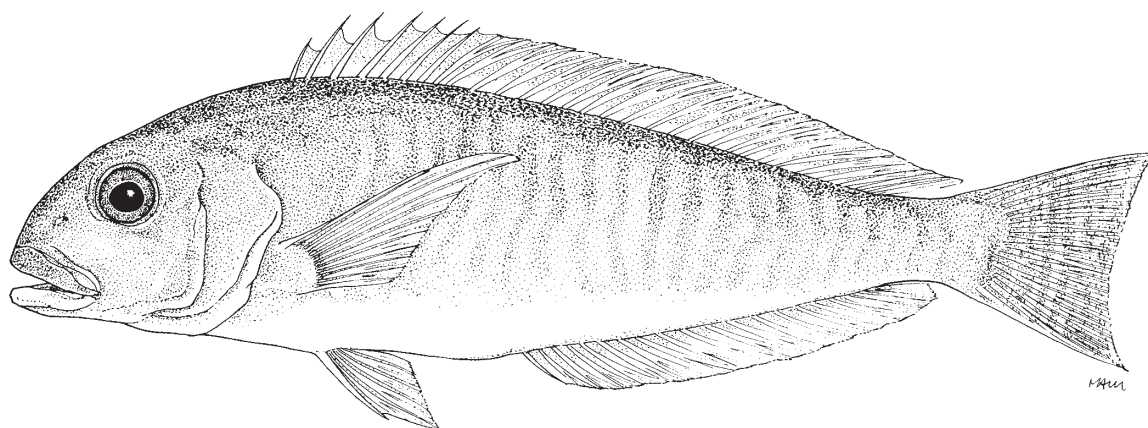


Caulolatilus bermudensis Dooley, 1981

Frequent synonyms / misidentifications: None / None.

FAO names: En - Bermudan tilefish.



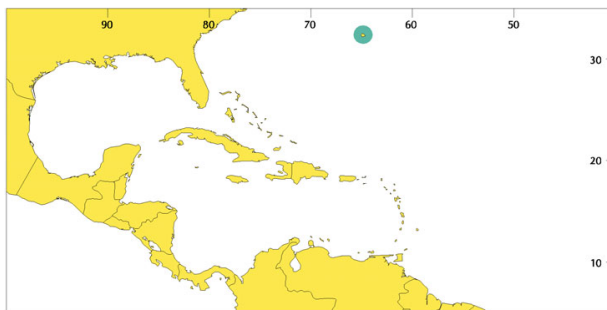
Diagnostic characters: Head with rounded profile; jaws extend to just under anterior edge of orbit; orbit 26 to 27% head length. First arch gill rakers 18. Dorsal fin with 7 spines and 24 rays; anal fin with 1 spine and 22 or 23 rays; **dorsal-fin height low (7.5% standard length)**; caudal fin margin truncate or slightly emarginate; interoperculum scaled. A unique arrangement of the adductor mandibulae musculature, specifically with the $A_{3\beta}$ muscle, inserting on the A_2 tendon rather than on the $A_{3\beta}$ tendon as found in other species of *Caulolatilus*.

Colour: (preserved) snout, upper lip and upper body violet-brown; predorsal ridge with no dark pigmentation; no dark upper body pattern; body with about 20 light yellow bars; belly white; dorsal fin dusky with no apparent pattern; base of dorsal fin light; anal fin partially opaque near base; pectoral and pelvic fins translucent; caudal fin with several light (yellow) streaks; no dark spot above pectoral axil; peritoneal lining dusky.

Size: Maximum size 34 cm standard length, 41 cm total length.

Habitat, biology, and fisheries: A rare species, only known specimens from Bermuda. Caught on hook-and-line between 270 and 366 m depths. Found on coral rubble/sand bottom.

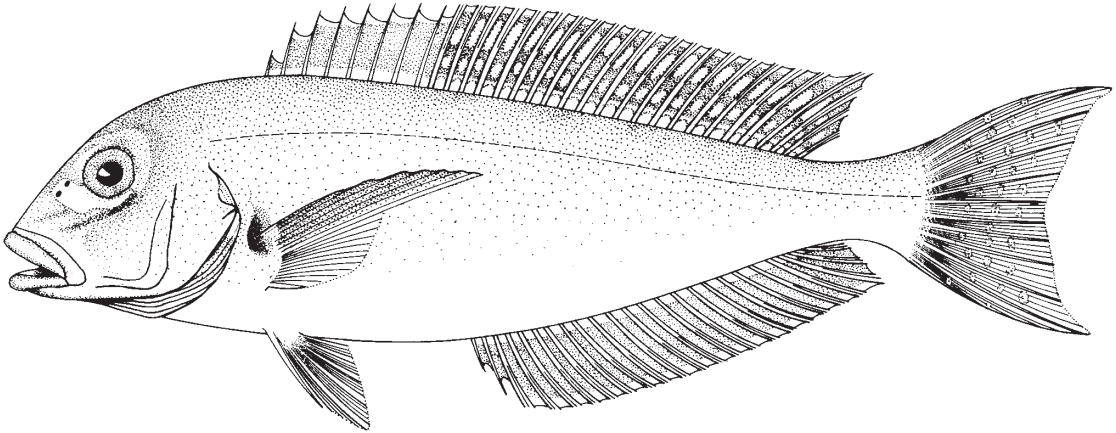
Distribution: Known only from Bermuda.



Caulolatilus chrysops (Valenciennes, 1833)

Frequent synonyms / misidentifications: None / None.

FAO names: **En** - Atlantic gold eye tilefish (AFS: Goldface tilefish); **Fr** - Tile oeil d'or; **Sp** - Blanquillo ojo amarillo.

