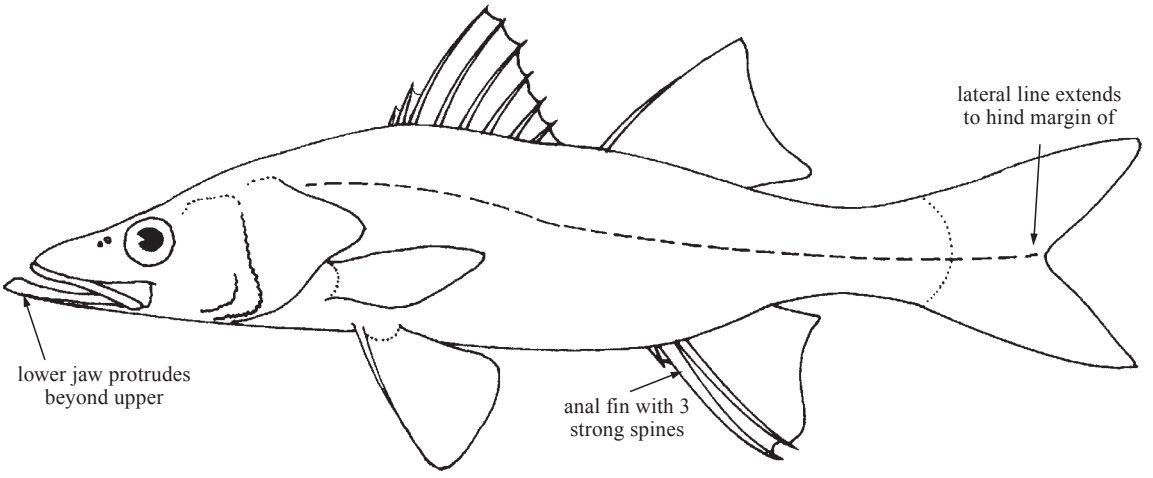
# Order PERCIFORMES
# Suborder PERCOIDEI
# CENTROPOMIDAE

## Snooks

by T.M. Orrell, National Marine Fisheries Service, National Museum of Natural History, Washington, D.C., USA
(revised from T.H. Fraser, 1977)

**Diagnostic characters:** Body elongate or oblong, and compressed, usually with a convex dorsal profile, often concave at snout or above eyes. Mouth large, jaws unequal, with **lower jaw protruding beyond the upper**; teeth small, in villiform bands on jaws and on roof of mouth (vomer, palatines and sometimes ectopterygoids); preoperculum with a serrated posterior and ventral border; operculum without spines; suborbital plate with a serrated ventral edge. Two separate dorsal fins, the first with 8 strong spines, the second with 1 spine and 8 to 11 (usually 9 or 10) soft rays; **anal fin** short, **with 3 strong spines** (the second strongest) and 5 to 8 (usually 6 or 7) soft rays; pelvic fins below pectoral fins, with 1 strong spine and 5 soft rays; an axillary scale present. Scales moderate or large, ctenoid (rough to touch); **lateral line extending to the hind margin of caudal fin**. *Centropomus* is the only centropomid genus in the area. **Colour:** *Centropomus* species are yellow-brown to brown-green above, silvery on sides and below, and with a black or dark lateral line on sides; fins are dusky.

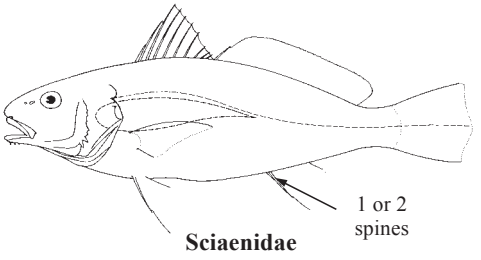


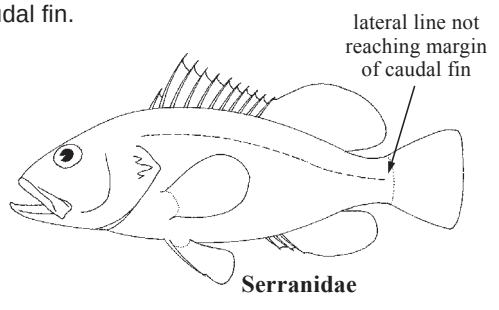

**Habitat, biology, and fisheries:** Snooks inhabit shallow coastal waters, estuaries, and brackish lagoons, often penetrating fresh waters. Some species grow to large sizes (*Centropomus undecimalis* to 130 cm), and all are good quality foodfish. Although none of the WesternCentral Atlantic species is subjected to a special fishery, most of them are of local importance, especially in Central and South America and on some of the Antilles. Snooks are an important game fish. FAO statistics report landings ranging from 1 081 to 3 138 t from 1995 to 1999.

### Similar families occurring in the area

Sciaenidae: only 1 or 2 spines in anal fin.

Serranidae: lateral line not extending to hind margin of caudal fin.



**Key to the species of Centropomidae occurring in the area** (modified from Rivas, 1986)

Note: lateral scales are counted along the longitudinal scale row immediately above the lateral line to the caudal-fin base.

**1a.** Anal-fin soft rays 7, rarely 8, pectoral-fin soft rays 13 to 15, modally 14; pectoral fin much shorter than pelvic fin; second anal-fin spine straight or slightly sigmoid and slightly outcurved distally; anterior part of head upturned; lateral scales 61 to 72, usually 64 to 67 . . . . . ***Centropomus pectinatus***

**1b.** Anal-fin soft rays 6, rarely 5 or 7, pectoral-fin soft rays 14 to 17 modally 15 or 16; pectoral fin about as long as or longer than pelvic fin; second anal spine slightly incurved anterior part of head not upturned . . . . . ***→ 2***

**2a.** Lateral scales 49 to 59 (pored lateral-line scales to caudal-fin base 48 or 49) . ***Centropomus ensiferus***

**2b.** Lateral scales 67 to 92 . . . . . ***→ 3***

**3a.** Lateral scales 79 to 92, third dorsal-fin spine higher than fourth when erect . ***Centropomus parallelus***

**3b.** Lateral scales 67 to 78 . . . . . ***→ 4***

**4a.** Dorsal-fin soft rays 9 or 10, rarely 8; gill rakers 8 to 10, usually 8 or 9, on lower limb of first arch, not including rudiment; scales around caudal peduncle 22 to 28, usually 24 to 27; third dorsal-fin spine much higher than fourth when erect . . . . . ***Centropomus undecimalis***

**4b.** Dorsal-fin soft rays 9, rarely 8 or 10; gill rakers 9 to 12, usually 10 or 11, on lower limb of first arch not including rudiments . . . . . ***→ 5***

**5a.** Scales from origin of second dorsal fin to lateral line 10 to 13, usually 11 or 12; dorsal-fin soft rays 9; pectoral-fin soft rays 15 to 17 modally 16; lateral scales 73 to 80, usually 75 to 78 . . . . . ***Centropomus poeyi***

**5b.** Scales from origin of second dorsal fin to lateral line 10 to 15, usually 11 to 14; lateral scales 68 to 79, usually 70 to 77; scales from origin of anal fin to lateral line 12 to 16, usually 13 to 15 . . . . . ***Centropomus mexicanus***

**List of species occurring in the area**

The symbol is given when species accounts are included.

- *Centropomus ensiferus* Poey, 1860.
- *Centropomus mexicanus* Bocourt, 1868.
- *Centropomus parallelus* Poey, 1860.
- *Centropomus pectinatus* Poey, 1860.
- *Centropomus poeyi* Chávez, 1961.
- *Centropomus undecimalis* (Bloch, 1792).

**References**

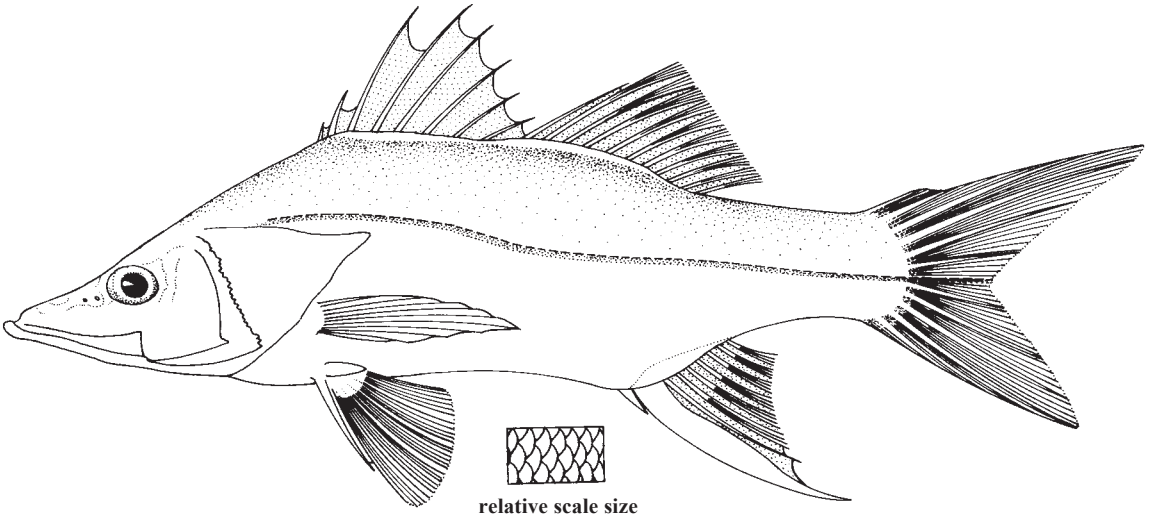
Fraser, T.H. 1977. Centropomidae. *FAO Species Identification Sheets for Fishery Purposes, Western Central Atlantic (Fishing Area 31), Volume II*, edited by W. Fischer. Rome, FAO (unpaginated).

