

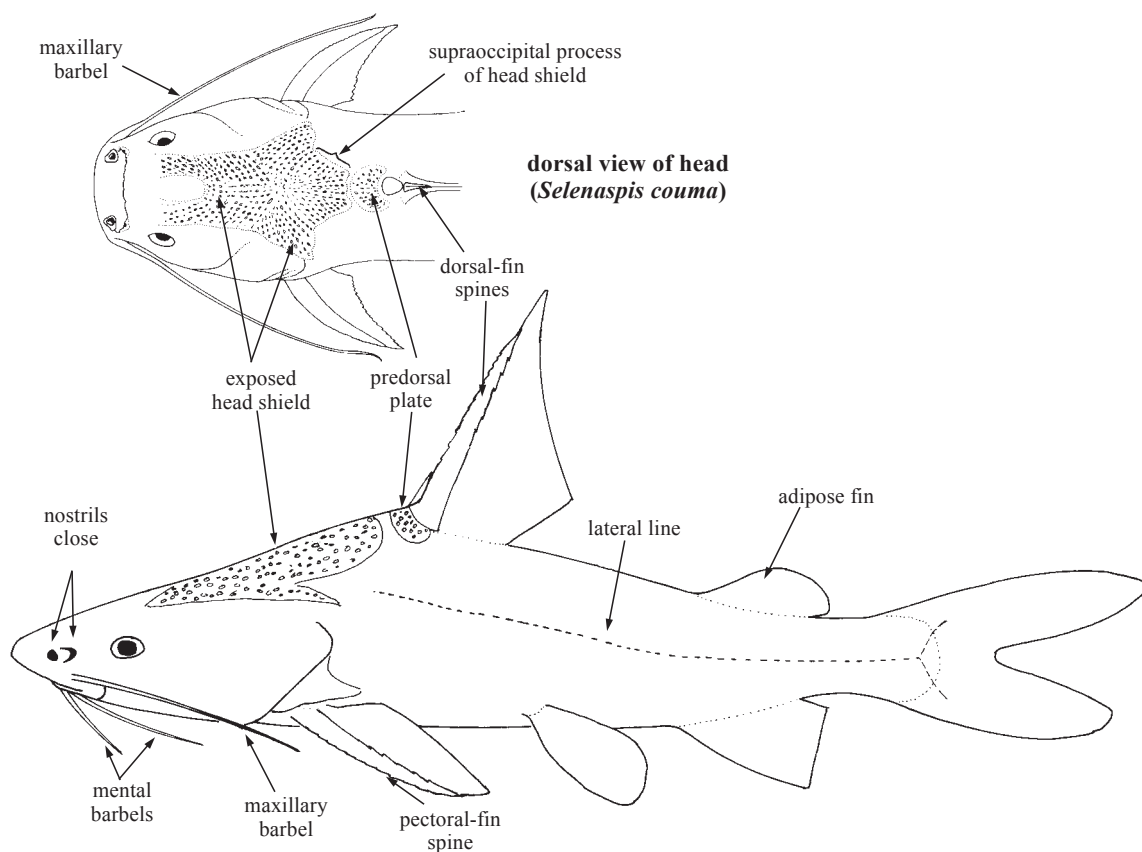
Order SILURIFORMES

ARIIDAE

Sea catfishes

by A. Acero, Universidad Nacional de Colombia, Colombia

D **Diagnostic characters:** Medium- to large-sized fishes. The larger species attain over 1 m. Head large, rounded to depressed. **Head covered by an often rugose bony shield, part of which is well visible beneath the thin skin in most species (nearly obscured by thick skin and muscles in some); the supraoccipital process or posterior portion of this shield extends backward medially to meet the predorsal plate (a separate bone at base of dorsal-fin spines) and its shape is characteristic in many species.** Eye medium-sized to small. Two pairs of nostrils closely approximated on each side, **the posterior pair partly covered by a flap of skin.** Mouth terminal to inferior. Teeth in jaws fine or granular; those on palate (when present) fine, granular, or molar-like, arranged in bands or patches. **Paired maxillary and mental (mandibular) barbels present, totalling 4 or 6.** Branchiostegal rays 5 to 9. Gill membranes fused with each other and attached to isthmus, with at most a narrow free posterior flap. **Gill rakers present on anterior faces of all arches, total number 7 to 42 on first arch; rakers also present (but completely absent in some species) on posterior faces of first and second arches.** Dorsal fin short, with a long, more or less serrated spine preceded by a very short one and followed by 7 soft rays. **A fleshy adipose fin always present opposite the anal fin.** Anal fin with 14 to 37 soft rays. **Caudal fin deeply forked, with 13 branched rays (6 in upper and 7 in lower lobe).** Pectoral fins low-set, with a more or less serrated spine and 8 to 13 soft rays. **Pelvic fins with 6 soft rays, the inner rays variously modified in the female at maturity.** Scales absent. Lateral line complete, branching posteriorly onto upper and lower lobes of caudal fin. **Lapillus otolith enlarged.** **Swimbladder physostomous, oval, and sac-like with a posterior chamber in certain species.** **Colour:** usually greyish blue, dark grey, yellow, or brown, sometimes with black patches, or in some species with a silvery lateral stripe; paler to white below.



Habitat, biology, and fisheries: Sea catfishes occur in marine, brackish, and fresh waters of warm-temperate and tropical regions. The marine representatives are mostly confined to the coastlines of the continent and continental islands such as Trinidad (only a single species has been reported from Cuba, for example). They may be locally abundant in the turbid waters of certain habitats, particularly large river estuaries and mangrove-lined lagoons. A few species may reach depths of 100 m or deeper. Sea catfishes' diets range from omnivorous, including detritus, to strongly carnivorous, including large bony fishes and crustaceans. Reproduction is highly specialized: the males incubate the eggs and vitelline young in their mouths. The sea catfishes include several species of high economic value. FAO statistics report landings ranging from 14 885 to 26 630 t from 1995 to 1999. They are captured with a variety of gear, including bottom trawls, longlines, seines, cast nets, traps, and hook-and-line. The flesh is usually of good quality, but the sharp and serrated dorsal- and pectoral-fin spines can inflict painful wounds.

Remarks: This family is often listed as Tachysuridae and sometimes Bagreidae in the literature. The intrafamilial systematics of the sea catfishes is still unresolved, particularly with respect to the species included in the genus *Arius*. Therefore the usage of generic names is provisional.

Similar families occurring in the area

The sea catfishes can be easily separated from all other non-catfish families present in the area by the combination of the following characters: head covered by a bony shield, 4 or 6 mouth barbels, 1 large and serrated spine in both dorsal and pectoral fins. All other catfish families: anterior and posterior nostrils widely separated, posterior nostrils not covered by a flap of skin (except in Loricariidae); branched caudal-fin rays fewer or more than 13.