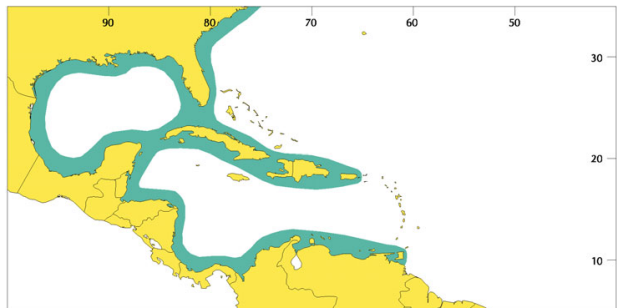


Diagnostic characters: Head with a rounded profile. First arch gill rakers 17 to 21. Dorsal and anal fins both long and continuous, **dorsal fin with 8 spines** and 23 to 25 soft rays; caudal fin emarginate. Pored scales on lateral line 79 to 89. **Colour:** body violet with a light yellow cast on back and upper sides and with a silvery underlying sheen fading to pearly white on belly; **head lacking a darkly pigmented predorsal ridge; a broad (3/4 diameter of pupil) brilliant yellow streak under eye to above nostrils, with a bright blue (less distinct) underlying marking;** iris golden; dorsal fin with a basal zone of nearly white and a broad area of grey and yellow mottling above, upper margin of fin whitish; **a black area above pectoral fin**, inner side of fin base yellow; anal fin with a faint central dusky band, otherwise pearly white; **caudal fin with small yellow spots.**

Size: Maximum 45 cm standard length; common 35 cm standard length.

Habitat, biology, and fisheries: Bottom dwelling, found at depths from 90 to 131 m off North Carolina on a coral-shell rubble bottom. Associated with *Caulolatilus microps* and *Caulolatilus cyanops*, less abundant and apparently ranging deeper than *C. microps*, but not as deep as *C. cyanops* (45 to 495 m). Feeds on or just above the bottom mainly on crustaceans and other invertebrates, or occasionally on small fish; separate statistics are not reported for this species, but it is probably one of the tilefishes with highest potential. Comprises a small percentage of offshore sportfish catches. Caught mainly on hook-and-line and in shrimp trawls in the southern Caribbean; probably vulnerable to fish trapping. Marketed fresh; excellent quality white flesh. Caught offshore near large islands.

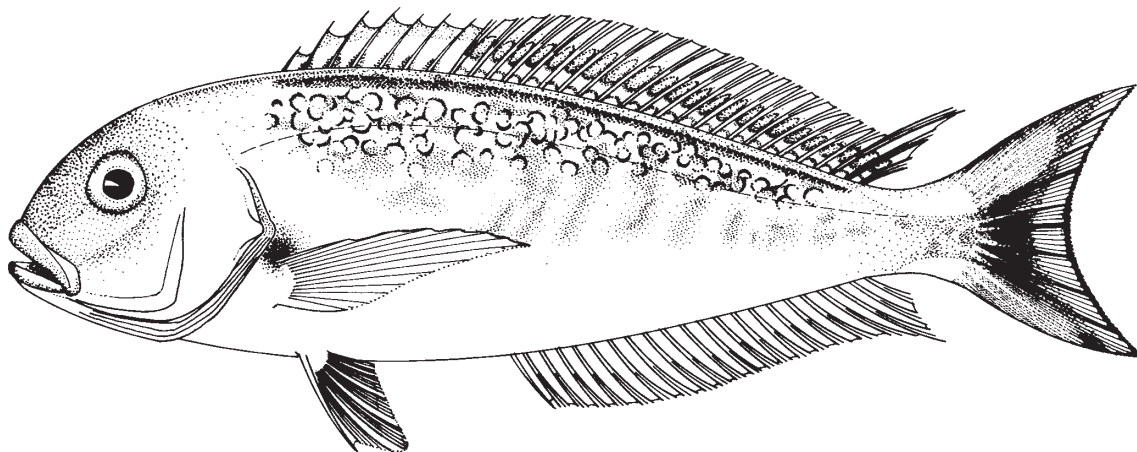
Distribution: Known from Cape Lookout (North Carolina); also known from Florida, Havana (Cuba); known from northern South American coast; probably throughout the Caribbean and Gulf of Mexico; possibly also disjunctly to Rio de Janeiro (Brazil).



Caulolatilus cyanops Poey, 1866

Frequent synonyms / misidentifications: None / None.

FAO names: **En** - Blackline tilefish; **Fr** - Tile à raie noire; **Sp** - Blanquillo raya negra.

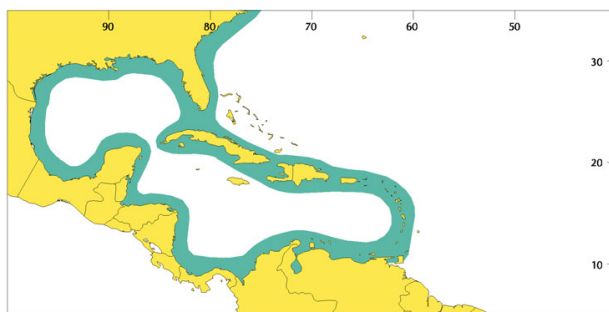


Diagnostic characters: Head with a rounded profile; a shallow suborbital depth of only 7 to 18%, (usually 13%) head length (other species of *Caulolatilus* usually greater; *Caulolatilus intermedius* is closest); orbital diameter 23 to 41% (usually 31%) head length (other species of *Caulolatilus* usually smaller; *C. intermedius* is closest). Gill rakers on anterior arch 17 to 21. Dorsal and anal fins both long and continuous, dorsal with 7 (rarely 8) spines and 23 or 24 soft rays; anal fin with 1 or 2 spines and 20 to 23 soft rays; **caudal fin lunate**. Pored scales on lateral line 75 to 82. Rear of swimbladder received by first haemal spine with concavity that fits into a similar concavity of the second and sometimes third haemal spines. **Colour:** back and upper sides blue to violaceous, with numerous reticulations and dark area and a dark stripe under base of dorsal fin; lower sides and belly white; **predorsal ridge bright yellow**; cheeks silver; a broad diagonal greenish blue stripe from upper lip to below eye; membrane between spines of dorsal fin brilliant orange-yellow, soft portion of fin with a dark pattern; **a dark spot above pectoral-fin axil; caudal fin with 2 large yellow areas covering most of upper and lower lobes.**

