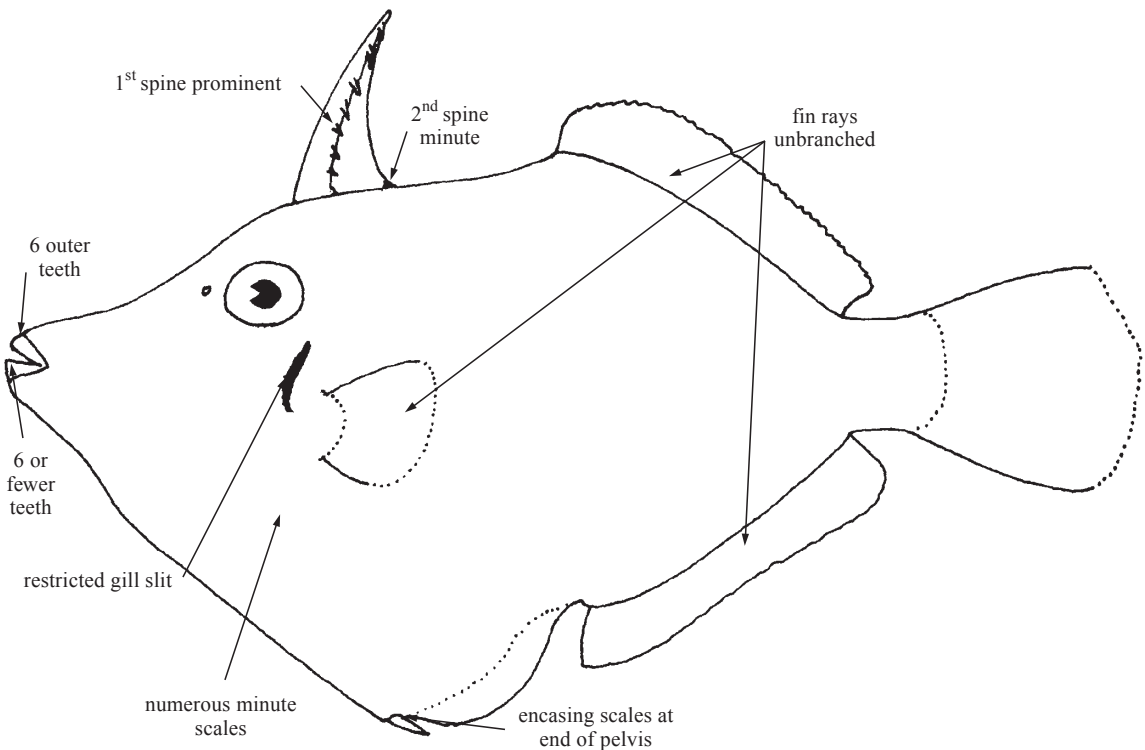


## MONACANTHIDAE

### Filefishes (leatherjackets)

by K. Matsuura, National Science Museum, Tokyo, Japan

**Diagnostic characters:** Small or medium-sized fishes, usually less than 20 cm (but up to 50 cm for some species of *Aluterus*), with **deep, highly compressed bodies covered by thin but rough or shagreen-like skin with innumerable minute scales not individually easily discernible to the unaided eye.** Mouth small and usually more or less terminal or slightly supraterminal; **teeth only moderately heavy, 6 in an outer series in upper jaw and 6 or fewer in the lower.** Gill opening a relatively short, vertical to oblique slit in front of pectoral-fin base, **branchiostegal rays hidden beneath the skin.** Two (sometimes 1) **dorsal-fin spines, second spine not more than 1/3 the length of first;** first spine usually capable of being locked in an upright position of erection by the second; **dorsal-, anal- and pectoral-fin rays unbranched;** **pelvic fin and spines rudimentary or absent, represented by a series of 3 or fewer pairs of enlarged scales encasing end of pelvis, or segments of indeterminate number, or entirely absent.** Scales above pectoral-fin base unmodified, not forming a tympanum. Lateral line inconspicuous or only slightly apparent. **Colour:** variable, drab brown, grey, or greenish, but often with strikingly marked and vivid patterns.

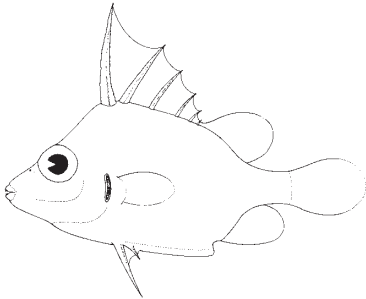


**Habitat, biology, and fisheries:** Filefishes range in depth down to about 90 m. They are primarily benthic species living around coral and rocky reefs or on sand and mud bottoms and seagrass beds. They feed on a large variety of benthic invertebrates, including sponges, algae, and plants, with their small mouth typically armed with moderate-sized nipping teeth. Only large individuals of some filefish species are eaten, but many are collected as trashfish in commercial bottom trawls.

