

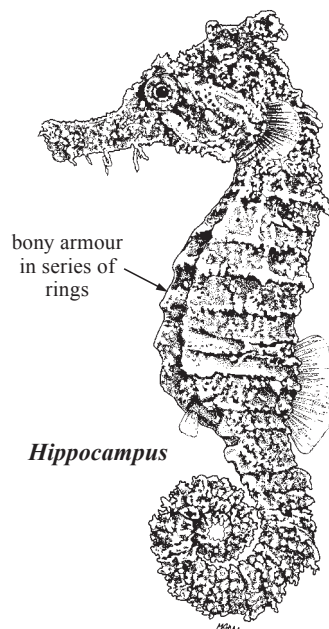
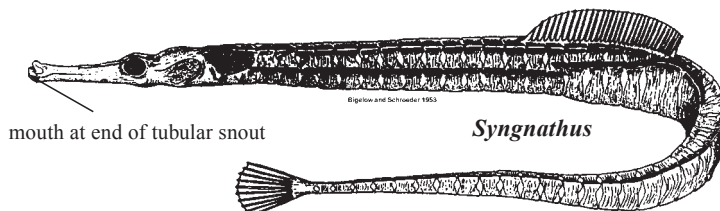
Order GASTEROSTEIFORMES

SYNGNATHIDAE

Pipefishes and seahorses

by R.A. Fritzsche, Humboldt State University, California, USA and A. Vincent, McGill University, Quebec, Canada

Diagnostic characters: Body elongate to extremely so; encased in bony armour arranged into series of rings. Maximum length near 300 mm, but most average 100 to 200 mm total length. **Mouth small, toothless, placed at end of tubular snout.** Gills tufted and lobe-like. Gill openings restricted to upper border of operculum. All fins except pelvic fins are usually present; fins sometimes absent. Dorsal fin relatively long, up to 60 soft rays. Anal fin minute with 0 to 6 soft rays. Caudal fin with 0 to 11 soft rays and pectoral fin with 0 to 23 soft rays. Tail may be prehensile in some (seahorses). Anterior 3 vertebrae are elongate. **Colour:** highly variable, however most species are mottled with shades of brown, green, and grey. Some may be quite pale.

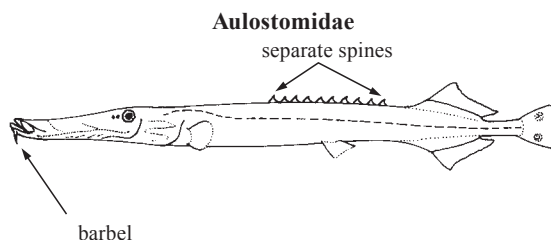
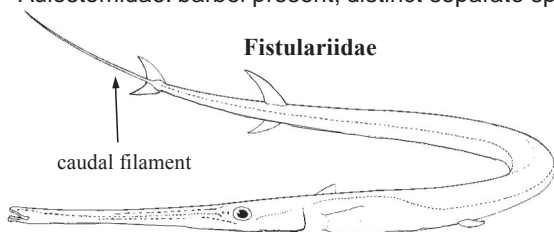


Habitat, biology, and fisheries: Found in all tropical and warm-temperate marine waters, and some even found in fresh water environments. Males brood the eggs and sometimes even the young. This is accomplished by means of a specialized area or even a pouch under the trunk or tail. Pipefishes and seahorses use the long snout and small mouth as pipette-like suction device for obtaining small crustaceans and other live and moving organisms. Locomotion is achieved by rapid undulations of the dorsal and pectoral fins. Most species are taken incidentally as bycatch and can be found in markets as curios or aquarium fishes. In addition, seahorses (*Hippocampus*) and several species of pipefishes are taken in large numbers for use in traditional medicines. Exploitation in western Atlantic largely unknown, but very high in other parts of the world. Available statistics: for live fishes landed for commercial purposes only: in 1994, 112 367 seahorses (*H. erectus*, *H. reidi*, *H. zosterae* numbers combined, no distinction between bycatch and target caught) were landed in Florida, USA. Preliminary statistics for 1998 (month of December incomplete) record over 16 000 seahorses (*H. erectus*, *H. reidi*, *H. zosterae* numbers combined) landed in Florida, USA, mostly for the aquarium trade, but also for curios. Seahorses as a group were the eighth most economically valuable species landed annually from 1990 through 1996. Pipefish landings only exceeded 2 000 in one year (1991) and the value peaked in 1996 at US\$3 731 (when 1 400 were landed). (Florida Department of Environmental Protection's Marine Fisheries Information System, Information on Marine Life Finfishes).