Size: Maximum 37 cm standard length, 46 cm total length; 1 kg; common to 30 cm.

Habitat, biology, and fisheries: Bottom dwelling at depths from 45 to 495 m; commonly from 150 to 250 m. Rare off North Carolina, found associated with *C. microps* and *C. chrysops*. Usually found on sand and mud bottoms. Caught by hook-and-line and by commercial trawls off Colombia and Venezuela. Catch statistics not available.

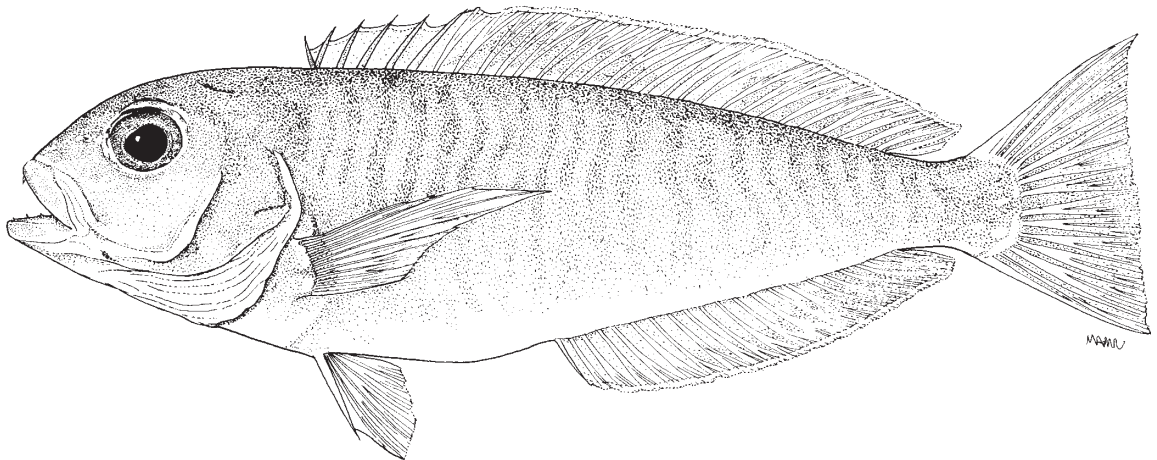
Distribution: Cape Lookout, North Carolina; Florida; Cuba; probably throughout the Gulf of Mexico; Puerto Rico; probably including most of the Caribbean, including Nicaragua, Colombia (Caribbean), and Venezuela.



***Caulolatilus dooleyi* Berry, 1978**

Frequent synonyms / misidentifications: None / None.

FAO names: En - Bankslope tilefish.

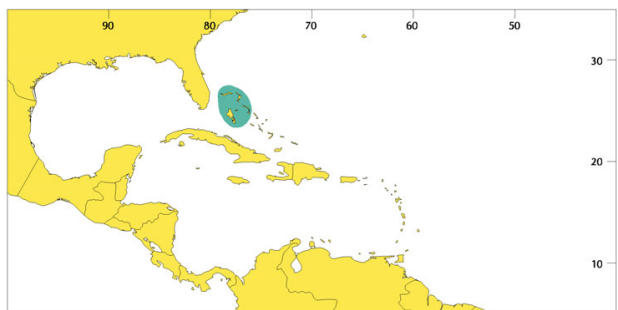


Diagnostic characters: Head rounded; snout short, 33 or 34% head length; (short snout generally found only in *cyanops*, *guppyi* and *intermedius*); jaws extend to under anterior margin of fleshy orbit; large eye, 27 to 30% head length; suborbital depth shallow, 13 to 15% head length (also found in *cyanops*). First arch gill rakers, 17 or 18 (in other species of *Caulolatilus* low number found only in *chrysops* - 17 to 21, rarely 17 or 18, and *C. cyanops* - 17 to 21, usually 19, and *C. intermedius*, 18 to 22, rarely with 18); operculum serrated on upper margin, fine serrae on lower margin; mandibular pores 5 on each side; dorsal fin long and continuous, 7 spines 24 soft rays; anal fin long and continuous, 1 spine 22 soft rays; caudal fin truncate; pectoral fin rays 16 or 17; pored lateral-line scales 83 to 85 (overlap only with *C. chrysops*, *C. cyanops*, and *C. microps*); interopercle scaled. **Colour:** head and body dusky white, no markings around eye or predorsal; darker on upper body, throat and belly white; body with about 22 light yellow vertical bars; dorsal fin dusky to clear with yellow areas on most of membrane, more pronounced posteriorly (past spinous portion) and medially; anal fin clear with light yellow areas, more pronounced posteriorly; caudal fin variable, either dusky along base and dorsal margin with some light yellow medially, or either yellow over most of the caudal; pectoral fin clear with dusky spot in axil; pelvic fins clear to milky.

Size: Maximum 31 cm standard length, 35 cm total length, 490 g.

