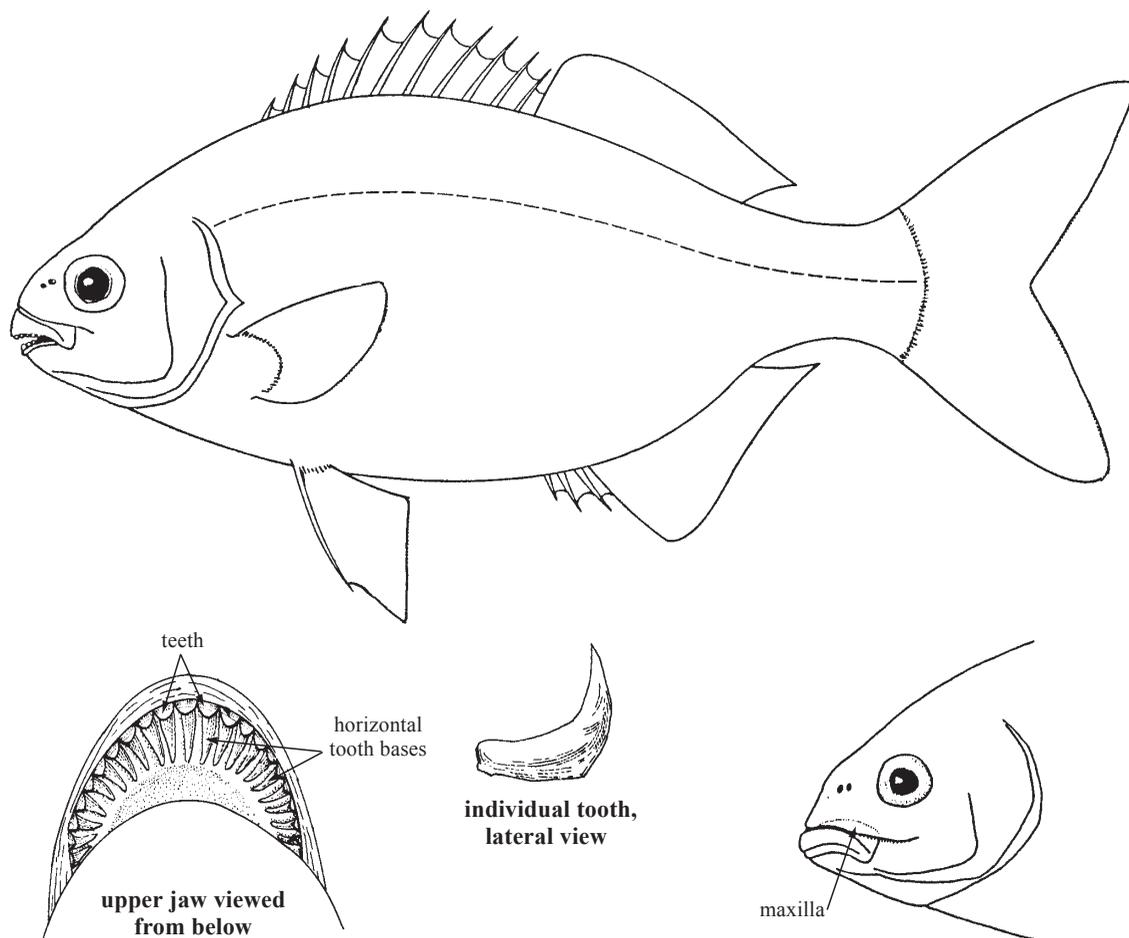


KYPHOSIDAE

Sea chubs

by K.E. Carpenter (after T. Sgano, 1978), Old Dominion University, Virginia, USA

Diagnostic characters: Medium-sized (to 76 cm); moderately deep-bodied, oval fishes. Head short, with blunt snout; mouth small, horizontal, the maxilla not or only just reaching to below eye and slipping under edge of preorbital bone; **each jaw with a regular row of close-set, strong, incisor-like, round-tipped teeth of a peculiar hockey-stick shape, with their bases set horizontally, resembling a radially striated bony plate inside mouth**; a narrow band of villiform teeth behind this row; fine teeth also on roof of mouth. A single, continuous **dorsal fin** in both Western Central Atlantic species, its spinous portion with 11 spines **depressible into a scaly groove**, and 11 to 15 soft rays; 3 spines and 11 to 13 soft rays in anal fin; caudal fin moderately forked; pectoral fins short, about equal in length to pelvic fins or even shorter. **Scales** moderately small, thick, ctenoid (rough to touch) **covering fins (except spinous portion of dorsal) and most of head, except snout**. Digestive tract very long. **Colour:** drab, usually with yellowish and/or bluish stripes; a pale-spotted phase occurs apparently as an aggressive behavioural display.

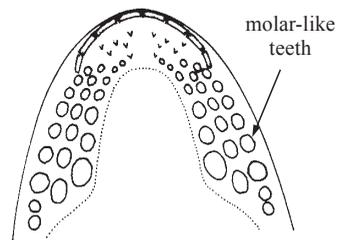


Habitat, biology, and fisheries: Sea chubs are schooling fishes found both in shallow water and far offshore; adults are typically found near shore over rocky bottoms or coral reefs and also schooling far offshore; small juveniles are primarily pelagic among floating sargassum weeds. They feed mainly on plants (hence their long digestive tract) but also take small invertebrates associated with sea weeds.

