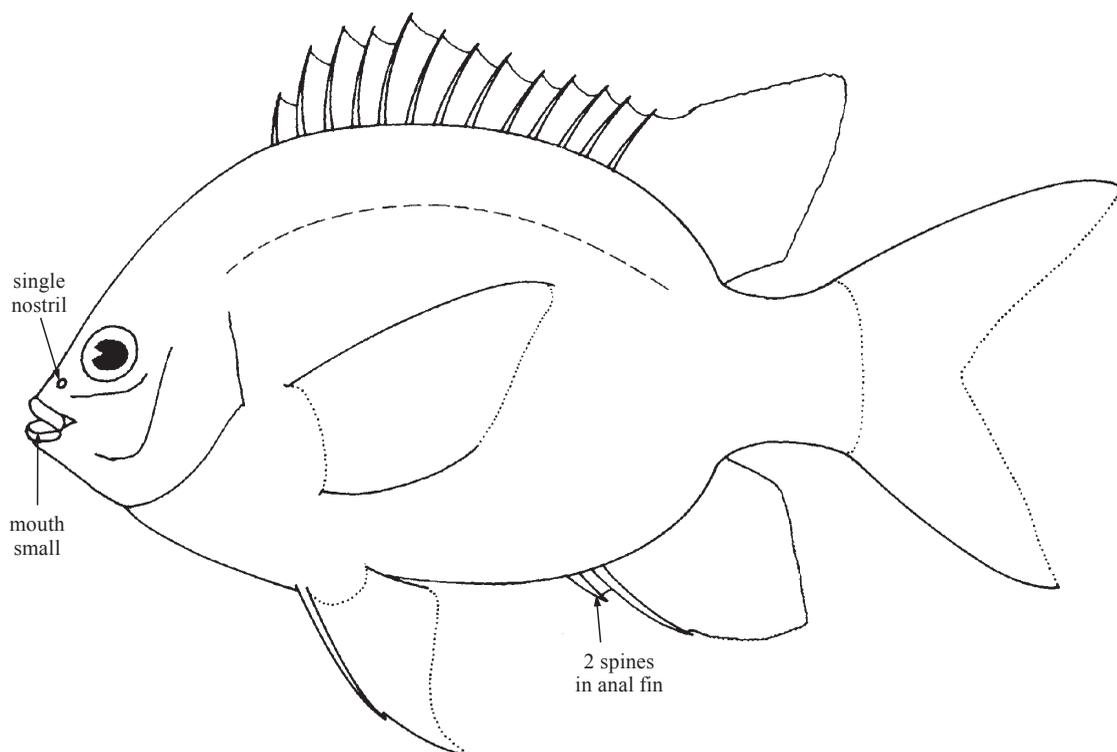


## POMACENTRIDAE

## Damselfishes

by J.A. Carter, University of New England, Maine, USA and L. Kaufman, Boston University, Massachusetts, USA

**Diagnostic characters:** Small fishes, 35 cm maximum, usually less than 15 cm. Most are deep-bodied and laterally compressed, **with a small mouth and moderately to highly protrusible jaws. Teeth in buccal jaws** conical, incisiform or brush-like, **but never molar-like or fang-like. A single pair of nostrils in Atlantic species;** preorbital and usually suborbitals not attached to cheek; gill rakers small, rarely more numerous than 35 to 40 on first arch; lower pharyngeals (tooth-bearing fifth ceratobranchials) completely fused into a plate. Dorsal fin with 10 to 14 spines (usually 12 or 13); **anal fin always with 2 spines.** Scales ctenoid (rough to touch) in Atlantic species, fewer than 30 in a longitudinal row from behind gill cover to base of caudal fin. Lateral line with tube-bearing scales extending to below end of dorsal fin, then continuing as a row of tiny pits to middle of caudal-fin base. **Colour:** many damselfishes are brightly coloured; adults are often less brilliant but more behaviourally labile than juveniles and frequently there is a gradual transition from a specific juvenile colour pattern to a different adult pattern; temporary spawning coloration can be assumed or discarded in seconds.