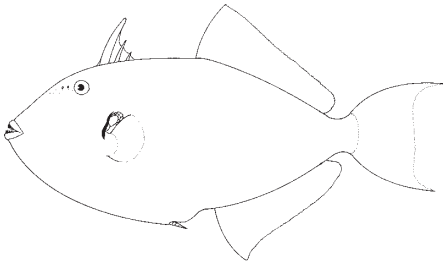
Similar families occurring in the area

Triacanthodidae: 6 dorsal-fin spines, at least 5 of which are readily visible; a large pair of pelvic-fin spines present; teeth smaller and more conical, usually more than 8 in the outer series in each jaw; scales small and shagreen-like, with upright spinules projecting from the basal plates.

Balistidae: 3 dorsal-fin spines; no large, obvious pelvic-fin spines; teeth usually incisor-like and more massive, 8 in an outer series in each jaw; scales larger, rectilinear and easily recognized as individual units, without numerous upright spinules, and tough but not shagreen-like.



Triacanthodidae



Balistidae

Key to the species of Monacanthidae occurring in the area

- 1a. Pelvic fin absent and without any obvious enlarged encasing scales (a rudimentary encasing scale sometimes present, but difficult to see with the unaided eye and not at end of pelvis) (Fig. 1). . . . .(Aluterus) → 2
- 1b. Pelvic fin present as a rudiment at end of pelvis, mostly obscured from external view by a series of enlarged scales encasing it, appearing as a spinous process in the midline at end of pelvis (Fig. 2) . . . . .→ 5

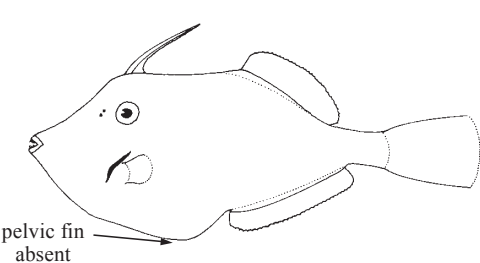


Fig. 1 Aluterus

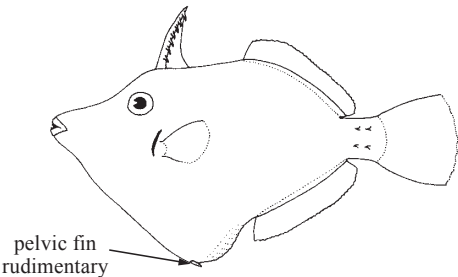


Fig. 2 Monacanthus

- 2a. Dorsal-fin rays 43 to 50; anal-fin rays 46 to 52; pectoral-fin rays modally 14 . . . . .→ 3
- 2b. Dorsal-fin rays 32 to 41; anal-fin rays 35 to 44; pectoral-fin rays modally 12 and 13 . . . . .→ 4
- 3a. Caudal peduncle longer than deep; caudal fin relatively short, 18 to 26% standard length . . . . .Aluterus monoceros
- 3b. Caudal peduncle deeper than long; caudal fin relatively long, 33 to 61% standard length . . . . .Aluterus scriptus
- 4a. Distance between eye and dorsal-fin spine relatively large in specimens larger than 10 cm standard length, 7.3 to 13.5% standard length; coloration of live specimens with few to many orange spots . . . . .Aluterus schoepfii
- 4b. Distance between eye and dorsal-fin spine relatively small in specimens larger than 10 cm standard length, 4.6 to 6.6% standard length; coloration of live specimens bluish purple . . . . .Aluterus heudelotii

- 5a. Region of back just behind dorsal spines without a deep groove to receive first dorsal-fin spine when it is not erected; enlarged encasing scales at end of pelvis flexible dorsoventrally; first dorsal spine over posterior part of eye (Fig. 3) . . . . . → 6
- 5b. Region of back just behind dorsal spines with a deep groove to partially receive unerected dorsal-fin spines; enlarged encasing scales at end of pelvis fixed, not flexible dorsoventrally; first dorsal-fin spine over anterior part of eye (Fig. 4) . . . . . (*Cantherhines*) → 9

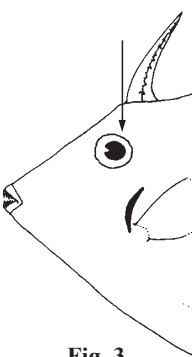


Fig. 3



Fig. 4

- 6a. Caudal peduncle of larger juveniles (2 cm and larger) and adults with 2 to 4 pairs of enlarged scale spines on each side, the spines curved forward in males; ventral flap or dewlap of skin between end of pelvis and anus relatively large; none of the dorsal-fin rays elongate (Fig. 5) . . . . . (*Monacanthus*) → 7
- 6b. Caudal peduncle with shagreen-like skin similar to that of rest of body, without enlarged spines at any size; ventral flap or dewlap of skin between end of pelvis and anus relatively small; second dorsal-fin ray elongate in males (Fig. 6) . . . . . (*Stephanolepis*) → 8