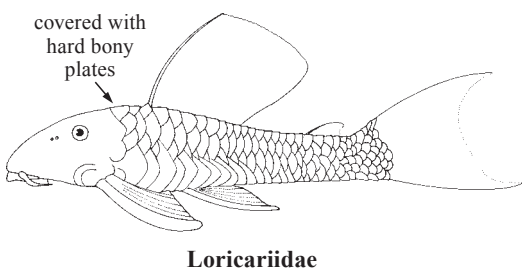
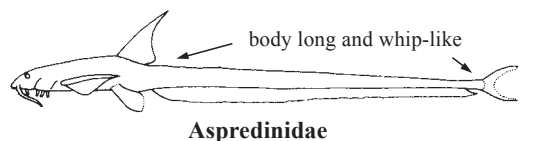
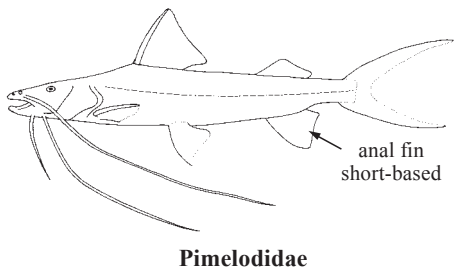
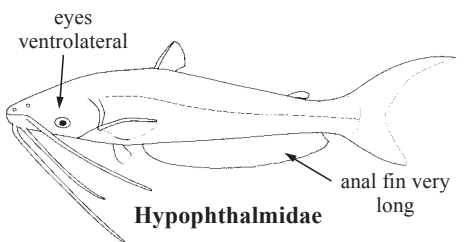
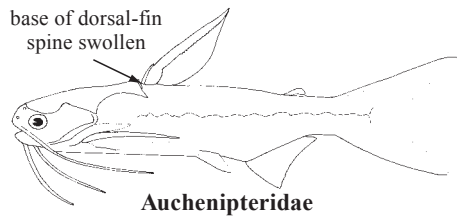
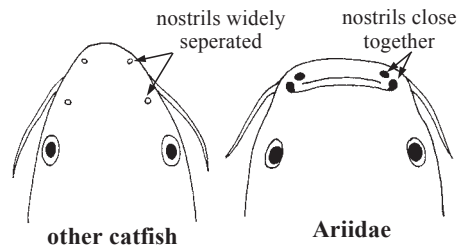
Auchenipteridae (*Pseudauchenipterus nodosus* only): postcleithral process spine-like, slender, and about half as long as pectoral-fin spine (subtriangular, generally shorter than 1/4 of pectoral-fin spine in Ariidae); pelvic-fin soft rays 8 (6 in Ariidae); frontal bones (on roof of skull) and base of dorsal-fin spine swollen or nodular in large adults and half-grown individuals (among Ariidae, frontal bones only swollen in *Bagre marinus* and base of dorsal-fin spine swollen only in young individuals of *Arius parkeri*).

Hypophthalmidae (*Hypophthalmus edentatus* only): eyes ventrolateral in position; dorsal- and pectoral-fin spines flexible; anal fin very long with more than 60 soft rays, originating below or slightly before dorsal fin (moderately short, with 37 or fewer soft rays in Ariidae).

Pimelodidae (*Brachyplatystoma* species and *Pimelodus blochii*): anal fin usually shorter, with 12 to 15 soft rays.

Aspredinidae: head and anterior body depressed, posterior body long and whip-like; eyes minute; gill openings reduced to tiny slits; adipose fin absent; anal fin very long, with 50 to 60 soft rays.

Loricariidae: body covered with hard bony plates (body covered with thick skin in Ariidae).



Key to the genera and species of Ariidae in the area

- 1a. Only 2 pairs of barbels, one of which is mental (Fig. 1); maxillary barbels and filaments of dorsal- and pectoral-fin spines appearing as long, flattened ribbons → 2
- 1b. Three pairs of barbels, 1 pair maxillary and 2 pairs mental, all round in cross-section (Fig. 2) → 3

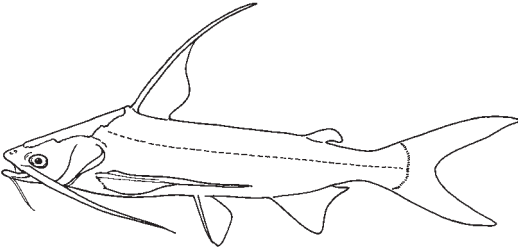


Fig. 1 *Bagre*

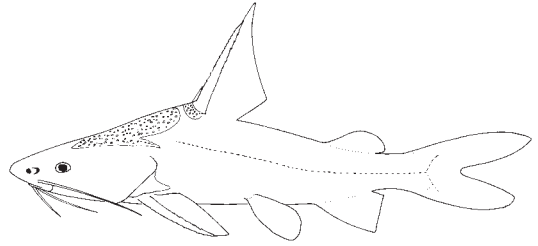


Fig. 2 *Arius*

- 2a. Anal fin comparatively short, with 22 to 28 soft rays (Fig. 3) ***Bagre marinus***
- 2b. Anal fin comparatively long, with 29 to 37 soft rays (Fig. 4) ***Bagre bagre***

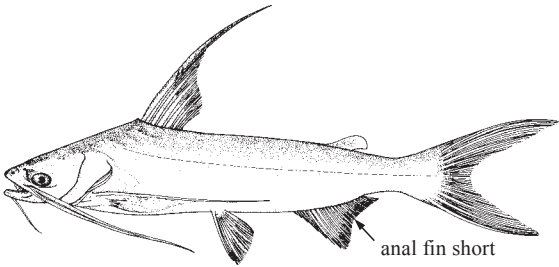


Fig. 3 *Bagre marinus*

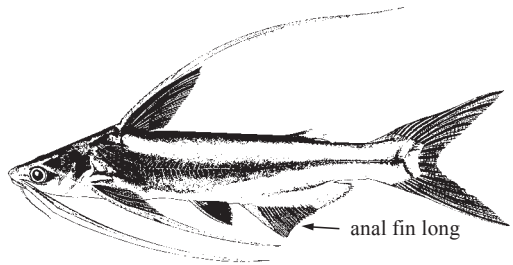


Fig. 4 *Bagre bagre*

- 3a. A furrow, partially covered by a flap of skin, extending across snout, connecting posterior nostrils. → 4
- 3b. No fleshy furrow extending between nostrils → 6
- 4a. Snout short, mouth terminal or nearly so; supraoccipital process slightly keeled (Fig. 5); teeth on palate in a narrow transverse band (Fig. 6a); pectoral-fin soft rays 11 or 12 ***Selenaspis passany***
- 4b. Snout comparatively long, mouth inferior; teeth on palate in adults in a U-shaped patch (Fig. 6b, c); supraoccipital process from rounded above to slightly keeled; pectoral-fin soft rays usually 10 or 11 → 5

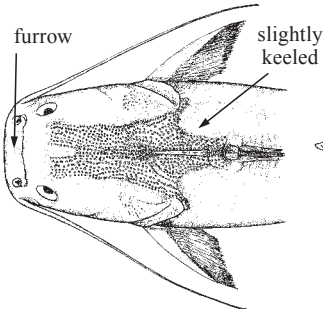
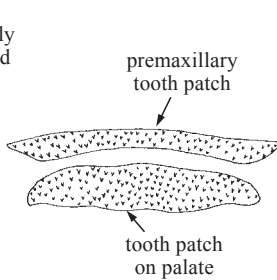
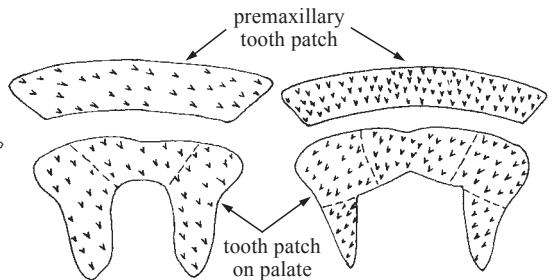