Rivas, L.R. 1986. Systematic review of the perciform fishes of the genus *Centropomus*. *Copeia*, 1986(3):579-611.

***Centropomus ensiferus*** Poey, 1860 EPN

**Frequent synonyms / misidentifications:** None / None.

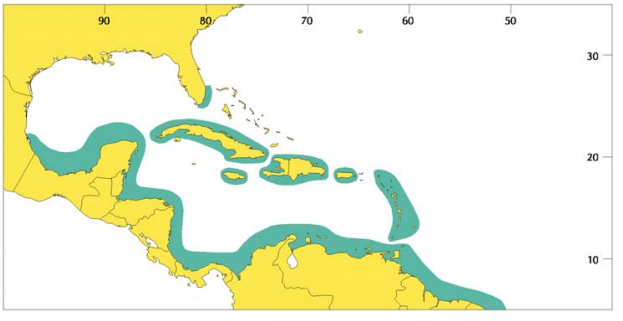
**FAO names: En** - Swordspine snook; **Fr** - Crossie épée; **Sp** - Robalo.




**Diagnostic characters:** The smallest of snooks in the area, moderately deep (body depth 65 to 72% of head length). Snout profile nearly straight to slightly concave, mouth large with lower jaw projecting beyond the upper; gill rakers (including rudiments) on outer gill arch 22 to 27. Dorsal-fin soft rays 10 rarely 9; anal-fin with 3 spines and 5 to 7 (modally 6) soft rays; pectoral-fin soft rays 14 to 17, normally15 or 16; tips of pelvic fins reaching to or past the anus. **Scales from origin of second dorsal fin to lateral line 6 to 9, usually 6 to 8**. Scales from origin of anal fin to lateral line 9 to 11, usually 9 or 10. **lateral scales 49 to 59, usually 50 to 57**. Lateral line extending to hind margin of caudal fin; pored lateral-line scales (to caudal-fin base) 48 or 49. **Tooth patch on ectopterygoid reduced or absent. Colour:** yellow-brown to brown-green above, silvery on sides and below, and with a dark lateral line on sides; fins dusky.

**Size:** Maximum 35 cm, 0.4 kg; common to 15 cm, 0.2 kg.

**Habit, biology, and fisheries:** Inhabits coastal waters, estuaries, and lagoons, penetrating into fresh waters; usually prefers less brackish or fresh water. Nothing is known about where this species may spawn and no apparent extensive migrations known. Feeds on fish and crustaceans. Fished from estuaries, brackish lagoons, and fresh water in the Antilles and in Central and South America. Caught mainly with bottom gill nets, hook-and-line, and cast nets. Marketed mostly fresh. Separate statistics are not reported for this species.

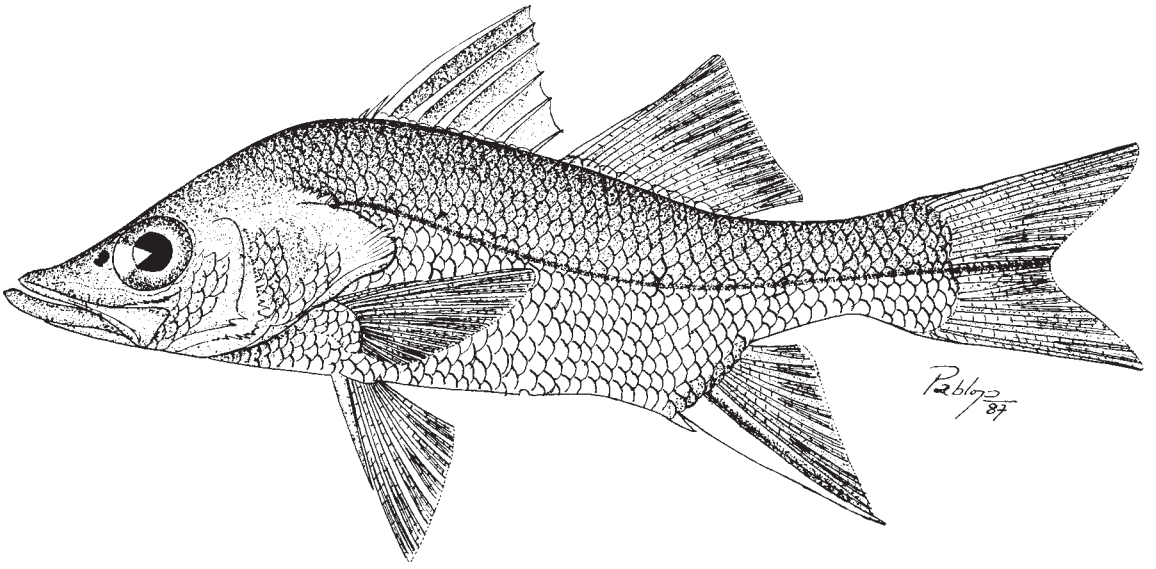



**Distribution:** Gulf coast of Mexico, southern Florida, Greater and Lesser Antilles, and continental Caribbean coasts of Central and South America, southward extending to Rio de Janeiro (Brazil).

***Centropomus mexicanus*** Bocourt, 1868

**Frequent synonyms / misidentifications:** None / None.

**FAO names: En** - Largescale fat snook; **Sp** - Robalo gordo de escama grande.



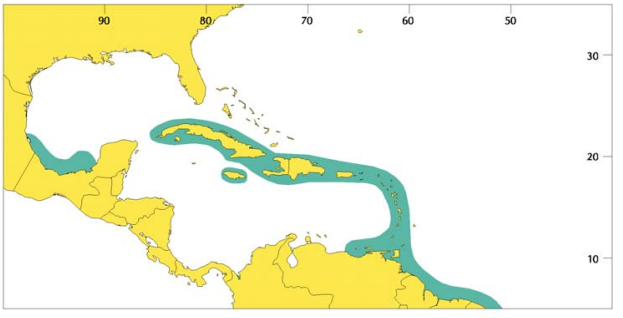
**Diagnostic characters:** Medium-sized, moderately deep bodied. Gill rakers 4 to 6, usually 4 or 5, on upper limb (excluding rudiments). Total gill rakers 14 to 17, usually 15 to 17 (excluding rudiments); 21 to 24, usually 22 or 23 (including rudiments). Dorsal-fin soft rays 10, rarely 9; third dorsal-fin spine higher than fourth when erect. **Anal-fin soft rays 6**; second anal-fin spine not reaching beyond vertical from caudal-fin base when deflexed. Pectoral-fin soft rays 14 to 16, modally 15. Scales from origin of second dorsal fin to lateral line 10 to 15, usually 11 to 14. **Lateral scales 68 to 78, usually 70 to 77**. Scales from origin of anal fin to lateral line 12 to 16, usually 13 to 15. **Colour:** yellow-brown to brown-green above, silvery on sides and below, and with a dark lateral line on sides; fins dusky, caudal fin reddish.

**Size:** Maximum 43 cm, common to 18 cm.

**Habit, biology, and fisheries:** Occurs more frequently in salt water than in streams. Nothing is known about where this species may spawn and no apparent extensive migrations known. Separate statistics are not reported for this species.