Habitat, biology, and fisheries: Bottom species. Caught commercially on baited hooks. Only 3 known specimens. Depth range: 219 to 256 m. No commercial fishery.

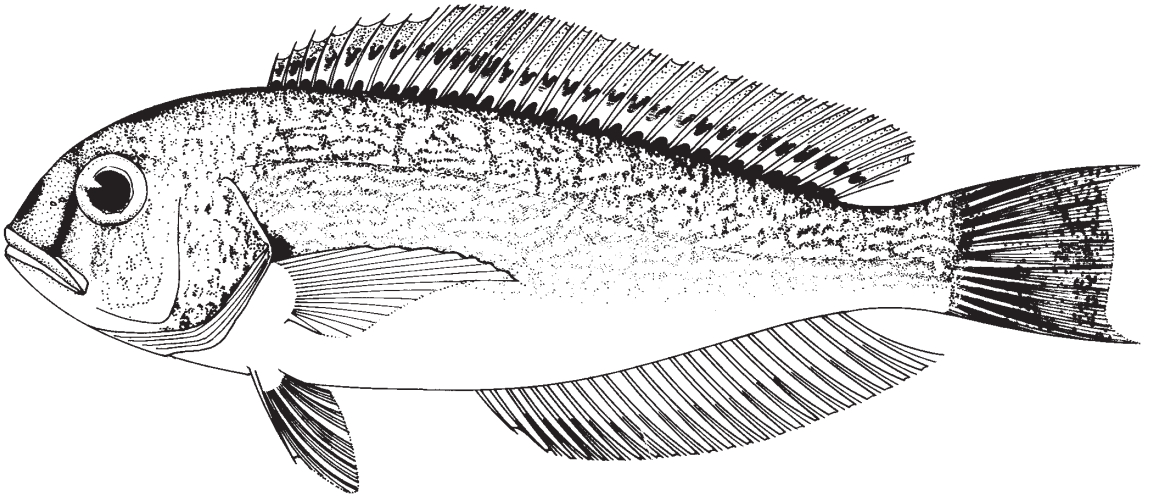
Distribution: Caicos Bank, Bahama Islands; Bimini, Bahama Islands and south side of the Tongue of the Ocean, Bahama Islands.



Caulolatilus guppyi Beebe and Tee-Van, 1937

Frequent synonyms / misidentifications: None / None.

FAO names: **En** - Reticulated tilefish; **Fr** - Tile réticulé; **Sp** - Blanquillo vermiculado.

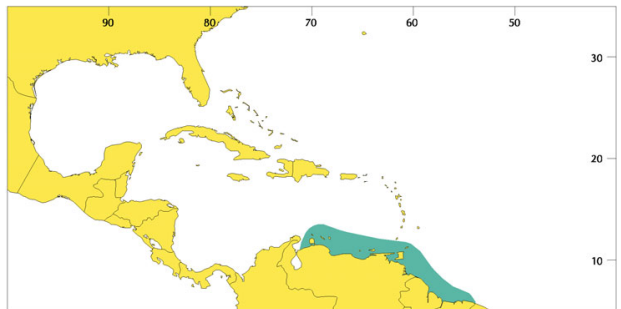


Diagnostic characters: Head with a steep and rounded profile; **mouth relatively large, extending to beneath middle of eye.** Gill rakers on anterior arch 19 to 23. Dorsal and anal fins both long and continuous, dorsal with 6 or 7 spines and 23 to 25 soft rays, anal with 1 or 2 spines and 20 to 23 soft rays; **caudal-fin margin rounded, with tips slightly extended.** Pored scales on lateral line 75 to 81. **Colour:** back and upper sides with numerous small dark reticulations; predorsal ridge dark; a dark bar from upper lip to below eye and a dark small spot above pectoral-fin axil; upper half of dorsal-fin membrane dusky, below this an opaline band with dark patches, and along fin basis a single row of tapered patches between each fin ray; anal fin opaline; preserved specimens are rather uniformly silver brown.

Size: Maximum about 30 cm standard length, 35 cm total length; common to 20 cm standard length.

Habitat, biology, and fisheries: Recorded at depths from 41 to 171 m (commonly 60 to 110 m), mainly on a semi-hard, shell-sandy substrate; caught on hook-and-line and mainly in shrimp trawls; of little fishery importance; no separate landing statistics; marketed mostly fresh.

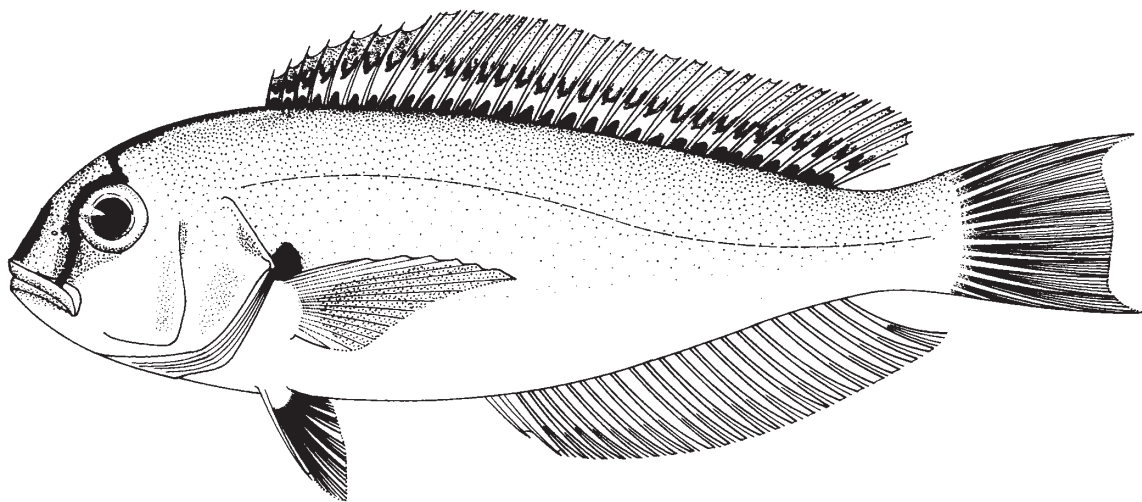
Distribution: Northern coasts of Venezuela, Trinidad, and Guyana to Suriname.



