PRISTIGASTERIDAE

Pellonas

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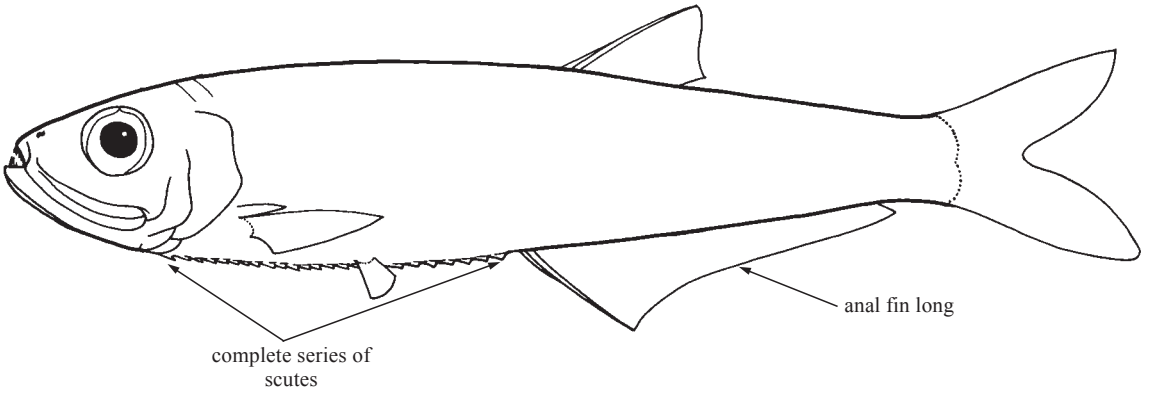
Diagnostic characters: Moderate or sometimes quite large clupeoid fishes (usually to about 20 to 25 cm standard length), but some South American members (*Pellona*) up to 50 cm standard length. Body compressed, very deep in some (*Pristigaster*), more elongate in others; **with complete series of scutes along abdomen. Mouth terminal or more often with lower jaw projecting beyond upper; with 2 supramaxillae, and jaw teeth usually small or minute** (but enlarged canines in *Chirocentrodon*). **A toothed hypomaxillary bone present in some genera, joining posterior tip of premaxilla to blade of maxilla. Tooth plates fused to second basibranchial and to one or more pairs of hypobranchials, especially the second pair. Adipose eyelids with broad vertical opening in middle. No spiny rays in dorsal fin; single, short dorsal fin (if present) near midpoint of body**. Dorsal-fin origin (if present) near body midpoint in very deep-bodied forms, but posterior to midpoint in elongate forms; reduction of dorsal fin occurs in long-bodied pristigasterids (*Opisthopterus*, etc.), but only *Raconda* has completely lost this fin. **Predorsal bones either upright or inclined forward (inclined backward in all clupeids, except upright in *Ramnogaster*)**. Pectoral fins moderate or large in elongate species; pelvic fins small, with 6 or 7 fin rays, but absent in some genera; **anal fin long, with at least 30 fin rays (60 or more in some species)**. Caudal fin forked. **No gap between second and third hypural bones (upper and lower caudal-fin rays separated by this gap in clupeids). Scales cycloid**, without posterior striations, adherent or easily lost, of moderate size (about 35 to 55 in lateral series). **No lateral line. Colour:** typically blue-green on dorsum and silvery on sides, but generally without distinctive colour patterns.