**Distribution:** Gulf coast of Mexico (Tamaulipas to Tabasco) and Greater Antilles southward to Porto Alegre, Brazil.

**Note:** Very similar to *Centropomus parallelus*, but with larger and fewer scales.

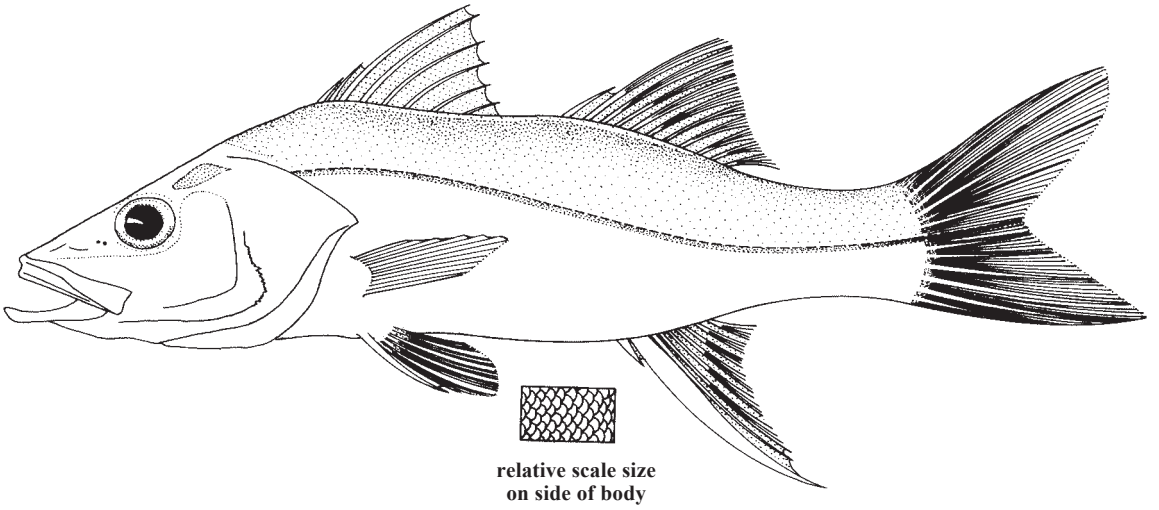


***Centropomus parallelus*** Poey, 1860

EPP

**Frequent synonyms / misidentifications:** None / None.

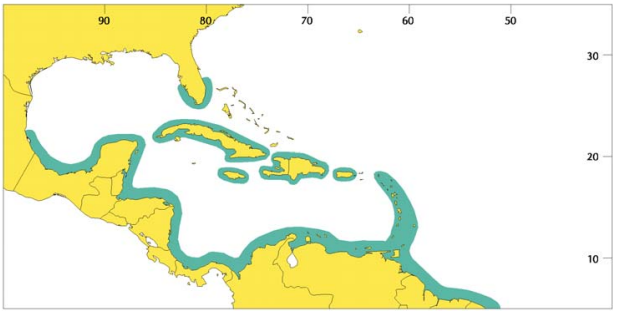
**FAO names: En** - Fat snook (AFS: Smallscale fat snook); **Fr** - Crossie chucumite; **Sp** - Robalo chucumite (AFS: Robalo gordo de escama chica).




**Diagnostic characters:** A medium-sized fish, comparatively deep (body depth 67 to 81% of head length). Snout profile straight to slightly concave; mouth large with lower jaw protruding beyond upper. Total gill rakers on first arch14 to 17 (usually 15 to 17) (not including rudiments); 21 to 25 (usually 22 to 24) (including rudiments); gill rakers on upper limb of first arch 4 or 5, not including rudiments. **Third dorsal-fin spine higher than fourth when erect**; second dorsal fin with 1 spine and 9 to 11, normally 10 soft rays. Anal-fin with 3 spines and with 6, rarely 7 soft rays. Pectoral-fin soft rays 14 to 16, modally 15. **Tips of pelvic fins reaching to or past the vent in all but the largest specimens; second anal spine not reaching to, or reaching to vertical from caudal-fin base when deflexed. Small scales, lateral scales 79 to 92. Colour**: yellow-brown to brown-green above, silvery on sides and below, and with a dark lateral line on sides; fins dusky.

**Size:** Maximum 63 cm, 3 kg; common to 25 cm, 0.5 kg.

**Habitat, biology, and fisheries:** Inhabits coastal waters, estuaries, and lagoons, penetrating into fresh water; usually prefers very low salinity brackish or fresh water over salt water. May spawn near river mouths, no apparent extensive migration known. Feeds on fish and crustaceans. Fished in estuaries, brackish lagoons and fresh water in the Antilles and in Central and South America. Caught mainly with bottom gill nets, hook-and-line, and cast nets. Marketed mostly fresh. Separate statistics are not reported for this species




**Distribution:** Southern Florida, Greater and Lesser Antilles, southeastern coast of the Gulf of Mexico, and continental Caribbean coasts; southward extending to Florianopolis, Brazil.

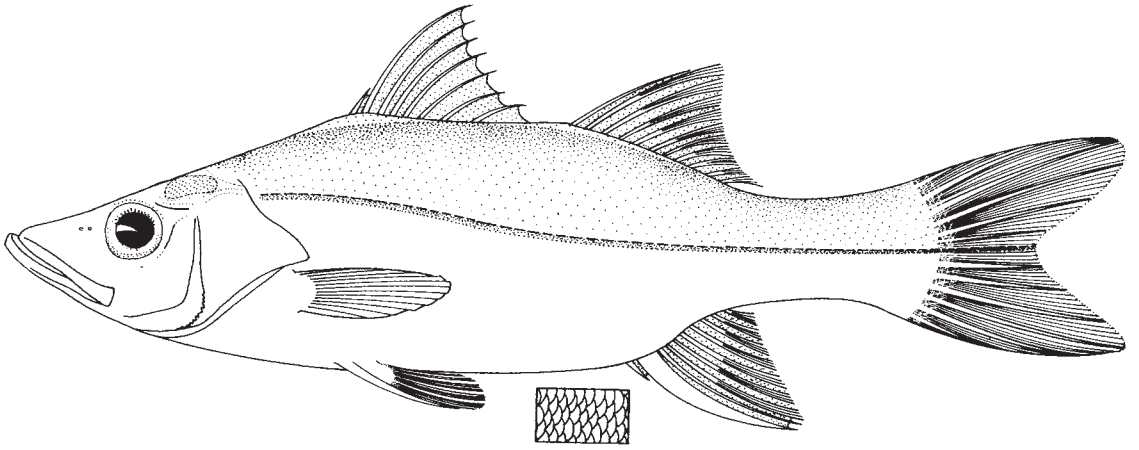
**Note:** The small-scale *Centropomus parallelus* is very similar to the large-scale *Centropomus mexicanus*.

***Centropomus pectinatus*** Poey, 1860

EPS

**Frequent synonyms / misidentifications:** None / None.

**FAO names: En** - Tarpon snook; **Fr** - Crossie constantin; **Sp** - Robalo constantino (AFS: Robalo sábalo).

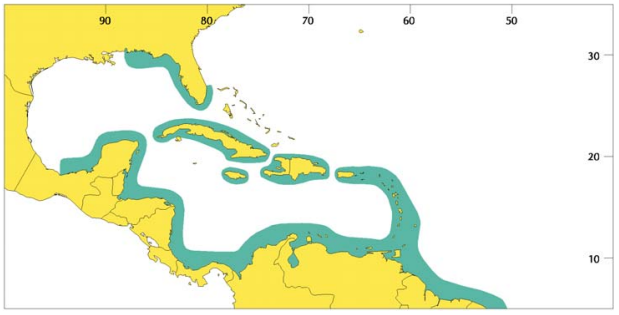


relative scale size
on side of body

**Diagnostic characters:** Medium-sized, moderately deep bodied. **Anterior part of head upturned**. Tooth patch on ectopterygiod reduced or absent. Gill rakers of first arch on lower limb 14 to 17 (usually 15 or 16) not including rudiments; 15 to 20 (modally 18) including rudiments; 5 or 6 (modally 6) on upper limb not including rudiments, 6 to 9 (modally 7) including rudiments; total gill rakers on first arch 22 to 28 (usually 24 to 26) including rudiments. Dorsal-fin soft rays 10, rarely 11; third dorsal-fin spine higher than fourth when erect, second anal-fin spine not reaching to tip of third when erect, nor to vertical from caudal base when deflexed. **Anal-fin with** 3 spines and **7 soft rays, rarely 8. Pectoral-fin soft rays 13 to 15 normally 13 or 14**. Tips of pelvic fins reaching to or past the anus. Lateral line extending to hind margin of caudal fin; lateral scales 61 to 72, usually 64 to 67. Scales from origin of second dorsal fin to lateral line 9 to 13, usually 10 to 12. Scales around caudal peduncle 20 to 22, modally 20. **Colour:** yellow-brown to brown-green above, silvery on sides and below, and with a dark lateral line on sides; fins dusky, pelvic fins with a large dark, diffuse mark or spot near the tips.

**Size:** Maximum 51 cm, 1 kg; common to 30 cm, 0.4 kg.

**Habitat, biology, and fisheries**: Inhabits coastal waters, estuaries, and lagoons, penetrating into fresh water; usually prefers very low brackish or fresh water. Nothing known about where this species may spawn, no apparent extensive migrations known. Feeds on fish and crustaceans. Present fishing grounds: estuaries, brackish lagoons, and fresh waters in the Antilles and in Central and South America. Caught mainly with bottom gill nets, hook-and-line, and cast nets. Marketed mostly fresh. Separate statistics are not reported for this species.

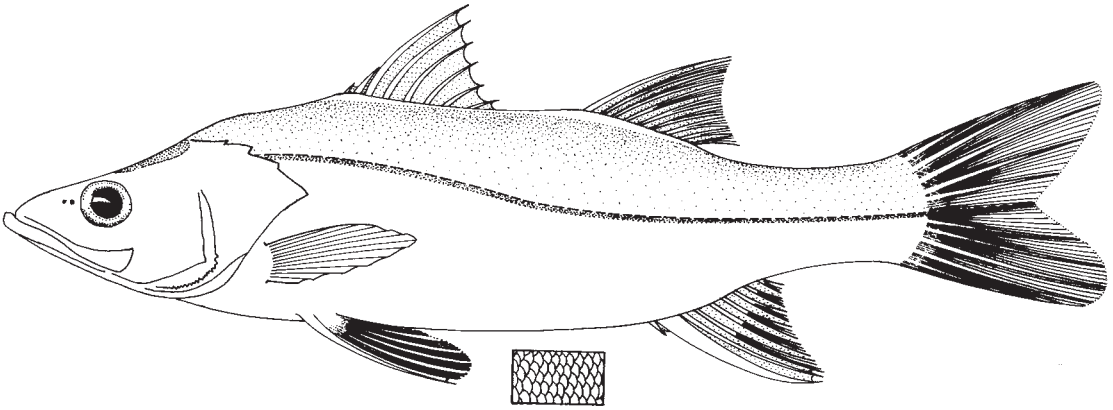



**Distribution:** Southern Florida, Greater and Lesser Antilles, southeastern coast of the Gulf of Mexico, and continental Caribbean coasts of Central and South America; southward extending to Rio de Janeiro (Brazil); also found along the Pacific coast of America, from Mexico to Colombia.