Fig. 5 *Selenaspis passany* dorsal view of head



a) *Selenaspis passany*



b) *Selenaspis herzbergii*

c) *Selenaspis couma*

Fig. 6 teeth

- 5a. Supraoccipital process slightly keeled; total anterior gill rakers on second arch 19 to 26, usually 21 to 23 (Fig. 7) *Selenaspis herzbergii*
- 5b. Supraoccipital process rounded above, without a keel; total anterior gill rakers on second arch 17 to 21, usually 19 or 20 (Fig. 8) *Selenaspis couma*

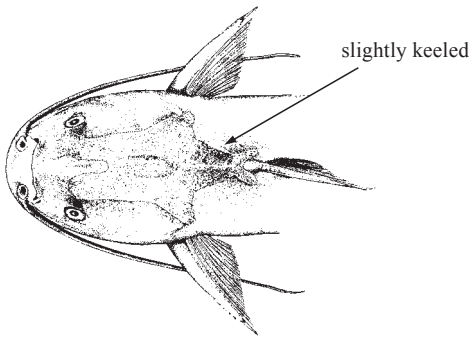


Fig. 7 *Selenaspis herzbergii*
dorsal view of head

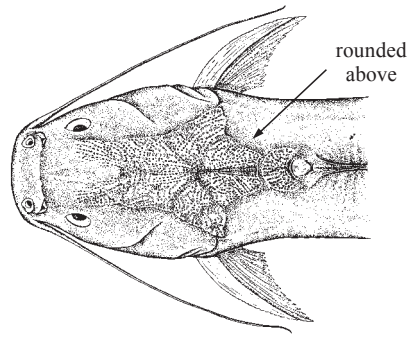


Fig. 8 *Selenaspis couma*
dorsal view of head

- 6a. No longitudinal fleshy groove in median depression of head (Fig. 9); no gill rakers on rear surfaces of first 2 gill arches. → 7
- 6b. A longitudinal fleshy groove in median depression of head variably developed or absent (Fig. 10); gill rakers present on rear surfaces of first 2 gill arches (minute and few in *Ariopsis*) → 12

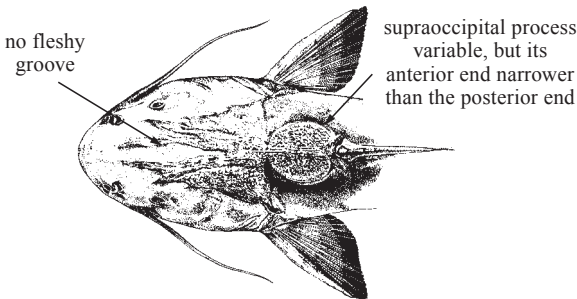


Fig. 9 *Arius grandicassis*
dorsal view of head

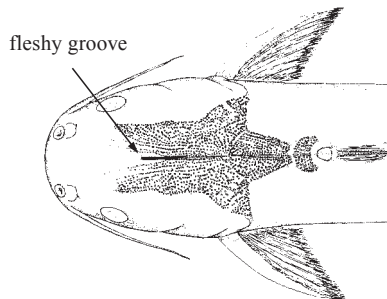


Fig. 10 *Ariopsis bonillai*
dorsal view of head

- 7a. Predorsal plate chevron-shaped or crescent-shaped, much shorter than supraoccipital process (Fig. 11) → 8
- 7b. Predorsal plate enlarged, variously shield-shaped, its length more than 1/2 of supraoccipital process (Fig. 12). → 10

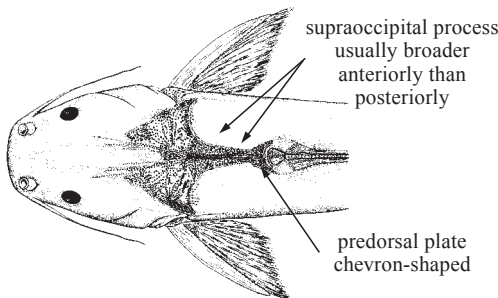


Fig. 11 *Arius phrygiatus*
dorsal view of head

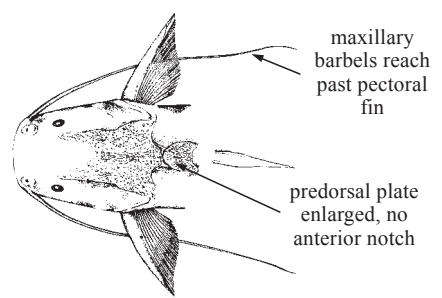


Fig. 12 *Arius parkeri*
dorsal view of head

- 8a. Supraoccipital process usually narrower at base than distally, with near parallel sides, or the sides variously expanded distally into a large rounded plate (Fig. 9) *Arius grandicassis*
- 8b. Supraoccipital process broader at base than distally, the sides converging posteriorly to meet the predorsal plate (Fig. 11, 13) → 9
- 9a. Total anterior gill rakers on first arch 12 to 15; total anterior gill rakers on second arch 13 to 16; number of vertebrae free from Weberian complex 46 or 47 (Fig. 11) *Arius phrygiatus*
- 9b. Total anterior gill rakers on first arch 14 to 17; total anterior gill rakers on second arch 16 to 20; number of vertebrae free from Weberian complex 48 to 51 (Fig. 13) *Arius rugispinis*

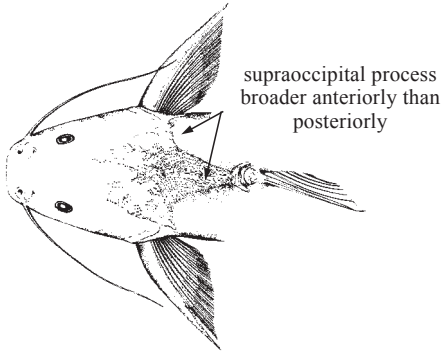


Fig. 13 *Arius rugispinis*
dorsal view of head

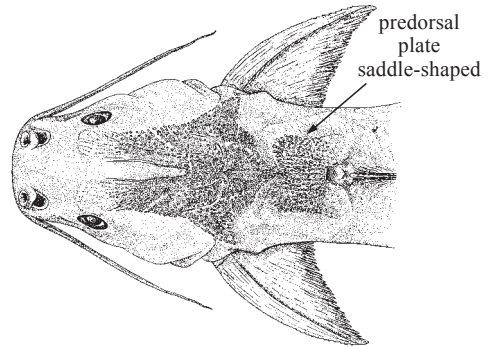


Fig. 14 *Arius quadriscutis*
dorsal view of head

- 10a. Predorsal plate saddle-shaped, shallowly notched anteriorly, overlapping the supraoccipital process, its median portion rugose, its sides smooth; total anterior gill rakers on first arch 11 to 14; maxillary barbels extending only to pectoral fin (Fig. 14) *Arius quadriscutis*
- 10b. Predorsal plate notched anteriorly or without anterior notch; total anterior gill rakers on first arch 15 to 18 → 11

- 11a. Predorsal plate large, shield-shaped, without anterior notch, uniformly rugose; maxillary barbels reaching anal fin in young, becoming shorter with age (Fig. 12) *Arius parkeri*
- 11b. Predorsal plate notched anteriorly, enclosing the tip of the narrow supraoccipital process; maxillary barbels extending only to pectoral fin (Fig. 15) *Arius proops*