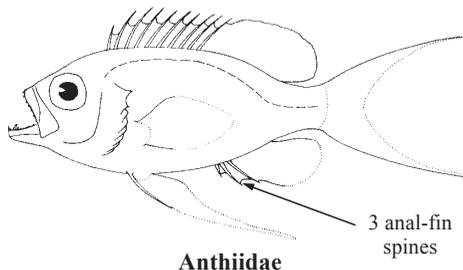
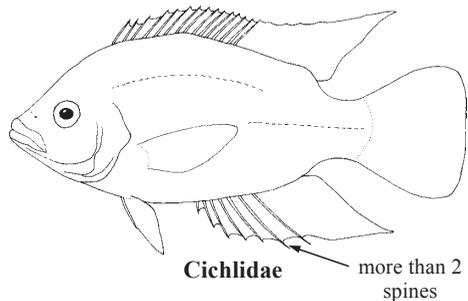


**Habitat, biology, and fisheries:** Most species of damselfish are restricted to shallow coral reefs at depths less than 15 m; a few species enter lagoons, estuaries, and the lower reaches of fresh water streams (*Stegastes otophorus*). The larger species are easily caught with small hooks; also taken in traps and with cast nets and seines; a small number occur in deeper water (down to several hundred metres) and are incidentally taken in trawls. Most damselfishes are commercially unimportant, but several are a component of artisanal subsistence fisheries.

**Similar families occurring in the area**

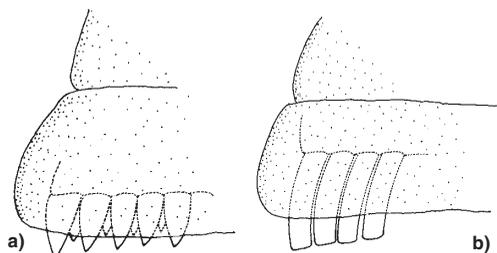
Cichlidae: similar in general appearance, but usually with more than 2 spines in anal fin; preorbital and suborbitals attached to cheek; normally confined to fresh or brackish water but introduced *Oreochromis* species and some native species may range into sea water.

Anthiidae: generally resemble the pomacentrid genus *Chromis*, but easily distinguished by the presence of 3 anal-fin spines and enlarged canine teeth.

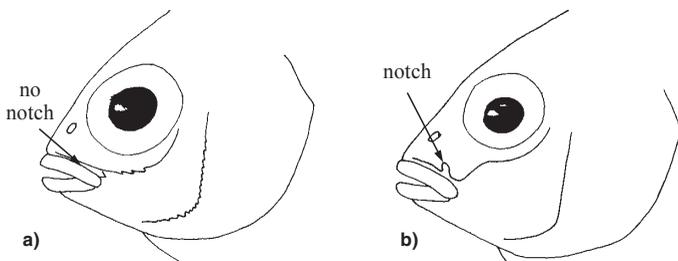


**Key to the genera of Pomacentridae occurring in the area**

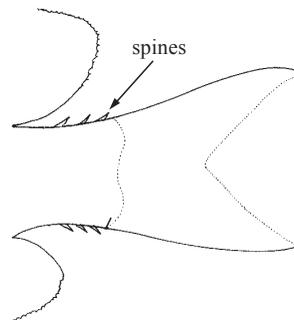
- 1a. Teeth in upper jaw conical (Fig. 1a) or incisiform (Fig. 1b), but never flexible or brush-like; no notch in preorbital bone bordering the jaw (Fig. 2a) . . . . . → 2
- 1b. Teeth in upper jaw flexible, brush-like; a pronounced notch in preorbital bone bordering the jaw (Fig. 2b) . . . . . *Microspathodon*
- 2a. Dorsal-fin spines 13, preopercular margin entire (Fig. 2b) . . . . . → 3
- 2b. Dorsal-fin spines 12, preopercle serrated (Fig. 2a) . . . . . *Stegastes*
- 3a. Teeth conical (Fig. 1a) in 2 to 4 rows; upper and lower edges of caudal-fin base with 2 or 3 projecting spines sometimes inconspicuous (Fig. 3) . . . . . *Chromis*
- 3b. Teeth incisiform (Fig. 1b) in a single row; upper and lower edges of caudal-fin base without projecting spines . . . . . *Abudefduf*