***Centropomus poeyi*** Chávez, 1961

**Frequent synonyms / misidentifications:** None / None.

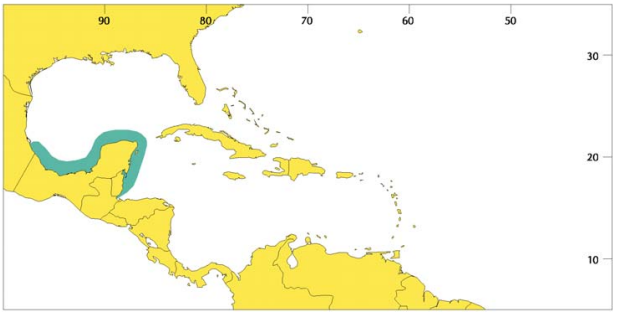
**FAO names: En** - Mexican snook; **Fr** - Crossie mexicain; **Sp** - Robalo prieto (AFS: Robalo mejicano).




**Diagnostic characters:** A fairly large fish, moderately deep (body depth 67 to 70% of head length). Snout profile nearly straight or slightly concave; mouth large with lower jaw projecting beyond the upper. Total gill rakers on first arch 15 to 18 (modally 16) not including rudiments; 22 to 25 (modally 23) including rudiments. Third dorsal-fin spine higher than fourth when erect; **second dorsal fin with** 1 spine and **9 soft rays**. Second anal-fin spine not reaching to vertical from caudal-fin base when deflexed. Pectoral-fin soft rays 15 to 17, normally 15 or 16. Tips of pelvic fins never reaching to the anus in specimens over 21 cm standard length. Lateral line extending to hind margin of caudal fin; number of lateral scales 73 to 80, normally 75 to 78. Scales from origin of second dorsal fin to lateral line 10 to 13, usually 11 or 12; scales from origin of anal fin to lateral line 12 to 15 (modally 13). Scales around caudal peduncle 24 to 29, usually 26 or 27. **Colour:** yellow-brown to brown-green above, silvery on sides and below, and with a dark lateral line on sides; fins dusky.

**Size:** Maximum 90 cm, 9 kg; common to 45 cm, 1.8 kg.

**Habitat, biology, and fisheries:** Inhabits coastal waters, estuaries, and lagoons, penetrating into fresh water; usually occurs at depths less than 20 m. Congregates in rivers in March, spawning apparently occurs in fresh or low brackish water from June through August. No apparent extensive migrations known. Feeds on fish and crustaceans. Present fishing grounds: estuaries and beaches with a centre in Veracruz State, Mexico. Caught mainly with bottom gill nets and hook-and-line; a sports fish. Marketed mostly fresh. Separate statistics are not reported for this species.

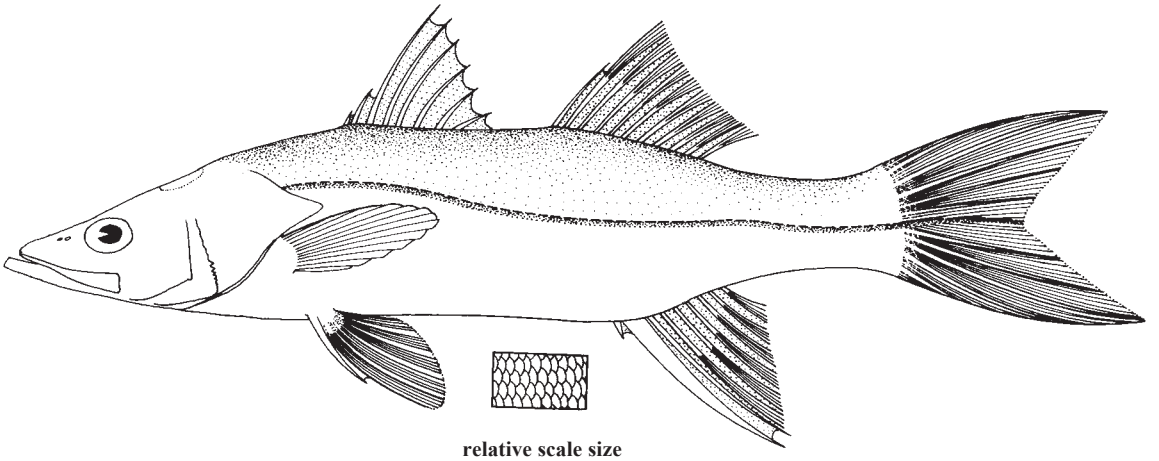



**Distribution:** Coast of Mexico from Tampico to Belize.

***Centropomus undecimalis*** (Bloch, 1792) SNO

**Frequent synonyms / misidentifications:** None / None.

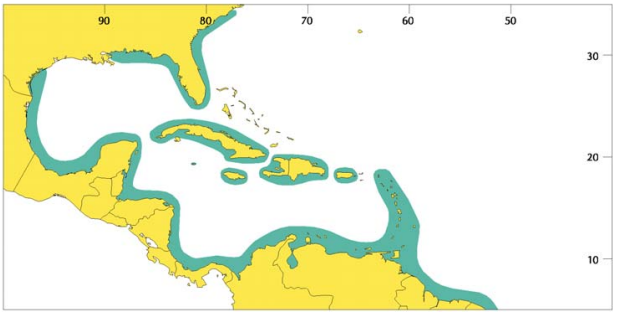
**FAO names: En** - Common snook; **Fr** - Crossie blanc; **Sp** - Robalo blanco (AFS: Robalo común).




**Diagnostic characters:** The largest and most slender of snooks in the area (body depth 59 to 64% of head length). Snout profile slightly concave; mouth large with lower jaw projecting beyond the upper. Gill rakers on lower limb of first arch 8 to 10 (usually 8 or 9) not including rudiment. **Dorsal-fin soft rays 10**, rarely 9 or 11. Anal fin with 3 spines (the second particularly strong) and soft rays 5 to 7, modally 6. Pectoral-fin soft rays 14 to 16, usually 15 or 16. Tips of pelvic fins never reaching to anus in specimens over 11 cm standard length. Lateral line extending to hind margin of caudal fin; pored lateral-line scales (to caudal-fin base) 67 to 72; scales in the row just above lateral line 67 to 77 (usually 68 to 75). Scales around caudal peduncle 22 to 28, usually 24 to 27. **Colour:** yellow-brown to brown-green above, silvery on sides and below, and with a dark lateral line on sides; fins dusky.

**Size:** Maximum 130 cm, 23.1 kg; common to 50 cm, 2.2 kg.

**Habitat, biology, and fisheries:** Inhabits coastal waters, estuaries, and lagoons, penetrating into fresh water; usually occurs at depths less than 20 m. Congregates at mouths of passes and rivers during the spawning season, May through September; seasonal movements into fresh water occur but are poorly understood, no apparent extensive migrations known. Feeds on fish and crustaceans. Present fishing grounds: estuaries and along beaches in Florida, the Antilles, and in Central and South America. Caught mainly with bottom gill nets, and hook-and-line; also with cast nets; exciting sport fish. Marketed mostly fresh; delicate, white and flaky flesh.




**Distribution:** Southern Florida, southeastern coast of the Gulf of Mexico, most of the Antilles, and Caribbean coast of Central and South America; southward extending to Rio de Janeiro, Brazil.