Similar families occurring in the area

All other families: teeth in jaws not hockeystick-shaped, their bases not set horizontally resembling a radially striated bony plate inside mouth. Further distinguishing characters of similar families are the following:

Sparidae: head usually larger; molar-like teeth present at sides of jaws; pectoral fins long (short in Kyphosidae); no scales in suborbital area or on dorsal and anal fins.



teeth on lower jaw (Sparidae)

Key to species of Kyphosidae occurring in the area

- 1a. Dorsal fin usually with 14 (less frequently with 13 or 15) soft rays; anal fin with 12 or 13 soft rays; lower limb of first gill arch with 19 to 22 gill rakers; head profile in front of eye typically gently convex (Fig. 1) *Kyphosus incisor*
- 1b. Dorsal fin usually with 12 (rarely 11 or 13) soft rays; anal fin usually with 11 (rarely with 10 or 12) soft rays; 16 to 19 (rarely 19) gill rakers in lower lobe of first gill arch; head profile in front of and above eye typically with a distinct bump (Fig. 2). *Kyphosus sectatrix*

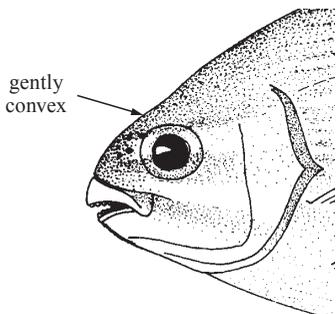


Fig. 1 lateral view of head (*Kyphosus incisor*)

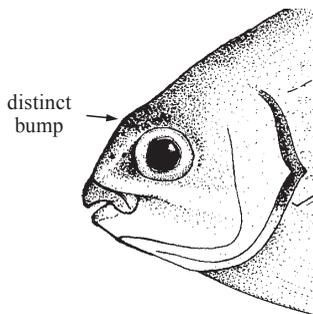


Fig. 2 lateral view of head (*Kyphosus sectatrix*)

List of species occurring in the area

The symbol  is given when species accounts are included.

-  *Kyphosus incisor* (Cuvier, 1831).
-  *Kyphosus sectatrix* (Linnaeus, 1758).

References

Moore, D. 1962. Development, distribution, and comparison of rudder fishes, *Kyphosus sectatrix* (Linnaeus) and *K. incisor* (Cuvier) in the western north Atlantic. *U.S. Fish. Wildl. Serv. Fish. Bull.* 61(196):451-80.