Similar families occurring in the area

Fistulariidae: a distinct caudal filament present; body depressed; no armour rings.

Aulostomidae: barbel present; distinct separate spines anterior to soft dorsal fin; no armour rings.



Key to the species of *Hippocampus* occurring in the area

- 1a.** Dorsal-fin soft rays 10 to 13; pectoral-fin soft rays 10 to 13 *Hippocampus zosterae*
- 1b.** Dorsal-fin soft rays 16 to 20; pectoral-fin soft rays 14 to 17. → 2
- 2a.** Head and body pigmentation in the form of distinct dark round spots of varying sizes, snout length 0.41 to 0.49 of head length *Hippocampus reidi*
- 2b.** Head and body pigmentation in the form of blotches, streaks, and lines, snout length 0.33 to 0.46 of head length *Hippocampus erectus*

List of species occurring in the area

The symbol  is given when species accounts are included.

Amphelikurtus dendriticus (Barbour, 1905). To 81 mm. New Brunswick, Canada S to Pernambuco, Brazil.

Anarchopterus criniger (Bean and Dresel, 1884). To 94 mm. Bahamas, North Carolina, SE Florida, and Gulf of Mexico.

Anarchopterus tectus (Dawson, 1978). To 114 mm. Bahamas, Florida Keys, Caribbean S to Venezuela.

Bryx dunckeri (Metzelaar, 1919). To 100 mm. North Carolina, Bermuda, Bahamas, Antilles, Florida to Brazil.

Bryx randalli (Herald, 1965). To 93 mm. Haiti, lesser Antilles, Belize, Providencia Islands, E Venezuela.

Cosmocampus albirostris (Kaup, 1856). To 208 mm. Bermuda, Bahamas, Antilles, Atlantic seaboard, and Gulf of Mexico.


Cosmocampus brachycephalus (Poey, 1868). To 97 mm. Bahamas, Antilles, Florida S to Venezuela.


Cosmocampus elucens (Poey, 1868). To 164 mm. New Jersey to Brazil, including Bahamas, Bermuda, and Antilles.

Cosmocampus hildebrandi (Herald, 1965). To 86 mm. North Carolina and SE and W Florida.

Cosmocampus profundus (Herald, 1965). To 197 mm. E Florida, Virgin Islands, and Yucatán Peninsula.

 *Hippocampus erectus* Perry, 1810.

 *Hippocampus reidi* Ginsburg, 1933.

 *Hippocampus zosterae* Jordan and Gilbert, 1882.

Micrognathus crinitus (Jenyns, 1842). To 145.5 mm. Bermuda to Bahia, Brazil.

Micrognathus erugatus Herald and Dawson, 1974. To 64 mm. Bahia, Brazil.

Minyichthys inusitatus Dawson, 1983. To 29 mm. W Caribbean Sea.

Oostethus brachyurus lineatus (Kaup, 1856). To about 200 mm. New Jersey to Sao Paulo, Brazil and Panama Canal.

Penetopteryx nanus (Rosén, 1911). To 31.7 mm. Bahamas and Isla Providencia, Colombia.

Pseudophallus mindii (Meek and Hildebrand, 1923). To 159 mm. Virgin Islands, Greater Antilles, Belize S to Brazil.