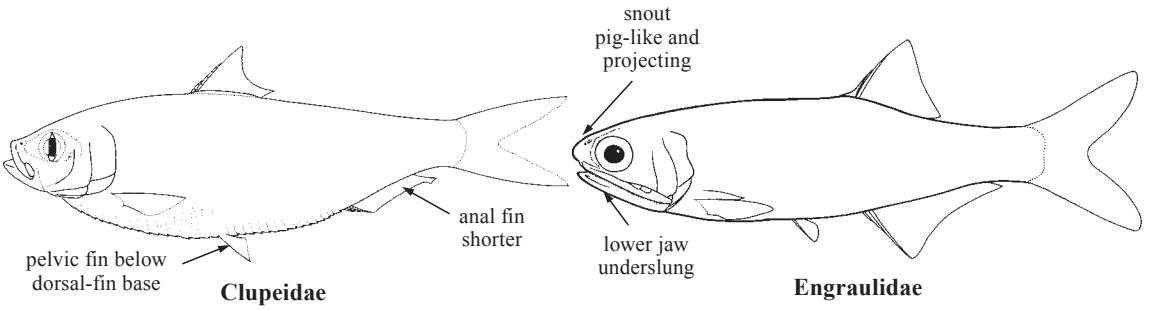
Habitat, biology, and fisheries: Mostly marine, coastal, and schooling fishes of tropical and subtropical seas. They are found on both sides of the Pacific and Atlantic oceans and throughout the Indian Ocean, from about 30 N (southern Japan) to about 30 S (South Africa). Some species enter estuaries and a few species in South America appear to be restricted to fresh water. No special fisheries exist for particular species and catches for only three species (*Ilisha elongata, I. africana*, and *Pellona ditchela*) are reported. Because of their usual small average size and soft consistency of their flesh, they have little value as food fishes. Pristigasterids are locally abundant in some regions, and can be utilized in the manufacture of fishery byproducts. They are sometimes common in tropical fish markets and probably make a substantial contribution to clupeoid catches.

Remarks: Until recently, pristigasterines were considered a subfamily of the Clupeidae.

Similar families occurring in the area

Clupeidae: articulation of lower jaw always anterior to vertical through middle of eye; usually with complete series of scutes along abdomen; anal fin with less than 28 fin rays; pelvic fins inserting below dorsal-fin base.

Engraulidae: articulation of lower jaw well posterior to vertical through posterior margin of eye, lower jaw usually slender; snout pig-like and projecting, lower jaw underslung; adipose eyelid completely covering eyes; scales with posterior striae or striations.



Key to the species of Pristigasteridae occurring in the area

1a. Toothed hypomaxilla present (Fig. 1a) . . . . . → *7*

1b. No hypomaxilla (Fig. 1b) . . . . . → *2*

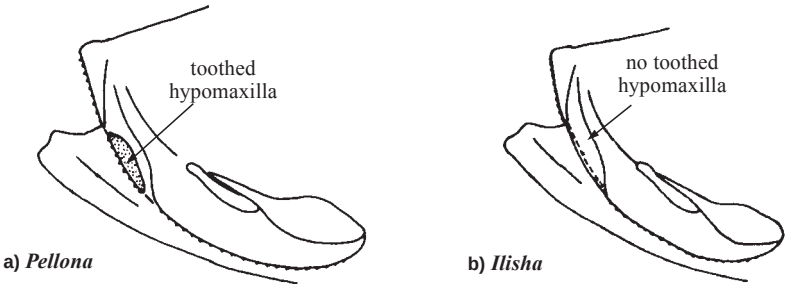


Fig. 1 lateral view of snout

2a. Pelvic fins present . . . . . → *3*

2b. Pelvic fins absent . . . . . → *4*

3a. No enlarged jaw teeth; jaw teeth small or minute, absent at centre of upper jaw (fresh water tributaries of Amazon River) . . . . . ***Ilisha amazonica***

3b. Canine-like teeth in both jaws, enlarged teeth present at centre of upper jaw (Fig. 2) . . ***Chirocentrodon bleekerianus***

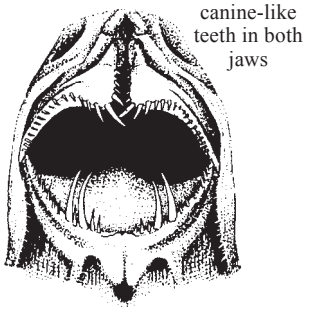


Fig. 2 *Chirocentrodon bleekerianus*

4a. Body elongate; dorsal-fin origin posterior to midpoint of body. . . . . → ***5***

4b. Body very deep (Fig. 3), depth about half of standard length; dorsal-fin origin anterior to midpoint of body (fresh water; perhaps in Amazon River estuary) . . . . . ***Pristigaster cayana***

