

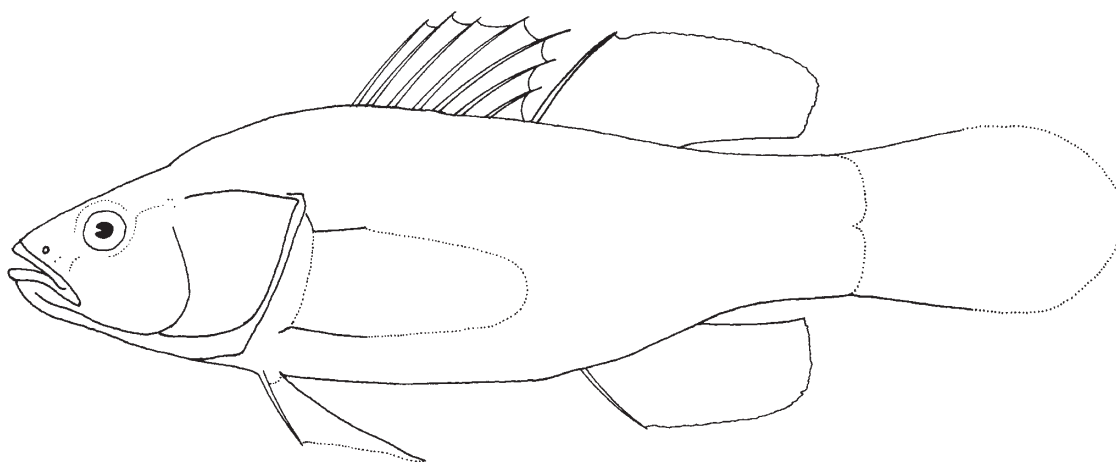
Suborder GOBIOIDEI

ELEOTRIDAE

Sleepers

by E.O. Murdy, National Science Foundation, Virginia, USA and D.F. Hoese, Australian Museum, Sydney, Australia

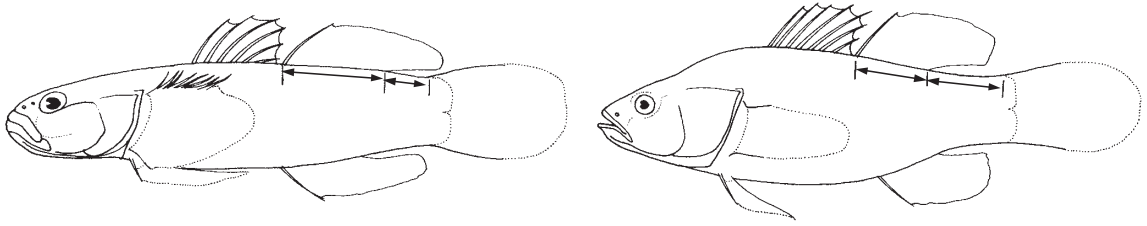
Diagnostic characters: Small to medium-sized (most do not exceed 20 cm, although *Gobiomorus* from this area may reach 60 cm). Typically, body stout; head short and broad; snout blunt; gill membranes broadly joined to isthmus. Teeth usually small, conical and in several rows in jaws. **Six branchiostegal rays.** Two separate dorsal fins, first dorsal fin with 6 or 7 weak spines, second dorsal fin with 1 weak spine followed by 6 to 12 soft rays; second dorsal fin and anal fin relatively short-based; origin of anal fin just posterior to vertical with origin of second dorsal fin; terminal ray of second dorsal and anal fins divided to its base (but counted as a single element); anal fin with 1 weak spine followed by 6 to 12 soft rays; caudal fin broad and rounded, comprising 15 or 17 segmented rays; pectoral fin broad with 14 to 25 soft rays; pelvic fin long with 1 spine and 5 soft rays. **Pelvic fins separate and not connected by a membrane.** Scales large and either cycloid or ctenoid. **No lateral line on body.** Head typically scaled, scales being either cycloid or ctenoid with a series of sensory canals and pores as well as cutaneous papillae. **Colour:** not brightly coloured, most are light or dark brown or olive with some metallic glints.



Habitat, biology, and fisheries: Typically occur in fresh or brackish waters, although some species are truly marine. Omnivorous. Bottom-dwelling fishes. Many are relatively inactive, hence the common name of sleeper. Found in all subtropical and tropical waters (except the Mediterranean and its tributaries). Comprises approximately 40 genera and 150 species; 5 genera and 10 species are recorded from this area. Of no commercial or recreational importance other than as food for larger fishes. Occasionally the larger species may be seen in local markets.

Similar families occurring in the area

Gobiidae: base of second dorsal fin much longer than distance from end of second dorsal fin to base of caudal fin; pelvic fins connected to form a disc in species from fresh and brackish water, separated only in species living on or around reefs. Size small; adults typically less than 10 cm in length.



Gobiidae

Eleotridae

Key to the species of Eleotridae occurring in the area

Note: This key is exclusive of the dwarf fresh-water general *Microphilypnus* and *Leptophilypnus*. The taxonomy of species of *Eleotris* and *Dormitator* is unresolved and no key to species is available for these genera.

- 1a. Prominent, ventrally pointed spine on preopercle present, this spine may be difficult to see as it is often covered by skin → 2
- 1b. Preopercular spine absent → 3
- 2a. Scales cycloid and smooth, about 90 longitudinal rows; caudal fin extending anteriorly onto body; body very slender, elongate, and terete, the depth contained 7 to 9 times in standard length (emerald sleeper) *Erotelis smaragdus*
- 2b. Scales ctenoid and rough, 40 to 65 longitudinal rows; caudal fin not extending anteriorly on body; body depth moderate *Eleotris*
- 3a. First dorsal fin with 6 spines; body with about 40 to 65 longitudinal scale rows; body and head strongly compressed (bigmouth sleeper) *Gobiomorus dormitor*
- 3b. First dorsal fin with 7 spines; body with fewer than 40 or more than 90 longitudinal scale rows; body deep → 4
- 4a. Scales very small, about 110 longitudinal scale rows *Guavina guavina*
- 4b. Scales large, about 25 to 35 longitudinal scale rows (e.g., Fig. 1) *Dormitator*

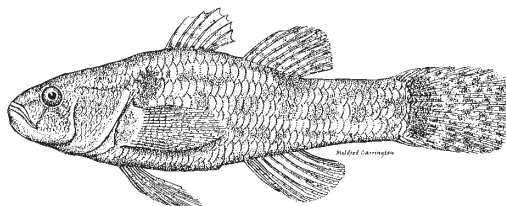


Fig.1 *Dormitator cubanus*

List of species occurring in the area

- Dormitator cubanus* Ginsburg, 1953. To 10 cm. Fresh water, Cuba.
- Dormitator lophocephalus* Hoedeman, 1951. To 9 cm. Suriname.
- Dormitator maculatus* (Bloch, 1792). To 30 cm, common to 14.5 cm. Fresh and brackish waters, Chesapeake Bay to N Gulf of Mexico and SE Brazil.
- Eleotris amblyopsis* (Cope, 1871). To 8.3 cm. N and NE South America.
- Eleotris belizanus* Sauvage, 1880. To 10 cm. Belize, French Guiana.
- Eleotris perniger* (Cope, 1871). To 13 cm. St. Martin Island.
- Eleotris pisonis* (Gmelin, 1789). To 25 cm, common to 12.5 cm. Fresh and brackish waters, South Carolina, Bermuda, Bahamas, and N Gulf of Mexico to SE Brazil.
- Erotelis smaragdus* (Valenciennes in Cuvier and Valenciennes, 1837). To 20 cm. Marine waters, SE Florida, Bahamas, and N Gulf of Mexico to Brazil.
- Gobiomorus dormitor* Lacepède 1800. To 60 cm, common to 36 cm. Fresh and brackish waters, S Florida and S Texas to E Brazil.
- Guayina guayina* (Valenciennes in Cuvier and Valenciennes, 1837). To 30 cm. Cuba, Puerto Rico, Mexico, Panama to Brazil.