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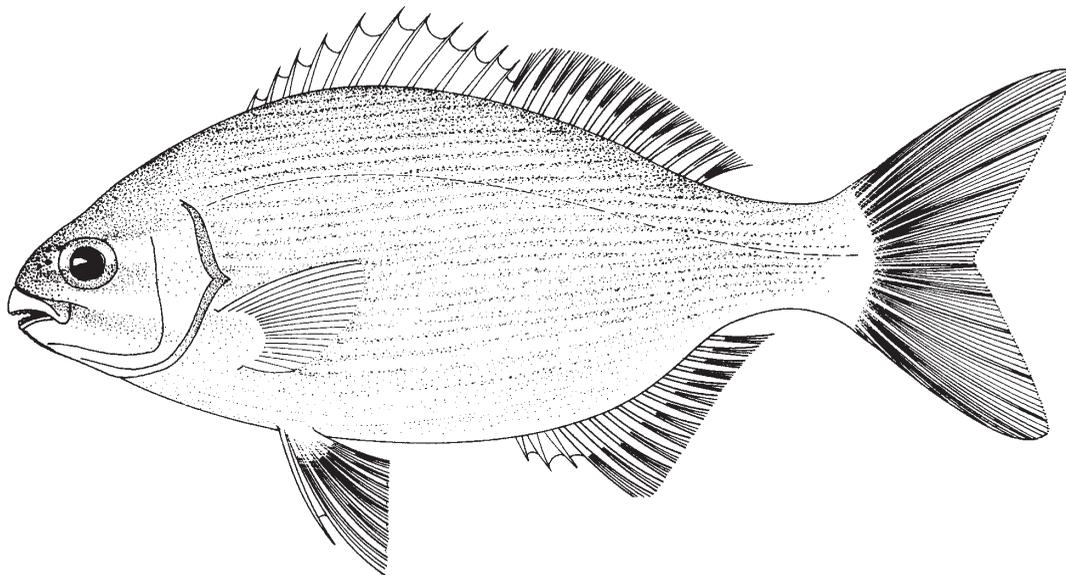
Smith-Vaniz, W.F., B.B. Collette, and B.E. Luckhurst. 1999. Fishes of Bermuda: History, Zoogeography, Annotated checklist, and Identification Keys. *Amer. Soc. Ichthy. Herp. Special Publication*, 4:424 p.

Kyphosus incisor (Cuvier, 1831)

KYI

Frequent synonyms / misidentifications: None / *Kyphosus sectatrix* (Linnaeus, 1758).

FAO names: En - Yellow sea chub (AFS: Yellow chub); Fr - Calicagère jaune; Sp - Chopa amarilla.

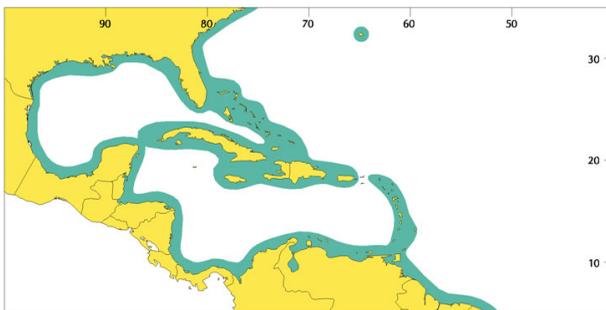


Diagnostic characters: Body moderately deep, head short, mouth small and horizontal, the maxilla slipping under edge of preorbital bone; **each jaw with a regular row of close-set, strong, incisor-like, round-tipped teeth of a peculiar hockey-stick shape, their bases set horizontally, resembling a radially striated bony plate inside mouth;** behind this row, a narrow band of villiform teeth; fine teeth also on roof of mouth and tongue; **gill rakers on lower limb of first gill arch 19 to 22.** A single, continuous **dorsal fin with 11 spines and 13 to 15 (usually 14) soft rays;** **anal fin with 3 spines and 12 or 13 (usually 13) soft rays;** pectoral fins short. Scales small ctenoid (rough to touch), covering most of head (except snout) and all fins, except far spinous portion of dorsal fin; scales on lateral line 54 to 62. **Colour:** grey with longitudinal brassy stripes on body and 2 brassy horizontal bands on head; opercular membrane slightly pigmented.

