

***Abyssobrotula* Nielsen, 1977**

Type species: *Abyssobrotula galathea* Nielsen, 1977 by monotypy.

Synonyms: None.

Number of recognized species: 1.

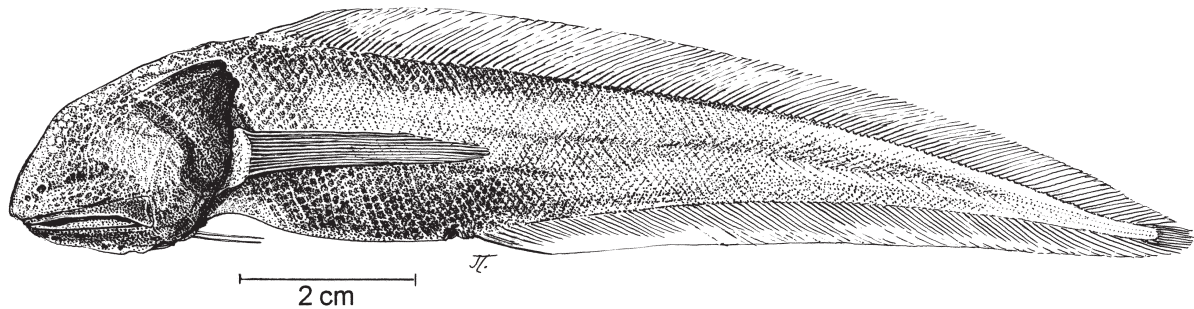


Fig. 45 *Abyssobrotula galathea* (from Nielsen, 1977)

Diagnosis and description: Head short with downward inflection, with inferior mouth and swollen snout; eyes small; poorly developed opercular spine, 2 median and a pair of basibranchial tooth patches; 8 to 11 developed rakers on anterior gill arch; pectoral fin with 10 or 11 rays; 2 pelvic-fin rays; precaudal vertebrae 18 to 21.

Revisions: None.

Geographical distribution: Below tropical and subtropical areas of all oceans.

Habitat and biology: Benthopelagic at abyssal and hadal depths (3 110 to 8 370 m).

Interest to fisheries: None.

Size: At least 165 mm.

List of species

Abyssobrotula galathea Nielsen, 1977. Information see above. Uncommon.

***Acanthonus* Günther, 1878**

Type species: *Acanthonus armatus* Günther, 1878 by monotypy.

Synonyms: None.

Number of recognized species: 1

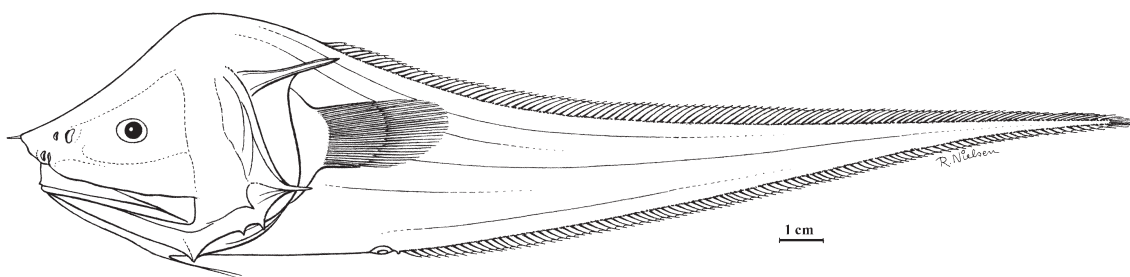


Fig. 46 *Acanthonus armatus* (from Nielsen, 1977)

Diagnosis and description: Head large and body tapering; snout with prominent, bifid spine; opercular spine long and slender extending well beyond rear margin of head, well developed spines at lower angle of preopercle; eye small; 1 to 4 median basibranchial tooth patches; 16 to 22 developed rakers on anterior gill arch; pectoral-fin rays 16 to 19; pelvic-fin rays 2; precaudal vertebrae 9 or 10.

Revisions: Nielsen (1965), Howes (1992).

Geographical distribution: Below tropical and subtropical areas of all oceans.

Habitat and distribution: Benthopelagic at bathyal and abyssal depths (1 500 to 4 415 m).