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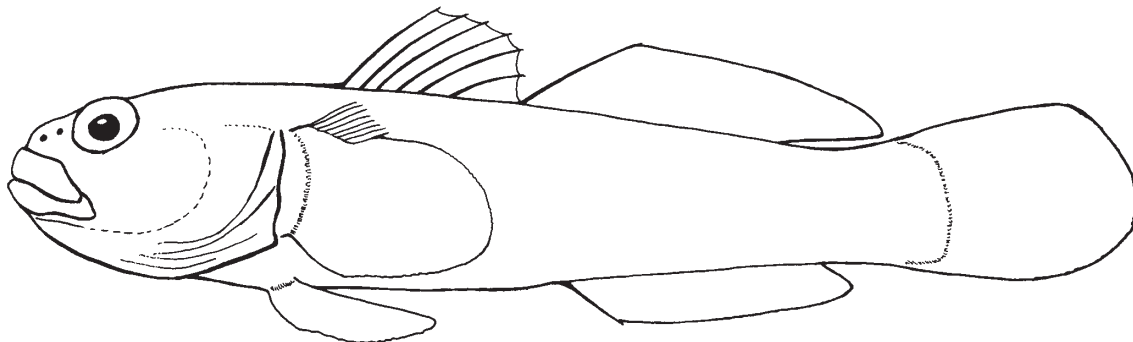
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GOBIIDAE

Gobies

by E.O. Murdy, National Science Foundation, Virginia, USA and D.F. Hoese, Australia Museum, Sydney, Australia

Diagnostic characters: Typically very small (most do not exceed 10 cm), the smallest known vertebrate is a goby, *Trimmatom nanus*, that matures at 8 mm. **The majority of gobies have united pelvic fins forming a ventral disc; those gobies with pelvic fins not united are typically found in coral reef areas.** Typically, but with many exceptions, body stout; head short and broad; snout rounded; the teeth are usually small, sharp, and conical and are found in 1 to several rows in the jaws; gill membranes broadly joined to isthmus. **The head typically has a series of sensory canals and pores as well as cutaneous papillae.** Two separate dorsal fins, first dorsal fin with 4 to 8 weak spines, second dorsal fin with 1 weak spine followed by 9 to 18 soft rays; caudal fin broad and rounded, comprising 16 or 17 segmented rays; anal fin with 1 weak spine followed by 9 to 18 soft rays; the terminal ray of the second dorsal and anal fins is divided to its base (but only counted as a single element); pelvic fin long with 1 spine and 5 rays, pelvic-fin spines usually joined by fleshy membrane (frenum), and innermost pelvic-fin rays usually joined by membrane, forming a disc; pectoral fin broad with 15 to 22 rays. The head is often scaled, scales being either cycloid or ctenoid. **There is no lateral line on the body.** **Colour:** highly variable. Coral reef species are typically brightly coloured; soft bottom and estuarine species are more drab.



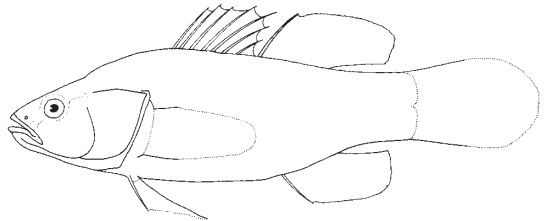
Habitat, biology, and fisheries: The Gobiidae is the largest family of marine fishes and comprises more than 220 genera and 1 500 species. This highly successful family primarily inhabits shallow tropical and subtropical waters, but has invaded nearly all benthic habitats from fresh water to the shoreline to depths exceeding 500 m. They are usually secretive in their habits and can be found on a variety of substrata from mud to rubble, and coral reefs are particularly rich in goby species. Some gobies spend their entire lives in fresh water, others migrate back and forth between fresh and brackish water environments, or between marine and brackish waters. Members of the subfamily Sicydiinae inhabit the upper reaches of rivers, often at great altitudes, and migrate downstream to spawn; when spawning is complete, the fertilized eggs drift out with currents to develop at sea, and the adults return to their upstream habitat, often overcoming torrential stream flows. Some gobies associate with other organisms such as shrimps, sponges, soft corals, and other fishes. For a few species, symbiotic relationships with other organisms are a necessary part of the goby's lifestyle. For instance, the cleaner gobies of the Caribbean (*Elacatinus*) feed on ectoparasites of other fishes whereas the Indo-Pacific gobies of the genera *Amblyeleotris* and *Cryptocentrus* share a burrow with a snapping shrimp (*Alpheus*). Typically, female gobies lay a small mass of eggs, each attached by an adhesive stalk to the underside of dead shells or other firm overhanging substrate. The eggs are guarded and tended by the male. The family is represented by more than 30 genera and approximately 125 species in this area. Most gobiids are of no commercial or recreational importance other than as food for larger fishes. Post-larval fry of *Awaous* and *Sicydium* are popular food items to native peoples throughout this region. Fry are collected in nets as they enter river and stream mouths during migrations from the sea to fresh water, usually during a full moon.

Similar families occurring in the area

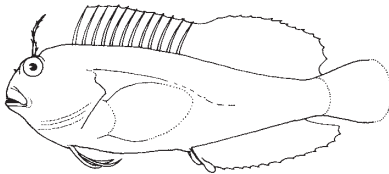
Eleotridae: base of second dorsal fin equal to or shorter than distance from end of second dorsal fin to base of caudal fin; pelvic fins always separate; found mostly in brackish or fresh water habitats, only 1 species occurs on coral reefs.

Tripterygiidae: 3 separate dorsal fins present, 2 with flexible spines and 1 with soft rays; cirri may be present on eye.

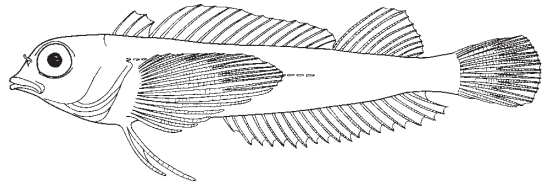
Blenniidae: body without scales; dorsal fin continuous, with fewer than 20 flexible spines and 12 or more soft rays; cirri may be present on eye and on nape.



Eleotridae



Blenniidae



Tripterygiidae

Key to the subfamilies of Gobiidae occurring in the area

- 1a. Dorsal and anal fins connected to caudal fin, both dorsal fins united by membrane; mud-burrowing, elongate gobies with pink to purple skin **Gobionellinae**
- 1b. Dorsal and anal fins separated from caudal fin, both dorsal fins typically separate. → 2
- 2a. Lower jaw typically possessing only a single row of teeth **Sicydiinae**
- 2b. Lower jaw typically possessing more than 1 row of teeth → 3
- 3a. Paired anterior interorbital pores present. **Gobionellinae**
- 3b. Usually a single anterior interorbital pore present or head pores completely lacking. If 2 anterior interorbital pores present (only Gobiinae in Area 31 with paired anterior interorbital pores are *Coryphopterus hyalinus*, *C. personatus*, and *C. lipernes*), then pelvic frenum lacking and pelvic fins nearly separate; if head pores absent, then 1 or more of the following conditions also exist: chest, head, nape, and pectoral-fin base unscaled and/or barbels present on chin (although exceptions exist, head pores are typically absent only in a few, small, coral reef gobies) **Gobiinae**

Key to the species of Gobiinae occurring in the area

- 1a. First dorsal fin with 6 or fewer spines. (*Evermannichthys* typically has 6 or fewer spines in the first dorsal fin but 7-spined *Evermannichthys* have been reported). → 2
- 1b. First dorsal fin with 7 or 8 spines → 30
- 2a. Second dorsal fin with more than 20 elements; pelvic fins separate, with 1 spine and 4 soft rays (*Ptereleotris*) → 3
- 2b. Second dorsal fin with fewer than 20 elements; pelvic fins either separate or connected by membrane, with 1 spine and 5 soft rays. → 4
- 3a. Black stripe near edge of dorsal fins; caudal fin lanceolate *Ptereleotris calliurus*
- 3b. No black in dorsal fins; caudal fin rounded. *Ptereleotris helenae*