Syngnathus affinis Günther, 1870. To 218 mm. Corpus Christi, Texas to Campecho, Mexico.

Syngnathus caribbaeus Dawson, 1979. To 225 mm. Antilles, Belize S to Venezuela.

Syngnathus dawsoni (Herald, 1969). To 175 mm. Puerto Rico and Martinique.

Syngnathus floridae (Jordan and Gilbert, 1882). To 258 mm. Atlantic and Gulf of Mexico coasts, Bermuda, and Bahamas.

Syngnathus folletti Herald, 1942. To 250 mm. Fortaleza, Brazil S to Uruguay and Argentina.

Syngnathus fuscus Storer, 1839. To 305 mm. Gulf of St. Lawrence S to Jupiter Inlet, Florida.

Syngnathus louisianae Günther, 1870. To 381 mm. New Jersey S to Dry Tortugas and Texas, and Mexico.

Syngnathus makaxi Herald and Dawson, 1972. To 70 mm. Quintana Roo, Mexico.

Syngnathus pelagicus Linnaeus, 1758. To 181 mm. Nova Scotia S to Colombia, including Gulf of Mexico and Caribbean.

Syngnathus scovelli (Evermann and Kendall, 1896). To 183 mm. Florida and Gulf of Mexico S to Brazil.

Syngnathus springeri Herald, 1942. To 345 mm. W Bahamas, Massachusetts S to Dry Tortugas.

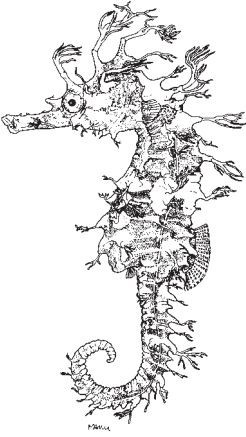
References

- Dawson, C.E. 1982. Family Syngnathidae. The pipefishes. In *Fishes of the western North Atlantic. Mem. Sears Found. Mar. Res.*, 1(8):1-172.
- Lourie, S.A., A.C.J. Vincent and H.J. Hall. 1999. *Seahorses: An identification guide to the world's species and their conservation*. London, Project Seahorse, 214 p.
- Robins, C.R. and G.C. Ray. 1986. *A field guide to the Atlantic Coast fishes of North America*. The Peterson Field Guide Series. Boston, Houghton Mifflin Company, 354 p.
- Vari, R.P. 1982. The seahorses (subfamily Hippocampinae). In *Fishes of the western North Atlantic. Mem. Sears Found. Mar. Res.*, 1(8):173-189.

***Hippocampus erectus* Perry, 1810**

En - Lined seahorse.

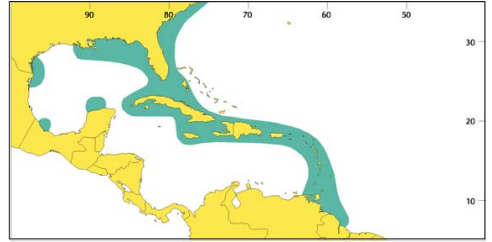
Maximum size: 18.5 cm. From Nova Scotia along western Atlantic coast, through Gulf of Mexico and Caribbean to Venezuela from shallow inshore areas to depths of over 70 m. (A southern form of *H. erectus*, possibly a new species, has been collected in Suriname and Brazil).



male 91 mm



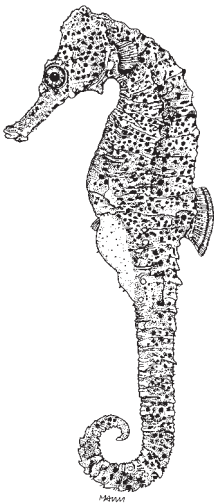
male 107 mm



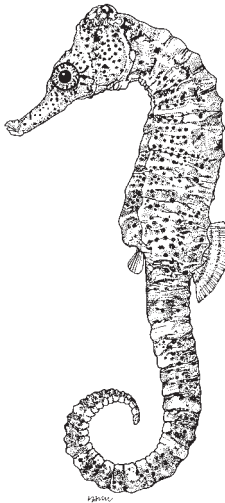
***Hippocampus reidi* Ginsburg, 1933**

En - Longsnout seahorse.