Interest to fisheries: None.

Size: At least 375 mm.

List of nominal species

Acanthonus armatus Günther, 1878. Information see above. Common.

A. spinifer Garman, 1899 (junior synonym of *A. armatus*).

Alcockia Goode and Bean, 1896

Type species: *Porogadus rostratus* Günther, 1878 by monotypy.

Synonyms: None.

Number of recognized species: 1.

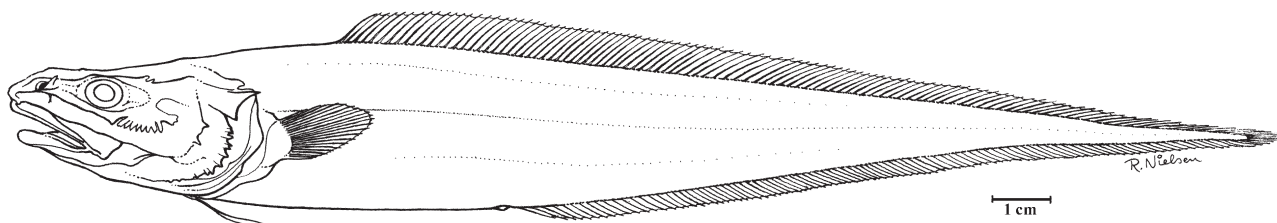


Fig. 47 *Alcockia rostrata* (from Nielsen, 1977)

Diagnosis and description: Elongate body with depressed head bearing sharp spines; eye diameter much shorter than snout; suborbital bones membraneous; maxillary sheathed posterodorsally; opercular spine flat and weak; 2 median basibranchial tooth patches; 7 developed rakers on anterior gill arch, pectoral-fin rays 23; 2 pelvic-fin rays.

Revisions: None.

Geographical distribution: From East Africa to New Caledonia and Japan.

Habitat and biology: Benthopelagic at abyssal depths (3 300 to 4 040 m).

Interest to fisheries: None.

Size: At least 350 mm.

List of species

Alcockia rostrata Günther, 1887. Information see above. Rare.

Apagesoma Carter, 1983

Type species: *Apagesoma edentatum* Carter, 1983 by original designation.

Synonyms: None.

Number of recognized species: 2.

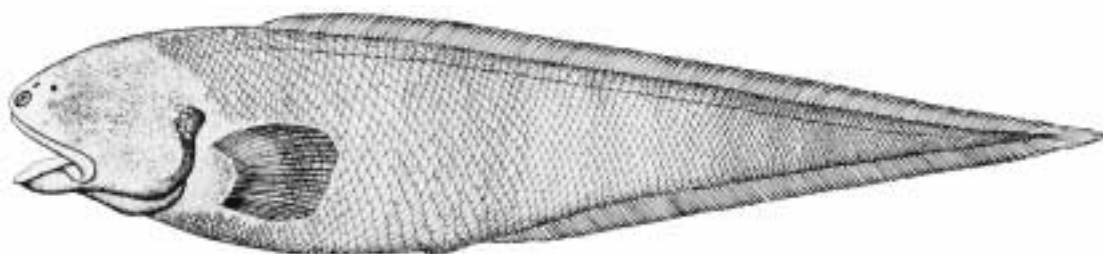


Fig. 48 *Apagesoma edentatum* (from Carter, 1983)

Diagnosis and description: Soft, watery body; eyes small; anterior nostril swollen; no spines on opercle and preopercle; preopercle posteriorly expanded; basibranchial tooth patches absent; 10 to 12 developed rakers on anterior gill arch; pectoral-fin rays 25 to 28; a single ray in each pelvic fin.

Revisions: None.

Geographical distribution: Tropical East and West Atlantic.

Habitat and biology: Benthopelagic at abyssal depths (2 560 to 5 082 m).

Interest to fisheries: None.

Size: At least 750 mm.

Key to species

- 1a. Dorsal-fin rays 116; anal-fin rays 98 *A. edentatum*
 1b. Dorsal-fin rays 129 to 131; anal-fin rays 111 *A. delosommatus*

List of species

Apagesoma delosommatus (Hureau, Staiger and Nielsen, 1979). From the Bahamas and off the Canary Islands and Angola at 2 560 to 3 431 m. Rare.