**Fig. 1 dentition of upper jaw**



**Fig. 2 lateral view of head**



**Fig. 3 lateral view of tail**

### List of species occurring in the area

The symbol  is given when species accounts are included.

 *Abudefduf saxatilis* (Linnaeus, 1758).

 *Abudefduf taurus* (Müller and Troschel, 1848).

*Chromis cyanea* (Poey, 1860). To 25 cm. Bermuda, Florida, Gulf of Mexico, Caribbean to Venezuela.

*Chromis enchrysurus* Jordan and Gilbert, 1882. To 10 cm. Bermuda, North Carolina to Florida, Gulf of Mexico, W Caribbean, Brazil.

*Chromis flavicauda* (Günther, 1880). To 7 cm. Known only from Bermuda and Brazil, antitropical.

*Chromis insolata* (Cuvier, 1830). To 16 cm. North Carolina, Florida, Bahamas, Gulf of Mexico, S to South America.

 *Chromis multilineata* (Guichenot, 1853).

*Chromis scotti* Emery, 1968. To 10 cm. North Carolina, Bermuda, Bahamas, Florida Keys, Gulf of Mexico, Jamaica, Belize, Colombia, Curaçao and Bonaire, and Brazil.

 *Microspathodon chrysurus* (Cuvier, 1830).

*Stegastes adustus* (Troschel, 1865). To 15 cm. Bermuda, Florida, Bahamas, Gulf of Mexico, Caribbean, Antilles to Venezuela, along Central American coast to Panama.

*Stegastes diencaeus* (Jordan and Rutter, 1897). To 12.5 cm. W Atlantic, S Florida, Bahamas and Caribbean, including Antilles, and Yucatán to Venezuela.

*Stegastes fuscus* (Cuvier, 1830). To 12.6 cm. Known only from Brazil.

*Stegastes leucostictus* (Müller and Troschel, 1848). To 10 cm. Bermuda, Atlantic coast of Maine (summer only) to Brazil, Bahamas, N Gulf of Mexico, Caribbean, including Antilles.

*Stegastes otophorus* (Poey, 1860). To 13 cm. W Atlantic, known only from Jamaica, Panama, and Cuba.

*Stegastes partitus* (Poey, 1868). To 10 cm. North Carolina, Bahamas, Florida, and N Gulf of Mexico to Venezuela.

*Stegastes pictus* (Castelnau, 1855). To 7.5 cm. W Atlantic, known only from coast of Brazil.

*Stegastes planifrons* (Cuvier, 1830). To 13 cm. Bermuda, North Carolina, Florida, Bahamas, and N Gulf of Mexico to Venezuela.

*Stegastes rocasensis* (Emery, 1972). To 8.5 cm. W Atlantic, known only from Atol das Rocas, Brazil.

*Stegastes trinidadensis* Gasparini, Moura, and Sazima, 1999. To 8.9 cm. SW Atlantic, Brazil.