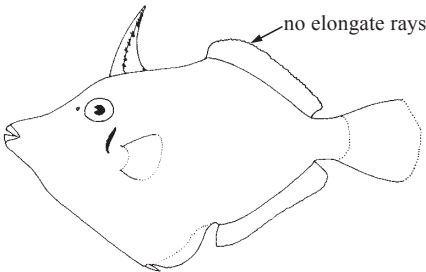


Fig. 5 *Monacanthus*

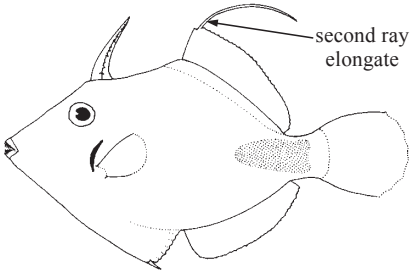


Fig. 6 *Stephanolepis*

- 7a. Distance between origins of soft-dorsal and anal fins relatively large, 39 to 55% standard length; snout relatively short in specimens larger than 3 cm standard length, 22 to 26% standard length (Fig. 7) . . . . . *Monacanthus ciliatus*
- 7b. Distance between the origins of soft-dorsal and anal fins relatively small, 31 to 39% standard length; snout relatively long in specimens larger than 3 cm standard length, 25 to 28% standard length (Fig. 8) . . . . . *Monacanthus tuckeri*

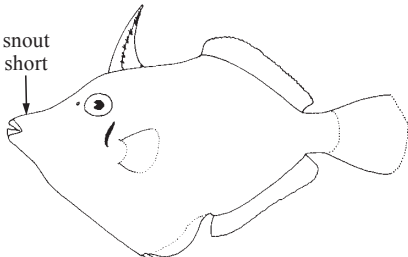


Fig. 7 *Monacanthus ciliatus*

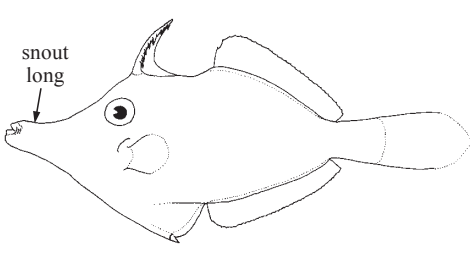


Fig. 8 *Monacanthus tuckeri*

- 8a. Dorsal-fin rays usually 31 to 34; anal-fin rays usually 31 to 34 . . . . . *Stephanolepis hispidus*
- 8b. Dorsal-fin rays usually 27 to 29; anal-fin rays usually 27 to 29 . . . . . *Stephanolepis setifer*

- 9a. Two pairs of strong spines on each side of caudal peduncle (difficult to see in juveniles);  
pectoral-fin rays usually 14. . . . . *Cantherhines macrocerus*
- 9b. No strong spines on caudal peduncle; pectoral-fin rays usually 13 . . . . . *Cantherhines pullus*

List of species occurring in the area

The symbol  is given when species accounts are included.

-  *Aluterus heudelotii* Hollard, 1855.
-  *Aluterus monoceros* (Linnaeus, 1758).
-  *Aluterus schoepfii* (Walbaum, 1792).
-  *Aluterus scriptus* (Osbeck, 1765).
-  *Cantherhines macrocerus* (Hollard, 1853).
-  *Cantherhines pullus* (Ranzani, 1842).
-  *Monacanthus ciliatus* (Mitchill, 1818).
-  *Monacanthus tuckeri* Bean, 1906.
-  *Stephanolepis hispidus* (Linnaeus, 1766).
-  *Stephanolepis setifer* (Bennett, 1831).

References

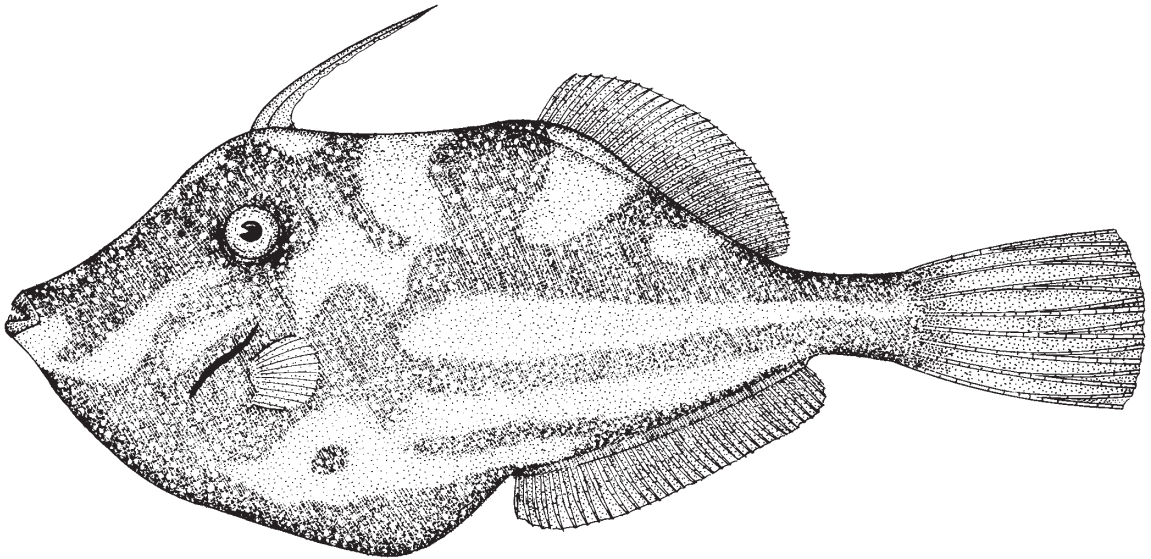
Berry, F.H. and L.E. Voegelé. 1961. Filefishes (Monacanthidae) of the western North Atlantic. *Fish. Bull. U. S. Fish. Wildl. Serv.*, 181:61-109.