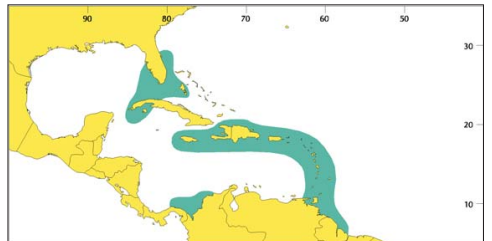
Maximum size: 17.5 cm. Throughout Gulf of Mexico and Caribbean (including northern coast of South America) north on west Atlantic coast to North Carolina, Brazil.



male



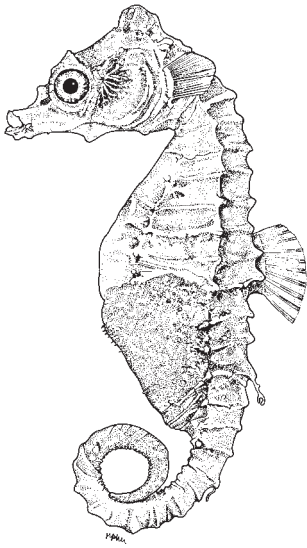
female



***Hippocampus zosterae* Jordan and Gilbert, 1882**

En - Dwarf seahorse.

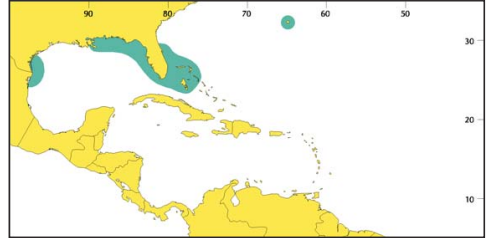
Maximum size: 3.8 cm. In shallow seagrass beds from the Gulf of Mexico east through the Bahamas and to Bermuda.



male



female



AULOSTOMIDAE

Trumpetfishes

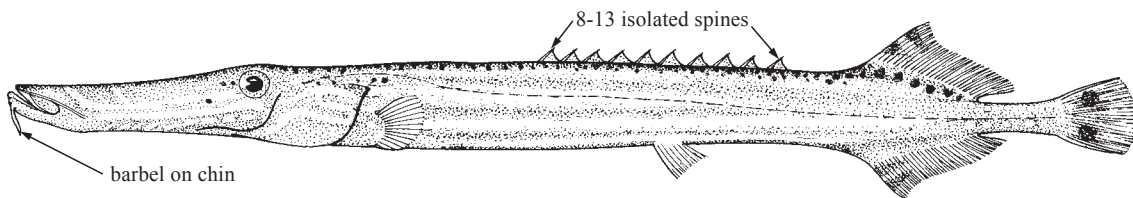
by R.A. Fritzsche, Humboldt State University, California, USA

A single species occurring in the area.

Aulostomus maculatus Valenciennes, 1837

Frequent synonyms / misidentifications: None / None.

FAO names: En - Trumpetfish; Fr - Trompète tachetée; Sp - Trompeta pintada.

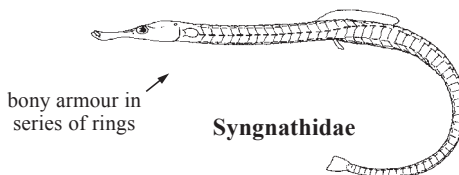
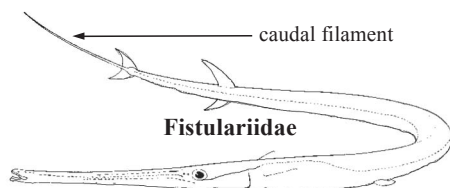