# MORONIDAE

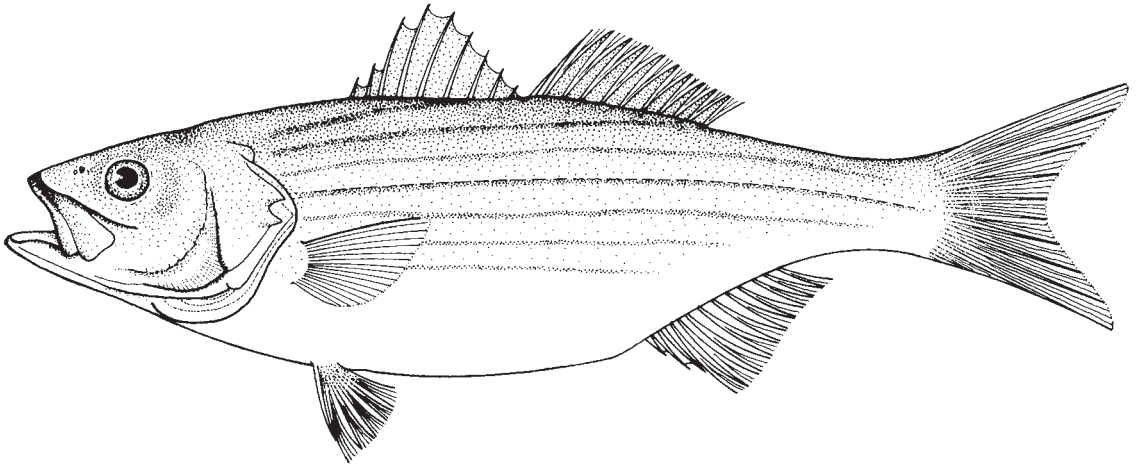
## Temperate basses

by P.C. Heemstra, South African Institute for Aquatic Biodiversity, South Africa

***Morone saxatilis*** (Walbaum, 1792) STB

**Frequent synonyms / misidentifications:** *Roccus saxatilis* Walbaum, 1792 / None.

**FAO names: En** - Striped bass; **Fr** - Bar d'Amérique; **Sp** - Lubina estriada.

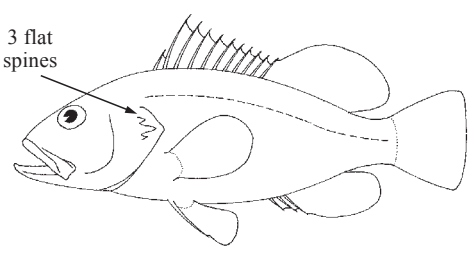


**Diagnostic characters:** Large fishes, attaining 180 cm, 57 kg. Body oblong, slightly compressed. Head mostly covered with small scales; **mouth large, the maxilla widely expanded posteriorly and mostly exposed when mouth is closed; no supramaxilla; jaws with bands of small conical teeth, no canines; bands of villiform teeth also present on vomer, palatines, and in 2 parallel rows on base of tongue**. Branchiostegal membranes separate, joined to isthmus far forward, with 7 rays. Gill rakers 6 to 12 on upper limb, 12 to 15 on lower limb, total 19 to 29. **Rear edge of opercle with 2 flat points; preopercle broadly rounded, weakly serrate. Dorsal fin notched to the base in front of soft-rayed portion, with 8 or 9 spines in first part and 1 spine and 10 to 13 rays in second part**. Caudal fin forked, heavily scaled at the base; principal caudal rays 9+8, branched rays 8+7. Anal fin with 3 distinct spines and 9 to 12 soft rays, fin origin well behind vertical at soft dorsal-fin origin. Pectoral fin small, unsymmetrical, the upper rays longest, length about half head length; pectoral-fin soft rays 15 to 18. Pelvic fins with 1 spine and 5 soft rays. Head and body covered with moderate, finely ctenoid scales; lateral line continuous, with 50 to 72 tubed scales, not extending onto caudal fin. Swimbladder extends into hollow of first anal-fin pterygiophore. Vertebrae: 12 abdominal plus 13 caudal. **Colour:** silvery, with 7 or 8 longitudinal black stripes on body.

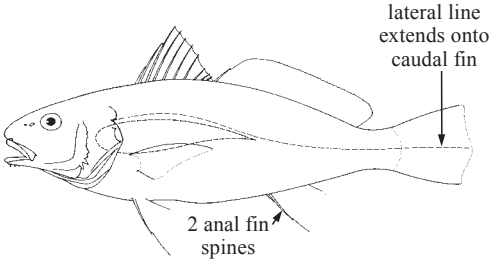
### Similar families occurring in the area

Serranidae: rear edge of opercle with 3 flat spines or points; most species with a single undivided dorsal fin and symmetrical pectoral fin; caudal fin forked, lunate, emarginate, truncate, or rounded.

Sciaenidae: only 2 anal-fin spines; lateral line extends onto caudal fin.



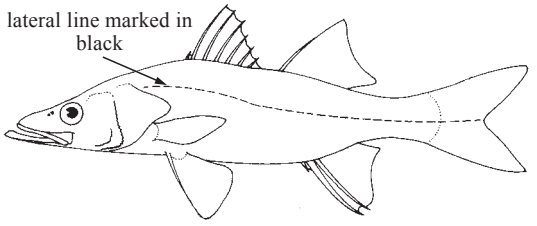

**Serranidae**



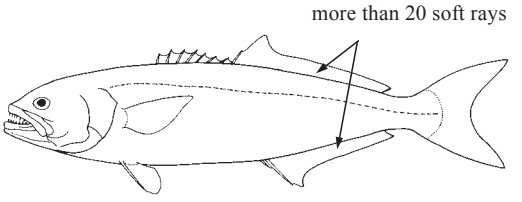

**Sciaenidae**

Centropomidae: lateral line conspicuously marked in black (except in *Centropomus ensiferus*) and extending to rear end of caudal fin; no spines on opercle; preopercle with large serrae; second anal-fin spine much longer than caudal peduncle depth.

Pomatomidae: soft dorsal and anal fins with more than 20 rays; spinous part of dorsal fin much shorter and lower than soft-rayed part; anal-fin origin below soft dorsal-fin origin.



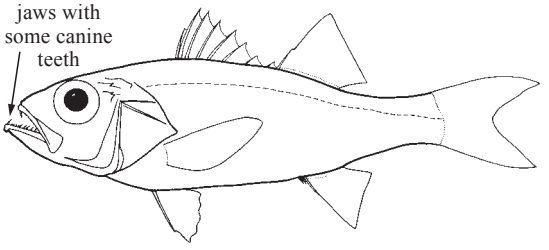

**Centropomidae**



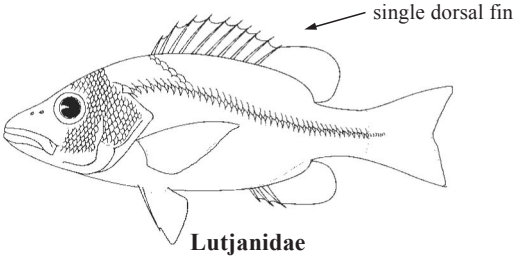

**Pomatomidae**

Acropomatidae: first dorsal fin with 7 to 10 spines, second dorsal fin with 1 spine and 9, 10, or 14 rays; anal fin with 2 or 3 spines and 6 to 9 or 12 rays; jaws with some canine teeth.

Lutjanidae: upper edge of maxilla covered by preorbital bone when mouth is closed; no flat points on rear edge of opercle; dorsal fin single (fin margin deeply incised in *Etelis*;); no teeth on tongue.

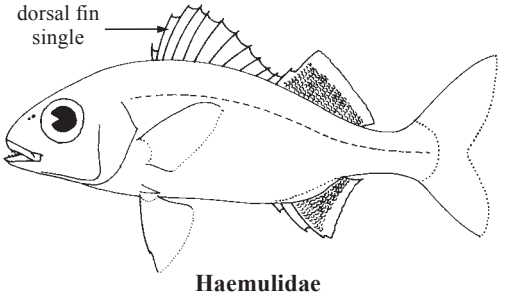



**Acropomatidae**




**Lutjanidae**

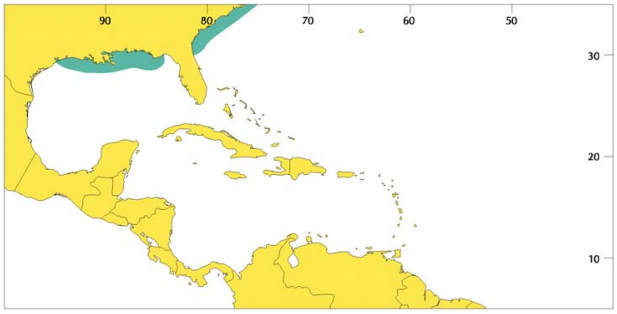
Haemulidae: maxilla mostly covered by preorbital bone when mouth is closed; no flat points on rear edge of opercle; most species with a single (undivided) dorsal fin; no teeth on vomer or palatines.




**Haemulidae**

**Size:** Maximum 1.8 m, 57 kg.

**Habitat, biology, and fisheries:** The anadromous striped bass occurs in rivers, estuaries, and near-shore waters; it is tolerant of turbid water and found in a variety of habitats: shallow bays, along sandy beaches, and also in rocky areas. Normally gonochoristic, with a rare incidence of hermaphroditic individuals. Males are mature at about 17 cm total length (2 years) and females at 45 to 55 cm total length (4 to 6 years); maximum age has been estimated at about 30 years. Spawning occurs in rivers and at the heads of estuaries from mid-February to July; with discrete populations occurring in the major rivers from the Gulf of Mexico to Nova Scotia; some inland populations live permanently in fresh water. Fecundity estimates range from 15 000 for a 46 cm fish to 4 million for a 13 year-old, 14.5 kg fish. Along the east coast of the USA, some populations undertake seasonal migrations, moving north in late winter or early spring, and back southwards in autumn. Striped bass feed mainly on fishes and crustaceans, with small juveniles taking mainly crustaceans and adults eating mostly fishes. Extremely important as a game and foodfish; caught by anglers and also with beach seines, fyke nets, gill nets, pound nets, fish traps, and otter trawl. Marketed fresh, or filleted and frozen. Populations have declined in recent years




**Distribution:** Inshore waters of the USA from Canada to the St Johns River in northern Florida, and northern Gulf of Mexico from Florida to Louisiana.