Randall, J.E. 1964. A revision of the filefish genera *Amanes* and *Cantherhines*. *Copeia*, 1964(2):331-360.

*Aluterus schoepfii* (Walbaum, 1792)

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

**FAO names:** En - Orange filefish; Fr - Bourse orange; Sp - Cachúa perra.

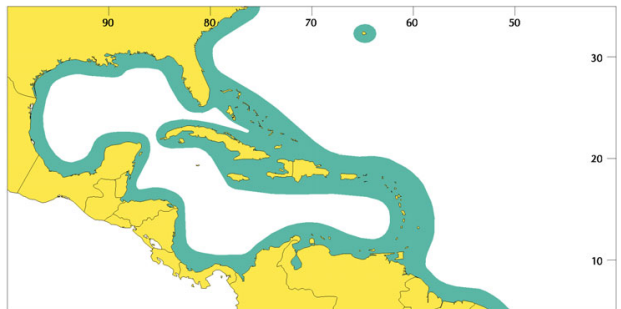


**Diagnostic characters:** Body deep and greatly compressed. Region of back behind dorsal-fin spines without a concavity, either flat or rounded. Mouth slightly supraterminal; teeth notched. Dorsal fin with 2 spines and 32 to 39 soft rays; only the first dorsal-fin spine prominent, relatively weak and slender, the second spine not easily seen externally; the first spine originating over the middle to back of the eye and capable of being locked in an upright erect position by the second. Anal fin with 35 to 41 soft rays. No enlarged encasing scales representing the remains of a rudimentary pelvic fin. Scales of caudal peduncle unmodified, not forming retrorse spines. Colour: generally greyish (sometimes metallic grey) to brownish with large irregular pale blotches, with both the head and body covered with numerous small orangish to yellowish spots.

**Size:** Maximum to 60 cm; commonly to 40 cm.

**Habitat, biology, and fisheries:** Usually found over bottoms of seagrass, sand, or mud in shallow water down to about 50 m. Feeds on a variety of plants, including algae and seagrasses, usually grazing off the bottom but sometimes also nibbling at the surface. Taken as bycatch in trawl and trap fisheries throughout its range, especially in shrimp trawls in the northern Gulf of Mexico. Caught with bottom trawls and traps. Generally considered as trashfish, rarely consumed. Separate statistics are not reported for this species.

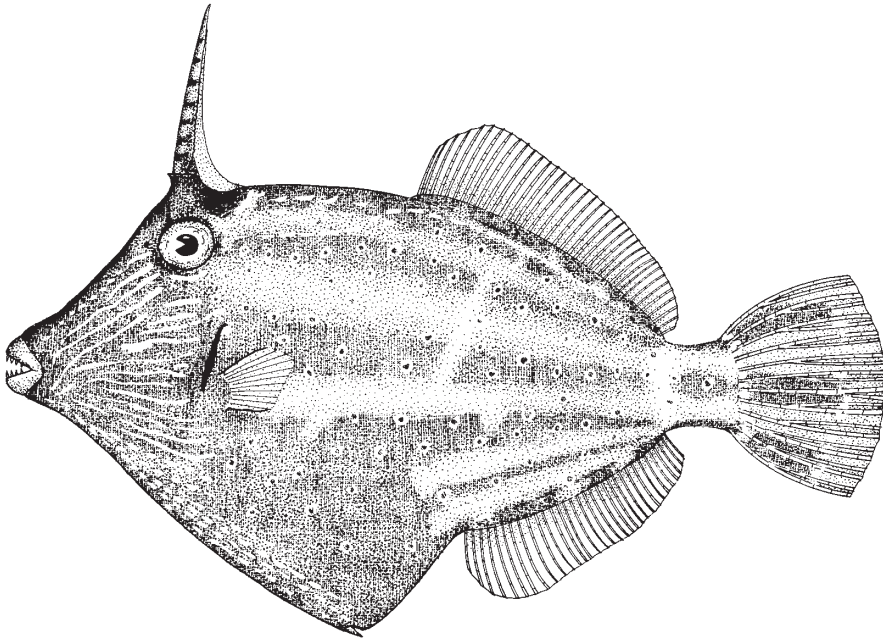
**Distribution:** Western Atlantic from Nova Scotia to Brazil, including Bermuda, the Gulf of Mexico, and the Caribbean, but rare in the latter.