Diagnostic characters: Body elongate and compressed. Mouth at end of **elongate snout**; **single barbel on chin**. **Dorsal fin with 8 to 13 isolated spines**; second dorsal fin opposite anal fin and similarly shaped, both with 21 to 25 segmented soft rays; pelvic fins small, abdominal, with 6 soft rays. Lateral line continuous. Body covered with small ctenoid (rough) scales, except for the head and anterior part of the back, which are scaleless. Vertebrae 59 to 61; the first 4 elongate and fused. **Colour:** overall reddish or brown, irregularly marked with black or brown spots; silvery streaks along the head and sides of body; anterior rays of dorsal and anal fins with a black bar near their base, this bar may occasionally be reduced to a spot; caudal fin with 1 or 2 black spots.

Similar species occurring in the area

Fistulariidae: a distinct caudal filament present; body depressed rather than compressed; no spines before dorsal fin.

Syngnathidae: body covered with bony rings; no chin barbel; usually much smaller size.



Size: Maximum: 75 cm; common to 50 cm.

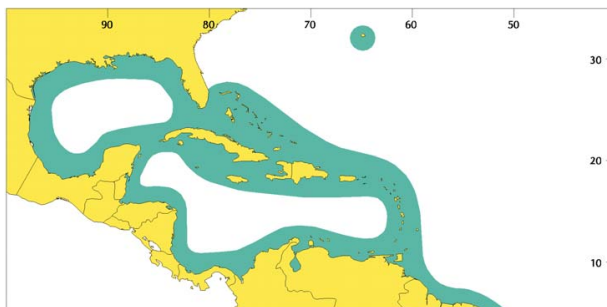
Habitat, biology, and fisheries: A fairly common reef fish occurring in shallow, clear water. Most frequently observed to be hanging vertical in the water with the head down. Feeds on small fishes and shrimps. Caught incidentally throughout its range. Separate statistics are not reported for this species. Taken frequently in seines and traps. Marketed or consumed locally.

Distribution: From the Florida Keys and Bermuda south to Brazil.

References

Robins, C.R. and G.C. Ray. 1986. *A field guide to the Atlantic Coast fishes of North America*. The Peterson Field Guide Series. Boston, Houghton Mifflin Company, 354 p.

Wheeler, A. 1955. A preliminary revision of the fishes of the genus *Aulosomus*. *Ann. Mag. Nat. Hist.* 12(8):92:613-623.

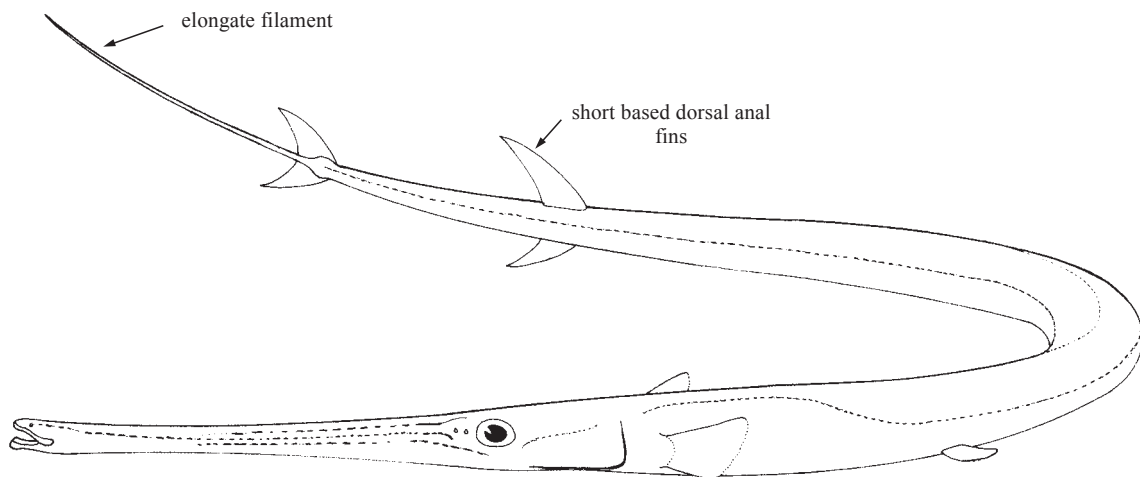


FISTULARIIDAE

Cornetfishes (flutemouths)