# POLYPRIONIDAE

## Wreckfishes (giant sea basses)

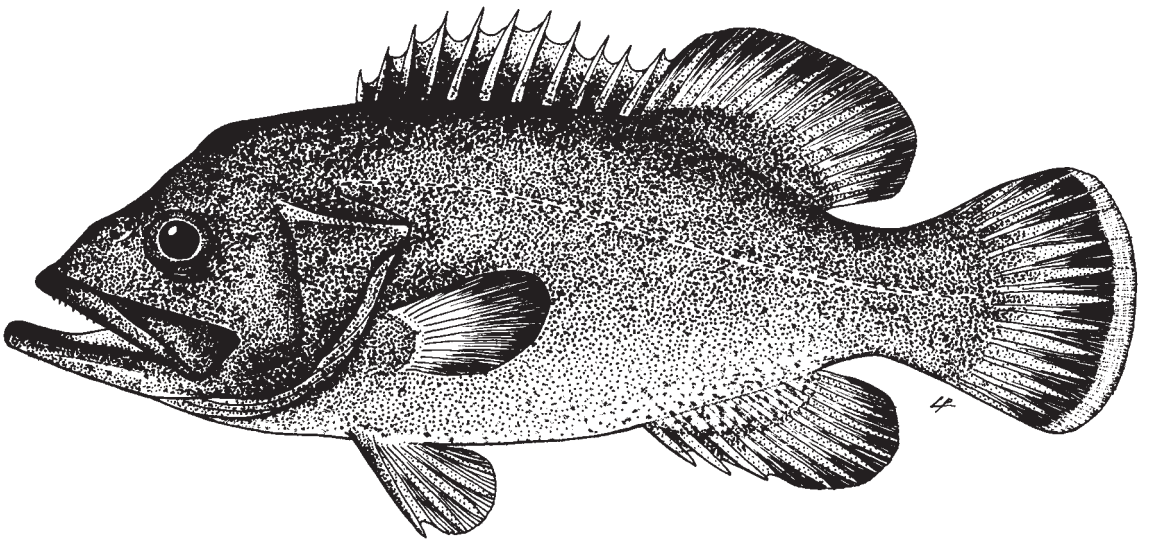
by G.R. Sedberry, Marine Resources Research Institute, South Carolina, USA

**A single species occurring in the area.**

***Polyprion americanus*** (Bloch and Schneider, 1801)

**Frequent synonyms / misidentifications:** *Polyprion moeone* Phillipps, 1927 / *Polyprion oxygeneios* (Schneider and Forster, 1801).

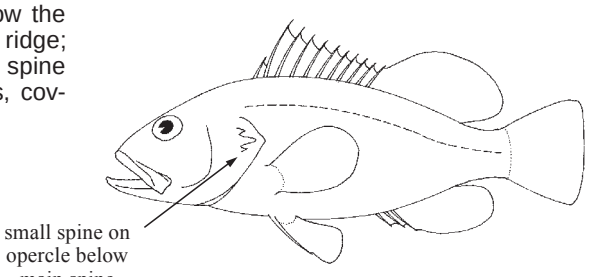
**FAO names: En** - Wreckfish; **Fr** - Cernier commun; **Sp** - Cherna.



**Diagnostic characters:** Large, oblong, moderately compressed, fairly deep-bodied, and grouper-like. Head scaly and spiny between the eyes and on nape, especially rough in young; snout smooth; mouth terminal, lower jaw projecting strongly, the maxilla-tip broad and completely exposed; jaw teeth small, no canines, with small teeth in patches on roof of mouth and tongue; **opercle with a distinctive horizontal ridge ending in a short spine**, a smaller spine above, but none below the principal spine. Dorsal fin with 11 or 12 strong spines and 11 or 12 soft rays, the 2 parts of the fin moderately notched; caudal fin truncate (adults) or rounded (juveniles); pectoral fins nearly symmetrical, shorter than pelvic fins; pelvic fins inserted below or a little behind the pectoral-fin base; anal fin with 3 strong spines and 9 or 10 soft rays. Scales small and rough (strongly ctenoid); lateral line not extending onto caudal fin. **Colour:** dark slate grey to brownish above, lighter below; pelagic juveniles mottled light and dark grey.

### Similar families occurring in the area

Serranidae: a small spine at edge of opercle below the main spine, which does not include a horizontal ridge; there is usually another small spine above the main spine (upper and lowermost spines often inconspicuous, covered by skin).

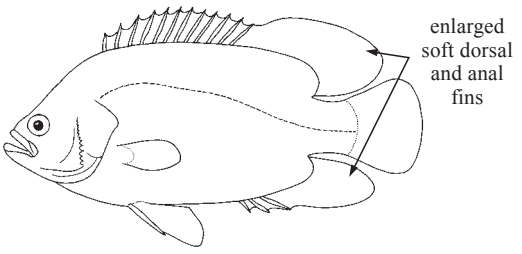



**Serranidae**

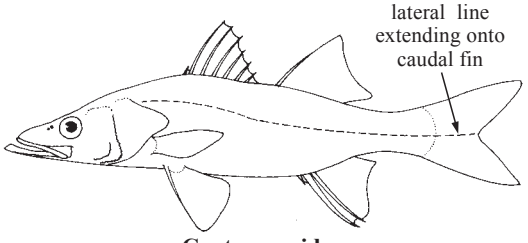
Lobotidae: soft portions of dorsal and anal fins enlarged, forming broadly rounded lobes; no teeth on roof of mouth; no ridge on opercle.

Centropomidae: elongate, with 2 separate dorsal fins, and with lateral line extending onto hind margin of forked caudal fin; lateral line black and no opercular spines; no ridge on opercle.

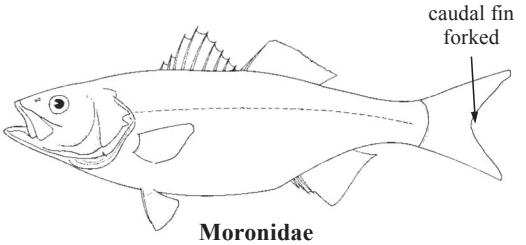
Moronidae: silvery fishes, sometimes with longitudinal stripes; forked tails; no ridge on opercle; found in coastal, estuarine, and fresh water.




**Lobotidae**




**Centropomidae**



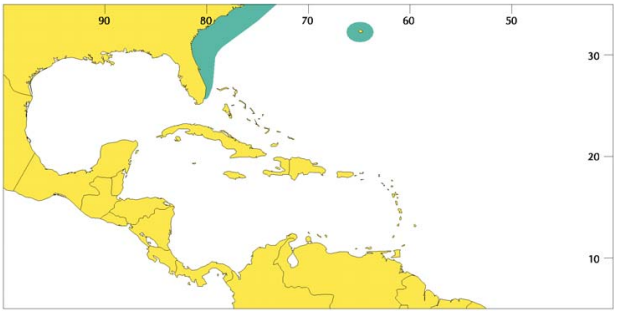

**Moronidae**

**Size:** Maximum to 2 m, 100 kg; average 98 cm, 17 kg in the area.

**Habitat, biology, and fisheries:** Strictly marine in temperate waters; absent from the tropics. Feeds on fishes and squids; spawns December to April. Juveniles pelagic to a length of 60 cm; larger juveniles and adults demersal on deep rocky bottoms (50 to 800 m). Because of habitat preference (deep rocky slopes), they are only locally abundant. Caught mainly with bottom longlines and vertical lines. Excellent foodfish, usually marketed fresh. Commercially abundant in Area 31 off the southeastern USA; historically fished in Bermuda, where now considered commercially extinct. Minor recreational use in the Bahamas. USA landings (all reported Area 31 catch is from the US) have declined since 1990. FAO statistics report landings ranging from 1 to 112 t from 1995 to 1999.

**Distribution:** Pelagic juveniles widely dispersed; demersal phases narrowly distributed. From Grand Banks, Newfoundland to the Florida Straits and southern Brazil to Valdes Peninsula, Argentina, including Bermuda but excluding the tropics. Eastern North Atlantic from Norway to the Cape of Good Hope, including the Mediterranean. Also mid-Atlantic ridge and associated islands (e.g. Azores), southwestern Pacific (Australia, New Zealand, as *Polyprion moeone*) and southern Indian Ocean. Pelagic juveniles common in the surface waters of the eastern North Atlantic, but rare in the western North Atlantic.

**Remarks:** One of the most valuable fishes in the Portuguese market, but ranks well below groupers and other reef fishes in Area 31. They are long-lived (31 years) and susceptible to overfishing because of limited habitat availability. Pelagic juveniles caught as bycatch in drift net and purse seine fisheries in the eastern Atlantic. Significant catches made in southern Brazil, Azores, Madeira, Australia, and New Zealand. Included in the Percichthyidae or Serranidae by earlier authors. Roberts (1986) synonymized *Polyprion moeone* and *Polyprion americanus*.




## References

Roberts, C.D. 1986. Systematics of the percomorph fish genus *Polyprion* Oken, 1817. Ph.D. Diss., Univ. Wellington, 283 p.