*Cantherhines pullus* (Ranzani, 1842)

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

**FAO names:** En - Orangespotted filefish; Fr - Bourse pintade; Sp - Lija pintada.

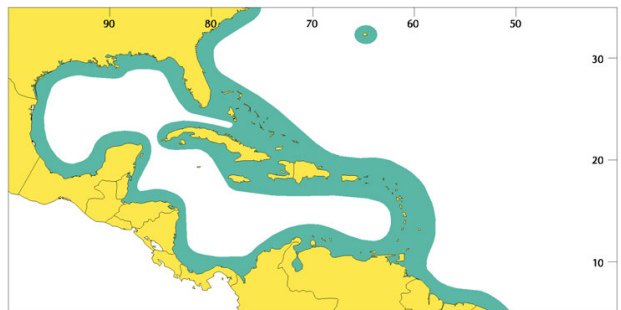


**Diagnostic characters:** Body deep and compressed. **Region of back behind dorsal-fin spines** with a deep groove to partially receive unerected spines. Mouth terminal; teeth notched. **Dorsal fin** with 2 spines and 33 to 36 soft rays; **only the first dorsal-fin spine prominent, relatively strong and stout, second spine not easily seen externally; first spine originating over front of eye** and capable of being locked in an upright erect position by the second. **Anal fin** with 29 to 32 soft rays. Caudal fin rounded. **Scales of caudal peduncle** either unmodified (females) or with enlarged spinules forming a patch of setae, but not retrorse spines. **Enlarged encasing scales at end of pelvis surrounding a rudimentary pelvic fin, the encasing scales fixed, not flexible.** **Colour:** generally brownish, with paler longitudinal bands on body and orangish spots with brownish centres, often also whitish spots; a particularly prominent white spot on top of caudal peduncle just behind soft dorsal-fin base, and a smaller but similar spot on caudal peduncle below, the 2 spots sometimes connected by a pale bar; yellowish lines on head converging toward snout.

**Size:** Maximum to 20 cm; commonly to 12 cm.

**Habitat, biology, and fisheries:** Found in shallow water and around coral and rocky reefs down to about 50 m depth. The young are pelagic and highly important food items in the diet of large predaceous fishes such as tunas and billfishes. Adults are common on Caribbean reefs. Feeds on a variety of attached benthic plants and invertebrates, including algae, sponges, tunicates, and bryozoans. Caught incidentally in traps throughout its range. Generally considered as trashfish, rarely consumed. Separate statistics are not reported for this species.

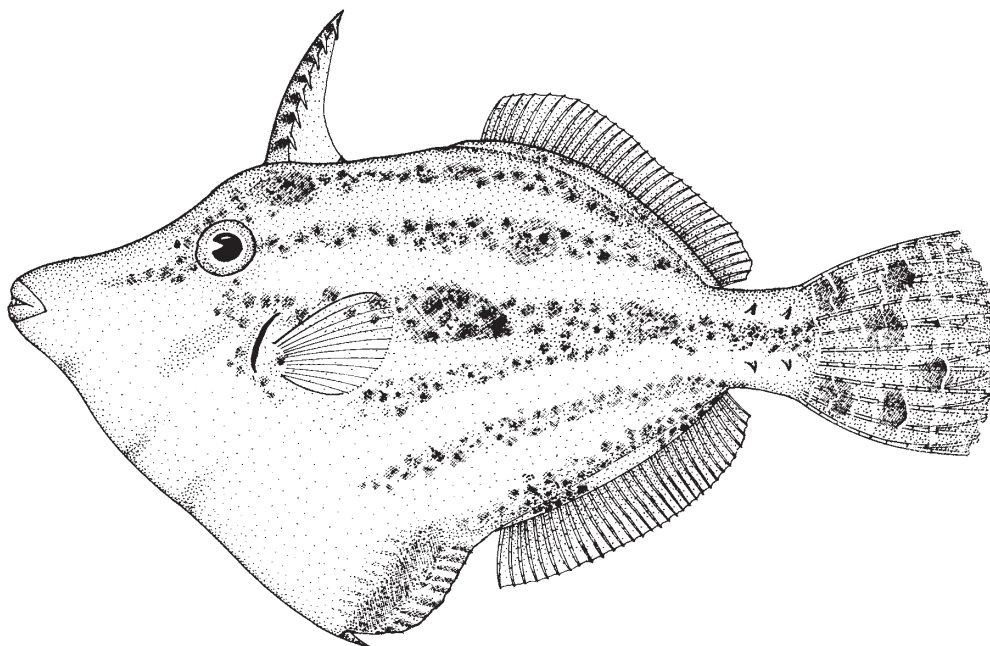
**Distribution:** Both sides of the tropical and temperate Atlantic, from Massachusetts to Brazil, including Bermuda, the Gulf of Mexico, and the Caribbean, and in the eastern Atlantic off western Africa.