- 4a.** No head pores → **5**
4b. Head pores present → **18**
- 5a.** Body mostly without scales, only a few scales anterior to caudal fin or none; body very slender, body depth contained 7 to 9 times in standard length without caudal fin; second dorsal fin with 1 spine and 10 to 15 soft rays (*Evermannichthys*) → **6**
5b. Body completely scaled, scales reaching anteriorly at least to origin of first dorsal fin; body deep, the depth contained 4 to 7 times in standard length; second dorsal fin with 1 spine and 8 to 11 soft rays → **9**
- 6a.** Body with numerous dark bars or saddles, especially dorsally → **7**
6b. Body uniformly pigmented or bicolour, but without dark bars or saddles → **8**
- 7a.** Four to 5 spines in first dorsal fin; row of scales along base of anal fin *Evermannichthys metzelaari*
7b. Six to 7 spines in first dorsal fin; no scales along base of anal fin *Evermannichthys spongicola*
- 8a.** Dorsal fins connected, at least basally, sometimes broadly *Evermannichthys silus*
8b. Dorsal fins separate *Evermannichthys convictor*
- 9a.** Top of head scaled to behind eyes; gill openings broad, extending to below posterior preopercular margin; spines of pelvic fin not connected by a membrane *Priolepis hipoliti*
9b. Top of head without scales; gill openings narrow, equal to pectoral-fin bases; spines of pelvic fins connected by a membrane forming a cup-shaped disc (*Lythrypnus*) → **10**
- 10a.** Body usually uniformly pigmented, lacking bands, bars, or stripes *Lythrypnus elasson*
10b. Body with bands, bars, and/or stripes → **11**
- 11a.** First 2 dorsal spines elongate, especially in males *Lythrypnus heterochroma*
11b. No elongate dorsal spines → **12**
- 12a.** Body translucent with pale bars only on posterior half *Lythrypnus minimus*
12b. Body completely banded → **13**
- 13a.** Pale bands on body with dark centre lines → **15**
13b. Pale bands on body, if present, lack dark centre lines → **14**
- 14a.** Blue and yellow bands on body, each blue band with darker centre line *Lythrypnus spilus*
14b. Narrow dark bands on body without dark centre line *Lythrypnus okapia*
- 15a.** Dark bands on body divided by pale central areas; pectoral-fin base with 2 spots, 1 ventral and 1 dorsal (occasionally barely separated); spots on cheeks usually arranged in 3 or 4 rows radiating from ventral portion of eye *Lythrypnus phorellus*
15b. Dark bands on body not divided by pale central areas; pectoral-fin base with 1 or 2 spots → **16**
- 16a.** Width of pale bands (below dorsal-fin origin) equal to or greater than width of dark bands; colour pattern on cheeks usually consisting of 2 bars or spots arranged in bars under eye, space between posteriormost bar and preopercular margin usually lacking spots; pectoral-fin base spot often extending anteriorly toward opercular membrane *Lythrypnus crocodilus*
16b. Width of pale bands clearly less than width of dark bands; colour pattern on cheeks not as above; pectoral-fin base spot usually not extending anteriorly toward opercular membrane → **17**

- 17a. Pectoral-fin rays 16 to 18, modally 17; colour pattern on cheeks consisting of wide bars (occasionally bars may break up into rows of spots), covering most of cheek with dark pigment; pectoral-fin base spot very intense, darker than other dark areas of body . *Lythrypnus mowbrayi*
- 17b. Pectoral-fin rays 15 to 17, modally 15; colour pattern on cheeks usually consisting of spots, often arranged in 3 or 4 rows radiating from ventral portion of eye, causing most of cheek to be lightly pigmented; pectoral-fin base spot not conspicuously darker than other dark areas of body *Lythrypnus nesiotus*

- 18a. Upper 3 to 5 pectoral-fin rays filamentous and free from membrane; scales extending forward onto head (*Bathygobius*) → 19
- 18b. No free pectoral-fin rays; no scales on top of head → 21

- 19a. Thirty-six or fewer scales in a lateral series. → 20
- 19b. Thirty-seven to 41 scales in a lateral series (Fig. 1). *Bathygobius soporator*

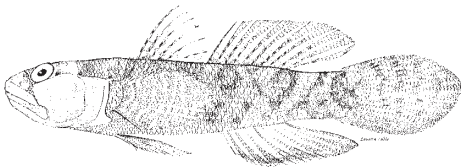


Fig. 1 *Bathygobius soporator*

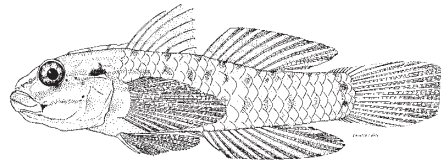


Fig. 2 *Coryphopterus glaucofraenum*

- 20a. Thirty-one to 34 (typically 33) scales in a lateral series; 16 or 17 pectoral-fin soft rays *Bathygobius curacao*
- 20b. Thirty-three to 36 (typically 35) scales in a lateral series; 19 or 20 pectoral-fin soft rays *Bathygobius mystacium*

- 21a. A prominent crest from first dorsal fin to between eyes *Lophogobius cyprinoides*
- 21b. No crest or a very low ridge from first dorsal fin to behind eyes (*Coryphopterus*) → 22

- 22a. Pelvic fins rounded → 23
- 22b. Pelvic fins emarginate. → 24

- 23a. Prominent dark spot on lower half of pectoral-fin base *Coryphopterus punctipectophorus*
- 23b. No spot on lower half of pectoral-fin base (Fig. 2) *Coryphopterus glaucofraenum*

- 24a. Pelvic frenum present → 25
- 24b. Pelvic frenum absent → 26

- 25a. Dark spot on dorsal part of pectoral-fin base *Coryphopterus thrux*
- 25b. Dark spot lacking on pectoral-fin base *Coryphopterus eidolon*

- 26a. Pelvic fins separate or nearly so → 27
- 26b. Pelvic fins united. *Coryphopterus dicrus*

- 27a. Black ring surrounds anus → 28
- 27b. No black ring surrounding anus *Coryphopterus alloides*

- 28a.** Two pores between the eyes → **29**
28b. Three pores between the eyes. *Coryphopterus hyalinus*
- 29a.** Second dorsal and anal fins with 11 total elements *Coryphopterus personatus*
29b. Second dorsal and anal fins with 10 total elements *Coryphopterus lipernes*
- 30a.** Head with 3 or more pairs of barbels; body without scales → **31**
30b. Head without elongate barbels or with 1 or 2 pairs of short bumps; body with or without scales → **32**
- 31a.** Body mostly black; 2 barbels between eye and corner of mouth *Barbulifer antennatus*
31b. Body greenish with pale bands above and below midside; 1 barbel below eye . *Barbulifer ceuthoecus*
- 32a.** First dorsal fin with 8 spines *Pariah scotius*
32b. First dorsal fin with 7 spines → **33**
- 33a.** Pelvic fins completely separate → **34**
33b. Pelvic fins connected by a membrane → **47**
- 34a.** Body without scales → **35**
34b. Body scaled → **40**
- 35a.** Pectoral fin with dark brown to black bar running dorsoventrally at a posterior angle across fin; dorsal and caudal fins also with dark bars; anal-fin elements 7 or 8 (usually 7); second dorsal-fin elements 9 or 10 (nearly always 9) *Psilotris batrachodes*
35b. Pectoral fin lacking bar running dorsoventrally at a posterior angle across fin, fin is bicoloured (upper half black) or unpigmented; anal-fin elements 8 to 11 → **36**
- 36a.** Pectoral-fin soft rays 15; anal-fin elements 8 or 9 *Psilotris alepis*
36b. Pectoral-fin soft rays 16 to 19; anal-fin elements 9 to 11 → **37**
- 37a.** Caudal fin with 3 oblique, dark bars; snout very short and blunt, with steep anterior profile; second dorsal-fin elements 11 or 12 *Psilotris amblyrhynchus*
37b. Caudal fin without 3 oblique, dark bars; snout more acute, with flatter anterior profile; second dorsal-fin elements 10 or 11 → **38**
- 38a.** Pectoral fin bicoloured, dark brown to black on upper 9 to 11 rays and membranes and white below; anal-fin elements 10 or 11 (typically 11). *Psilotris kaufmani*
38b. Pectoral fin not bicoloured; anal-fin elements 9 to 11 (typically 10). → **39**
- 39a.** Posterior end of jaw extending past posterior margin of pupil; caudal peduncle slender (80 to 89 thousandths of standard length); snout short (44 to 55 thousandths of standard length) *Psilotris boehlkei*
39b. Posterior end of jaw not extending past posterior margin of pupil; caudal peduncle deeper (greater than 92 thousandths of standard length); snout longer (greater than 55 thousandths of standard length) *Psilotris celsus*
- 40a.** Pelvic-fin rays unbranched, the soft rays with expanded tips; tongue bilobed → **41**
40b. Pelvic-fin rays branched, soft rays with or without expanded tips; tongue-tip rounded or truncate. → **43**

- 41a. Pelvic fins with fleshy tips, not extending beyond base of anal fin → 42
- 41b. Pelvic fins without fleshy tips, extending beyond base of anal fin *Varicus imswae*

- 42a. Belly completely scaled or with naked central area; total elements in second dorsal fin 9 or 10; 27 scales in a lateral series *Varicus bucca*
- 42b. Belly without scales; total elements in second dorsal fin 9; 18 or 19 scales in a lateral series *Varicus marilynae*

- 43a. Head pores present *Pycnomma roosevelti*
- 43b. No head pores → 44

- 44a. Body partially scaled → 45
- 44b. Only 2 scales present, 1 each at base of upper and lower caudal-fin *Chriolepis fisheri*