A. edentatum Carter, 1983. Off the Bahamas at 5 082 m. Rare.

***Barathrites* Zugmayer, 1911**

Type species: *Barathrites iris* Zugmayer, 1911 by monotypy.

Synonyms: None.

Number of recognized species: 2.

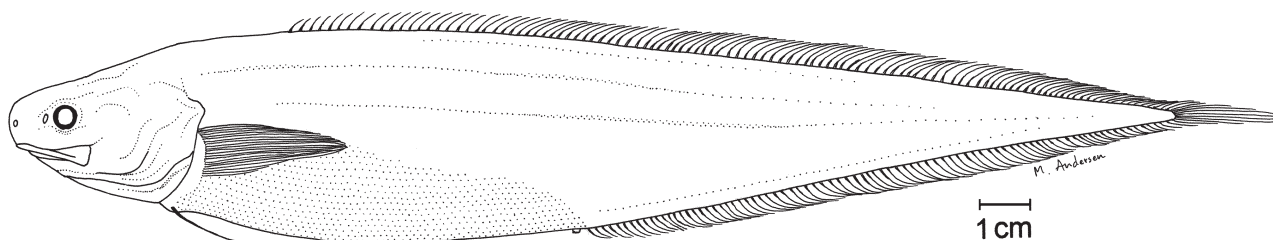


Fig. 49 *Barathrites parri*

Diagnosis and description: Head small, about 3 times in preanal distance; eye small; anterior nostril without thick, fleshy raised rim; median basibranchial tooth patch 0 or 1; vomerine teeth in a diamond-shaped patch; developed gill rakers 5 to 7; pelvic fins with 2 rays in each; precaudal vertebrae 18.

Revisions: Nybelin (1957).

Geographical distribution: Possibly worldwide beneath tropical and subtropical seas.

Habitat and biology: Benthopelagic at depths ranging from 1 270 to 5 200 m.

Interest to fisheries: None.

Size: At least 625 mm.

Remarks: Large specimens of *Barathrites iris* have been taken in deep traps as well as by bottom trawls.

Key to species

- 1a. Branchiostegal rays 6; median basibranchial tooth patches 0; reaches a known size of 625 mm standard length *B. iris*
- 1b. Branchiostegal rays 7; median basibranchial tooth patch 1; sexually mature at 233 mm standard length *B. parri*

List of nominal species

- Barathrites abyssorum* Roule, 1916 (junior synonym of *B. iris*).
- B. iris* Zugmayer, 1911. Benthopelagic at abyssal depths in the Atlantic; specimens from the Indian Ocean and Central Pacific may also be this species. Rare.
- B. parri* Nybelin, 1957. Benthopelagic on the western North Atlantic continental slope at 1 270 to 3 000 m. Locally abundant.

Barathrodemus Goode and Bean, 1883

Type species: *Barathrodemus manatinus* Goode and Bean, 1883 by monotypy.

Synonyms: None.

Number of recognized species: 2.

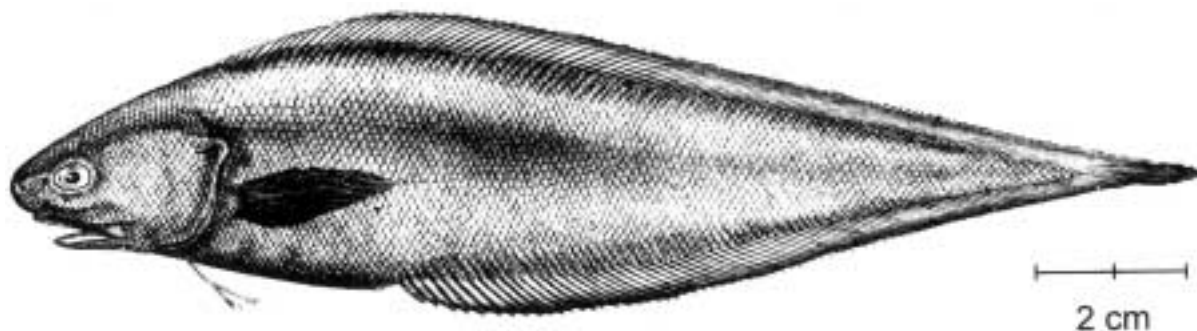


Fig. 50 *Barathrodemus nasutus* (from Radcliffe, 1913)