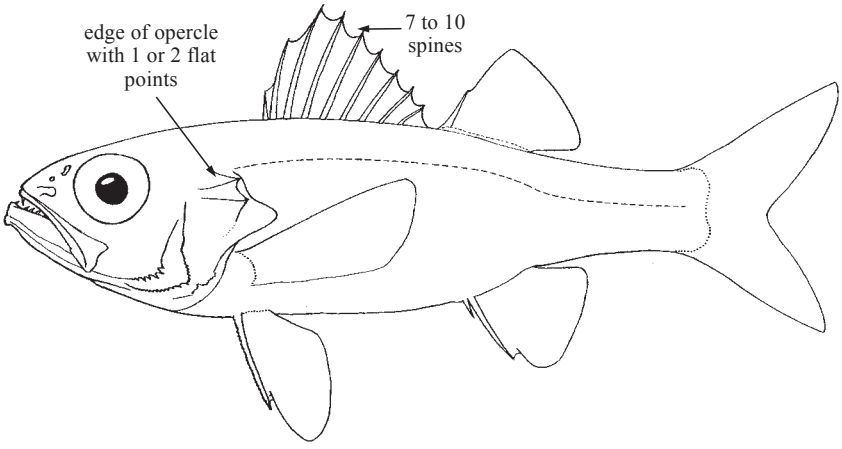
Sedberry, G.R., C.A.P. Andrade, J.L. Carlin, R.W. Chapman, B.E. Luckhurst, C.S. Manooch III, G. Menezes, B. Thomsen and G.F. Ulrich. 1999. Wreckfish (*Polyprion americanus*) in the North Atlantic: fisheries, biology, and management of a widely distributed and long-lived fish, Chapter 4. In Life in the Slow Lane: Ecology and Conservation of Long-Lived Marine Animals, edited by J.A. Musick. *Amer. Fish. Soc. Symp.*, 23:27-50.

# ACROPOMATIDAE

## Temperate ocean-basses

by P.C. Heemstra, South African Institute for Aquatic Biodiversity and Y. Yamanoue, University of Tokyo, Japan

**Diagnostic characters:** Small to large fishes (to 80 cm, 10 kg in western Atlantic) with oblong body, the depth less than or about equal to head length, 2.7 to 4.8 times in standard length. Mouth large, the maxilla mostly exposed with mouth closed, reaching to below or beyond middle of eye and expanded posteriorly, the greatest width (including supramaxilla) more than 1/4 eye diameter; interorbital region broad and flat; **rear edge of opercle with 1 or 2 flat points or several sharp spines**; gill membranes separate, free from isthmus; branchiostegal rays 6 or 7; gill rakers well developed. **Dorsal fin divided to the base before last spine or completely separated into spiny and soft-rayed fins; first part with 7 to 10 spines, second with 1 spine and 9, 10, or 14 soft rays; anal fin with 2 or 3 spines and 6 to 9 or 12 soft rays**; caudal fin forked; pectoral fins longer than pelvic fins; pelvic fins with 1 spine, 5 branched rays, and no large axillary process of fused scales. Body covered with scales; head with scales on cheeks; operculum with or without scales; lateral line continuous, with 25 to 55 tubed scales, plus 3 to 5 on caudal fin. Vertebrae 10 abdominal and 15 or 16 caudal. **Colour:** dusky silver, violet brown to black.



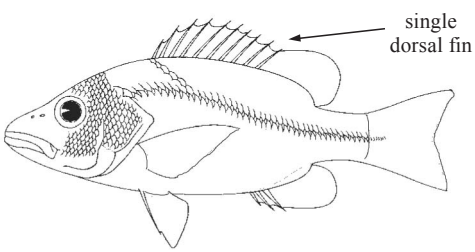

**Habitat, biology, and fisheries:** Adults benthopelagic on the outer continental shelf and slope in depths of 87 to 910 m. Biology little known. The small size and apparent rarity of acropomatids preclude their being of commercial importance in the area.

**Remarks:** The composition and definition of the Acropomatidae are problematic. Some of the species here assigned to this ill-defined 'family' are placed by some recent authors in the Percichthyidae; the genus *Percichthys* comprises 2 species of fresh-water fishes in Chile and Argentina; they have 31 to 36 vertebrae and are not closely related to the 'acropomatids'. The genus *Scombrops*, with 3 or 4 species, is placed by some authors in the Pomatomidae or in its own family, Scombropidae.

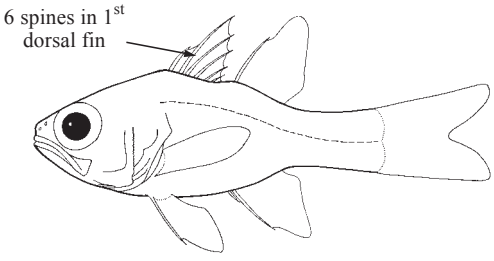
### Similar families occurring in the area

Lutjanidae: dorsal fin single (but deeply incised in *Etelis*), with 10 to 12 spines and 8 to 14 rays; scaly axillary process well developed at base of pelvic fins; maxilla mostly covered by preorbital bone with mouth closed.

Apogonidae: first dorsal fin with 6 spines; anal fin with 2 spines and 8 rays; lateral-line scales 23 to 25; vertebrae 10 precaudal and 14 caudal.



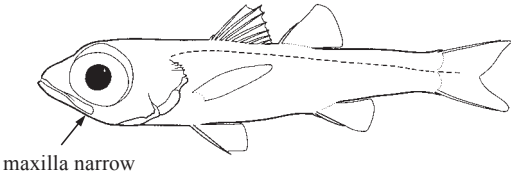

**Lutjanidae**



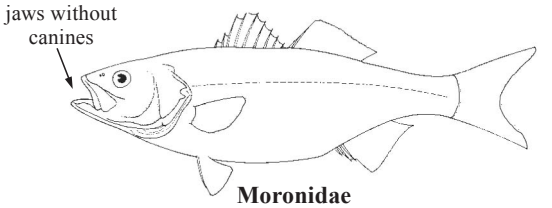

**Apogonidae**

Epigonidae: maxilla narrow (greatest width less than 1/5 eye diameter); first dorsal fin with 6 to 8 spines; anal fin with 1 or 2 spines (3 in *Sphyraenops*, which also has 3 distinct opercular spines).

Moronidae: first dorsal fin with 8 or 9 spines, second dorsal fin with 1 spine and 10 to 13 rays; anal fin with 3 spines and 9 to 12 rays; pectoral fin about half head length; jaws with small conical teeth, no canines.



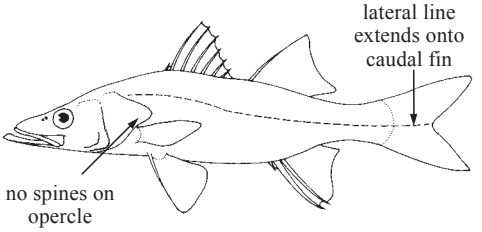

**Epigonidae**



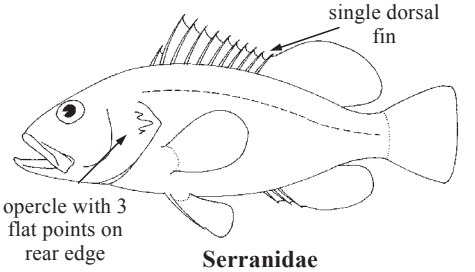

**Moronidae**

Centropomidae: no spines on opercle; preopercle with large serrae; second anal-fin spine much longer than caudal peduncle depth; lateral line conspicuously marked in black (except in *Centropomus ensiferus*) and extending to rear end of caudal fin.

Serranidae: opercle with 3 spines or flat points on rear edge; single (undivided) dorsal fin in most species, with 2 to 11 spines and 10 to 27 rays.




**Centropomidae**




**Serranidae**

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

**1a.** First dorsal fin with 8 weak spines, second dorsal fin with 1 spine and 14 soft rays; anal fin with 3 spines and 12 soft rays; lateral-line scales 45 to 50; body depth contained 3.5 to 3.7 times in standard length; preopercle smooth, opercle with 2 flat points; jaws with long slender canines; branchiostegal rays 7; pectoral fins short, about half head length . . . ***Scombrops oculatus***

**1b.** Dorsal-fin soft rays 9 or 10; anal-fin soft rays 6 to 9; lateral-line scales 25 to 50 . . . . . → ***2***

**2a.** Branchiostegal rays 6; body covered with firm ctenoid scales; first dorsal fin with 8 spines, second dorsal fin with 1 spine and 9 rays; anal fin with 3 spines and 7 rays; pectoral-fin rays 13 or 14; lateral-line scales 30 to 35; body depth 3.4 to 3.7 times in standard length; pectoral fin almost equal to head length and reaching past vertical at anal-fin origin; rear edge of opercle with 2 simple, sharp spines; preopercle with a few short spines on lower half of rear edge; jaws with 1 row of minute teeth; no canines; gill rakers on first arch 7 in upper limb and 21 in lower limb . . . . . ***Bathysphyraenops simplex***

**2b.** Branchiostegal rays 7; body scales ctenoid or cycloid; first dorsal fin with 8 or 9 spines, second dorsal fin with 1 spine and 9 or 10 rays; anal fin with 2 or 3 spines and 7 to 9 rays; pectoral-fin rays 14 to 18; lateral-line scales 25 to 50; body depth 2.8 to 4.8 times in standard length; opercle not with 2 simple, sharp spines; preopercle smooth or serrate, with strong spines; gill rakers on first arch 4 to 7 on upper limb and 14 to 18 on lower limb . . . . . → ***3***