- 45a. Highly modified, enlarged scale(s) present on caudal-fin base; caudal vertebrae 17 *Robinsichthys arrowsmithensis*
- 45b. No modified and/or enlarged scale(s) on caudal-fin base; caudal vertebrae 16 → 46

- 46a. Total elements in second dorsal fin 10; total elements in anal fin 9 *Chriolepis benthonis*
- 46b. Total elements in second dorsal fin 11; total elements in anal fin 8 *Chriolepis vespa*

- 47a. Mouth not completely closing, with protruding teeth curved outward (Fig. 3) *Risor ruber*
- 47b. Mouth closing normally, without protruding teeth → 48

- 48a. Large teeth on vomer present *Palatogobius paradoxus*
- 48b. Teeth on vomer absent → 49

- 49a. Head pores absent → 50
- 49b. Head pores present → 51

- 50a. Head very depressed, broader than deep; body dark below, pale above; spines of pelvic fins not connected by a membrane *Gobulus myersi*
- 50b. Head compressed, deeper than wide; body with diffuse spots; pelvic-fin spines connected to form a cup-shaped disc *Nes longus*

- 51a. Scales present in front of pelvic fin; top of head scaled; head compressed (*Bollmannia*) → 52
- 51b. No scales anterior to pelvic fins; top of head without scales, or if scaled, head depressed → 55

- 52a. Total elements in second dorsal fin 12 → 53
- 52b. Total elements in second dorsal fin 13 to 15 → 54

- 53a. Total elements in anal fin 12; no black band on upper lip *Bollmannia litura*
- 53b. Total elements in anal fin 13; black band on upper lip (Fig. 4) *Bollmannia eigenmanni*

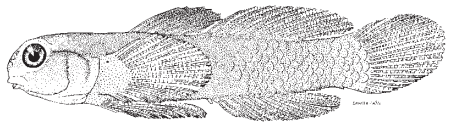


Fig. 3 *Risor ruber*

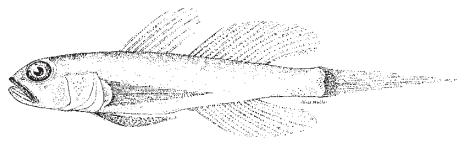


Fig. 4 *Bollmannia eigenmanni*

- 54a. Total elements in second dorsal fin 13; a longitudinal row of scales along the lower margin of the cheek *Bollmannia boqueronensis*
- 54b. Total elements in second dorsal fin typically 14, but occasionally 13 or 15; no longitudinal row of scales along the lower margin of cheek *Bollmannia communis*

- 55a. Tongue bilobed, no pore above and between anterior margin of eyes → 56
- 55b. Tongue tip usually rounded, rarely bilobed; a median pore between anterior margin of eyes → 62

- 56a. Head compressed; second dorsal fin with 1 spine and 14 to 18 soft rays (*Microgobius*) → 57
- 56b. Head depressed; second dorsal fin with 1 spine and 10 to 13 soft rays *Parrella macropteryx*

- 57a. Three pores in preopercular sensory canal; second dorsal fin with more than 17 elements; anal fin with more than 18 elements; lateral-scale rows greater than 65. → 58
- 57b. Two pores in preopercular sensory canal; second dorsal fin typically with 17 or fewer elements; anal fin with 18 or fewer elements; lateral-scale rows fewer than 65 → 59

- 58a. Second dorsal-fin elements 20 or 21; anal-fin elements 21 (occasionally 20) lateral-scale rows about 77 to 90; scales mostly cycloid; females with pale bar edged in black on body above pectoral fin *Microgobius signatus*
- 58b. Second dorsal-fin elements 18 or 19; anal-fin elements 19 (occasionally 20); lateral-scale rows about 68 to 78; scales mostly ctenoid; no dark markings on body in either sex *Microgobius microlepis*

- 59a. A fleshy median crest present on nape; a prominent dark spot on body below spinous dorsal-fin origin; caudal fin typically greater than 40% of standard length *Microgobius meeki*
- 59b. Fleshy median crest absent or poorly developed on nape; body with no dark spot below spinous dorsal-fin origin or with many dark spots; caudal fin typically less than 40% of standard length → 60

- 60a. Scales mostly ctenoid; about 4 enlarged caninoid teeth in outer row of each dentary; interorbital width broad (about 4% of standard length); a broad yellow stripe on side with 2 narrow yellow stripes above *Microgobius carri*
- 60b. Scales mostly cycloid; about 8 enlarged caninoid teeth in outer row of each dentary; interorbital width narrow (less than 3% of standard length); no yellow stripes on body → 61

- 61a. Three pores in lateral cephalic sensory canal; body with numerous dark blotches; mouth of males greatly enlarged (greater than 15% of standard length in males larger than 25 mm) *Microgobius gulosus*
- 61b. Two pores in lateral cephalic sensory canal; body without dark spots; mouth of males little enlarged (less than 15% of standard length in males). *Microgobius thalassinus*

- 62a. Body with 9 blue vertical bars; upper lip almost completely connected to snout, upper lip free near end of mouth only *Ginsburgellus novemlineatus*
- 62b. Body with vertical bars or stripes, or uniformly grey or brown; upper lip connected to snout anteriorly only, or if broadly connected, body with longitudinal stripes → 63

- 63a. Body with prominent longitudinal stripes or transverse bars, or spotted; head distinctly compressed, deeper than wide; vertebrae 28 (*Elacatinus*) → 64
- 63b. Body with diffuse transverse bars or uniformly grey or brown, never with longitudinal stripes; head rounded or depressed, broader than deep, vertebrae 27 (*Gobiosoma*) → 82

- 64a.** No transverse bars or bands on body; prominent longitudinal pale stripe from eye to posterior margin of head and typically extending along body to caudal-fin base; typically a black longitudinal stripe ventral to the pale stripe → **65**
- 64b.** Prominent transverse bars or bands present on body; no longitudinal stripes extending the entire body length, if longitudinal stripe present, it only extends the length of the head → **76**
- 65a.** Postorbital pale stripe incomplete, not extending posteriorly beyond pectoral fin → **66**
- 65b.** Postorbital pale stripe extending full length of body to caudal-fin base → **67**
- 66a.** Body dark dorsally, paler ventrally, with dark area along caudal peduncle forming squarish basicaudal spot; postorbital coloured stripe bright yellow *Elacatinus chancei*
- 66b.** Body and fins uniformly dark, slate grey; postorbital coloured stripe blue *Elacatinus tenox*
- 67a.** Rostral frenum present (occasionally with slight groove between lip and snout in *E. evelynae*), mouth distinctly inferior, the snout overhanging upper lip → **68**
- 67b.** Rostral frenum absent (upper jaw always separated from snout by a deep groove; mouth usually terminal or subterminal (except distinctly inferior in *E. genie*) → **70**
- 68a.** Pale marking on snout an isolated, vertically ovate marking centrally *Elacatinus illecebrosus*
- 68b.** Pale markings on snout consisting of stripes continued forward from each eye, the 2 not interconnected anteriorly (*E. oceanops*), or a continuous V from eye to eye (*E. evelynae*) → **69**
- 69a.** Predorsal region not pale centrally; lateral pale stripe blue in life *Elacatinus oceanops*
- 69b.** Predorsal region usually with a pale central streak; lateral pale stripe yellow to chartreuse in life anteriorly, becoming pale posteriorly *Elacatinus evelynae*
- 70a.** Mouth distinctly inferior, shark-like; teeth in 1 series in upper jaw *Elacatinus genie*
- 70b.** Mouth subterminal to terminal; teeth in 2 or more rows in upper jaw → **71**
- 71a.** Tip of snout dusky overall (the nostrils may be set in a pale patch on either side in young *E. horsti*) → **72**
- 71b.** Tip of snout with a distinct pale marking that includes the anterior midline → **73**
- 72a.** Longitudinal pale stripe broad, extending ventrally to or below lateral septum; pectoral-fin rays modally 16 *Elacatinus atronasum*
- 72b.** Longitudinal pale stripe narrow, placed high on side of body; pectoral-fin rays modally 18 and frequently 19 *Elacatinus horsti*
- 73a.** Longitudinal dark stripe terminating in an ovate spot on base of caudal fin (sometimes some dusky pigment present behind the spot) *Elacatinus louisae*
- 73b.** Longitudinal dark stripe continued to tip of caudal fin without swelling to an ovate spot on base of caudal fin → **74**
- 74a.** Longitudinal dark stripe extending down to ventral midline; lateral pale stripe wide, roughly equal in width to eye; predorsal area without a pale median streak *Elacatinus prochilos*
- 74b.** Longitudinal dark stripe narrow, its lower margin well removed from base of anal fin; lateral pale stripe narrow, notably narrower than eye; predorsal dark area with a pale median streak → **75**