*Monacanthus ciliatus* (Mitchill, 1818)

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

**FAO names:** En - Fringed filefish; Fr - Bourse emeri; Sp - Lija de clavo.

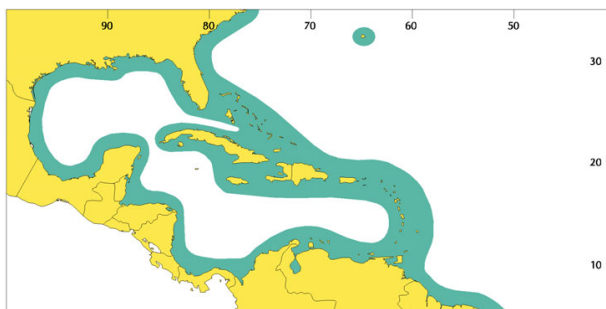


**Diagnostic characters:** Body deep and compressed. **Region of back behind dorsal-fin spines without a concavity**, either flat or rounded. Mouth terminal or only slightly supraterminal; teeth notched. **Dorsal fin with 2 spines and 29 to 37 soft rays; only first dorsal-fin spine prominent, relatively stout and with retrorse barbs along its posterolateral edges, second spine not easily seen externally; first dorsal-fin spine originating over back of eye and capable of being locked in an upright erect position by the second.** **Anal fin with 28 to 36 soft rays.** Caudal fin rounded. **Scales of caudal peduncle modified into 2 to 4 pairs of spines, the spines larger and curved anteriorly in males and less conspicuously enlarged in females; large males with a patch of setae as well as recurved spines. Enlarged encasing scales at end of pelvis surrounding a rudimentary pelvic fin, encasing scales flexible dorsoventrally; ventral flap or dewlap of skin between end of pelvis and anus relatively large.** **Colour:** variable, partially dependent on the habitat, tending to be generally greenish when living among plants but greyish to brownish when found on sand or rocky substrate; **several darker longitudinal stripes or irregular bands on body**; edge of ventral flap or dewlap between end of pelvis and anus bright yellowish in males and greenish yellow in females.

**Size:** Maximum to 20 cm; commonly to 10 cm.

**Habitat, biology, and fisheries:** Found in shallow water down to about 50 m, over sandy and rocky bottoms, but more commonly in seagrass beds, while the young are often associated with floating *Sargassum*. Feeds on plants, algae, and small crustaceans. Caught occasionally in traps and bottom trawls throughout its range. Generally considered as trashfish, rarely consumed. Separate statistics are not reported for this species.

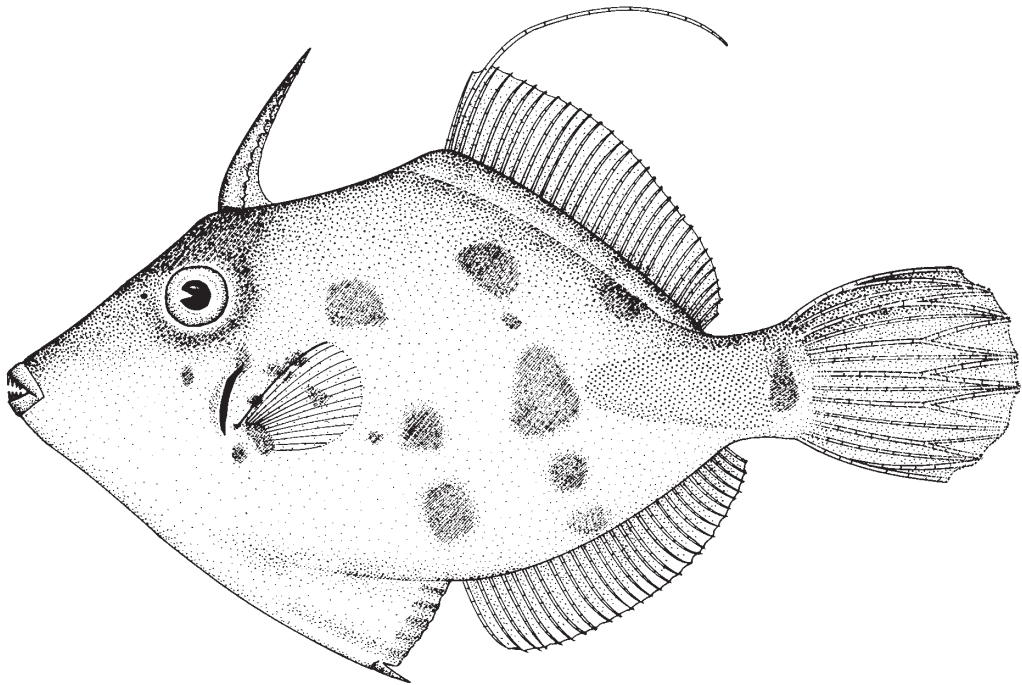
**Distribution:** Both sides of the tropical and temperate Atlantic, from Newfoundland to Argentina, including Bermuda, the Gulf of Mexico, and the Caribbean, and from Europe to Africa.