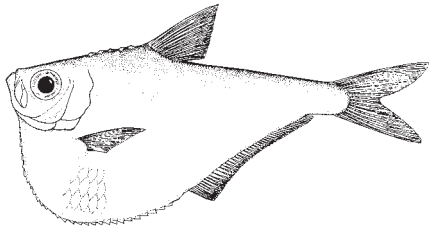
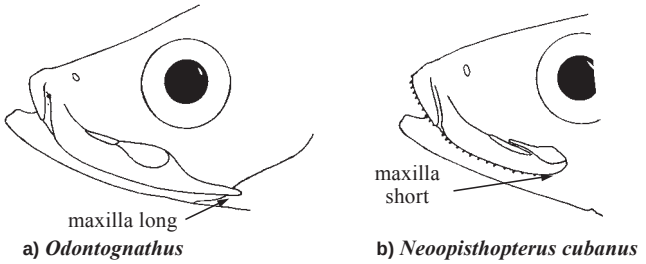


Fig. 3 ***Pristigaster cayana***



a) ***Odontognathus*** **b)** ***Neoopisthopterus cubanus***

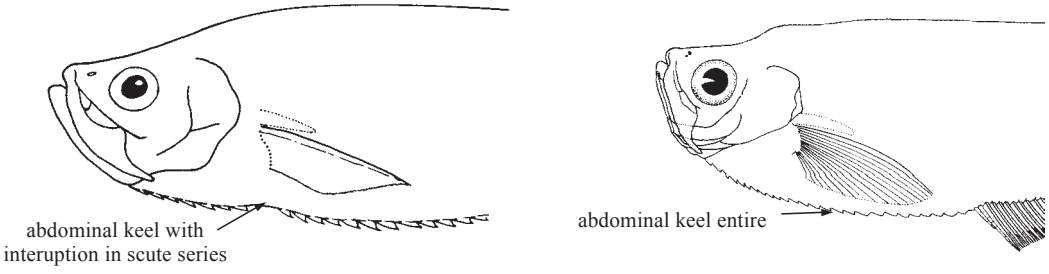
Fig. 4 lateral view of head

5a. Maxilla long (Fig. 4a), reaching to or beyond gill opening . . . . . ***(Odontognathus)*** → ***6***

5b. Maxilla short (Fig. 4b), not reaching posteriorly beyond vertical through posterior margin of eye . . . . . ***Neoopisthopterus cubanus***

6a. Abdominal keel with interruption in scute series below pectoral-fin base (Fig. 5a); 7 or 8 pre-pectoral scutes, followed by gap, then 12 or 13 post-pectoral scutes; outer edges of scutes smooth, not serrate; anal-fin rays 70 to 85 . . . . . ***Odontognathus mucronatus***

6b. Abdominal keel entire (Fig. 5b), without interruption in scute series below pectoral-fin base; scutes 24 to 29; outer edges of scutes distinctly serrate; anal-fin rays 52 to 62 . . . . . ***Odontognathus compressus***



a) ***Odontognathus mucronatus*** ***b) Odontognathus compressus***

Fig. 5 lateral view of anterior body

7a. Post-pelvic scutes 8 to 14; distinct pelvic axillary scale present . . . . . → ***8***

7b. Post-pelvic scutes 5 to 7, usually 6; no distinct pelvic axillary scale . . . . . ***Pellona harroweri***

8a. Gill rakers on lower limb of anterior arch 9 to 14 (in fishes 20 to 50 cm standard length); pelvic fins yellow; anal-fin rays 34 to 38 (fresh water; may occur in estuaries) . . . ***Pellona castelnaeana***

8b. Gill rakers on lower limb of anterior arch 23 to 31 (in fishes 10 to 50 cm standard length); pelvic fins white; anal-fin rays 38 to 46 (fresh water; may occur in estuaries) . . . ***Pellona flavipinnis***

List of species occurring in the area

The symbol is given when species accounts are included.

Chirocentrodon bleekerianus (Poey, 1867).

Neoopisthopterus cubanus Hildebrand, 1948.

Odontognathus compressus Meek and Hildebrand, 1923.

Odontognathus mucronatus Lacepède, 1800.

Pellona castelnaeana Valenciennes, 1847 Freshwater, may enter estuaries.

Pellona flavipinnis (Valenciennes, 1837) Freshwater, may enter estuaries.

Pellona harroweri (Fowler,1917).