75a. Pectoral-fin rays modally 19 (range 18 to 20), females with enlarged canine teeth
..... *Elacatinus xanthiprora*

75b. Pectoral-fin rays modally 17 (range 16 to 18), females without any enlarged canine teeth
..... *Elacatinus randalli*

76a. Body naked; dark green with about 17 to 23 narrow, pale green bars posterior to pectoral-fin base; side of head with broad postorbital red to brownish red stripe; pectoral-fin rays usually 20 or 21 (rarely 19).
..... *Elacatinus multifasciatus*

76b. Body with at least 2 basicaudal scales; body pale to dark but not greenish; no longitudinal stripe on head; pectoral-fin rays 14 to 18 (rarely 19) → 77

77a. Body straw-coloured, 13 prominent dark mahogany-coloured bands posterior to pectoral-fin base → 78

77b. Body variously spotted or banded, but if banded, the bands not dark mahogany-coloured and fewer than 13 → 79

78a. Dark bands on body wider than pale interspace; 4 modified basicaudal scales plus patch of 9 to 12 scales on side of caudal peduncle; pectoral-fin rays typically 18 (17 to 19) *Elacatinus zebrellus*

78b. Dark bands on body narrower than pale interspace; 4 modified basicaudal scales plus patch of 4 to 8 scales on side of caudal peduncle; pectoral-fin rays typically 17 (16 to 18) (Fig. 5) *Elacatinus macrodon*

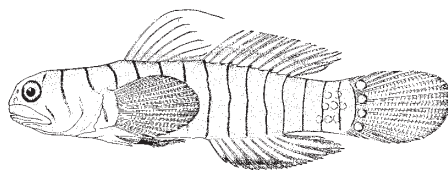


Fig. 5 *Elacatinus macrodon*

79a. Body dark, typically with 8 or 9 dark bands on body posterior to pectoral fin. → 80

79b. Body pallid, with conspicuous dark spots or incomplete bands; if banded, squamation reduced to 2 basicaudal scales. → 81

80a. Dorsal, caudal, and anal fins with rays inconspicuously barred, interradial membranes dark; body dark, the bands sometimes difficult to discern on the dark background; 5 to 8 rows of scales on side of caudal peduncle *Elacatinus gemmatus*

80b. Dorsal, caudal, and anal fins not barred; bands usually easy to discern and forked dorsally; 8 to 13 rows of scales on side of caudal peduncle *Elacatinus pallens*

81a. Body boldly spotted with dark mahogany brown; 4 or 5 rows of scales on caudal peduncle
..... *Elacatinus saucrus*

81b. Body banded (sometimes indistinctly or with incomplete bands) posteriorly; sides of belly with 2 bright orange spots, separated by 2 dark bars and white interspace; only 2 small basicaudal scales *Elacatinus dilepis*

82a. Short segment of lateral canal with pore at each end dorsal to opercle (not to be confused with single pore in lateral canal dorsoposterior to preopercular margin); body naked to scaly → 83

82b. No segment of lateral canal, and therefore, no pores dorsal to opercle → 88

83a. Body always naked; anal-fin soft rays typically 11, rarely 10 or 12; second dorsal-fin rays typically 13, rarely 12 or 14 *Gobiosoma bosc*

83b. Body with at least 2 basicaudal scales, the posterior part of the body sometimes extensively scaled; anal-fin soft rays typically 10 (except in *ginsburgi*); second dorsal-fin rays typically 10 to 12, rarely 13 → 84

84a. Two small basicaudal scales, 1 each at the upper and lower end of the caudal-fin base; pectoral-fin rays 15 to 19 → **85**

84b. Sides of caudal peduncle scaly, typically more than eight transverse rows present; pectoral-fin rays 18 to 22 (except in *G. grosvenori*, which is extensively scaled) → **86**

85a. Anal-fin rays typically 11, rarely 10 or 12; pectoral-fin soft rays 18 or 19 (rarely 17) *Gobiosoma ginsburgi*

85b. Anal-fin rays typically 10, rarely 9, pectoral-fin soft rays 16 (rarely 15 or 17). *Gobiosoma longipala*

86a. Second dorsal-fin soft rays 10; anal-fin soft rays 9; pectoral-fin soft rays 17 (rarely 16 or 18); 31 to 35 transverse scale rows along body, the scales rather deciduous *Gobiosoma grosvenori*

86b. Second dorsal-fin soft rays 12 (rarely 11 or 13); anal-fin soft rays 10 (rarely 9); pectoral-fin soft rays 18 to 21 → **87**

87a. Scales covering broad triangular area whose apex is on midside toward pectoral fin, typically in 26 to 29 transverse rows; pectoral-fin soft rays 18 or 19, rarely 20; conspicuous series of short dark dashes along midside *Gobiosoma spilotum*

87b. Scaled area less extensive, but with midlateral row reaching far forward and containing about 34 to 36 scales; pectoral-fin soft rays 20 or 21 *Gobiosoma hemigynnum*

88a. Body entirely naked; no short, bilobed mental barbel; 3 preopercular pores (Fig. 6) *Gobiosoma robustum*

88b. Body with 7 or more transverse rows of scales or, if only 2 basicaudal scales present, chin with short bilobed barbel; 2 or 3 preopercular pores present → **89**

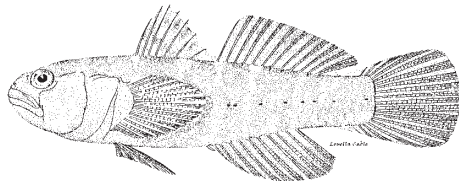


Fig. 6 *Gobiosoma robustum*

89a. Scales interrupted, with 7 to 16 transverse rows posteriorly and an isolated patch posterior to pectoral-fin base; no scales on caudal base; 2 preopercular pores present → **90**

89b. Scales extending forward, uninterrupted, as a narrow wedge to pectoral-fin base, in about 30 transverse rows; 3 preopercular pores present. *Gobiosoma hildebrandi*

90a. Pectoral-fin rays typically 15 or 16. → **91**

90b. Pectoral-fin rays typically 17 or 18 *Gobiosoma schultzi*

91a. Anal-fin rays 8 to 11, typically 9; males without filamentous dorsal-fin spine *Gobiosoma yucatanum*

91b. Anal-fin rays 9 to 11, typically 10; males with filamentous dorsal-fin spine *Gobiosoma spes*

Key to the species of Gobionellinae in the area

[Mostly brackish to fresh-water species]

1a. A single continuous dorsal fin; eyes minute, about 10% of head length; body very elongate, eel-like; reaching 50 cm in total length → **2**

1b. Two dorsal fins; eyes larger, 15% or more of head length; body robust or elongate; maximum size of adults to 30 cm → **3**

2a. First dorsal fin with 6 spines, second dorsal fin with 1 spine and 14 soft rays, anal fin with 1 spine and 13 or 14 soft rays; caudal vertebrae 16 *Gobioides grahamae*

2b. First dorsal fin with 6 spines, second dorsal fin with 1 spine and 15 soft rays, anal fin with 1 spine and 15 soft rays; caudal vertebrae 17. *Gobioides broussonetii*