***Stephanolepis setifer* (Bennett, 1830)**

**Frequent synonyms / misidentifications:** *Monacanthus setifer* (Bennett, 1830) / None.

**FAO names:** **En** - Pygmy filefish; **Fr** - Bourse fil; **Sp** - Lija de hebra.

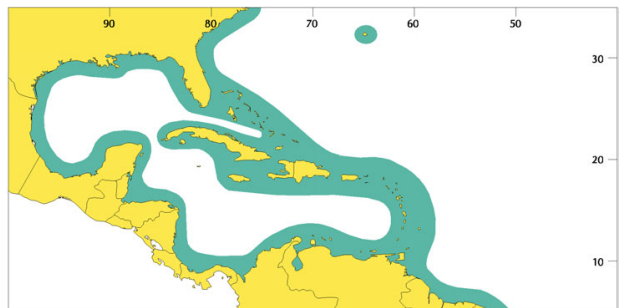


**Diagnostic characters:** Body deep and compressed. **Region of back behind dorsal-fin spines without a concavity**, either flat or rounded. Mouth terminal; teeth notched. **Dorsal fin with 2 spines and 27 to 30 soft rays; only first dorsal-fin spine prominent, relatively stout and with retrorse barbs along its posterolateral edges, second spine not easily seen externally; first spine originating over back of eye and capable of being locked in an upright erect position by the second. Second soft dorsal-fin ray greatly prolonged in mature males.** Anal fin with 26 to 30 soft rays. Caudal fin rounded. **Scales of caudal peduncle unmodified, not forming retrorse spines. Enlarged encasing scales at end of pelvis surrounding a rudimentary pelvic fin, the encasing scales flexible dorsoventrally; ventral flap or dewlap of skin between end of pelvis and anus relatively small.** **Colour:** variable, but generally brownish to tan, with **irregular bars and blotches of darker or lighter colour, or rows of small dark spots and dashes with lighter reticulations.**

**Size:** Maximum to 20 cm; commonly to 10 cm.

**Habitat, biology, and fisheries:** Adults are often found in seagrass beds or over sandy or muddy bottoms from shallow water down to about 80 m; juveniles are associated with floating seaweeds. Probably feeds on plants and small invertebrates, like the related species of *Stephanolepis* and *Monacanthus*. Caught incidentally in traps and bottom trawls throughout its range. Generally considered as trashfish, rarely consumed. Separate statistics are not reported for this species.

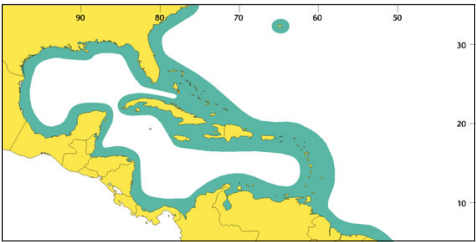
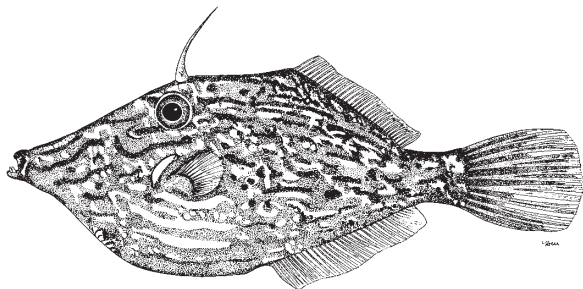
**Distribution:** Western Atlantic from North Carolina to Brazil, including Bermuda, the Gulf of Mexico, and the Caribbean.



*Aluterus heudelotii* Hollard, 1855

**En** - Dotterel filefish.

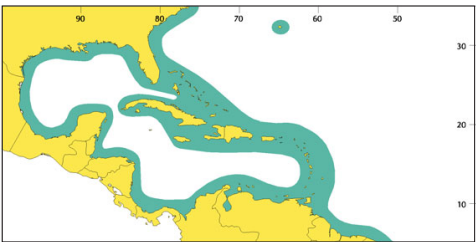
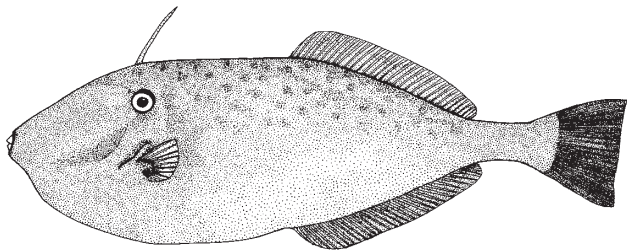
Maximum size to 30 cm; commonly to 25 cm. Habitat, biology, and fisheries similar to *Aluterus schoepfii*. Bermuda and Massachusetts to Brazil. Occurs in both the eastern and western Atlantic.