Caulolatilus intermedius Howell Rivero, 1936

Frequent synonyms / misidentifications: None / *Caulolatilus cyanops* Poey, 1866.

FAO names: **En** - Gulf bareye tilefish (AFS: Anchor tilefish); **Fr** - Tile clown; **Sp** - Blanquillo payaso.

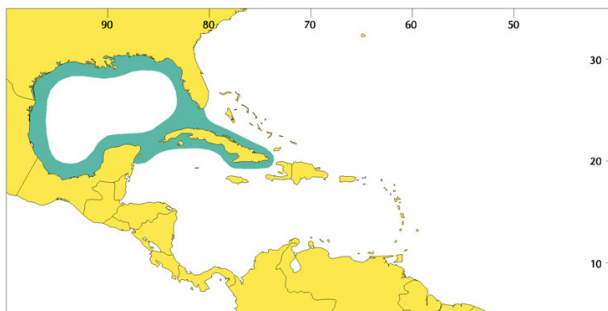


Diagnostic characters: Head with a steep and rounded profile; **mouth small, extending to just beneath anterior eye margin**. Gill rakers on anterior arch 18 to 22. Dorsal and anal fins both long and continuous, dorsal with 7 spines and 24 or 25 (rarely 26) soft rays; anal with 1 or 2 spines and 22 or 23 soft rays; **caudal-fin margin rounded centrally with tips slightly extended**. Pored scales on lateral line 73 to 81. **Colour:** live coloration not known; in preserved specimens: **back and upper sides uniformly violaceous light brown, without any markings; predorsal ridge dark, with a dark semicircle at anterior end, a dark bar from upper lip to below eye and a dark area above pectoral-fin axil**; upper half of dorsal-fin membrane dusky, below this an opaline band with dark patches, and along fin basis a single row of tapered patches between each fin ray; anal fin opaline.

Size: Maximum 25 cm standard length, 31 cm total length; common to 20 cm standard length.

Habitat, biology, and fisheries: Found at depths ranging from 45 to 290 m, usually over mud bottom. The most common tilefish in the northern Gulf of Mexico. Found near the edge of the continental shelf, or at the heads of canyons. No specific fishery; separate landing statistics not available. Caught in trawls. Experimental fishing shows some fishery potential. Marketed mostly fresh. May be confused for *Caulolatilus cyanops* in the northern Gulf of Mexico.

Distribution: Gulf of Mexico from northern Florida to Yucatán, Mexico; also from Havana, Cuba.

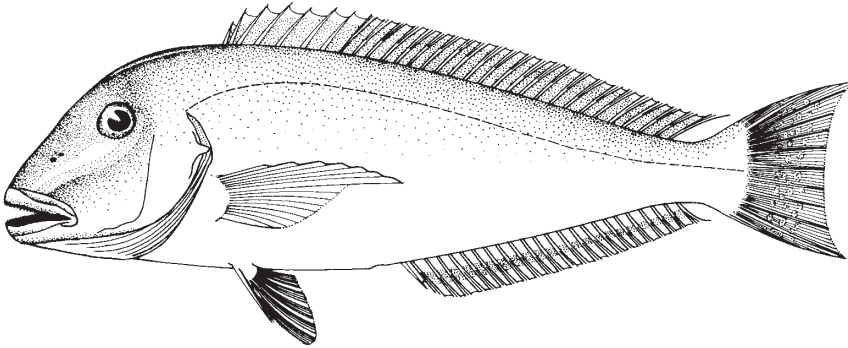


Caulolatilus microps Goode and Bean, 1878

ULM

Frequent synonyms / misidentifications: None / None.

FAO names:En - Grey tilefish (AFS: Blueline tilefish); Fr - Tile gris; Sp - Blanquillo lucio.

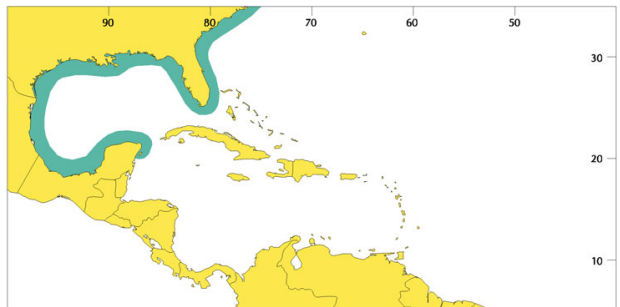


Diagnostic characters: Head with a rounded profile, **mouth relatively small, jaws uniquely for the genus, extending only to a vertical half way between nostrils and anterior eye margin (on specimens larger than 40 cm standard length); eye small, its diameter 15 to 29% (usually 19%) of head length; suborbital depth 17 to 24% (usually 20%) head length. First arch gill rakers 21 to 27;** dorsal and anal fins long and continuous; dorsal fin with 7 (rarely 8) spines and 24 to 27 (usually 25 or 26) soft rays; anal fin with 2 spines and 22 to 24 (usually 22 or 23) soft rays; **caudal fin slightly emarginate with tips extended;** pored lateral-line scales 80 to 91 (usually 85). **Colour:** back and upper sides dark brown-grey with no distinct markings; lower sides and belly beige-white; head with black predorsal ridge; snout turquoise blue with a narrow yellow-gold stripe under eye (suborbital golden marking very broad in *Caulolatilus chrysops*) extending to upper lip; a broader brilliant blue band (greenish near orbit) underlies the yellow-gold stripe; iris golden; preoperculum yellowish; dorsal fin membrane grey, with no distinct markings except some light yellow areas which quickly fade after death; dorsal margin of fin with a light yellow band; anal fin white with a central dusky band; **bases of caudal-fin rays yellow, forming a series of parallel spots for each ray.**