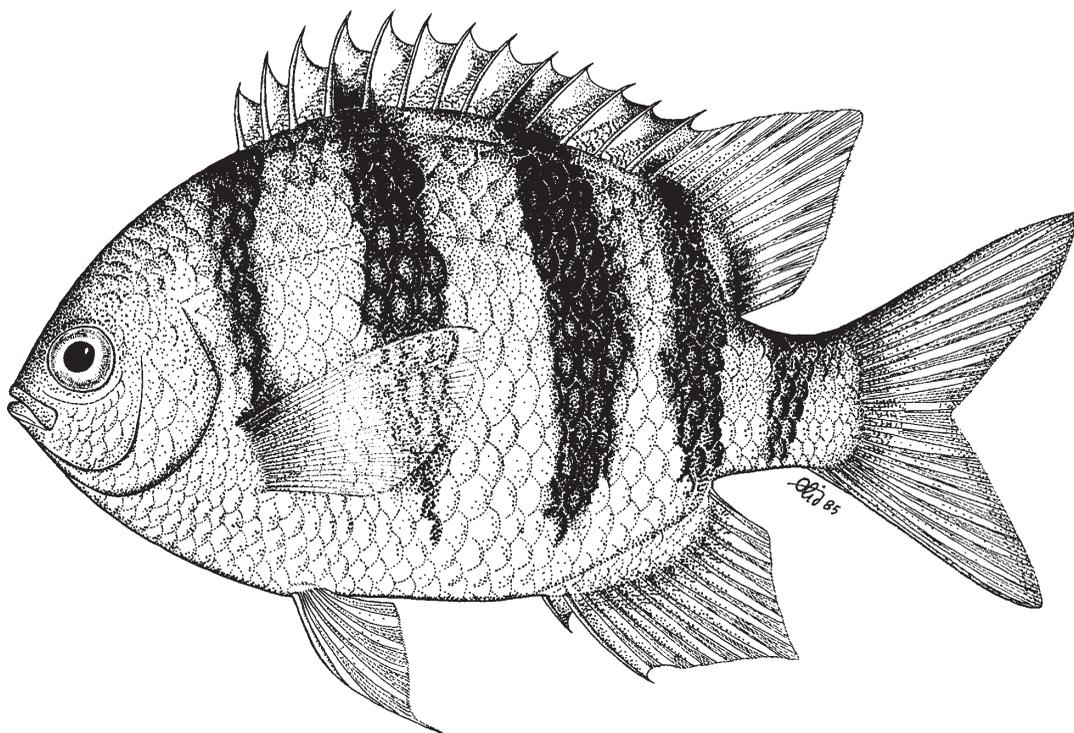
*Stegastes variabilis* (Castelnau, 1855). To 12.5 cm. North Carolina to Florida, Bahamas, and N Gulf of Mexico to Brazil.

### References

- Allen, G.R. 1991. *Damselfishes of the world*. Mergus Publishers, Melle, Germany, 271 p.
- Bohlke, J.E. and C.C.G. Chaplin. 1993. *Fishes of the Bahamas and adjacent tropical waters*. Second edition. Austin, University of Texas Press, 771 p.
- Gasparini, J.L., R.L. de Moura, and I Sazima. 1999. *Stegastes trinidadensis* n. sp., (Pisces: Pomacentridae), a new damselfish from Trindade Island, off Brazil. *Bol. Mus. Biol. Mello Leitao (N. Ser.)*, 10:3-11.
- Randall, J.E. 1968. *Caribbean reef fishes*. T.F.H. Publications, Inc. Ltd., Hong Kong. 318 p.

*Abudefduf saxatilis* (Linnaeus, 1758)

ABU

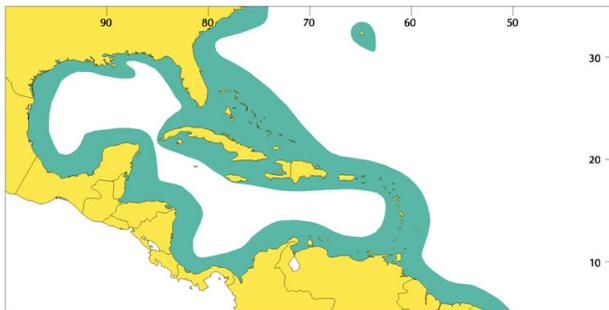
**Frequent synonyms / misidentifications:** None / None.**FAO names:** En - Sergeant major; Fr - Chauffet soleil; Sp - Petaca rayada.