Size: To at least 67 cm, elsewhere reported to 90 cm; world game record 3.85 kg.

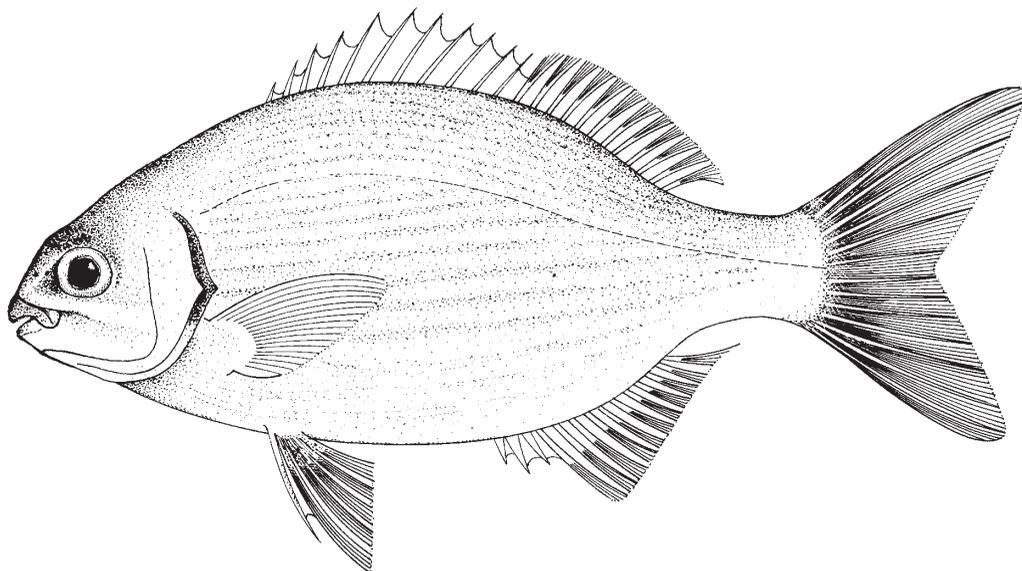
Habitat, biology, and fisheries: Infrequently collected in the area and although thought to be a shallow water species found over hard bottom, it has mostly been reported far offshore and found among floating sargassum weeds. Feeds mostly on algae, including sargassum. Caught mainly on hook-and-line; an excellent gamefish.

Distribution: In the western Atlantic from New England, including Bermuda, throughout the Caribbean, extending southward to Brazil; in the eastern Atlantic, mostly from off northern Africa.



Kyphosus sectatrix (Linnaeus, 1766)

KYS

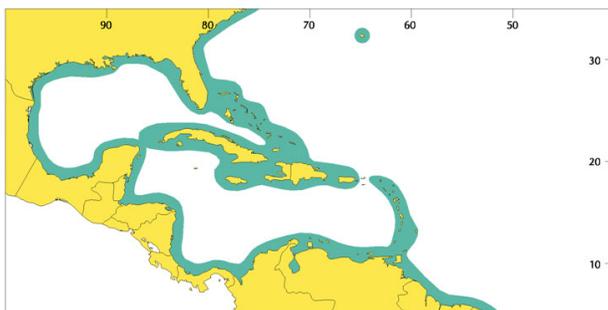
Frequent synonyms / misidentifications: None / None.**FAO names:** **En** - Bermuda sea chub (AFS: Bermuda chub); **Fr** - Calicagère blanche; **Sp** - Chopa blanca.