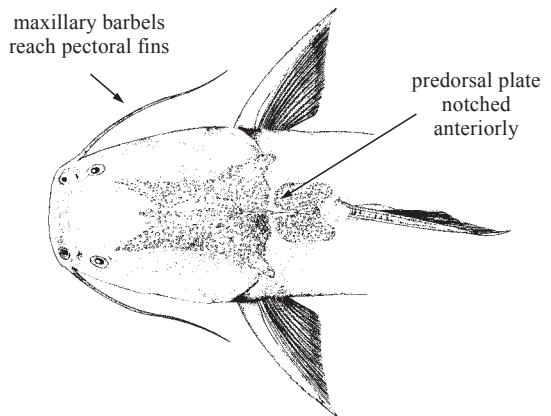


Fig. 15 *Arius proops*

- 12a. No teeth on palate; gill rakers well developed and uniformly distributed along rear surfaces of first 2 gill arches *Potamarius*
- 12b. Teeth on palate present; gill rakers on rear surfaces of first 2 arches tiny or well developed → 13

- 13a. Teeth on palate small, villiform, arranged in 2 patches on each side (2 small rounded median patches and 2 larger obovate lateral patches) (Fig. 16); gill rakers on rear surfaces of first 2 arches tiny, usually 3 to 5 in number and confined to upper limb of each arch → 14
- 13b. Teeth on palate molariform in most species, arranged in a small patch on each side (Fig. 17); gill rakers well developed and uniformly distributed along rear surfaces of first gill arches *Cathorops*

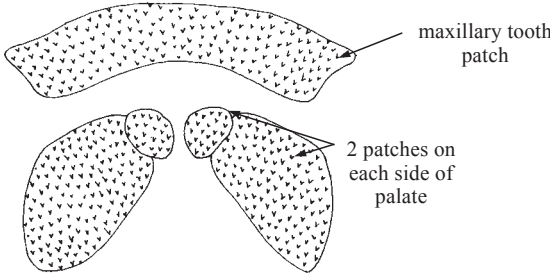


Fig. 16 tooth patches on roof of mouth of *Ariopsis felis*

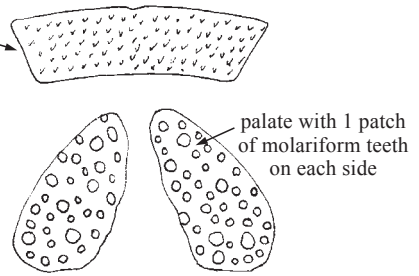


Fig. 17 tooth patches on roof of mouth of *Cathorops fissus*

- 14a. Fleishy groove in median depression of head long, extending forward to opposite rear halves of eyes (Fig. 18); total anterior gill rakers on first arch 13 to 16; anterior gill rakers (total number) on second arch 13 to 17; number of vertebrae free from Weberian complex 46 to 48; range northward of Yucatán *Ariopsis felis*
- 14b. Fleishy groove in median depression of head short, not reaching to eyes (Fig. 10,19); anterior gill rakers (total number) on first arch 16 to 20; total anterior gill rakers on second arch 18 to 24; number of vertebrae free from Weberian complex 43 to 47 → 15

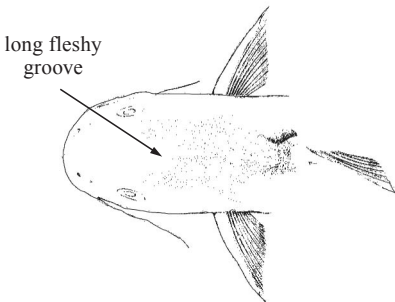


Fig. 18 *Ariopsis felis* dorsal view of head

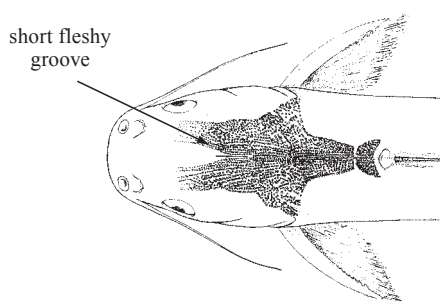












Fig. 19 *Ariopsis assimilis* dorsal view of head

- 15a. Longitudinal fleshy groove in median depression of head very short, not extending forward as far as eyes (Fig. 19); total anterior gill rakers on first arch 16 to 18; anterior gill rakers (total number) on second arch 18 to 22; number of vertebrae free from Weberian complex 43 to 46; range from Yucatán to Panama *Ariopsis assimilis*
- 15b. Longitudinal fleshy groove in median depression of head moderate in length, not quite reaching to opposite eyes (Fig. 10); anterior gill rakers (total number) on first arch 17 to 20; total anterior gill rakers on second arch 19 to 24; number of vertebrae free from Weberian complex 45 to 47; range Colombia and Venezuela. *Ariopsis bonillai*

List of species occurring in the area

The symbol  is given when species accounts are included.

-  *Ariopsis assimilis* (Günther, 1864).
-  *Ariopsis bonillai* (Miles, 1945).
-  *Ariopsis felis* (Linnaeus, 1766).
-  *Arius grandicassis* Valenciennes, 1840.
-  *Arius parkeri* (Traill, 1832).
-  *Arius phrygiatus* Valenciennes, 1840.
-  *Arius proops* (Valenciennes, 1840).
-  *Arius quadriscutis* Valenciennes 1840.
-  *Arius rugispinis* Valenciennes, 1840.
-  *Bagre bagre* (Linnaeus, 1766).
-  *Bagre marinus* (Mitchill, 1815).
- Cathorops aguadulce* (Meek, 1904).
- Cathorops arenatus* (Valenciennes, 1840).
- Cathorops melanopus* (Günther, 1864).
- Cathorops pleurops* (Boulenger, 1897).
-  *Cathorops spixii* (Agassiz, 1829).
- Potamarius izabalensis* Hubbs and Miller, 1960.
- Potamarius nelsoni* (Evermann and Goldsborough, 1902).
-  *Selenaspis couma* (Valenciennes, 1840).
-  *Selenaspis herzbergii* (Bloch, 1794).
-  *Selenaspis passany* (Valenciennes, 1840).

References

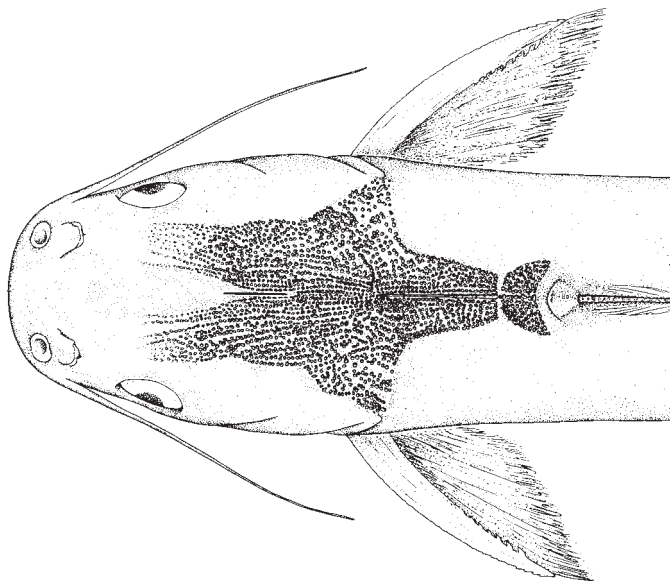
- Cervigón, F. 1991. *Los peces marinos de Venezuela*. Second edition. Vol 1. Caracas, Fund. Cient., Los Roques, 425 p.
- Cervigón, F., R. Cipriani, W. Fischer, L. Garibaldi, M. Hendrickx, A.J. Lemus, R. Márquez, J.M. Poutiers, G. Robaina, and B. Rodríguez. 1993. *FAO species identification sheets for fishery purposes. Field guide to the commercial marine and brackish-water resources of the northern coast of southern America*. Rome, FAO, 513 p.
- McEachran, J.D. and J.D. Fechhelm. 1998. *Fishes of the Gulf of Mexico*. Vol. 1. Austin, University of Texas Press, 1 112 p.