Diagnosis and description: Head relatively large, about 2 times in preanal distance; jaws inferior; snout inflated; maxillary strongly sheathed; median basibranchial tooth patches 2; vomerine tooth patch triangular; branchiostegal rays 8; developed rakers on first arch 12 to 15; opercular spine short and sharp; pectoral fin reaches to anus or beyond; pelvic fins with 2 rays in each; caudal-fin rays 8; pectoral-fin rays 19 to 25; precaudal vertebrae 12 to 14.

Revisions: None.

Geographical distribution: Continental slopes of the tropical western Atlantic and several localities in the western Pacific and Indian Ocean.

Habitat and biology: Benthopelagic at 850 to 2 340 m.

Interest to fisheries: None.

Size: At least 170 mm.

Remarks: Sexual dimorphism has been described in *Barathrodemus manatinus* in both body shape and probable sound producing mechanisms (Carter and Musick, 1985).

Key to species

1a. Dorsal-fin rays 106 to 107; anal-fin rays 85 to 87. *B. manatinus*

1b. Dorsal-fin rays 99 or 100; anal-fin rays 79 to 82. *B. nasutus*

List of nominal species

Barathrodemus manatinus Goode and Bean, 1883. Benthopelagic at bathyal depths in the tropical western North Atlantic. Locally abundant.

B. microps Parr, 1933 (junior synonym of *B. manatinus*).

B. nasutus Smith and Radcliffe in Radcliffe, 1913. Benthopelagic in the Gulf of Tomini, Celebes, and the eastern Indian Ocean. Rare.

Bassogigas Goode and Bean, 1896

Type species: *Bassogigas gilli* Goode and Bean, 1896 by monotypy.

Synonyms: None.

Number of recognized species: 1.

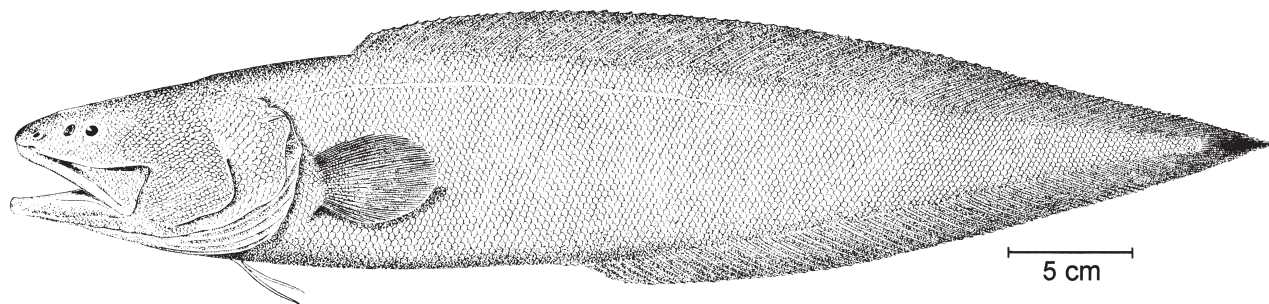


Fig. 51 *Bassogigas gilli* (from Goode and Bean, 1896)

Diagnosis and description: Head flat; snout much longer than eye, opercular spine strong; 2 median and most often a pair of basibranchial tooth patches; **7 to 9 developed rakers on anterior gill arch; pectoral fin short and rounded and with 27 to 31 rays**; lateral line distinct; 2 pelvic-fin rays; precaudal vertebrae 15 or 16.

Revisions: Nielsen (1980).

Geographical distribution: In the western Atlantic from 40°N to 23°S, between Madagascar and Cape Town and off New Caledonia.

Habitat and biology: Benthopelagic at bathyal depths (1 060 to 2 150 m).

Interest to fisheries: None.

Size: At least 830 mm.

List of species

Bassogigas gilli Goode and Bean, 1896. Information see above. Uncommon.