Size: Maximum 66 cm standard length, 78 cm total length; 6 kg; common to 55 cm standard length. One year-old fish estimated at 18.2 cm; 15 year-old fish estimated at 73 cm; males are larger than females.

Habitat, biology, and fisheries: A continental, moderately deep-bottom dwelling species, found along the outer continental shelf, shelf break and upper slope. Generally non-migratory. Found at depths of from 30 to 236 m (usually 50 to 200 m) on mud and rubble bottom near the margin of the shelf. Probably inhabits burrows as do most of its congeners. Off southeastern USA associated with red porgy (*Pagrus pagrus*), snowy grouper (*Epinephelus niveatus*), warsaw grouper (*Epinephelus nigritus*), vermillion snapper (*Rhomboplites aurorubens*), silk snapper (*Lutjanus vivanus*), blackline tilefish (*Caulolatilus cyanops*), and the golden eyed tilefish (*Caulolatilus chrysops*) although usually found in shallower water. Feeds mainly on benthic invertebrates including: crustaceans (mostly portunid crabs), molluscs, polychaete worms and brittlestars and occasionally fish. Caught mainly with squid or fish as bait with hook-and-line, occasionally caught in trawls; relatively common in sportfish catches from North Carolina including Florida to the northern Gulf of Mexico and Campeche Banks; sportfish catches off North and South Carolina vary from 3000 to 13 000 kg (1972 through 1977) making up about 3% of the catches between 45 and 140 m. Marketed fresh; excellent white flesh. Along with *Lopholatilus chamaeleonticeps*, probably one of the tilefishes with the highest fishery potential; fishery management important.

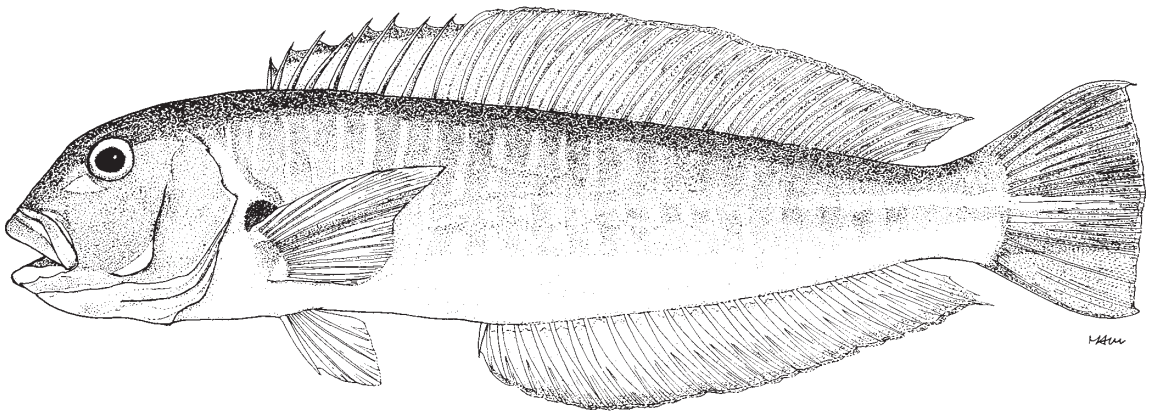
Distribution: From Cape Charles, Virginia to Florida and the northern Gulf of Mexico (perhaps throughout the Gulf of Mexico) to Campeche Banks, Mexico; not reported elsewhere in the Caribbean.



Caulolatilus williamsi Dooley and Berry, 1977

Frequent synonyms / misidentifications: None / None.

FAO names: En - Yellow barred tilefish.