Ariopsis assimilis (Günther, 1864)

OSA

Frequent synonyms / misidentifications: *Arius assimilis* Günther, 1864; *Galeichthys assimilis* (Günther, 1864) / None.

FAO names: En - Mayan sea catfish; Fr - Mâchoiron maya; Sp - Bagre maya.

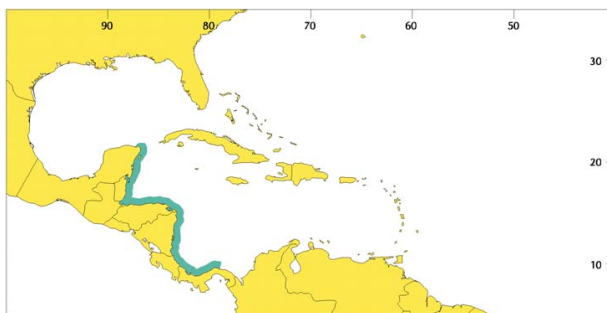


Diagnostic characters: Head rounded, only slightly flattened above; exposed head shield well visible, **very rugose, extending anteriorly to opposite eyes, its supraoccipital process broad at base, narrow and truncated posteriorly, with a very slight median keel; predorsal plate moderately long, rugose and subshield-shaped; a very short narrow fleshy groove in median depression of head falling well short of eyes.** Snout rounded transversely. Mouth inferior. Teeth on palate villiform or granular, in 2 pairs of patches, the small anterior patches contiguous with the outer large elliptical posterior ones, patches in anterior pair narrowly separated from one another. Three pairs of barbels (1 maxillary and 2 mental) around mouth, the maxillary barbels just reaching to pectoral fins. **A few tiny gill rakers on rear surfaces of first 2 arches, chiefly confined to the upper limb; total number of anterior gill rakers on first arch 16 to 18; total number of anterior gill rakers on second arch 18 to 22.** Dorsal fin with a strong, serrated, erectile spine. A well-developed adipose fin present. Pectoral fins with a strong, serrated, erectile spine; soft rays in pectoral fins usually 10. **Number of vertebrae free from Weberian complex 43 to 46. Colour:** medium yellowish brown above, lighter below.

Size: Maximum about 35 cm; common to 25 cm.

Habitat, biology, and fisheries: Found primarily in fresh water, but also in turbid brackish waters over muddy bottoms in river estuaries and lakes. Separate statistics are not reported for this species; caught mainly with gill nets (sometimes considered a nuisance because of the spines), seines, and on hook-and-line.

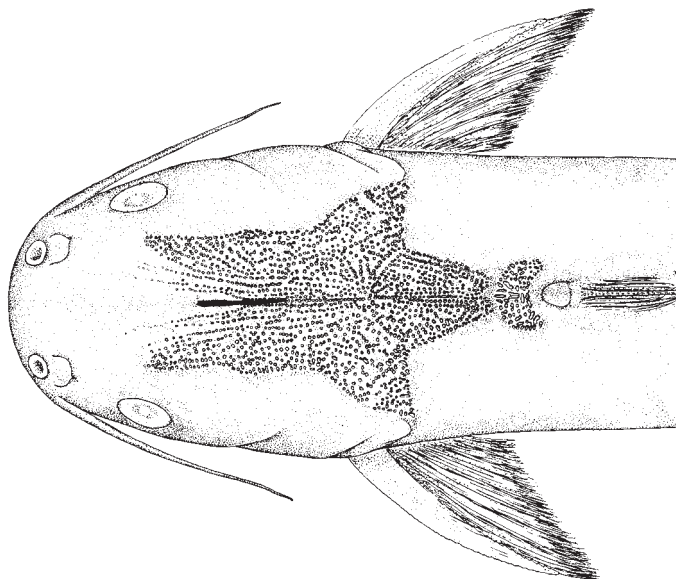
Distribution: Caribbean coast of Central America from Yucatán (Mexico) to Panama.



Ariopsis bonillai (Miles, 1945)

Frequent synonyms / misidentifications: *Arius bonillai* (Miles, 1945); *Galeichthys bonillai* Miles, 1945 / None.

FAO names: En - New Granada sea catfish; Fr - Mâchoiron requin; Sp - Bagre cabezón.



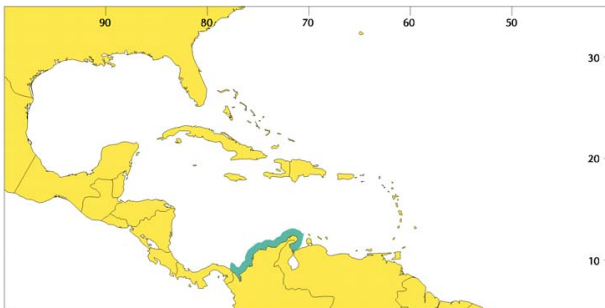
Diagnostic characters: Head rounded, only slightly flattened above; exposed head shield well visible, **very rugose, extending anteriorly to opposite eyes, its supraoccipital process broad at base, narrow and truncated posteriorly, with a slight median keel; predorsal plate moderately large, crescent-shaped but truncated anteriorly; a rather short fleshy groove in median depression of head not quite reaching eyes.** Snout rounded transversely. Mouth inferior. Teeth on palate villiform or granular, in 2 pairs of patches, the small anterior patch on each side contiguous with the outer large elliptical posterior one; patches in anterior pair narrowly separated from one another. Three pairs of barbels (1 maxillary and 2 mental) around mouth, the maxillary barbels reaching to pectoral fins. **A few tiny gill rakers on rear surfaces of first 2 arches, chiefly confined to upper limb; total number of anterior gill rakers on first arch 17 to 20; anterior gill rakers on second arch 19 to 24.** Dorsal fin with a strong, serrated, erectile spine. A well-developed adipose fin present. Pectoral fins with a strong, serrated, erectile spine; soft rays in pectoral fins 10. **Number of vertebrae free from Weberian complex 45 to 47. Colour:** dark brown to bluish above, whitish below.

Size: Maximum reportedly 80 cm; in the Ciénaga Grande de Santa Marta (Colombia) females reach 46 cm and males reach 38 cm; common to 35 cm.