Pristigaster cayana Cuvier, 1829 Freshwater.

References

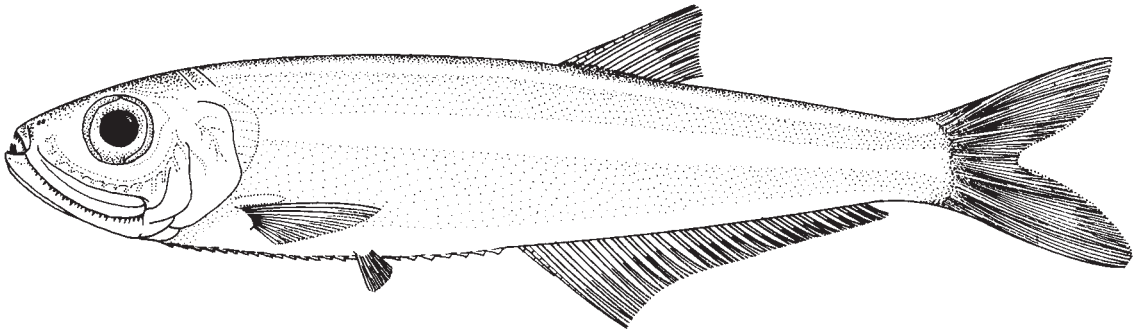
Cervigón, F., R. Cipriani, W. Fischer, L. Garibaldi, M. Hendrickx, A.J. Lemus, R. Márquez, J.M. Poutiers, G. Robaina, and B. Rodriguez. 1993. *FAO species identification sheets for fishery purposes. Field guide to the commercial marine and brackish-water resources of the northern coast of southern America*. Rome, FAO, 513 p.

Whitehead, P.J.P. 1985. FAO species catalogue. Vol. 7. Clupeoid fishes of the world. An annotated and illustrated catalogue of the herrings, sardines, pilchards, sprats, anchovies and wolf-herrings. Part. 1 - Chirocentridae, Clupeidae and Pristigasteridae. *FAO Fish. Synop.*, (125)Vol.7,Pt.1:303 p.

Chirocentrodon bleekerianus (Poey, 1867) CBK

Frequent synonyms / misidentifications: *Ilisha caribbaea* Meek and Hildebrand, 1923 / *Neoopisthopterus cubanus* Hildebrand, 1948.

FAO names: En - Dogtooth herring; **Fr** - Poisson-papier dentu; **Sp** - Arenquillo dentón.

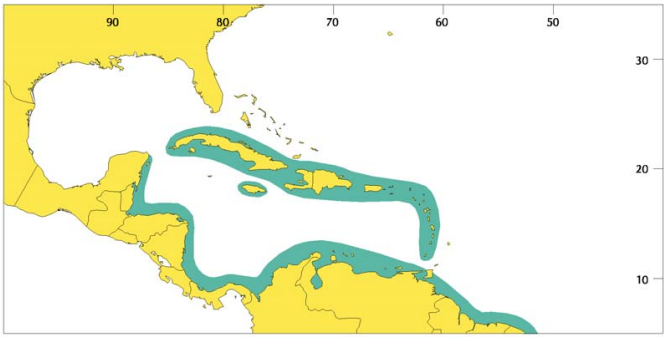


Diagnostic characters: Body elongate, moderately compressed; body depth 20 to 27% standard length; abdomen with 25 to 28 scutes (rarely 30) forming distinct keel. **Mouth terminal, lower jaw not strongly projecting; strong conical teeth in both jaws; anterior jaw teeth enlarged, canine-like**; with series of large and small pointed teeth along entire length of maxilla, including medial edge at centre of upper jaw. **No hypomaxilla present.** Gill rakers on lower limb of anterior arch 14 to 17. **Dorsal-fin origin posterior to vertical through centre point of body; pelvic fins small, with 6 rays,** set well anterior to vertical through dorsal-fin origin; **anal fin long, with 38 to 44 rays**, its origin anterior to vertical through origin of dorsal fin. **Colour:** dorsum creamy yellow to light brown, and with a lateral silver stripe.

Size: Maximum to 11 cm standard length; common to 9 cm standard length.