- 3a.** Low membranous crest present on nape reaching from origin of first dorsal fin to above preopercle. *Oxyurichthys stigmatophius*
- 3b.** No crest present on nape → 4
- 4a.** Body without scales; vomer (on roof of mouth) with teeth *Vomerogobius flavus*
- 4b.** Body completely scaled; vomer without teeth → 5
- 5a.** Shoulder girdle, under gill cover, with distinct fleshy lobes (*Awaous*) → 6
- 5b.** Shoulder girdle without fleshy lobes → 7
- 6a.** Longitudinal scales rows typically fewer than 60; first dorsal fin reddish orange *Awaous flavus*
- 6b.** Longitudinal scale rows typically more than 60, often more than 70; first dorsal fin yellowish green *Awaous banana*
- 7a.** Teeth compressed, with bilobed tips; mouth slightly inferior; 2 dusky spots at base of caudal fin. *Evorthodus lyricus*
- 7b.** Teeth conical, pointed-tipped; mouth at end of snout or inferior → 8
- 8a.** Tongue distinctly bilobed; sides of head scaled to below eye; mouth inferior *Gnatholepis thompsoni*
- 8b.** Tongue tip-pointed to rounded; sides of head without scales, or with scales on opercle only; mouth at end of snout → 9
- 9a.** Long, lateral cephalic canal with 4 pores; numerous elongate gill rakers on both arms of first gill arch. (*Gobionellus*) → 10
- 9b.** Short, lateral cephalic canal with only 2 pores; no gill rakers or lobes on upper arm of first gill arch, 4 or 5 gill rakers on lower arm, gill rakers short and triangulate. (*Ctenogobius*) → 11
- 10a.** Total elements in second dorsal fin 13; total elements in anal fin 14; a large anterolateral splotch on the trunk beneath pectoral fin *Gobionellus stomatus*
- 10b.** Total elements in second dorsal fin 14; total elements in anal fin 15; no spot beneath pectoral fin *Gobionellus oceanicus*
- 11a.** Total elements in second dorsal fin 11; total elements in anal fin 12 → 12
- 11b.** Total elements in second dorsal fin 12; total elements in anal fin 13 → 13
- 12a.** Black circles on side of head; many green spots on side *Ctenogobius smaragdus*
- 12b.** No circular spots on side of head; about 5 round or elongate dark blotches along midside, some with diagonal marks extending upward to form V-shapes *Ctenogobius boleosoma*
- 13a.** Darkly pigmented along preopercular margin of cheek → 14
- 13b.** Preopercular margin, if pigmented, not more intense than other head pigmentation, and not as distinctly defined → 15
- 14a.** Nape typically with 10 to 12 predorsal scales; spines of first dorsal fin not produced *Ctenogobius stigmaturus*
- 14b.** Nape with few or no scales; third spine of first dorsal fin often greatly produced in males *Ctenogobius fasciatus*

- 15a. Eye greatly reduced, not filling socket *Ctenogobius thoropsis*
- 15b. Eye normal, not reduced. → 16

- 16a. Cheek with 3 dark broad vertical bars; laterally projecting, sometimes nearly horizontal, tusk-like canine tooth in middle of lower jaw *Ctenogobius stigmaticus*
- 16b. Cheek not as above; canine tooth present midlaterally in lower jaw of some species but not projecting laterally or horizontally → 17

- 17a. Broad strip of dark pigment crossing lower cheek from lower preopercular angle to just above the corner of the jaw; males often with elongate third spine in first dorsal fin and large recurved canine tooth midlaterally in lower jaw *Ctenogobius pseudofasciatus*
- 17b. Broad strip not present as described; males with or without elongate spine and large, midlateral canine tooth in lower jaw → 18

- 18a. Cheek pigmentation dominated by distinct suborbital bar that follows a vertical from lower rim of orbit to the corner of the jaw (in some populations only reaching a third of the distance to jaw) *Ctenogobius saepepallans*
- 18b. Cheek pigmentation not dominated by suborbital bar described above, instead horizontal bar across midcheek from upper preopercular canal to corner of jaw or streak on snout from eye to midlateral portion of upper jaw may be more pronounced → 19

- 19a. Caudal fin very elongate in both sexes (42 to 53% standard length in males, 39 to 50% in females); jaw long, extending to posterior margin of orbit in both sexes (13 to 16% standard length in males, 13 to 14% in females); dark, well-defined shoulder patch present (most prominent marking on trunk); V-shaped pattern of midlateral blotches with dorsal extensions frequently formed in adults *Ctenogobius phenacus*
- 19b. Caudal fin moderately produced (to 44% standard length in males, to 39% in females); jaw long in males but not reaching posterior margin of orbit in females (only to 13% standard length); shoulder patch frequently present but rarely as dark as midlateral blotches; V-shaped pattern not formed, only single dorsal arms may be present → 20

- 20a. Pelvic fin in adult males dusky; in females, pelvic fin with bilateral streaks paralleling innermost ray coursing posteriorly from fin base; adult males typically with third spine of first dorsal fin elongate *Ctenogobius claytoni*
- 20b. Pelvic fin in adult males with bilateral streaks paralleling innermost ray coursing posteriorly from fin base; pelvic fin of females without streaks; adult males lack elongate spine in first dorsal fin *Ctenogobius shufeldti*

Key to the genera of Sicydiinae occurring in the area

Only a single genus of Sicydiine gobies is found in this region, that genus is *Sicydium*. Taxonomy is incompletely resolved in this genus and, thus, a key to the species of *Sicydium* is not yet available.

List of species occurring in the area

GOBIINAE

- Barbulifer antennatus* Böhlke and Robins, 1968. To 3 cm. Bahamas, Jamaica, Antilles.
- Barbulifer ceuthoecus* (Jordan and Gilbert, 1884). To 3 cm. S Florida and Bahamas to Central America and N South America.
- Bathygobius curacao* (Metzelaar, 1919). To 7.5 cm. Bermuda, Florida, and Bahamas to N South America.
- Bathygobius mystacium* Ginsburg, 1947. To 15 cm. Florida and Bahamas to Antilles and Central America.
- Bathygobius soporator* (Valenciennes, 1837). To 7.5 cm. North Carolina, Bermuda, Florida, Bahamas, and N Gulf of Mexico to SE Brazil.

- Bollmannia boqueronensis* Evermann and Marsh, 1899. To 10 cm. S Florida to N South America.
- Bollmannia communis* Ginsburg, 1942. To 10 cm. S Florida and entire Gulf of Mexico.
- Bollmannia eigenmanni* (Garman, 1896). To 18 cm. S Florida and NE Gulf of Mexico.
- Bollmannia litura* Ginsburg, 1935. To 6 cm. Puerto Rico, Dominican Republic.
- Chriolepis benthonis* Ginsburg, 1953. To 3.5 cm. Yucatán.
- Chriolepis fisheri* Herre, 1942. To 2.5 cm. Bahamas, Cayman Islands, Barbados.
- Chriolepis vespa* Hastings and Bortone, 1981. To 4 cm. NE Gulf of Mexico.
- Coryphopterus alloides* Böhlke and Robins, 1960. To 4 cm. S Florida, Bahamas, and Belize.
- Coryphopterus dicrus* Böhlke and Robins, 1960. To 5 cm. S Florida and Bahamas to Antilles and Central America.
- Coryphopterus eidolon* Böhlke and Robins, 1960. To 6 cm. S Florida and Bahamas to Antilles.
- Coryphopterus glaucofraenum* Gill, 1863. To 7.5 cm. North Carolina and Bermuda to Brazil and Caribbean.
- Coryphopterus hyalinus* Böhlke and Robins, 1962. To 2.5 cm. Florida, Bahamas, Antilles, W Caribbean.
- Coryphopterus lipernes* Böhlke and Robins, 1962. To 3.2 cm. Florida Keys and Bahamas to Central America including Antilles.
- Coryphopterus personatus* (Jordan and Thompson, 1905). To 3.5 cm. Bermuda, Florida and Bahamas to Lesser Antilles and W Caribbean.
- Coryphopterus punctipectophorus* Springer, 1960. To 7.5 cm. Both coasts of S Florida and Alabama.
- Coryphopterus thrix* Böhlke and Robins, 1960. To 5 cm. S Florida and Bahamas.
- Elacatinus atronasum* (Böhlke and Robins, 1968). To 2.5 cm. Bahamas.
- Elacatinus chancei* (Beebe and Hollister, 1933). To 5 cm. Bahamas to Venezuela.
- Elacatinus dilepis* (Robins and Böhlke, 1964). To 2.5 cm. Bahamas, Grand Cayman, Lesser Antilles, Belize, and Colombia.
- Elacatinus evelynae* (Böhlke and Robins, 1968). To 4 cm. Bahamas, Virgin Islands, Antilles, and W Caribbean.
- Elacatinus gemmatus* (Ginsburg, 1939). To 2.5 cm. Bahamas, Cayman Islands, Puerto Rico, Lesser Antilles, Belize to Colombia and Venezuela.
- Elacatinus genie* (Böhlke and Robins, 1968). To 4.5 cm. Bahamas and Cayman Islands.
- Elacatinus horsti* (Metzelaar, 1922). To 5 cm. S Florida, N Bahamas, Cayman Islands, Jamaica, Haiti, Belize, Nicaragua, Panama, and Curacao.
- Elacatinus illecebrosus* (Böhlke and Robins, 1968). To 4 cm. Mexico to Colombia.
- Elacatinus louisae* (Böhlke and Robins, 1968). To 3.8 cm. Bahamas, Grand Cayman, Colombia.
- Elacatinus macrodon* (Beebe and Tee-Van, 1928). To 5 cm. S Florida and Cuba to Haiti.
- Elacatinus multifasciatus* (Steindachner, 1876). To 5 cm. Bahamas, Cuba, Cayman Islands, Antilles, and Panama to Venezuela.
- Elacatinus oceanops* Jordan, 1904. To 5 cm. S Florida, Florida Keys, Texas, Yucatán, Belize.
- Elacatinus pallens* (Ginsburg, 1939). To 1.9 cm. Bahamas, Cayman Islands, Lesser Antilles, Belize, and Colombia.
- Elacatinus prochilos* (Böhlke and Robins, 1968). To 4 cm. N Gulf of Mexico, Jamaica, Lesser Antilles, Yucatán, and Belize.
- Elacatinus randalli* (Böhlke and Robins, 1968). To 4.6 cm. Puerto Rico, Lesser Antilles, and Venezuela.
- Elacatinus saucrus* (Robins, 1960). To 1.6 cm. Florida Keys, Bahamas, Jamaica, Virgin Islands, and Belize.
- Elacatinus tenox* (Böhlke and Robins, 1968). To 2.5 cm. Lesser Antilles, Panama.
- Elacatinus xanthiprora* (Böhlke and Robins, 1960). To 4 cm. Florida Keys, Dry Tortugas, Caribbean.
- Elacatinus zebrellus* (Robins, 1958). To 2.7 cm. Trinidad and Venezuela.
- Evermannichthys convictor* Böhlke and Robins, 1969. To 2 cm. Bahamas.
- Evermannichthys metzelaari* Hubbs, 1923. To 3 cm. North Carolina, Bahamas, NE Gulf of Mexico to Curacao, Colombia.
- Evermannichthys silus* Böhlke and Robins, 1969. To 2.5 cm. Bahamas.
- Evermannichthys spongicola* (Radcliffe, 1917). To 3 cm. North Carolina and NE Gulf of Mexico to Campeche.
- Ginsburgellus novemlineatus* (Fowler, 1950). To 2.5 cm. Bahamas to Central America and N South America.