**3a.** Scales ctenoid, adherent; body depth 3.4 to 3.7 times in standard length; first dorsal fin with 8 spines, second dorsal fin with 1 spine and 9 to 11 soft rays; anal fin with 3 spines and 7 or 8 soft rays; pectoral-fin soft rays 14 or 15; lateral line interrupted, pored scales 35 to 39; 3 rows of scales from lateral line to base of second dorsal fin; rear edge of opercle with 2 spines or a cluster of spines; preopercle finely serrate; subopercle with 1 strong spine or a cluster of spines; 1 to 3 spines on interopercle; jaws with 1 row of small conical teeth; supramaxilla absent; gill rakers on first arch 7 to 9 on upper limb and 19 to 22 on lower limb . . . . . ***Howella brodiei***

**3b.** Body scales mostly cycloid, more or less deciduous; first dorsal fin with 9 spines, second dorsal fin with 1 spine and 9 or 10 soft rays; anal fin with 2 or 3 spines and 7 to 9 soft rays; pectoral-fin soft rays 14 to 17; lateral line usually continuous, pored scales 25 to 27, 29 to 31 or 46 to 51; rear edge of opercle with 1 or 2 flat points; jaws with some canine teeth; supramaxilla present . . . . . → ***4***

**4a.** Body depth 2.9 to 3.4 times in standard length; anal fin with 3 spines and 7 soft rays; preopercle margin weak and flexible, no distinct serrae; lateral-line scales 42 to 48; gill rakers 4 to 7 on upper limb and 15 to 18 on lower limb of first arch . . . . . → ***5***

**4b.** Body depth distinctly less than head length, contained 3.2 to 4.8 times in standard length; anal fin with 2 or 3 spines and 6 to 9 soft rays; preopercle with at least a few serrae . . . . . → ***6***

**5a.** Mid-lateral part of lower jaw with a row of 12 to 14 small canines; front and rear parts of jaw with patches of villiform teeth, and 2 large canines on either side of symphysis; first anal-fin pterygiophore slender and straight . . . . . ***Verilus sordidus***

**5b.** Mid-lateral part of lower jaw with a row of about 20 to 40 minute teeth; front and rear parts of jaw with patches of villiform teeth, and a pair large canines at symphysis; first anal-fin pterygiophore recurved, with laterally-expanded lamina forming a distinct hollow . . . . . ***Neoscombrops atlanticus***

**6a.** First dorsal fin with 8 spines; anal fin with 3 spines and 8 or 9 soft rays; pelvic-fin spine serrate, other fin spines smooth; preopercle serrate, subopercle and interopercle smooth; lateral-line scales 46 to 51; body depth contained 3.7 to 4.8 times in standard length . . . . . ***Synagrops trispinosus***

**6b.** First dorsal fin with 9 spines; anal fin with 2 spines and 7 or 9 soft rays; pelvic-fin spine smooth or serrate; lateral-line scales 29 to 35; body depth 3.3 to 3.8 times in standard length . . . . . → ***7***

**7a.** Anal-fin soft rays 9; no ridges on lower rear margin of preopercle; lateral-line scales about 35; gill rakers on lower limb 17 or 18; all fin spines smooth . . . . . ***Synagrops pseudomicrolepis***

**7b.** Anal-fin soft rays 7; lower rear margin of preopercle with 2 or 3 small ridges; lateral-line scales 29 to 31; lower gill rakers 11 to 16 . . . . . → ***8***

**8a.** Anterior edge of pelvic-fin spine and second spines of first dorsal and anal fins serrate; total gill rakers 17 to 20 . . . . . ***Synagrops spinosus***

**8b.** No fin spines serrate; total gill rakers 13 to 17 . . . . . ***Synagrops bellus***

**List of species occurring in the area**

The symbol is given when species accounts are included.

*Bathysphyraenops simplex* Parr, 1933. To 12 cm. Bahamas, Cuba, tropical central Atlantic, W Indian Ocean, and W and central Pacific Ocean.

*Howella brodiei* Ogilby, 1899. To 12 cm. Suriname, W and E N Atlantic, and W Pacific.

*Neoscombrops atlanticus* Mochizuki and Sano, 1984. To at least 13.4 cm standard length. Colombia.

*Scombrops oculatus* (Poey, 1860).

*Synagrops bellus* (Goode and Bean, 1896). To at least 36 cm. Bermuda, Canada to Florida, N Gulf of Mexico, Suriname, and E Atlantic.

*Synagrops pseudomicrolepis* Schultz, 1940. To 13 cm. Cuba to Suriname.

*Synagrops spinosus* Schultz, 1940. To 13 cm. North Carolina, Gulf of Mexico, Suriname, W Pacific.

*Synagrops trispinosus* Mochizuki and Sano, 1984. To 12 cm. Nicaragua, Colombia, Venezuela, Jamaica, Virgin Islands, Puerto Rico, and Suriname.

*Verilus sordidus* Poey, 1860. To 37+ cm. Cuba and Venezuela.

**References**

Mejía, L.S., A. P. Acero, and L. Saavedra. 2001. Review of the genus *Synagrops* from the tropical western Atlantic (Perciformes: Acropomatidae). *Caribb. J. Sci*., 37(3-4):202-209.

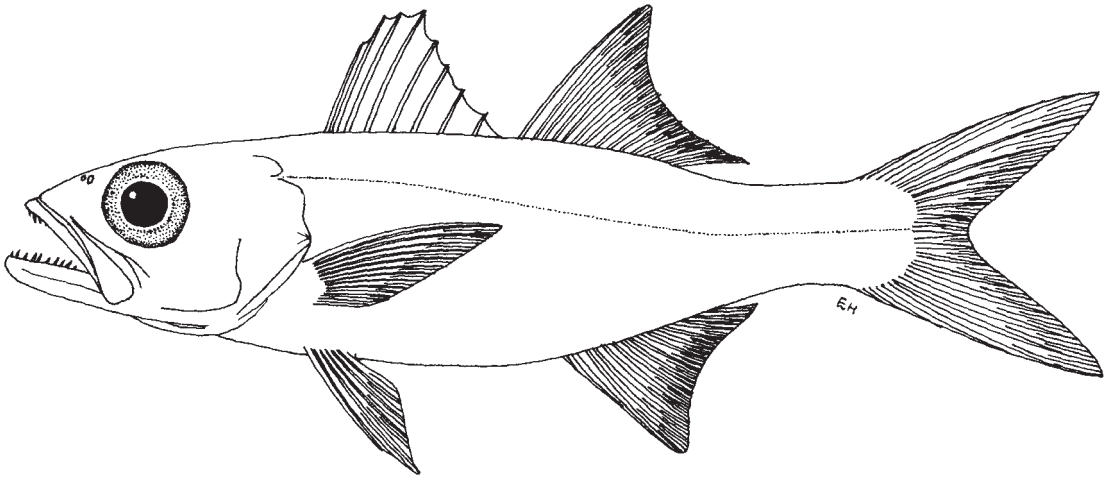
Mochizuki, K. and M. Sano. 1984. A new perchichthyid fish *Neoscombrops atlanticus* from the Caribbean Sea. *Jap. J. Ichthyol*., 30(4):335-340.

Post, A. and J.C. Quéro. 1991. Distribution et taxinomie des *Howella* (Perciformes, Perchichthyidae) de l'Atlantique. *Cybium*, 1991,15(2):111-128.

***Scombrops oculatus*** (Poey, 1860)

**Frequent synonyms / misidentifications:** None / None.

**FAO Names: En** - Atlantic scombrops; **Fr** - Vivaneau brun; **Sp** - Escolar chino.



**Diagnostic characters:** Body oblong, somewhat compressed; depth contained 3.4 to 3.6 times, head 2.8 to 3.0 times in standard length. Eyes very large, diameter contained 3.2 to 3.5 times in head length. Mouth large, the lower jaw projecting; maxilla exposed with mouth closed, reaching past vertical at middle of eye; maxilla scaly, with large supramaxilla; teeth long, sharp, well separated; teeth on vomer and palatines compressed, in a single row. Preopercle entire; opercle with 2 flat points. Branchiostegal membranes separate, free from isthmus, with 7 rays. **Two dorsal fins, the first with 8 weak spines; second dorsal fin with 1 spine and 14 rays; caudal fin distinctly forked; anal fin with 3 spines and 12 rays; basal half of soft dorsal and anal fins scaly**. Scales cycloid, deciduous; lateral-line scales 45 to 50. **Colour:** dark violet brown, paler below.

**Habitat, biology, and fisheries:** Occurs on rough bottom in depths of 200 to 640 m. Taken by sport fishermen in the Bahama Channel. Probably caught at most Carribean islands where hook-and-line fishing in 200 to 600 m takes place. As of 1999, the IGFA All-tackle world record for *Scombrops oculatus* is a fish of 9.9 kg caught at Bimini, Bahamas in 1997.

**Size:** Attains at least 104 cm fork length and a weight of 10 kg.

**Distribution:** Bermuda, Bahamas, Cuba, Puerto Rico, Virgin Islands, and probably most other islands of the Carribean.