Habitat, biology, and fisheries: Marine and coastal waters over soft, usually muddy, bottoms, recorded to depths of about 40 m, but also found in shallower waters, including river mouths and lagoons, and possibly entering water of lowered salinity. Possibly spawns in coastal waters of the Caribbean area during winter months. Throughout its range, usually taken in small numbers; considerable quantities are taken off the Orinoco river mouth at depths of 9 to 27 m, but there is no special fishery for this species. Separate statistics not reported for this species. Caught mainly with beach seines and as bycatch in the shrimp trawl fishery. Although abundant, this species is apparently not often found in markets due to the soft consistency of its flesh.

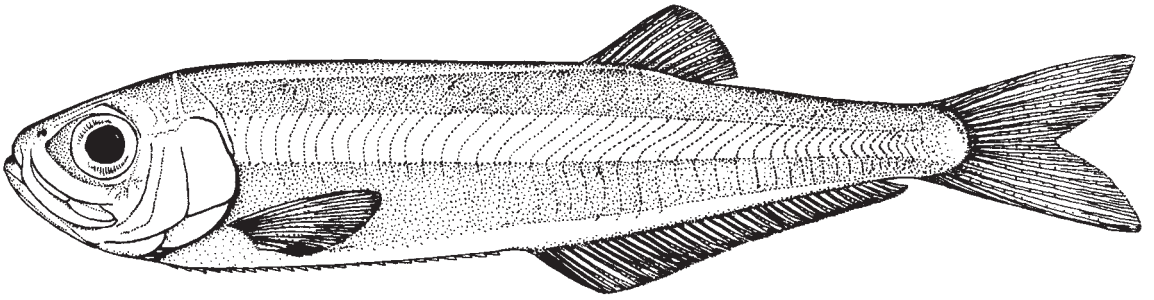
Distribution: Atlantic coasts of Central and South America; West Indies (Cuba, Haiti, Jamaica, Puerto Rico, Trinidad; also from Panama and coasts of Venezuela, including Orinoco mouth, Guyana, Suriname, south to Ubatuba, near Santos, Brazil). Not recorded from the Gulf of Mexico.



Neoopisthopterus cubanus Hildebrand, 1948

Frequent synonyms / misidentifications: None / None.

FAO names: En - Cuban longfin herring.

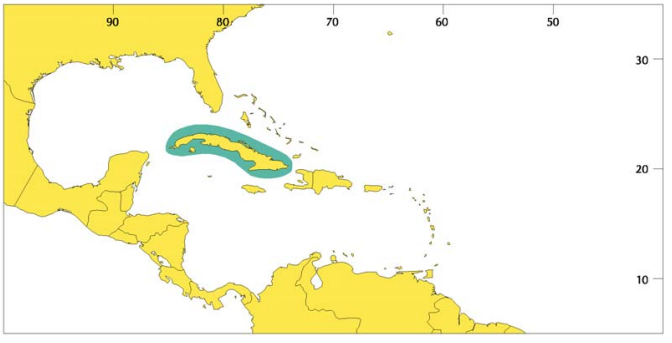


Diagnostic characters: Body elongate, moderately compressed, body depth about 17 to 22% standard length; abdomen with 23 to 28 scutes. Mouth terminal, lower jaw not strongly projecting; **maxilla short, not extending posteriorly beyond vertical through posterior margin of eye**; posterior tip of maxilla meets and is overlapped by lower bulge of maxilla blade; teeth very small or minute; 17 or 18 gill rakers on lower limb of first arch. **Dorsal fin well behind midpoint of body; pelvic fins absent**; anal fin long, with 39 to 43 rays, its origin before a vertical through dorsal-fin origin. **Colour (based on preserved material):** body uniformly pale with midlateral silvery stripe, about equal to 1/2 eye diameter; upper surface of head posteriorly brownish with large dusky melanophores; median margin of snout and anterior portion of mandible with dusky melanophores; middle of dorsum also with scattered dusky melanophores; caudal-fin base with dusky melanophores, forming a crossbar extending onto caudal-fin lobes; anal-fin base with row of dark melanophores, anal fin also with dusky melanophores chiefly near distal margin.