Habitat, biology, and fisheries: Found in turbid water over muddy bottoms in the lower portions of streams, estuaries, and mangrove-lined lagoons; mostly restricted to fresh and brackish waters. Feeds mainly on crabs; juveniles eat mainly copepods; females produce between 33 to 39 eggs (mean 36); males incubate eggs for 50 to 70 days during the whole year, but mainly between April and July; sexes can be told apart by external morphology at 19 cm. Separate statistics are not reported for this species; caught mainly on hook-and-line and with beach seines; marketed mostly fresh; considered to be tasty; highly appreciated as food.

Distribution: Northwestern coast of South America: Colombia and western Venezuela.

Remarks: Considered endangered by the IUCN due to its endemism and heavy artisanal fishing pressure.

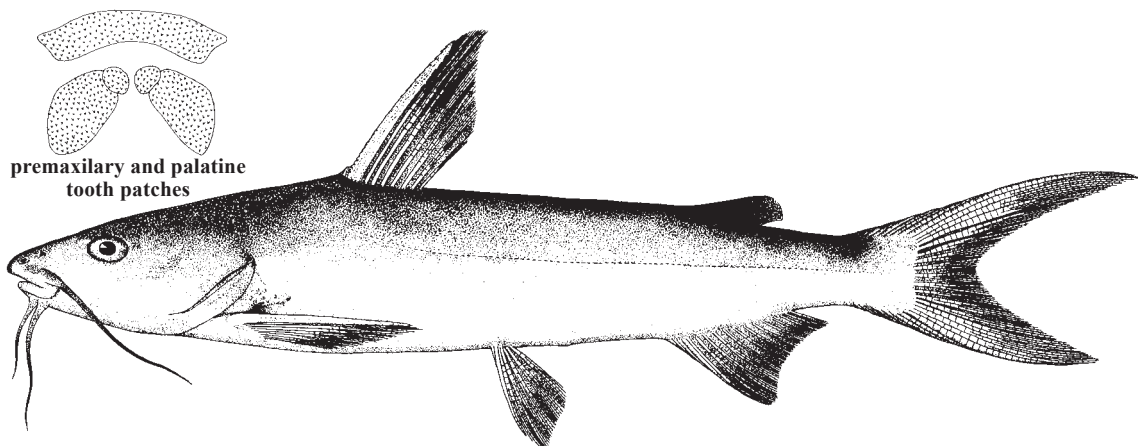


Ariopsis felis (Linnaeus, 1766)

AUF

Frequent synonyms / misidentifications: *Arius felis* (Linnaeus, 1766); *Hexanematichthys felis* (Linnaeus, 1766); *Galeichthys milberti* (Valenciennes, 1840) / None.

FAO names: **En** - Hardhead sea catfish; **Fr** - Mâchoiron chat (AFS: Cabeza de hueso); **Sp** - Bagre gato.

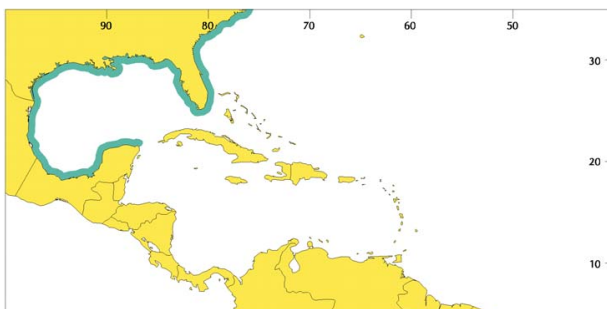
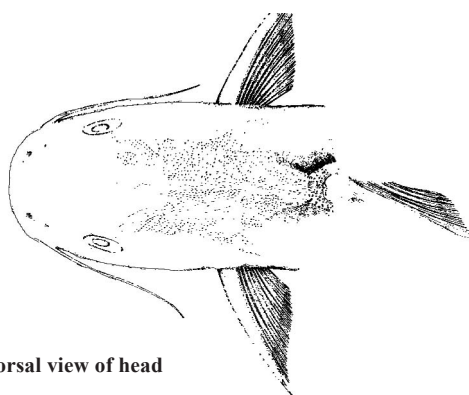


Diagnostic characters: Head rounded, only slightly flattened above; exposed head shield well visible, **very rugose, extending anteriorly to opposite eyes, its supraoccipital process broad at base, narrower and truncated posteriorly, with a slight median keel; predorsal plate crescent-shaped and rugose; a long narrow fleshy groove in median depression of head extending forward to eyes.** Snout moderately long and rounded transversely. Mouth inferior. Teeth on palate villiform or granular, in 2 pairs of patches, the small anterior patches contiguous with the outer large, round to elliptical posterior ones; patches of anterior pair narrowly separated from one another. Three pairs of barbels (1 maxillary and 2 mental) around mouth, the maxillary barbels just reaching to pectoral fins. **A few tiny gill rakers on rear surfaces of first 2 arches, chiefly confined to the upper limb; total number of anterior gill rakers on first arch 13 to 16; anterior gill rakers on second arch 13 to 17.** Dorsal fin with a strong, serrated, erectile spine. A well-developed adipose fin present. Pectoral fins with a strong, serrated, erectile spine; soft rays in pectoral fins usually 10. **Number of vertebrae free from Weberian complex 46 to 48. Colour:** brown to dark brown or dark blue above, shading to whitish below.

Size: Maximum about 70 cm; common to 25 cm.

Habitat, biology, and fisheries: Found in turbid waters over muddy bottoms, chiefly along the coast and in river estuaries; prefers brackish and marine waters, only occasionally entering fresh waters. Feeds mainly on benthic crustaceans; spawning occurs from May to early August in the northern Gulf of Mexico. Separate statistics are not reported for this species; caught mainly with bottom trawls, seines, and on hook-and-line; consumed fresh occasionally, but not highly appreciated.

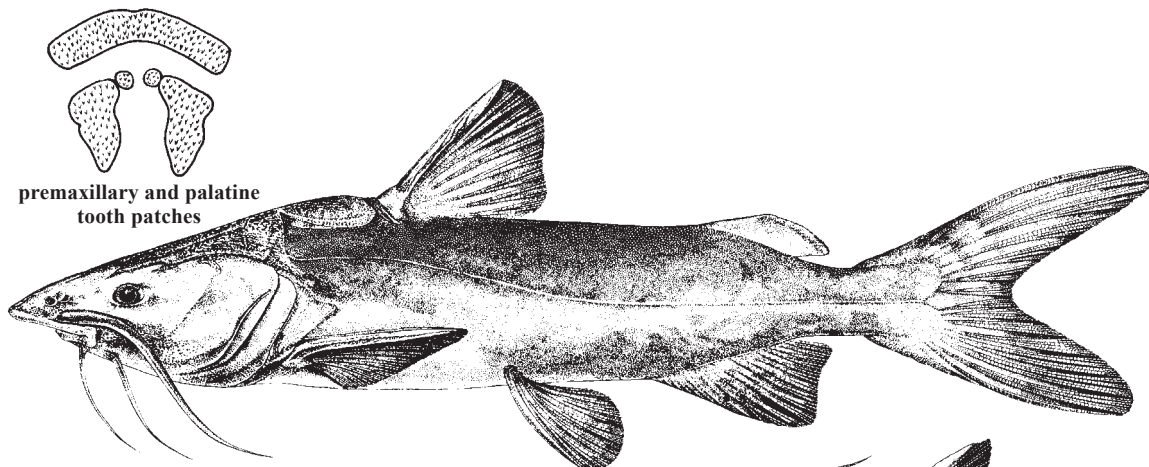
Distribution: Atlantic coast from North Carolina to Florida, and Gulf of Mexico to Yucatán.