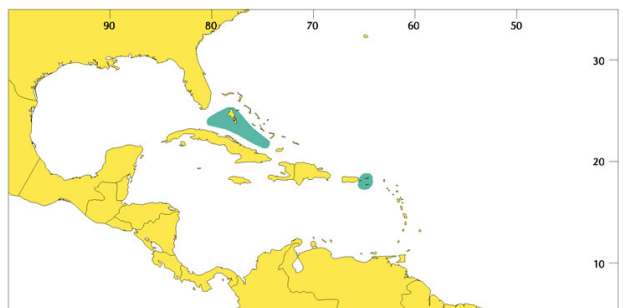


Diagnostic characters: Jaws extending to under midpupil (character shared only with *Caulolatilus guppyi*); length of upper jaw 42% head length (other species of *Caulolatilus* 26 to 32% head length, usually 27 to 31% head length); orbit diameter 19% head length (only *Caulolatilus microps* with an equally small orbit); suborbital depth 20 to 22% head length (only *Caulolatilus microps* and *Caulolatilus chrysops* with an equally great suborbital depth); preoperculum serrated on upper margin; predorsal length 29% standard length (other Atlantic species with 28 to 39%, usually 32% standard length); body elongate, body depth 21 to 23% standard length (other species of *Caulolatilus* 24 to 34%, usually 29% standard length). Dorsal fin high, height 11% standard length (other species 7 to 10% standard length); dorsal fin with 8 spines and 23 soft rays (only *C. chrysops* usually with 8 spines, *C. cyanops* and *C. microps* rarely with 8 dorsal spines); anal fin height 9% standard length (other species of *Caulolatilus* with anal-fin height 6 to 9% standard length), anal fin with 1 or 2 spines and 23 to 25 soft rays; caudal-fin margin double emarginate. Pored lateral-line scales 95 to 97 (73 to 91 in the Atlantic species of *Caulolatilus*). **Colour:** anterior portion of head, snout and upper lip dusky; lower lip lighter; eye golden; chin white; small patch of white under anterior suborbit; lacking dark predorsal ridge; upper body violaceous grey with characteristic 17 to 20 pale yellow wavy vertical bars on sides; belly white; dark area above pectoral-fin axil with gold-yellow patch above; spinous dorsal with dusky upper margin, yellow along anterior margins of both spines and rays; soft dorsal with golden-yellow margin, membrane translucent with a thin dusky vertical line between each ray; pectoral fin with upper rays slightly opaque, lower portion clear; pelvic fins milky white; caudal fin with characteristic large yellow area on ventral portion, a thin short yellow line above and a broader yellow horizontal stripe from about below eighteenth dorsal-fin ray to posterior caudal margin; remainder of caudal fin grey.

Size: Maximum size 52 cm standard length, 61 cm total length; 2.4 kg.

Habitat, biology, and fisheries: A rare species, known only from 3 specimens. Caught on baited hooks on the bottom, 126 to 272 m depth. No fishery as yet developed.

Distribution: Known only from Cay Sal Bank, Bahamas, Gran Bahamas Island, and St Croix, Virgin Islands; probably widespread in the Caribbean islands.

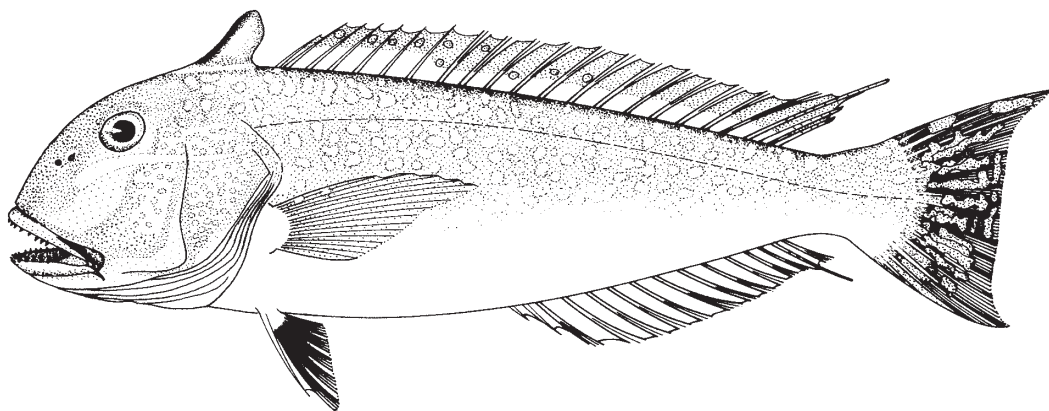


Lopholatilus chamaeleonticeps Goode and Bean, 1879

TIL

Frequent synonyms / misidentifications: None / None.

FAO names: En - Great northern tilefish (AFS: Tilefish); Fr - Tile chameau; Sp - Blanquillo camello.

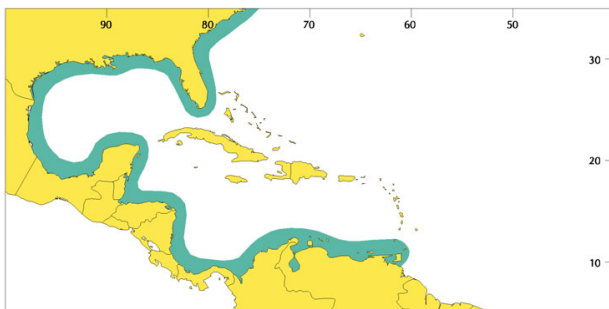


Diagnostic characters: Head rounded with a prominent predorsal ridge, modified into an enlarged flap (developing at about 8 cm standard length); height of flap variable; opercular spine reduced to a soft blunt tab (not a prominent stout spine as in *Caulolatilus*, or as a large sharp spine in *Malacanthus*); a thin barbel at posterior margin of upper lip. Gill rakers on anterior arch 22 to 26. Dorsal and anal fins long and continuous; dorsal fin with 7 spines and 15 soft rays; anal fin with 1 spine and 14 (rarely 13) soft rays; caudal fin truncate with tips somewhat elongate. Pored lateral-line scales 66 to 75. **Colour:** head light blue-green with rose colour hue; light silver white streak under eye to opercle; cheek, interorbital, chin and branchiostegal membrane milky white; adipose flap bright yellow with dark leading edge; **back and sides blue-grey with numerous, small irregular, yellow spots**; belly milky white; dorsal fin with light upper margin, remainder of membrane dusky except near base; spines and rays golden yellow, some light yellow markings in dorsal membrane (from second spine to about sixth ray); anal fin opaline, basal portion clear; pectoral-fin axil yellow along with dorsal-most pectoral rays medially near bases, remainder of pectoral fins dusky, ventral and base portions white; pelvic fin white with spine orange-yellow; **caudal fin with 8 or 9 vertical yellow bands (fused yellow spots)**, caudal fin dusky between yellow markings.