Size: Maximum probably to 9 cm standard length, commonly to 4 to 5 cm standard length.

Habitat, biology, and fisheries: Marine, coastal. More data needed. Appears to be uncommon. Of no interest to fisheries.

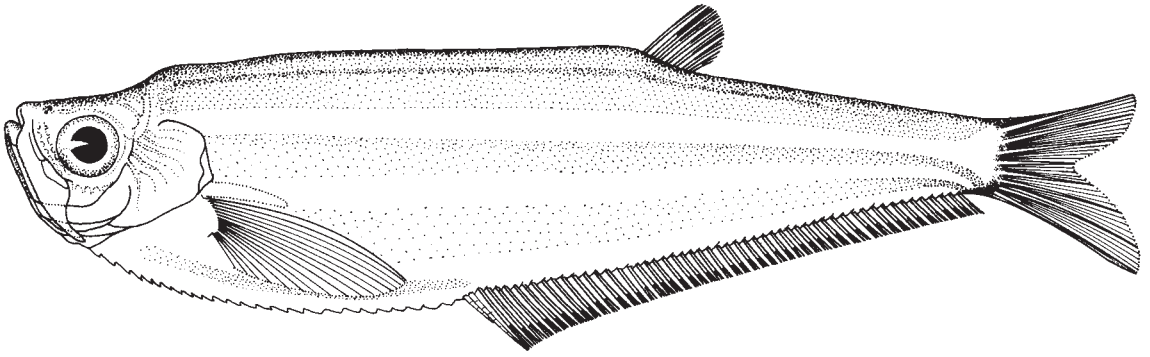
Distribution: Western central Atlantic (Cuba; probably more widespread).



Odontognathus compressus Meek and Hildebrand, 1923

Frequent synonyms / misidentifications: None / None.

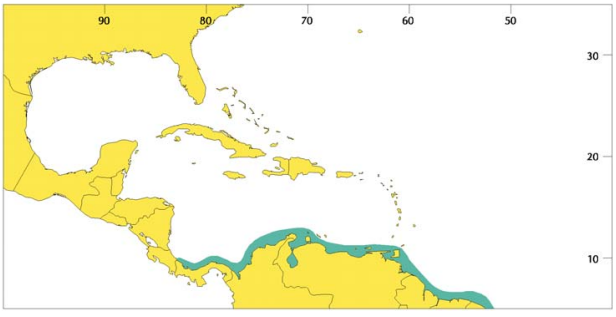
FAO names: En - Caribbean longfin herring; **Fr** - Poisson-papier vénézuelien; **Sp** - Arenquillo machete.



Diagnostic characters: Body elongate, very strongly compressed; abdomen with 24 to 29 scutes forming distinct, uninterrupted keel. Outer edges of scutes distinctly serrate. Mouth small, directed upward, lower jaw prominent. Upper jaw broad at midpoint, tapering posteriorly; maxilla long, reaching to or beyond opercular margin. **No hypomaxilla present**. Dorsal fin small and placed far back on body. **Anal fin very long**, **with 52 to 63 rays**; its origin well anterior to vertical through anterior dorsal-fin base. Pectoral fins large. **Pelvic fins absent**. **Colour:** body pale, translucent, with narrow midlateral silver stripe; head silvery; a dark line present along dorsum posterior to dorsal fin (preserved specimens); fins hyaline, base of caudal fin dark.

Size: Maximum to 15 cm standard length; common to 12 cm standard length.

Habitat, biology, and fisheries: In coastal, inshore waters over soft, mainly muddy substrates, enters estuaries; can tolerate salinities to 9‰. Small quantities of larvae were collected in June in northern Tablazo Bay, an estuarine area of the Lake Maracaibo system, Venezuela. Taken in artisanal fisheries throughout its range, but not specifically targeted and apparently not abundant. Separate statistics not reported for this species. Caught with beach seines and as bycatch in the industrial shrimp trawl fishery. Apparently uncommon in markets, its market value limited by the soft consistency of its flesh.