Arius grandicassis Valenciennes, 1840

Frequent synonyms / misidentifications: *Arius parmocassis* Valenciennes, 1840; *Arius stricticassis* Valenciennes, 1840; *Notarius grandicassis* (Valenciennes, 1840); *Notarius parmocassis* (Valenciennes, 1840); *Notarius stricticassis* (Valenciennes, 1840); *Arius vandeli* Puyo, 1936 / None.

FAO names: **En** - Thomas sea catfish; **Fr** - Mâchoiron grondé; **Sp** - Bagre Tomás.



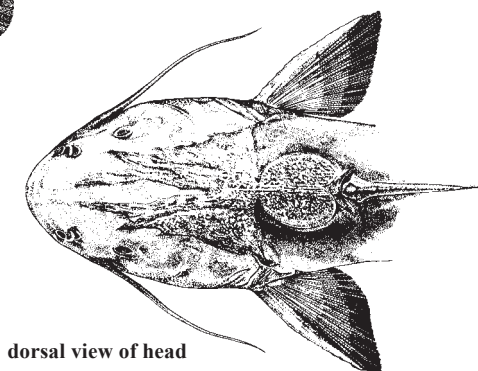
Diagnostic characters: Head rounded with a flat upper surface; exposed head shield well visible, only moderately rugose and extending forward approximately to eyes, **its supraoccipital process long and narrow at base, its sides either parallel or variously expanded and rounded laterally, becoming shield-like, but proximal base usually remains narrow; predorsal plate a short crescent.** Snout very prominent and rounded transversely. Mouth inferior. Teeth on palate villiform in 2 patches on each side, the medial anterior pair small or absent, the outer posterior pair large, long, subtriangular, and widely separated. Three pairs of barbels (1 maxillary and 2 mental) around mouth, the maxillary barbels reaching to pectoral fins. No gill rakers on rear surfaces of first 2 arches; total number of anterior gill rakers on first arch 13 to 17. Dorsal fin with a strong, serrated, erectile spine. A well-developed adipose fin present. Pectoral fins with a strong, serrated, erectile spine; soft rays in pectoral fins 11 or 12. **Colour:** mostly greyish brown or yellowish brown above, lighter below.

Size: Maximum 63 cm; common to 40 cm.

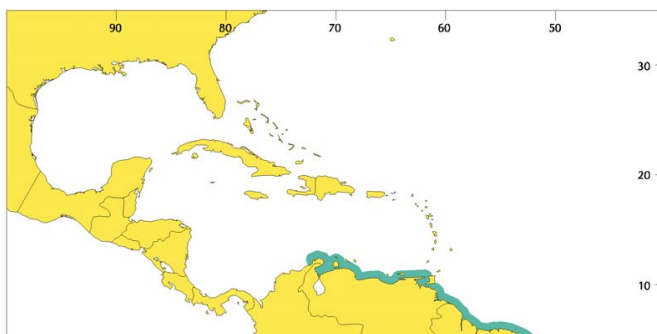
Habitat, biology, and fisheries: Found in shallow coastal waters, to at least 35 m of depth, as well as in turbid estuarine areas. Separate statistics are not reported for this species; caught mainly with seines, and on hook-and-line, also taken as bycatch in the industrial trawl fishery for shrimps; marketed mostly fresh.

Distribution: Northeastern coast of South America from the Guajira Peninsula (Colombia) to Brazil.

Remarks: The taxonomic status of the nominal species described by Valenciennes and Puyo is still uncertain.



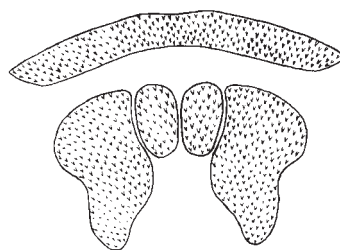
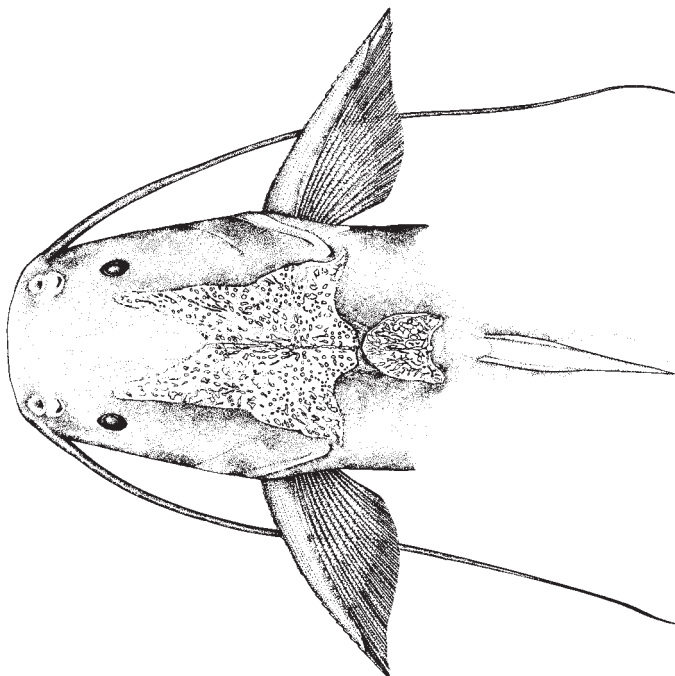
dorsal view of head



Arius parkeri (Traill, 1832)

Frequent synonyms / misidentifications: *Bagrus albicans* Valenciennes, 1839; *Arius physacanthus* Vaillant, 1899; *Arius bonneti* Puyo, 1936; *Arius clavispinosus* Puyo, 1936; *Arius despaxi* Puyo, 1936; *Arius luniscutis* Puyo, 1936 / *Sciadeichthys emphysetus* Eigenmann, 1912; *Sciadeichthys flavescens* Eigenmann, 1912.

FAO names: **En** - Gillbacker sea catfish; **Fr** - Mâchoiron jaune; **Sp** - Bagre amarillo.



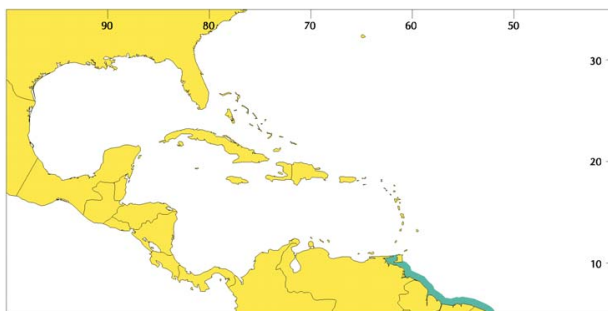
premaxillary and palatine tooth patches

Diagnostic characters: Head flattened above; **exposed head shield well visible, rugose posteriorly but smoother anteriorly extending forward to opposite eyes, its supraoccipital process very short and broad; predorsal plate much longer than the supraoccipital process, shield-shaped, and without anterior notch.** Snout rounded transversely. Mouth moderately inferior. Teeth on palate villiform, forming a U-shaped pattern of 4 closely adjoined patches, the lateral pair largest and prolonged posteriorly. Three pairs of barbels (1 maxillary and 2 mental) around mouth, **the maxillary barbels reaching to middle of anal fin in young individuals, but becoming progressively shorter with age.** No gill rakers on rear surfaces of first 2 arches; **total number of anterior gill rakers on first arch about 15 to 17.** Dorsal fin with a strong, serrated, erectile spine. A well-developed adipose fin present. Pectoral fins with a strong, serrated, erectile spine; soft rays in pectoral fins 11 or 12. **Colour:** yellowish through grey to bluish grey above, shading to white below.