by R.A. Fritzsche, Humboldt State University, California, USA

Diagnostic characters: Body elongate (to 2 m) and depressed. Mouth small at end of **elongate snout**; teeth on jaws small. **Dorsal and anal fins** short-based and opposite, **with 14 to 16 segmented (soft) rays**; pectoral fins with 15 to 17 rays; pelvic fins small and abdominal, with 6 rays. Lateral line arched anteriorly almost to middle of back, posteriorly continuing out onto **elongate filament produced by the middle 2 caudal-fin rays**; posterior lateral-line ossifications sometimes bearing sharp spines. Body of juveniles covered with rows of small spinules; only the adults of 1 western Atlantic species retain these spinules; a row of elongate bony plates may be present on midline just anterior to dorsal and/or anal fin. Total number of vertebrae 76 to 87, with the first 4 elongate and fused. **Colour:** variable with the species. *Fistularia petimba* is red to orange-brown above, silvery below; the fins may also have an orange cast; *Fistularia tabacaria* is brownish olive above, lighter below, with a series of pale blue spots from head to dorsal fin on midline of back, a row of blue spots lateral to the mid-dorsal row and 2 rows of blue spots on the snout.

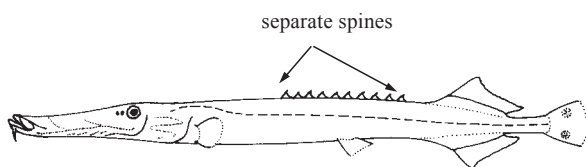


Habitat, biology, and fisheries: *Fistularia petimba* is typically found along coastal areas with soft bottoms, usually at depths over 10 m. *Fistularia tabacaria* is most often seen in seagrass beds and coral reefs. Cornetfishes feed on small fishes and shrimps. Although not important in commercial fisheries of the area, they are frequently taken in seines and traps and may occasionally appear in local fish markets.

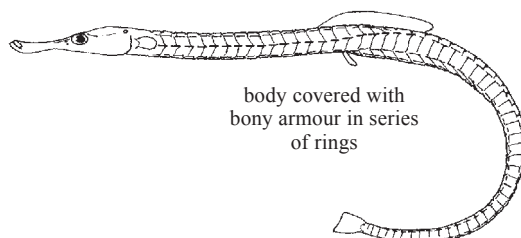
Similar families occurring in the area

Aulostomidae: no distinct caudal-fin filament; barbel present on lower jaw; body compressed rather than depressed; distinct separate spines anterior to soft dorsal fin.

Syngnathidae: smaller; body covered with armour; anal fin reduced or absent; caudal-fin filament absent.



Aulostomidae



Syngnathidae

Key to the species of Fistulariidae occurring in the area

- 1a. Elongate bony plates imbedded in skin along midline of back; posterior lateral-line ossifications ending in a sharp spine; immaculate red or brown above. *Fistularia petimba*
- 1b. No elongate bony plates along midline of back; posterior lateral-line ossifications without a spine; rows of blue spots on back *Fistularia tabacaria*

List of species occurring in the area

Fistularia petimba Lacepède, 1803. To 200 cm total length. Circumtropical except in E Pacific; SE Florida to Central America.

Fistularia tabacaria Linnaeus, 1758. To 200 cm total length. Tropical Atlantic; Bermuda, Georges Bank, and S Canada to Brazil.

References

Fritzsche, R.A. 1976. A review of the cornetfishes, genus *Fistularia* (Fistulariidae), with a discussion of intrageneric relationships and zoogeography. *Bull. Mar. Sci.*, 26(2):196-204.