**Diagnostic characters:** Body deep, laterally compressed. Mouth small, moderately protrusible; **teeth in a single row, incisiform**, each with a small notch on upper edge in large individuals; **preorbital bone narrow without a notch above upper lip**; **suborbital bones smooth and not attached to cheek**; **preopercle with a smooth edge**. **Dorsal fin with 13 spines and 12 or 13 soft rays**; **anal fin with 3 spines and 12 or 13 soft rays**; caudal fin markedly forked. **Colour:** back and sides often bright greenish yellow, belly bluish white; **5 prominent vertical black bars on sides that narrow towards belly**; **interspaces wider than bars** and a sixth faint bar on upper caudal peduncle. Sometimes the entire body bluish to white except for the black bars. A dark spot at base of pectoral fin.

**Size:** To 22.9 cm total length; maximum weight 200 g.

**Habitat, biology, and fisheries:** Normally a shallow-water species, conspicuous as juveniles in tide pools, and as adults feeding in schools over shallow reef-tops. Juveniles form part of the Sargassum weed community and may be found far offshore. Adult males adopt a bluish ground colour when guarding eggs. Attracted to divers who feed fish. Has been reared in captivity. Depth limit usually less than 15 m. Feeds on plankton, benthic invertebrates, and plants. Caught mainly in subsistence fisheries in shore seines and by handlines or cast nets. Separate statistics are not reported for this species. Marketed or consumed fresh.

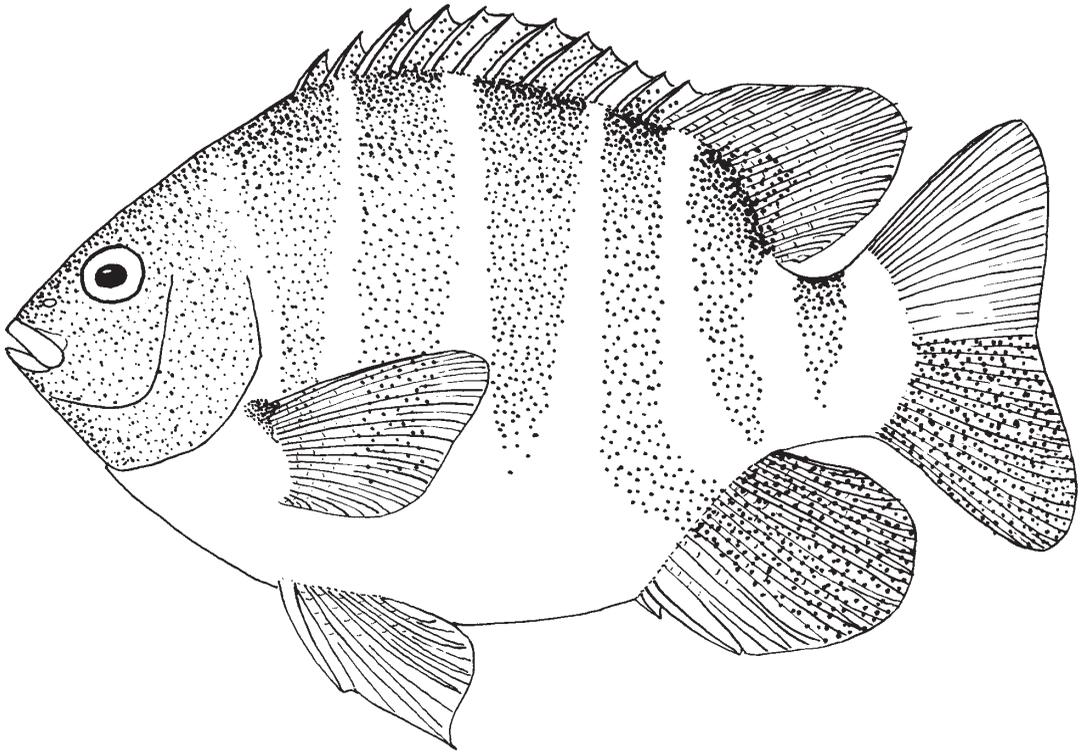
**Distribution:** Tropical and subtropical Atlantic 43°N to 35°S, occurring throughout the area and extending northward to North Carolina and southward to the southern parts of Brazil.