*Aluterus monoceros* (Linnaeus, 1758)

**En** - Unicorn leatherjacket (AFS: Unicorn filefish); **Fr** - Bourse loulou; **Sp** - Lija barbuda.

Maximum size to 55 cm; commonly to 40 cm. Found on the continental shelf down to 150 m. Feeds on bottom-living organisms. A good foodfish; marketed fresh. Caught mainly with bottom trawls. Massachusetts to Brazil. All tropical and temperate coastal waters.

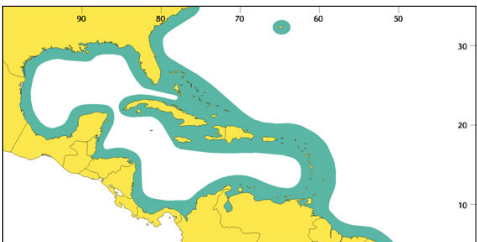
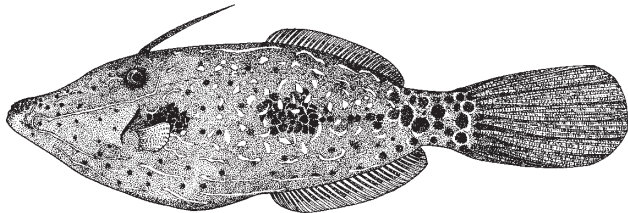


*Aluterus scriptus* (Osbeck, 1765)

ALN

**En** - Scrawled filefish; **Fr** - Bourse-écriture; **Sp** - Lija trompa.

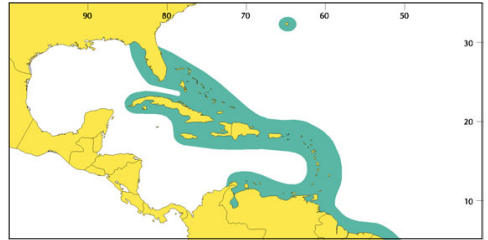
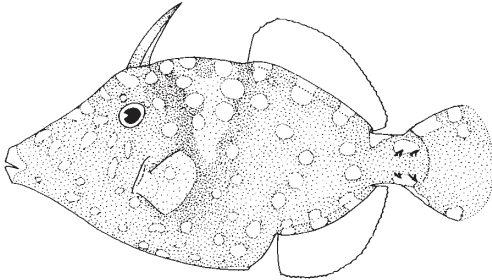
Maximum size to 80 cm; commonly to 70 cm. Occasionally found in lagoons or on outer reef slopes down to 20 m. Feeds on wide variety of bottom-living organisms, including algae, seagrasses, hydrozoans, gorgonians, colonial anemones, and tunicates. Caught incidentally in traps. Considered as trashfish. Massachusetts and Bermuda through the Caribbean to Brazil. Circumtropical.



***Cantherhines macrocerus* (Hollard, 1853)**

**En** - Whitespotted filefish; **Sp** - Lija de lanares blancos (vernacular).

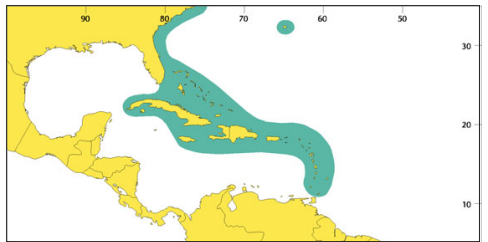
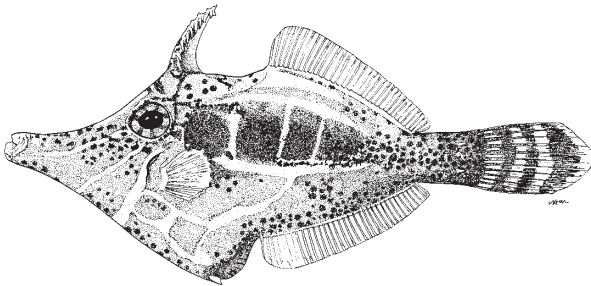
Maximum size to 40 cm; commonly to 35 cm. Found in clear water on coral reefs at depths from 3 to 20 m. Usually seen in pairs. Feeds mainly on sponges, but also eats hydroids, stinging coral, gorgonians, and algae. Northern Gulf of Mexico, Florida, and Bermuda through the Caribbean to Brazil.



***Monacanthus tuckeri* Bean, 1906**

**En** - Slender filefish; **Sp** - Pez ballesta (Spain), Lija reticulada (Cuba).

Maximum size to 9 cm; commonly to 7 cm. Habitat, biology, and fisheries similar to *Monacanthus ciliatus*. Bermuda and the Carolinas to southern Florida and the Lesser Antilles.



***Stephanolepis hispidus* (Linnaeus, 1766)**

**En** - Planehead filefish; **Fr** - Baliste (vernacular); **Sp** - Lija áspera (vernacular).

Maximum size to 18 cm; commonly to 15 cm. Habitat, biology, and fisheries similar to *Stephanolepis setifer*. Nova Scotia and Bermuda to Brazil.