Size: Largest of all tilefish species; maximum size about 110 cm standard length, 125 cm total length, 25 kg (55 lbs.); common to 60 cm length, 5 to 7 kg; males are larger than females; females live to 35 years of age; 90 cm total length, males live to 26 years of age and 100 cm total length.

Habitat, biology, and fisheries: Spawning (in South Atlantic bight) March to June; epipelagic spinous larvae. Adults are benthic usually living in groups. Usually inhabits sand, mud, or most abundant on silt-clay bottom (found on rough bottom in the Gulf of Mexico) in large singly inhabited, self-constructed burrows near the continental margin often near submarine canyon heads. Depths range from 81 to 540 m, usually 100 to 200 m. Temperature range 9 to 14°C (usually, 10 to 12°C). Food habits varied including: fish (eels, spiny dogfish, myctophids, butterfish, and hake) and invertebrates, but primarily include crabs and shrimp; a commercially important species. Studies have suggested that there are several fisheries stocks of tilefish within their range of Nova Scotia to Suriname. Fisheries include hook-and-line; landings variable (4 500 t landed in 10 months of 1916 in New England) from several hundred kilograms to average about 1900 t from 1992 to 1997. Marketed fresh or frozen; white flesh of high quality.

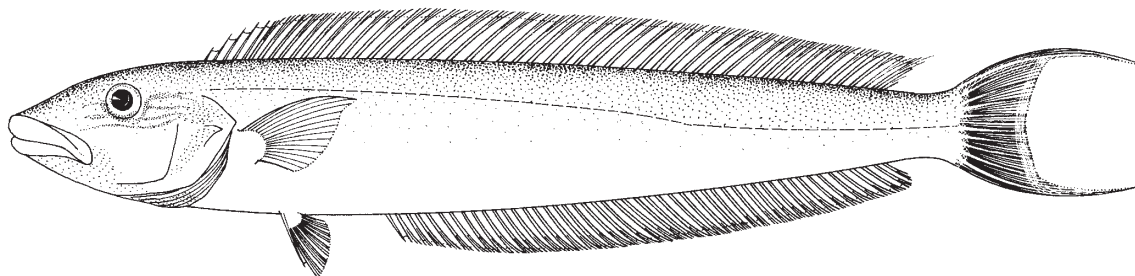
Distribution: Found from Nova Scotia south to Venezuela, Guyana, and Suriname; found throughout the Gulf of Mexico and continental Caribbean; another species (*Lopholatilus villarii*) is found Brazil to northern Uruguay.



Malacanthus plumieri (Bloch, 1786)

Frequent synonyms / misidentifications: None / None.

FAO names: En - Sand tilefish; Fr - Matajuel blanc; Sp - Matajuelo.



Diagnostic characters: Body elongate and fusiform; no median seam, crest or flap (predorsal ridge) in front of dorsal fin; margin of preopercle smooth, opercle with a single sharp spine; jaws extending to below posterior nostril, well in front of eye; upper lip fleshy and overhanging upper jaw. **Gill rakers on anterior gill arch 8 to 15. Dorsal and anal fins both long and continuous; dorsal fin with 4 or 5 spines and 54 to 60 soft rays; anal fin with 1 spine and 48 to 55 soft rays; caudal fin falcate, with elongate filaments** in specimens larger than 30 cm. Scales small, ctenoid (rough to touch) over most of body, cycloid (smooth) in head region; **pored scales on lateral line 135 to 152. Colour:** body bluish green, darker above; sides may have light yellow bars; underbelly bluish white; dorsal fin with a thin yellow outer margin, followed by a narrow clear band and another band of yellow; remainder of fin with 3 or 4 rows of yellow spots; anal fin more or less as dorsal fin, but yellow spots fainter and most of fin membrane milky white; pectoral fins clear, pelvic fins white; caudal fin with large areas of yellow-orange on upper and lower portions.

Size: Maximum: about 60 cm; common to 45 cm; males usually larger than females.

Habitat, biology, and fisheries: Primarily a shallow-water benthic fish, found most abundantly at depths from 10 to 50 m on sand and rubble bottom; greatest confirmed depth is 153 m off Charleston, South Carolina; an incorrect record of 396 m from an "R/V Oregon" station has been corrected to 76 m. Builds mounds of sand; coral rubble and shell fragments found excavated around tunnel entrance; entrance up to 3 m in diameter; tunnel narrow; mounds near reefs and grass beds; enters its mound head first when frightened; may bite when handled. A protogynous hermaphrodite, all males have undergone a sex change from females. Harem with occasionally monogamic mating systems. Has territories of about 1,000 m² for territorial males to about 250 m² for the females who stay within the harem; aggressive territorial behaviour, particularly males. Spawns 1 to 5 m above the bottom at dusk then each sex fills the entrances of their separate burrows with sand then dive head first for the night. Has unusual pelagic larvae with spinous head that metamorphose at about 6 cm length. Feeds mainly on stomatopods, fishes, polychaete worms, chitons, sea urchins, and sea stars, amphipods, and shrimp. Found near sandy or grassy areas in the vicinity of reefs and grass beds, near source of mound-building materials. Not a species of high commercial value; separate statistics are not reported for this species. Not found in great abundance, but comprising a small percentage of near shore catches. Caught mainly on hook-and-line; occasionally in bottom trawls. Marketed fresh.

Distribution: From Cape Lookout, North Carolina, and Bermuda, through most of area, including Florida, the Bahamas, northern coast of Gulf of Mexico, Yucatán, Honduras, Costa Rica, eastern part of Colombia, Venezuela and throughout the West Indies; a gap in the distribution exists from the Orinoco River to south of the Amazon; southward the species extends to Santos (Brazil), probably even to Uruguay; also known from Ascension Island.

