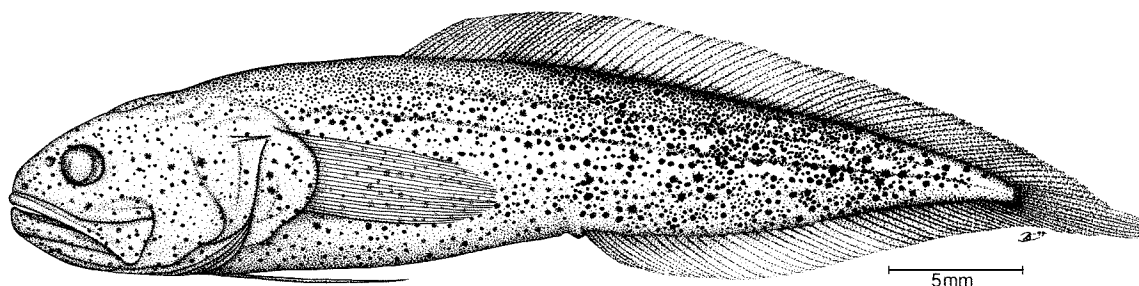


Fig. 102 *Grammonus opisthodon* (juvenile)

Diagnosis and description: Body relatively short and stubby; **head not depressed**; eyes well developed; **body completely covered with imbricate scales**; **head partly naked**; posterior part of maxilla expanded, usually with a pointed projection at the posteroventral angle; **palatine lacking teeth**; tongue massive, with an anterior prow-like projection; developed rakers on first arch 2 or 3; branchiostegal rays 8; lateral line consisting of 2 or more series of papillae on the body; pelvic fins with a single ray in each; **precaudal vertebrae usually 12, with many of the neural spines truncate.**

Revisions: Cohen (1964b).

Geographical distribution: Circumtropical to subtropical seas.

Habitat and biology: Mostly found in sea caves or on reef areas, but *Grammonus longhursti* was taken with a beach seine and *G. robustus* has been caught with bottom trawls. The reproductive biology of *G. longhursti* has been studied by Wourms and Cohen (1975).

Interest to fisheries: None.

Size: *G. diagrammus* reaches 185 mm; other species are smaller.

Key to species

- 1a.** Preopercle margin with several small but distinct spines; lateral head canal with 3 or 4 pores *G. claudei*
- 1b.** Preopercle margin with no or small and weak spines; lateral head canal with 0 or 1 pore. → 2
- 2a.** Dorsal-fin rays 93 to 115; anal-fin rays 71 to 91; total vertebrae 48 to 53 → 3
- 2b.** Dorsal-fin rays 68 to 87; anal-fin rays 51 to 62; total vertebrae 40 to 46 → 4
- 3a.** Lateral-line scale rows about 80; anal-fin rays 71 *G. waikiki*
- 3b.** Lateral-line scale rows 97 to 115; anal-fin rays 76 to 91 *G. diagrammus*
- 4a.** Dorsal-fin rays 69 to 74; anal-fin rays 51 or 52; vertebrae 40 to 42 *G. ater*
- 4b.** Dorsal-fin rays 83 to 87; anal-fin rays 57 to 62; vertebrae 44 to 46 → 5
- 5a.** Lateral scale rows about 120 *G. longhursti*
- 5b.** Lateral scale rows about 75 to 85 *G. robustus*

List of nominal species

Grammonus ater (Risso, 1810). Northwest Mediterranean and Adriatic. Lives in marine caves and rocky areas at fairly shallow depths. Uncommon. In the literature sometimes confused with *Benthocometes robustus* (= *B. armatum*).

G. claudei (Torre, 1930). Widely distributed in the tropical western North Atlantic. Marine caves and reef areas at 6 to 70 m. Uncommon.

G. diagrammus (Heller and Snodgrass, 1903). Tropical and subtropical eastern Pacific, from the Channel Islands of southern California to the Galapagos Archipelago, including peninsular Baja California, the Gulf of California and Panama. Rocky and reef areas at relatively shallow depths. Uncommon.