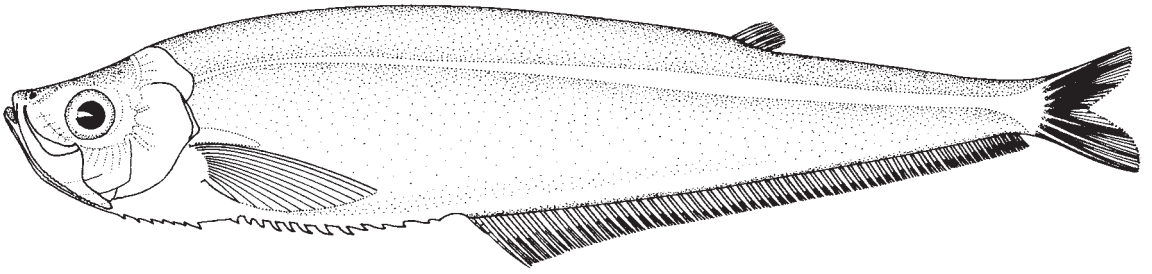
Distribution: Atlantic coasts and perhaps estuaries of Central and South America, from Panama to Trinidad and Suriname.

Odontognathus mucronatus Lacepède, 1800

PNA

Frequent synonyms / misidentifications: None / None.

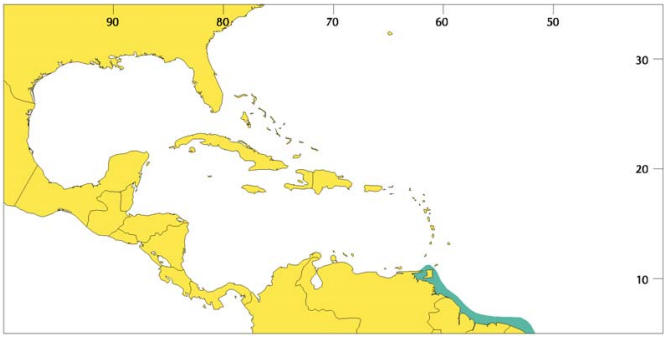
FAO names: En - Guiana longfin herring; **Fr** - Poisson-papier guyanais; **Sp** - Arenquillo cuchilla.



Diagnostic characters: Body elongate, very strongly compressed; abdomen with distinct, but interrupted, keel of scutes (a short gap under pectoral-fin base). Abdominal scutes 7 or 8 prepectoral, then a gap, followed by 12 or 13 postpectoral along abdomen. Outer edges of scutes smooth and not serrate; total number of scutes 19 to 21. Mouth small, directed upward, lower jaw prominent. Upper jaw broad at midpoint, tapering posteriorly, maxilla long, reaching to or beyond opercular margin. **No hypomaxilla present**. Dorsal fin small and placed far back on body. **Anal fin very long, with 70 to 85 rays**, its origin well anterior to vertical through dorsal-fin base. Pectoral fins large. **Pelvic fins absent. Colour:** body yellowish white with thin white midlateral stripe; head silvery; top of head and midline of dorsum dark. Anal fin dark, other fins hyaline or white.

Size: Maximum to 16 cm standard length; common to 12 cm standard length.

Habitat, biology, and fisheries: In shallow coastal waters over sand and mud bottoms to depths of about 30 m, but usually occurring much shallower; also close to shore, abundant in estuaries, and ascends rivers. Possibly spawns in rivers. Taken in artisanal fisheries off the Guianas, but no special fishery. Separate statistics not reported for this species. Caught with beach seines and trawls and as bycatch in the industrial trawl fishery for shrimps. A foodfish in some localities, but the soft consistency of its flesh strongly reduces its market value.