- Gobiosoma bosc* (Lacepède, 1800). To 6 cm. Massachusetts to Florida, along the N coast of the Gulf of Mexico to Campeche.
- Gobiosoma ginsburgi* Hildebrand and Schroeder, 1928. To 6 cm. Massachusetts to S Florida.
- Gobiosoma grosvenori* (Robins, 1964). To 3 cm. SE Florida, Jamaica, Venezuela.
- Gobiosoma hemigygnum* (Eigenmann and Eigenmann, 1888). To 4.8 cm. West Indies.
- Gobiosoma hildebrandi* (Ginsburg, 1939). To 4 cm. Panama Canal.
- Gobiosoma longipala* Ginsburg, 1933. To 5 cm. Gulf coast of Florida to Mississippi.
- Gobiosoma robustum* Ginsburg, 1933. To 5 cm. E coast of Florida and entire Gulf of Mexico.
- Gobiosoma schultzi* (Ginsburg, 1944). To 2.5 cm. Venezuela.
- Gobiosoma spes* (Ginsburg, 1939). To 4.1 cm. Puerto Rico, Costa Rica, Panama, Venezuela.
- Gobiosoma spilotum* (Ginsburg, 1939). To 3 cm. Panama.
- Gobiosoma yucatanum* Dawson, 1971. To 3 cm. Caribbean side of Yucatán Peninsula.
- Gobulus myersi* Ginsburg, 1939. To 15 cm. S Florida and Bahamas to Venezuela.
- Lophogobius cyprinoides* (Pallas, 1770). To 10 cm. Bermuda, Florida and Bahamas to Central America and N South America.
- Lythrypnus crocodilus* (Beebe and Tee-Van, 1928). To 2 cm. W Caribbean, Lesser and Greater Antilles, Bahamas.
- Lythrypnus elasson* Böhlke and Robins, 1960. To 2 cm. Bahamas, Cuba, Cayman Islands.
- Lythrypnus heterochroma* Ginsburg, 1939. To 2.5 cm. Bahamas, Cuba, Mexico, Belize.
- Lythrypnus minimus* Garzón and Acero, 1988. To 1.1 cm. Bahamas, Venezuela, Colombia.
- Lythrypnus mowbrayi* (Bean, 1906). To 2 cm. Bermuda.
- Lythrypnus nesiotus* Böhlke and Robins 1960. To 2 cm. S Florida and Bahamas, Antilles, N South America to the W Caribbean and Texas.
- Lythrypnus okapia* Robins and Böhlke, 1964. To 1.3 cm. Bahamas, Cayman Islands, Colombia.
- Lythrypnus phorellus* Böhlke and Robins 1960. To 2 cm. North Carolina to S Florida and Texas, Central America.
- Lythrypnus spilus* Böhlke and Robins, 1960. To 2.5 cm. S Florida and Bahamas to Greater Antilles.
- Microgobius carri* Fowler, 1945. To 7.5 cm. North Carolina and E Gulf of Mexico to Lesser Antilles.
- Microgobius gulosus* (Girard, 1858). To 7.5 cm. Florida to Texas.
- Microgobius meeki* Evermann and Marsh, 1899. To 5.4 cm. Puerto Rico, Venezuela, Brazil.
- Microgobius microlepis* Longley and Hildebrand, 1940. To 5 cm. S Florida and Bahamas to Yucatan and Belize.
- Microgobius signatus* Poey, 1876. To 6 cm. Antilles to Venezuela and Nicaragua.
- Microgobius thalassinus* (Jordan and Gilbert, 1883). To 4 cm. Maryland to Texas.
- Nes longus* (Nichols, 1914). To 10 cm. Bermuda, S Florida and Bahamas to Antilles, Venezuela, Panama, and Yucatán.
- Palatogobius paradoxus* Gilbert, 1971. To 3.5 cm. NE Gulf of Mexico to Lesser Antilles, Venezuela and Panama.
- Pariah scotius* Böhlke, 1969. To 3 cm. Bahamas.
- Parrella macropteryx* Ginsburg, 1939. To 8 cm. Cuba, Puerto Rico.
- Priolepis hipoliti* (Metzelaar, 1922). To 4 cm. S Florida and Bahamas to N South America.
- Psilotris alepis* Ginsburg, 1953. To 2.4 cm. Bahamas, Cuba, Virgin Islands, Cayman Islands, Honduras.
- Psilotris amblyrhynchus* Smith and Baldwin, 1999. To 4 cm, Belize.
- Psilotris batrachodes* Böhlke, 1963. To 1.9 cm. Bahamas, Cuba, Cayman Islands, Puerto Rico, Belize, Honduras, Colombia.
- Psilotris boehlkei* Greenfield, 1993. To 4 cm. Lesser Antilles.
- Psilotris celsus* Böhlke, 1963. To 5.1 cm. Bermuda, Bahamas, Virgin Islands, Colombia.
- Psilotris kaufmani* Greenfield, Findley, and Johnson 1993. To 4 cm, Jamaica, Puerto Rico, Colombia, Belize, Honduras.
- Ptereleotris calliurus* (Jordan and Gilbert, 1882). To 12.5 cm. North Carolina to S. Florida, and E Gulf of Mexico.
- Ptereleotris helena* (Randall, 1968). To 12 cm. SE Florida and Bahamas, Caribbean including Antilles.
- Pycnomma roosevelti* Ginsburg, 1939. To 2.5 cm. Venezuela.
- Risor ruber* (Rosén, 1911). To 2.5 cm. Texas, S Florida and Bahamas to Antilles and Suriname.

Robinsichthys arrowsmithensis Birdsong, 1988. To 3 cm. Yucatán.

Varicus bucca Robins and Böhlke, 1961. To 3 cm. Lesser Antilles.

Varicus imswe Greenfield, 1981. To 2 cm. Bahamas and Belize.

Varicus marilynae Gilmore, 1979. To 2.5 cm. Florida.

GOBIONELLINE

Awaous banana (Valenciennes, 1837). To 30 cm. Florida and Antilles to Central America and Brazil.

Awaous flavus (Valenciennes, 1837). To 10 cm. Colombia to Brazil.

Ctenogobius boleosoma (Jordan and Gilbert, 1882). To 7.5 cm. Maryland to Florida and Bahamas, and N Gulf of Mexico, W Caribbean to Brazil.

Ctenogobius claytoni (Meek, 1902). To 6 cm. Texas, Mexico.

Ctenogobius fasciatus Gill, 1858. To 7.2 cm. Dominica, Trinidad, Barbados, Costa Rica, Panama, Venezuela.

Ctenogobius phenacus (Pezold and Lasala, 1987). To 5 cm. Venezuela, Suriname, French Guiana.