G. longhursti (Cohen, 1964b). Tropical eastern Atlantic. Apparently a soft bottom species, collected with a beach seine and by bottom trawling at 5 to 11 m. Rare.

G. mowbrayi Grey, 1951 (junior synonym of *G. claudei*).

G. niger (Risso, 1826) (new name for *Oligopus ater* Risso).

G. niger (Gosline, 1953) (junior homonym of *Oligopus niger* Risso, 1826).

G. opisthodon Smith, 1934 (possibly a junior synonym of *G. robustus*).

G. robustus Smith and Radcliffe in Radcliffe, 1913. Widely distributed in the Indian Ocean and western Pacific from the Red Sea and perhaps South Africa, the Philippines, East China Sea, and Japan. Taken with trawls fishing on soft bottom at depths from 45 to 345 m. Uncommon.

G. waikiki (Cohen, 1964b) (new name for *Microbrotula niger* Gosline, a secondary junior homonym of *Oligopus niger* Risso, 1826). Oahu in the Hawaiian Islands. Rare.

Remarks: The generic name *Oligopus* as used by Cohen (1964b) in **Bythitidae** is incorrect (Eschmeyer, 1996). The generic name *Grammonoides* Smith, 1934 is here treated as a junior synonym of *Grammonus* Gill in Goode and Bean, 1896 as the type species of these 2 nominal genera are congeneric.

***Hastatobythites* Machida, 1997**

Type species: *Hastatobythites arafurensis* Machida, 1997 by original designation.

Synonyms: None.

Number of recognized species: 1.

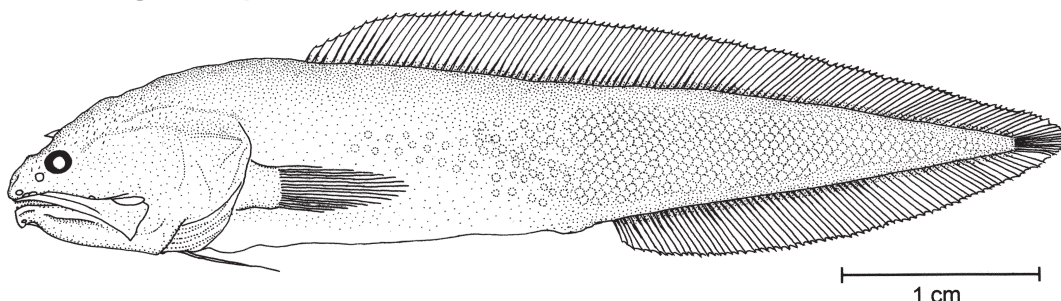


Fig. 103 *Hastatobythites arafurensis* (from Machida, 1997)

Diagnosis and description: Scales absent from head and anterior part of body; eye diameter less than snout length; 2 anteriorly directed, median spines on head, 1 on frontal and another buried on mesethmoid; weak opercular spine and none on hindmargin of preopercle; maxilla expanded posteriorly; pectoral radials elongate; vomer and palatines with teeth; developed rakers on anterior gill arch 3; pelvic fins with 1 ray in each; 15 or 16 pectoral-fin rays; caudal-fin rays 11 or 12; precaudal vertebrae 15.

Revisions: None.

Geographical distribution: From Arafura Sea to off New South Wales.

Habitat and biology: Benthopelagic at 146 to 850 m. A 57 mm female with full developed embryos.

Interest to fisheries: None.

Size: At least 90 mm.

List of species

Hastatobythites arafurensis Machida, 1997. Information see above. Rare.

Remarks: Apparently closely related to if not identical with *Saccogaster*.

***Hepthocara* Alcock, 1892b**

Type species: *Hepthocara simum* Alcock, 1892b by monotypy.

Synonyms: None.

Number of recognized species: 2.