Robins, C.R. and G.C. Ray. 1986. *A field guide to the Atlantic Coast fishes of North America. The Peterson Field Guide Series*. United States, Houghton Mifflin Company, 354 p.

MACRORAMPHOSIDAE

Snipefishes

by R.A. Fritzsche, Humboldt State University, California, USA

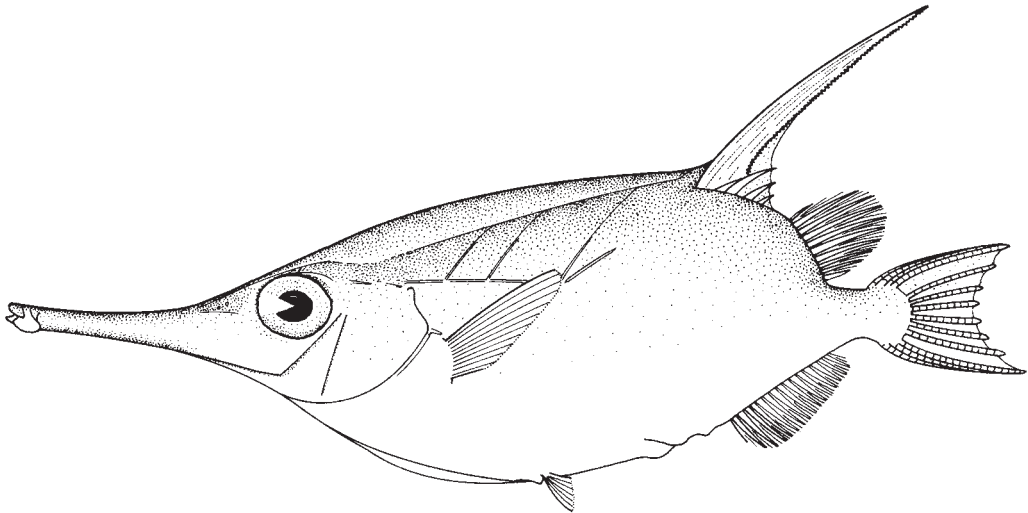
A single species occurring in the area.

Macroramphosus scolopax (Linnaeus, 1758)

SNS

Frequent synonyms / misidentifications: *Macroramphosus gracilis* (Lowe, 1839); *Macrorhamphosus velitaris* (Pallas, 1776) / None.

FAO names: **En** - Longspine snipefish; **Fr** - Bécasse de mer; **Sp** - Trompetero.



Diagnostic characters: Body elongate and compressed. Head elongate; the eyes lateral, large, their diameter contained about 4.5 times in snout; **snout produced as a slender tube; mouth small and terminal. First dorsal fin with second spine large and serrate on rear margin, other spines stout but short;** second dorsal and anal fins with short, slender rays. Scales small, finely toothed, giving the body a “sandpapery” feel. **Colour:** red on back, pale pink on sides and belly.

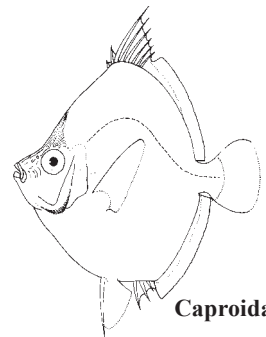
Similar families occurring in the area

Caproidae, Oreosomatidae, and Zeidae: all have deep, compressed bodies but large jaws and relatively short snouts.

Size: Maximum to about 15 cm.

Habitat, biology, and fisheries: Lives between the seabed and midwater on the lower continental shelf over sand (25 to 600 m depth). Feeds mainly on planktonic crustaceans. Taken incidentally over the lower parts of the continental shelf. Separate statistics are not reported. Taken mainly in bottom trawls. Not often seen in markets.

Distribution: Off the east coast of the USA and the Greater Antilles; also, widespread in eastern Atlantic and Mediterranean, and reported from the southern Atlantic, southwestern Indian Ocean, and western Pacific; probably worldwide.



Caproidae