***Abudefduf taurus*** (Müller and Troschel, 1848)

**Frequent synonyms / misidentifications:** *Nexilarius taurus* (Müller and Troschel, 1848) / None.

**FAO names:** **En** - Night sergeant; **Fr** - Chauffet de nuit; **Sp** - Petaca rezobada.

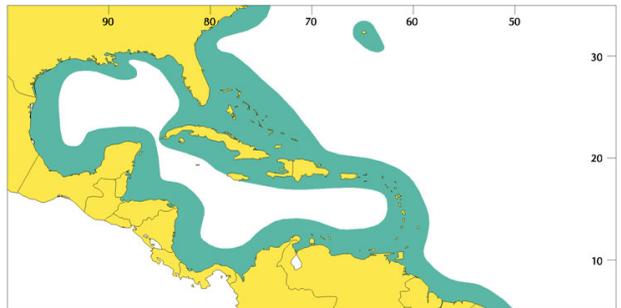


**Diagnostic characters:** Body deep, somewhat laterally compressed but robust. Mouth small to medium-sized, moderately protrusible; **teeth in a single row, incisiform**, each with a conspicuous notch on upper edge in large individuals; preorbital bone moderately expanded, **without a notch above upper lip; suborbitals smooth and attached to cheek; preopercle with a smooth edge. Dorsal fin with 12 spines** and 11 or 12, usually 12, soft rays; **anal fin with 2 spines** and 9 or 10 soft rays; caudal fin bluntly forked. **Colour:** back and sides pale or yellowish brown; **5 wide dark brown bars ending bluntly on the upper belly; interspaces narrower than bars**, and a sixth diffuse bar sometimes present on upper half of caudal peduncle; a very large and prominent spot in axil of pectoral fins.

**Size:** To 25 cm total length.

**Habitat, biology, and fisheries:** Normally a very shallow-water species, characteristically found in very turbulent, wave-swept areas in less than 5 m depth (usually less than 2 m) occasionally in water of somewhat reduced salinity. The adults and juveniles do not form schools, but feed as individuals on a herbivorous diet of algae and eel grasses. Adults also feed on *Zoanthus* and hydroids while juveniles feed on copepods. Caught mainly in subsistence fisheries throughout the area mostly in cast-nets, but occasionally by handlines or beach seines. Marketed or consumed fresh. Separate statistics are not reported for this species.

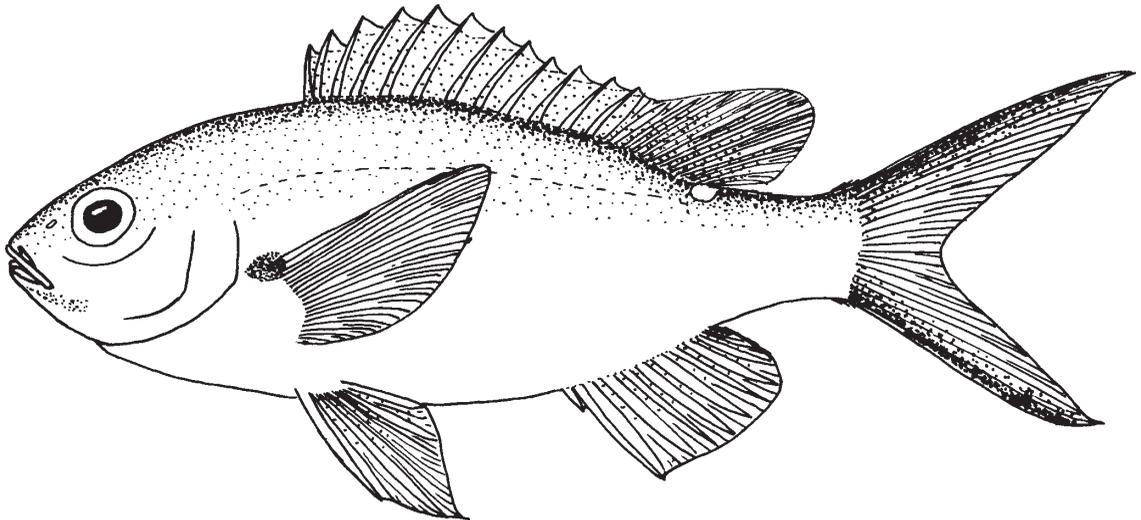
**Distribution:** Southern Florida, Gulf of Mexico, and Caribbean Sea, mostly in island locations, but also found near exposed continental shorelines.