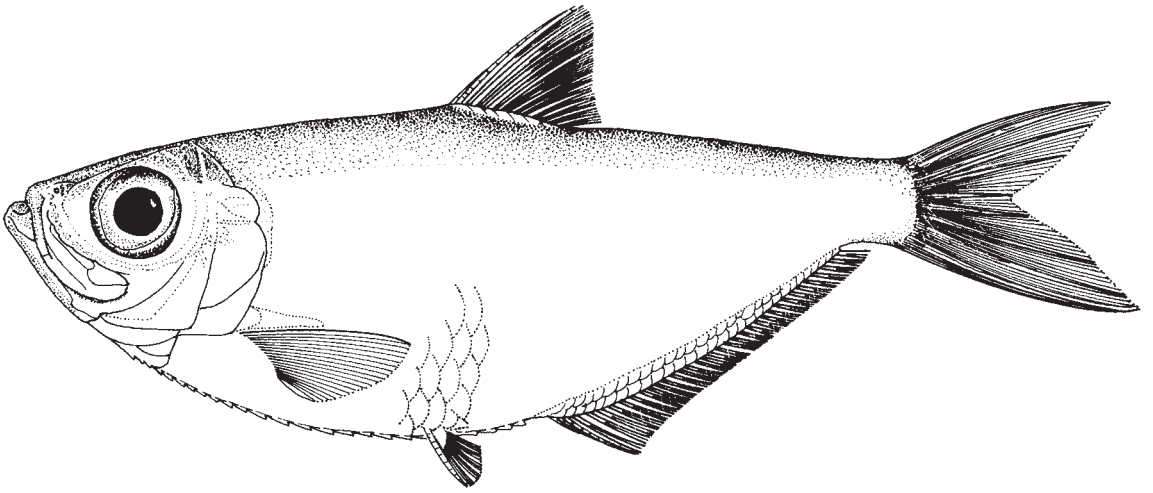


Distribution: Atlantic coasts and rivers of South America; Gulf of Paria and Trinidad to southern Brazil.

Pellona harroweri (Fowler, 1917)

Frequent synonyms / misidentifications: *Ilisha harroweri* Hildebrand, 1964; *Ilisha argentata* Meek and Hildebrand, 1923 / None.

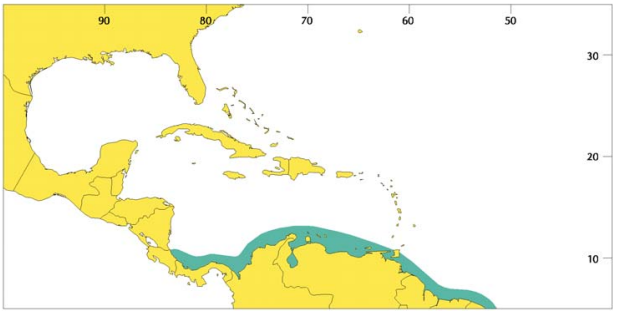
FAO names: En - American costal pellona; **Fr** - Alose-caille brésilienne; **Sp** - Sardinata marina.



Diagnostic characters: Body moderate or very deep, fairly strongly compressed, **body depth 35 to 42% standard length; abdomen with 17 to 20 prepelvic** and **5 to 7 (usually 6) postpelvic scutes, total scutes 22 to 26**, forming distinct keel. **Eye large. Lower jaw strongly projecting beyond upper when mouth closed; upper jaw with toothed hypomaxilla present between posterior tip of premaxilla and lower bulge of maxilla blade.** Gill rakers on lower limb of first arch 23 to 25. Dorsal fin at about centre point of body. **Anal fin fairly long, with 36 to 42 rays; its origin equal with vertical through posterior part of dorsal fin. Pelvic fins small**, with 6 rays; **without distinct axillary scale**; pelvic-fin origin just anterior to vertical through dorsal-fin origin. Scales deciduous, large, fewer than 60 vertical rows on sides of body. **Colour:** dorsum blue-grey, sides silvery. Dorsal and anal fins yellow; dorsal-fin tip and margin of caudal fin dusky.

Size: Maximum to 18 cm standard length; common to 12 cm standard length.

Habitat, biology, and fisheries: Coastal waters, estuaries, and surrounding areas, over muddy bottoms to a depth of about 35 m (usually less); perhaps not tolerating very low salinities. Small quantities of larvae were collected in northern Tablazo Bay, an estuarine area of the Lake Maracaibo system, Venezuela, in July and September. Usually taken as bycatch in the industrial trawl fishery for shrimps. Captured in artisanal fisheries throughout its range, but especially off Venezuela and the Guianas; otherwise, no special fishery for this species. Separate statistics not reported for this species. Consumed locally, but apparently not abundant in markets; of little commercial importance.



Distribution: Western Atlantic from Panama to Trinidad, the Guyanas, entire Brazilian coast south of the Amazon to Rio Grande do Sul at about 30 S.