Ctenogobius pseudofasciatus (Gilbert and Randall, 1971). To 6.6 cm. Florida, Belize, Costa Rica, Trinidad.

Ctenogobius saepepallens (Gilbert and Randall, 1968). To 5 cm. S Florida and Bahamas to Venezuela.

Ctenogobius shufeldti (Jordan and Eigenmann, 1887). To 8 cm. North Carolina to S Florida and Texas.

Ctenogobius smaragdus (Valenciennes, 1837). To 15 cm. North Carolina and Florida to Brazil.

Ctenogobius stigmaticus (Poey, 1860). To 8 cm. South Carolina and NE Gulf of Mexico to Brazil.

Ctenogobius stigmaturus (Goode and Bean, 1882). To 6.5 cm. Florida to Key West.

Ctenogobius thoropsis (Pezold and Gilbert, 1987). To 5.5 cm. Suriname, Brazil.

Evorthodus lyricus (Girard, 1858). To 15 cm. Chesapeake Bay to N Gulf of Mexico and S to N South America.

Gnatholepis thompsoni Jordan, 1904. To 7.5 cm. Bermuda, Florida, and Bahamas to W Caribbean and N South America.

Gobioides broussonetii Lacepède, 1800. To 50 cm. South Carolina to Gulf of Mexico, Caribbean, and S to Brazil.

Gobioides grahamae Palmer and Wheeler, 1955. To 20 cm. Guyana, French Guiana, Brazil.

Gobionellus oceanicus (Pallas, 1770). To 30 cm. North Carolina to Brazil.

Gobionellus stomatus Starks, 1913. To 11 cm. Brazil.

Oxyurichthys stigmalocephus (Mead and Böhlke, 1958). To 16.5 cm. Florida, Bahamas, and S Gulf of Mexico to Suriname.

Vomerogobius flavus Gilbert, 1971. To 2.5 cm. Bahamas.

SICYDIUM

Sicydium adelum Bussing, 1996. To 9 cm. Costa Rica.

Sicydium altum Meek, 1907. To 10 cm. Costa Rica.

Sicydium antillarum Ogilvie-Grant, 1884. To 13 cm. Barbados, Panama.

Sicydium buscki Evermann and Clark, 1906. To 6 cm. Dominican Republic.

Sicydium caguitae (Evermann and Marsh, 1900). To 9.5 cm. Puerto Rico.

Sicydium gymnogaster Ogilvie-Grant, 1884. To 13 cm. Mexico to Honduras.

Sicydium montanum Hubbs, 1920. To 1 cm. Venezuela.

Sicydium plumieri (Bloch, 1786). To 24 cm. Cuba, Jamaica, Puerto Rico, Martinique, Guadeloupe, St. Vincent, Barbados.

Sicydium punctatum Perugia, 1896. To 8 cm. Martinique, Venezuela, Panama, Dominica.

Sicydium salvini Ogilvie-Grant, 1884. To 12.5 cm. Panama.

Sicydium vincente Jordan and Evermann, 1898. To 3.7 cm. St. Vincent.

References

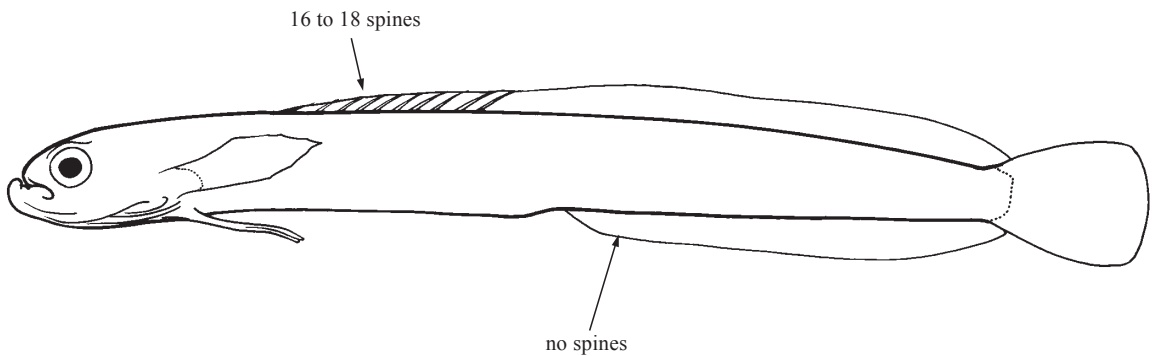
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MICRODESMIDAE

Wormfishes

by C.E. Thacker, Natural History Museum of Los Angeles County, California, USA

Diagnostic characters: Small (to 27 cm; most 7 cm or less), **elongate fishes with single continuous dorsal fin including 10 to 28 spines and 28 to 66 soft rays**. Head rounded. Eyes small, sometimes very reduced. Mouth small, with **protruding lower jaw**. Jaw teeth small and straight, conical or spatulate. Anal fin with no spines and 23 to 61 soft rays. Caudal fin with 17 soft rays, rounded or lanceolate, often joined in continuous finfold with dorsal and anal fins. Pectoral fins with 10 to 13 soft rays, **pelvic fins small, separate, with 1 spine and 3 soft rays**. Scales small, cycloid, nonoverlapping, absent on head. No lateral line. **Colour:** pink or tan ground colour, often with scattered small or large spots or blotches, some with bars radiating from eye.



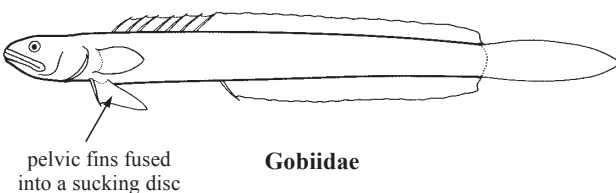
Habitat, biology, and fisheries: Wormfishes inhabit shallow, nearshore waters, and are found buried in the sediment or in interstitial holes or burrows, sometimes shrimp burrows. They are most often caught by nightlighting or applying poison to the substrate and waiting for fish to emerge; pink wormfish may also be captured with bait pumps which pull the animals out of the burrows in which they hide. Wormfishes are of no importance to commercial fisheries, but may be used as bait by sportfishers.

Similar families occurring in the area

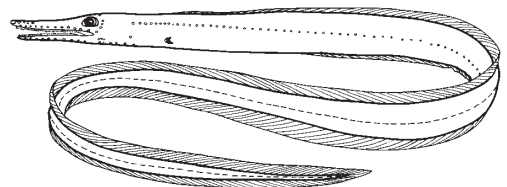
May be confused with some elongate gobies (such as the violet goby), blennies, or small eels. Wormfishes may be distinguished from these families on the basis of their separate, small pelvic fins; small, underslung mouth with protruding lower jaw; lack of cirri on head; and single dorsal fin composed of both spines and rays. Distinguishing characters of these families as compared to wormfishes are the following:

Gobiidae: pelvic fins not separate, fused into a ventral sucking disc.

Moringuidae, Ophichthidae, Nettastomatidae: no pelvic fins.



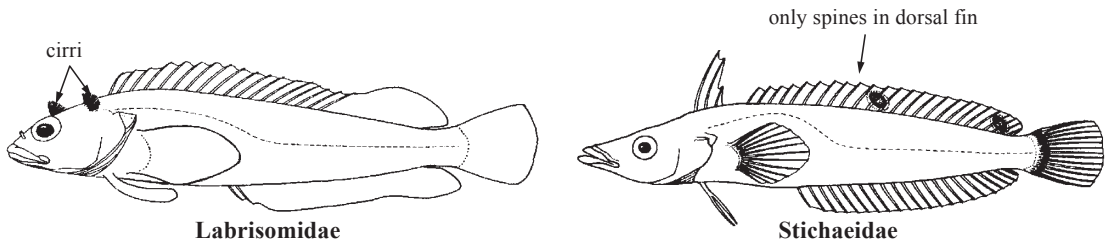
Gobiidae



Nettastomatidae

Labrisomidae: cirri on head and nape.

Stichaeidae: dorsal fin composed entirely of spines.



List of species occurring in the area

Cerdale floridana Longley, 1934. To 8.0 cm. Widespread W Central Atlantic.

Microdesmus bahianus Dawson, 1973. To 6.5 cm. Adults known from S Atlantic, larvae from Area 31.

Microdesmus carri Gilbert, 1966. To 53 mm. SW31.

Microdesmus lanceolatus Dawson, 1962. To 4.5 cm. NW31.

Microdesmus longipinnis (Weymouth, 1910). To 27 cm. Widespread W Central Atlantic.

Microdesmus luscus Dawson, 1977. To 4.6 cm. S31.

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