***Chromis multilineata*** (Guichenot, 1853)

**Frequent synonyms / misidentifications:** *Chromis marginata* Poey, 1860 / None.

**FAO names:** En - Brown chromis; Fr - Sergeant cromis; Sp - Jaqueta parda.

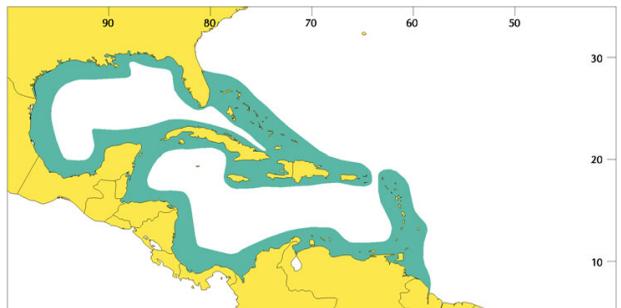


**Diagnostic characters:** Body relatively elongate, somewhat compressed laterally. Mouth small and very protrusible, forming a distinct tube when extended; **teeth conical and small, in 2 to 8 rows**; preorbital bone narrow, without a notch, but with a bony projection protruding slightly just above upper lip; suborbitals smooth and not attached to cheek; preopercle with a finely serrated edge. Dorsal fin with 3 spines and 12 soft rays; anal fin with 2 spines and 9 or 10 soft rays; caudal fin deeply forked with elongate tips. **Colour:** greyish green to olive brown on back and sides, becoming pale to white or silvery ventrally; **margins of dorsal and anal fins as well as central portion and tips of caudal fin yellow or clear, upper and lower margins of caudal fin distinctly dark; a large black spot in axil of pectoral fin (most of it hidden beneath the fin);** often a bright sulphur yellow spot immediately behind last dorsal fin ray.

**Size:** To 20 cm total length.

**Habitat, biology, and fisheries:** Found in a wide range of habitats, but most commonly forms moderate-sized feeding-schools over reef tops, rising high above the bottom to feed on plankton, primarily copepods. Often seen with *Chromis cyanea*. Depth range from shallow patchy reef areas and shore rubble to over 40 m. Caught incidentally throughout its range, mainly in subsistence fisheries with cast nets and gill nets (gill nets infrequently used for inshore reef areas) or small handlines. Rarely marketed, but used primarily as subsistence food. Separate statistics are not reported for this species.