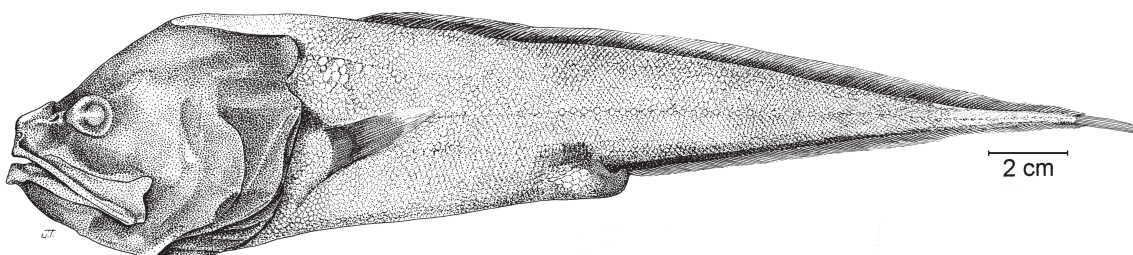


Fig. 104 *Hepthocara* (undescribed species)

Diagnosis and description: Head large and deep with tapering body, no scales on head; snout longer than diameter of eye; head bones weak and soft; a large, pore-bearing flap above opercle, narrow bands of teeth on vomer and palatines, anterior gill arch with 3 or 4 developed rakers; pectoral-fin rays 16 to 19; no pelvic-fin rays; caudal-fin rays 6 or 7; precaudal vertebrae 18 to 21.

Revisions: None.

Geographical distribution: From Bay of Bengal to South America.

Habitat and biology: Benthopelagic at bathyal to abyssal depths (760 to 5 540 m).

Interest to fisheries: None.

Size: At least 317 mm.

Key to species

- 1a. Preanal length 39 to 42% standard length; vertebral count 90 to 93
 *H. crassiceps* and *H. simum*
- 1b. Preanal length 44 to 50% standard length, vertebral count 78 to 81
 *Hepthocara* sp. (undescribed species)

List of species

Hepthocara crassiceps Smith and Radcliffe in Radcliffe, 1913. Off the Philippines at 760 to 1 510 m. Rare.

H. simum Alcock, 1892b. Bay of Bengal at 1 110 to 1 650 m. Rare.

Hepthocara sp. Nalbant and Mayer (1971). Peru-Chile Trench at 4 330 to 5 540 m. Rare. Undescribed species.

Remarks: *Hepthocara crassiceps* and *H. simum* are very closely related. More material may show that they are conspecific.

Microbrotula Gosline, 1953

Type species: *Microbrotula rubra* Gosline, 1953 by original designation.

Synonyms: None.

Number of recognized species: 2.

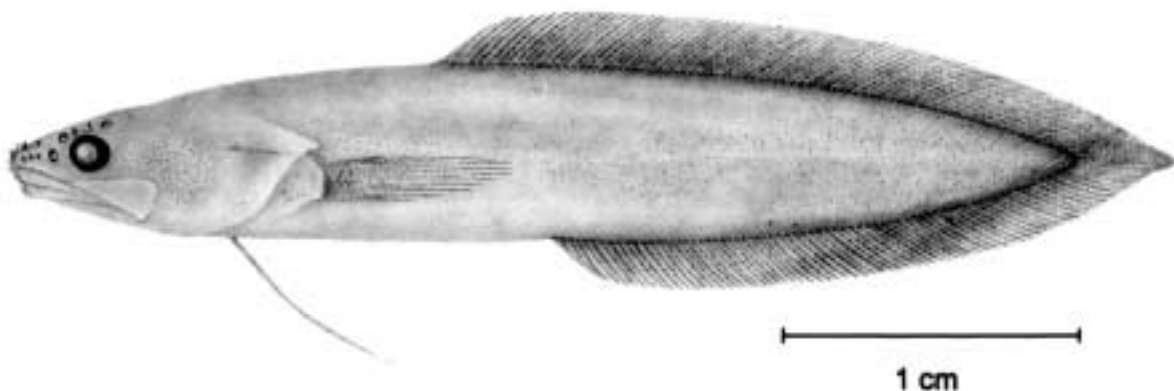


Fig. 105 *Microbrotula rubra* (from Cohen and Wourms, 1976)