Diagnostic characters: Body moderately deep, head short, mouth small and horizontal, the maxilla slipping under the edge of the preorbital bone; **each jaw with a regular row of close-set, strong, incisor-like, round-tipped teeth of a peculiar hockey stick-shape, their bases set horizontally, resembling a radially striated bony plate inside mouth**; behind this row a narrow band of villiform teeth; fine teeth also on roof of mouth and tongue; gill rakers on lower limb of anterior gill arch 16 to 19 (rarely 19). A single continuous **dorsal fin with 11 spines and 11 to 13 (usually 11) soft rays; anal fin with 3 spines and 10 or 11 (usually 11) soft rays**; pectoral fins short. Scales small, ctenoid (rough to touch) covering most of head (except snout) and all fins except for spinous portion of dorsal fin; scales on lateral line 51 to 58. **Colour:** grey, typically darker around hard bottom and lighter when found in deep water, with dull longitudinal yellowish stripes on body and 2 dull yellow horizontal bands on head, both beginning on snout, the lowermost running under eye to edge of preopercle; upper part of opercular membrane blackish. The young may display pale spots nearly as large as eye on head, body and fins.

Size: Maximum: 76 cm; world game record 6.01 kg.

Habitat, biology, and fisheries: Inhabits shallow waters over turtle grass, sand, or rocky bottom and around coral reefs; and also sometimes offshore in deeper water; the young are commonly found among floating sargassum weeds. Feeds on plants, primarily on benthic algae, but also takes small invertebrates. Caught mainly on hook-and-line; an excellent gamefish. Excellent if care is taken to clean fillets to avoid contamination with foul smelling guts.

Distribution: In the western Atlantic from New England, Bermuda, throughout the Caribbean and southward to Brazil; in the Mediterranean and eastern Atlantic from Spain to Angola.



CIRRHITIDAE

Hawkfishes

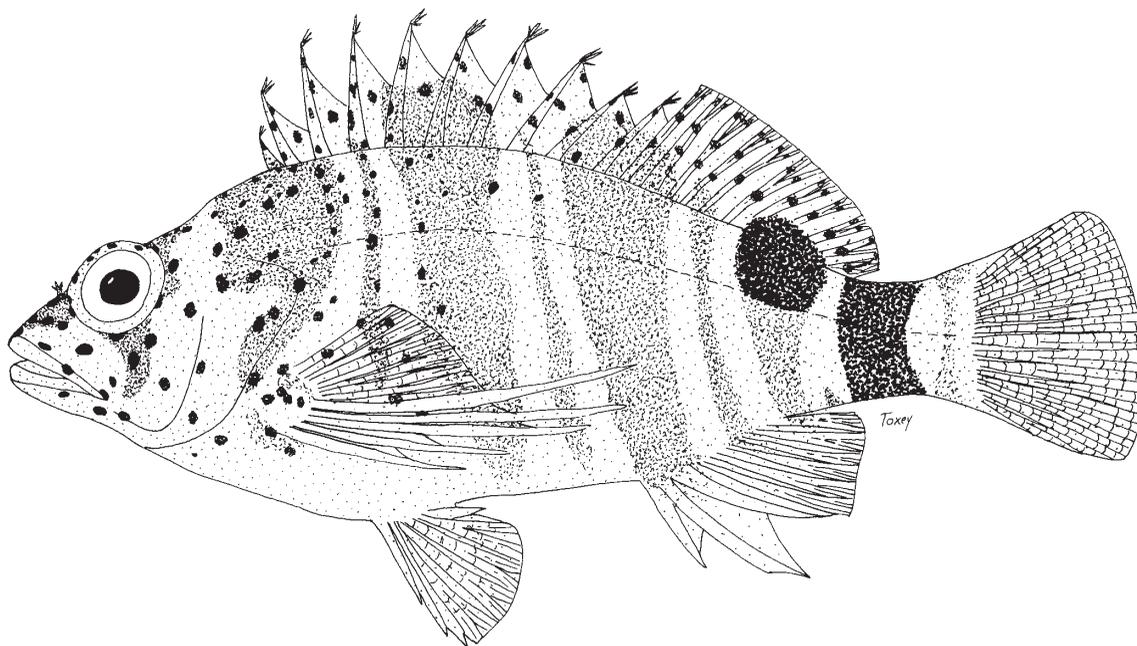
by J.E. Randall, B. P. Bishop Museum, Hawaii, USA

A single species occurring in the area.