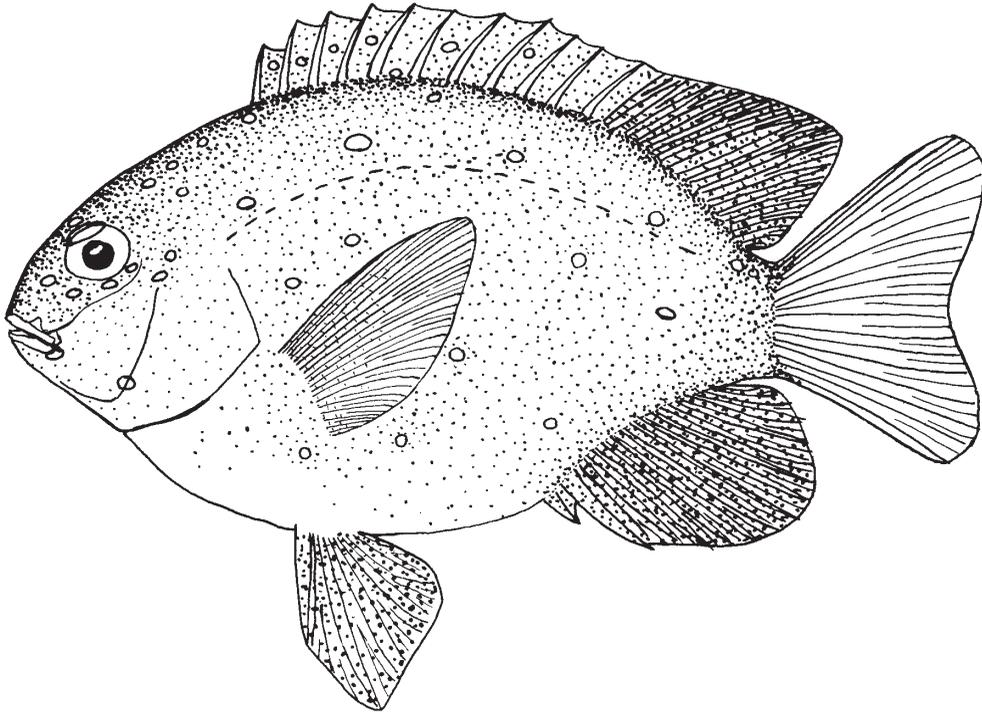
**Distribution:** Western Atlantic, North Florida, Texas, Caribbean sea to mid-Brazil, common in both island and continental areas.



*Microspathodon chrysurus* (Cuvier, 1830)

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

**FAO names:** En - Yellowtail damselfish; Fr - Chaffet queue jaune; Sp - Jaqueta rabo amarillo.



**Diagnostic characters:** Body deep and robust. Mouth small to medium-sized, scarcely protrusible, lower jaw rocking downward in an almost circular motion to open mouth; **teeth in upper jaw in a single row, fine, brush-like, incisiform, and very flexible**; lower jaw teeth also in a single row, incisiform and stout; **preorbital bone very broad and distinctly notched above upper lip**; **suborbitals smooth and not attached to cheek**; **preopercle with a smooth edge**. Dorsal fin with 12 spines and 14 or 15 soft rays; anal fin with 2 spines and 12 or 13 soft rays; caudal fin bluntly forked. **Colour:** adults normally very dark blue, sometimes brown-black with brilliant reflective iridescent blue spots scattered on dorsal and lateral surfaces of body; caudal fin markedly paler than body, usually yellow but sometimes white; occasionally, adults an overall pale brown or an overall dark black colour with no pale caudal fin. Juveniles almost always dark blue with scattered brilliant reflective spots on body and a white caudal fin.

**Size:** To 21 cm total length.

**Habitat, biology, and fisheries:** Normally a very shallow-water species, characteristically found in coral heads with extensive caves, or in areas of fire coral (*Millepora*) or palm coral (*Acropora*). Extremely aggressive and territorial from juvenile to adult stages. Depth limit usually 7 to 10 m. Feeds primarily on algae but also on polyps of fire coral; occasionally the juveniles pick parasites from other species of fish. Caught mainly in subsistence fisheries throughout the area by cast nets or handlines by children. Mostly used as subsistence food by local fishermen, but occasionally marketed fresh. Has been reared in captivity. Separate statistics are reported for this species.

**Distribution:** Western Atlantic, South Florida, Bermuda, Caribbean Sea to eastern Venezuela.