Bassozetus Gill, 1884

Type species: *Bassozetus normalis* Gill, 1884 by monotypy.

Synonyms: *Pterodicromita* Fowler, 1925, type species *Sirembo oncercephalus* Vaillant, 1888.

Number of recognized species: 13.

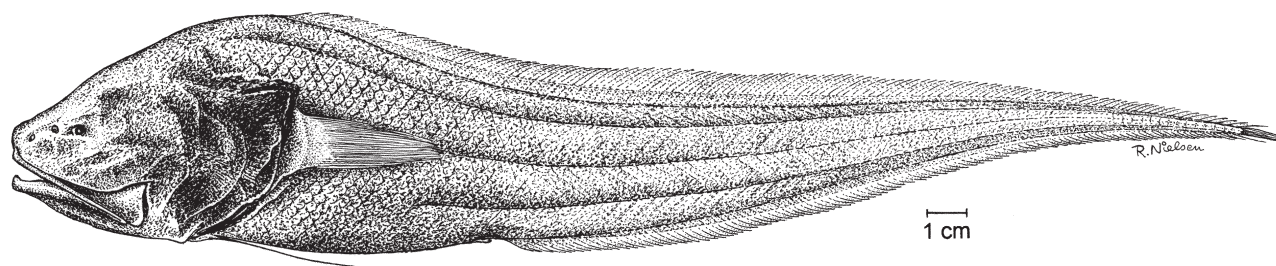


Fig. 52 *Bassozetus robustus*

Diagnosis and description: Mouth terminal; snout inflated; eyes much smaller than snout; opercular spine weak or absent; preopercle without spines and posteriorly expanded almost reaching posterior margin of opercle, median basibranchial tooth patch 1 except for *B. levistomatus*, *wernerii* and *zenkevitchi* with 0; pseudobranchial filaments 2; 9 to 22 developed rakers on anterior gill arch; pectoral fin with 21 to 29 rays; pelvic fins with 1 ray in each; precaudal vertebrae 11 to 17.

Revisions: Nielsen and Merrett (in press).

Geographical distribution: Below tropical and subtropical areas of all oceans.

Habitat and biology: Benthopelagic and pelagic (*Bassozetus zenkevitchi*) at depths between 1 000 and 5 500 m.

Interest to fisheries: None.

Size: At least 800 mm.

Remarks: The revision in press will describe 2 new species.

Key to species

- 1a. Basibranchial tooth plates 0 → 2
 1b. One well-developed basibranchial tooth plate → 4
- 2a. Long gill rakers 15 to 18; vomer dentigerous and V-shaped *B. zenkevitchi*
 2b. Long gill rakers 9 to 11; vomer edentate or with small circular plate → 3
- 3a. Pelvic fins 8 to 12% standard length; vomer usually edentate (a 735 mm specimen with a proportionally small, 3.5 mm tooth plate); otolith (Fig. 53a) *B. levistomatus*
 3b. Pelvic fins 17.5% standard length, vomer with a 3 mm tooth plate in the 375 mm known specimen; otolith (Fig. 53b) *B. n. sp. 2*