Amblycirrhitus pinos (Mowbray, 1927)

Frequent synonyms / misidentifications: None.

FAO names: En - Redspotted hawkfish.



Diagnostic characters: Body oval and moderately compressed, the depth of adults 2.6 to 2.8 in standard length. No swimbladder. Snout pointed, but short, its length 4.0 to 4.5 in head length. **A fringe of cirri on hind edge of anterior nostril.** Mouth moderately large; a row of small canine teeth in jaws, the largest in upper jaw at front, the largest in lower jaw on side, with a band of villiform teeth medial to canines; teeth present on vomer and palatines. Posterior edge of preopercle serrate. **A continuous, slightly notched dorsal fin with 10 spines and 11 soft rays. Dorsal spines deeply incised with a tuft of cirri from each spine tip.** Anal fin with 3 spines and 6 soft rays. Caudal fin of adults truncate. Pectoral fins with 14 rays, the uppermost and lower 5 unbranched; **lower 5 pectoral rays enlarged, notably longer than upper rays, and with membranes deeply incised.** Pelvic fins with 1 spine and 5 soft rays, their origin slightly posterior to lower base of pectoral fins. Scales cycloid (edges smooth). **Lateral-line scales 41 to 44.** Gill on first arch rakers 4 or 5 on upper limb and 9 to 11 on lower limb. **Colour:** body with 5 broad dark bars, the first 3 yellowish brown, the upper rounded part of the fourth black, and the fifth (across caudal peduncle) entirely black; white interspaces between first 4 dark bars bisected by a narrow yellowish brown bar; head, anterior body, and dorsal fin with bright orange-red dots.

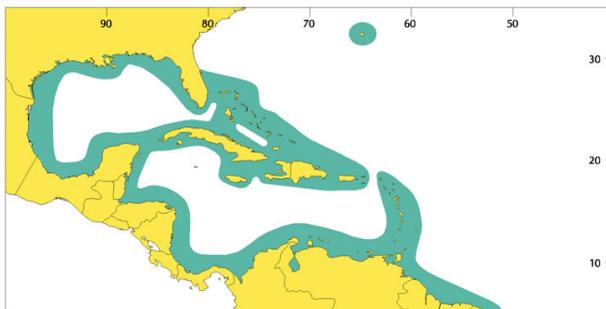
Size: Maximum to 9.5 cm; common to 6 cm.

Similar species occurring in the area

Species of the genus *Serranus*, such as *S. flaviventris*, are similar in being small and in having 10 dorsal-fin spines. Some have the same count of the rays of other fins, and the same scale counts. None have the lower 5 pectoral-fin rays thickened, longer than the remaining rays, and not linked by membranes to their tips. Also, none have cirri from the tip of each dorsal-fin spine and on the edge of the anterior nostril.

Habitat, biology, and fisheries: A benthic coral-reef species known from the shallows to depths of at least 46 m. When in shallow water subject to surge, it uses its thickened lower pectoral rays to aid in maintaining its position. Like others of the genus, it is difficult to approach. The stomachs of 12 specimens examined for food habits contained copepods (45.8% by volume), shrimps and shrimp larvae (21.1%), crabs and crab larvae (14.2%), polychaete worms (12.1%), isopods (2.5%), amphipods (2.1%), tanaids (1.4%), and unidentified animal remains (0.8%). Most of the prey consisted of small animals of the zooplankton. This species is of some commercial value as an aquarium fish.

Distribution: Bermuda, Bahamas, southern Florida, and Texas, south to the Caribbean Sea. Reported in 1990 from the island of St. Helena where it grows to 9.5 cm.



References

- Randall, J.E. 1963. Review of the hawkfishes (Family Cirrhitidae). *Proc. U.S. Natl. Mus.*, 114:389-451.
- Böhlke, J.E. and C.C.G. Chaplin. 1968. *Fishes of the Bahamas and Adjacent Tropical Waters*. Wynnewood, Pennsylvania, Livingston Publishing Co., 771 p.