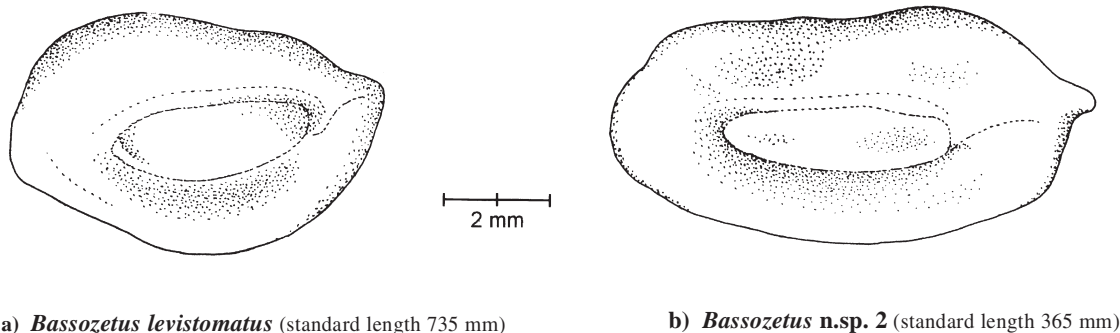


Fig. 53 Sagittal otolith

- 4a. Pelvic-fin rays less than about 3.0% standard length; long gill rakers 16 to 22 *B. multispinis*
 4b. Pelvic-fin rays more than 5% standard length; long gill rakers 11 to 21 → 5
- 5a. Dorsal-fin rays 132 to 142; anal-fin rays 108 to 115; long gill rakers 14 to 18; precaudal vertebrae 13 to 17 *B. n. sp. 1*
 5b. Dorsal-fin rays 98 to 133; anal-fin rays 90 to 111; long gill rakers 9 to 22; precaudal vertebrae 11 to 16 → 6

- 6a. Length of pelvic fins 18 to 25% standard length reaching beyond anus; depth at anus 8.2 to 11.0% standard length; precaudal vertebrae 11 to 13; transverse scale-rows between anus and dorsal fin 15 to 20 (Fig. 54) ***B. elongatus***
- 6b. Length of pelvic fins rarely more than 19% standard length rarely reaching beyond anus; depth at anus 6.4 to 16.5% standard length; precaudal vertebrae 11 to 19; transversal scale-rows between anus and dorsal fin 15 to 35 → 7

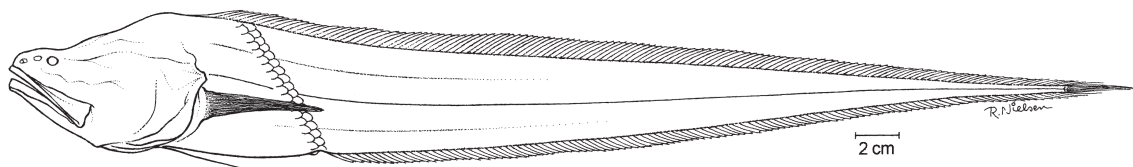


Fig. 54 *Bassozetus elongatus*

- 7a. Sagittal otolith large (8 mm in a 250 mm standard length specimen); long gill rakers 12 to 16; scale rows between anus and dorsal fin 25 to 35; depth at anus 10 to 19% standard length ***B. robustus***
- 7b. Sagittal otolith small (4 mm in a 250 mm standard length specimen); long gill rakers 11 to 21; scale rows between anus and dorsal fin 15 to 35; depth at anus 8.7 to 14% standard length → 8
- 8a. Scales small (more than 25 transverse rows). This couplet holds 3 closely related species the diagnostic characters of which are slightly overlapping; a coming revision will clarify the differences; until then the distribution of the species should be used:
 - Indian and western (to 169°E) Pacific Oceans ***B. glutinosus***
 - East (to 117°W) Pacific Ocean ***B. nasus***
 - Atlantic Ocean ***B. normalis***
- 8b. Scales large (less than 25 transverse rows) → 9
- 9a. Long rakers on anterior gill arch 11 to 14; depth at anus 8 to 14% standard length; preanal 34 to 40% standard length ***B. compressus***
- 9b. Long rakers on anterior gill arch 15 to 20; depth at anus 7 to 10% standard length; preanal 28 to 34% standard length → 12
- 10a. Distance between bases of ventral fins and anal fin 15.0 to 19.0% of standard length, 12 to 14 precaudal vertebrae ***B. taenia***
- 10b. Distance between bases of ventral fins and anal fin 23.5% of standard length, 16 precaudal vertebrae. ***B. oncercephalus***

List of species

- Bassozetus compressus*** (Günther, 1878). Philippines and Atlantic Ocean. Benthopelagic at 1 920 to 2 750 m. Uncommon.
- B. elongatus*** Smith and Radcliffe in Radcliffe, 1913. Indian Ocean and West Pacific. Benthopelagic at 1 990 to 4 970 m. Uncommon.
- B. glutinosus*** (Alcock, 1890a). Indian Ocean and West Pacific. Benthopelagic at 1 530 to 2 040 m. Uncommon.
- B. levistomatus*** Machida, 1989a. In all oceans. Benthopelagic at 4 125 to 5 200 m. Rare.