Size: Maximum well over 100 cm; common to 60 cm.

Habitat, biology, and fisheries: Occurs in turbid waters over muddy bottoms in coastal areas, estuaries, and lower parts of rivers. Food items include fishes and crustaceans. Separate statistics are not reported for this species; caught mainly with seines, bottom trawls, Chinese trap nets, hook-and-line, and longlines; an important food fish because of the excellent quality of its flesh; marketed fresh and salted.

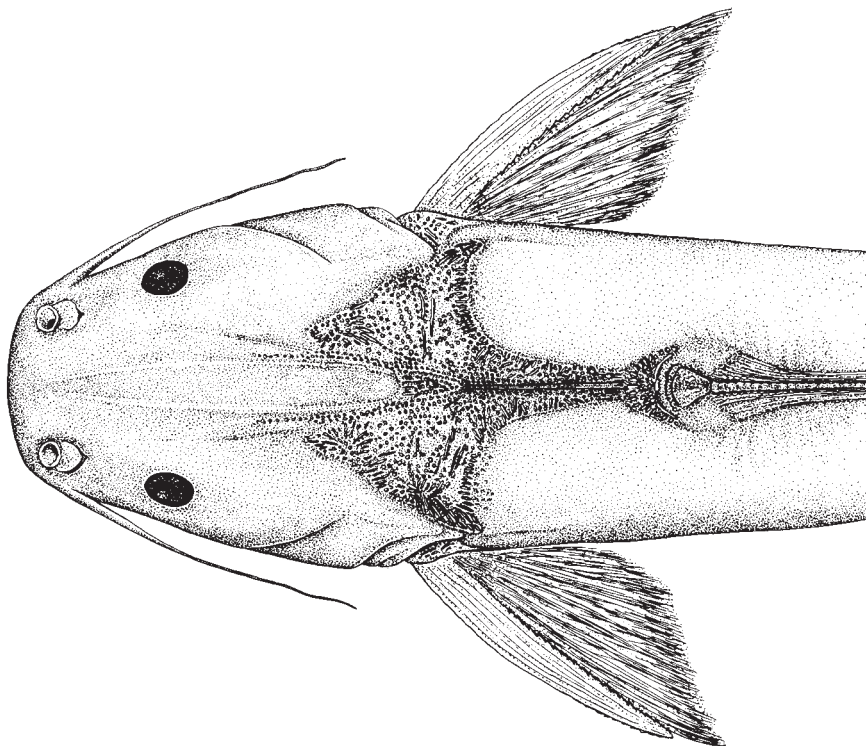
Distribution: Northeastern coast of South America from the Gulf of Paria (Venezuela) to Brazil.



Arius phrygiatus Valenciennes, 1840

Frequent synonyms / misidentifications: None / None.

FAO names: En - Kukwari sea catfish; Fr - Mâchoiron kukwari; Sp - Bagre mucuro.

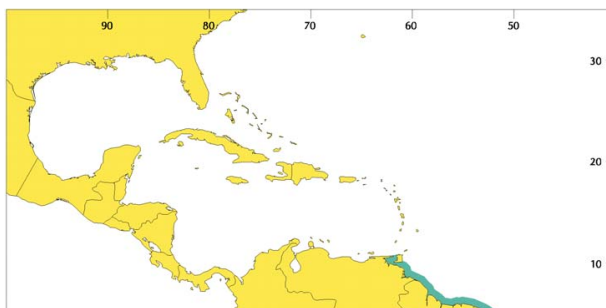


Diagnostic characters: Head broad, flattened above; exposed head shield well visible, **moderately rugose and small, not extending forward to eyes, its supraoccipital process long, narrow, and tapering posteriorly; predorsal plate crescent-shaped.** Snout rounded transversely. Mouth inferior. **Teeth on palate villiform in 2 small rounded to elliptical patches widely separated from each other.** Three pairs of barbels (1 maxillary and 2 mental) around mouth, the maxillary barbels reaching almost to pectoral fins. **No gill rakers on rear surfaces of first 2 arches; total number of anterior gill rakers on first arch 12 to 15; anterior gill rakers on second arch 13 to 16.** Dorsal fin with a strong, serrated, erectile spine. A large well-developed adipose fin. Pectoral fins with a strong, serrated, erectile spine; soft rays in pectoral fins 10 or 11. **Number of vertebrae free from Weberian complex 46 or 47.** **Colour:** grey to greyish brown above, lighter below. Fins greyish. Caudal fin distally dusky.

Size: Maximum 30 cm; common to 25 cm.

Habitat, biology, and fisheries: Found in fresh waters and in river estuaries. Separate statistics are not reported for this species. Caught mainly with beach seines; marketed mostly fresh, but of negligible commercial importance because of its small average size.

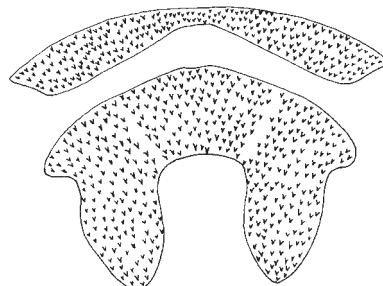
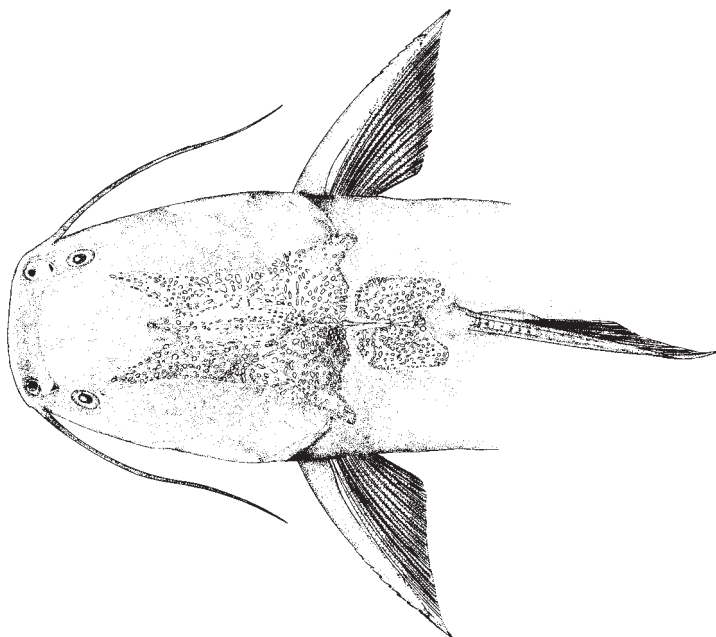
Distribution: Known from the lower reaches of the Orinoco delta (Venezuela) to the mouth of the Amazon River (Brazil).



Arius proops (Valenciennes, 1840)

Frequent synonyms / misidentifications: *Sciadeichthys proops* (Valenciennes, 1840) / *Arius albicans* (Valenciennes, 1840).

FAO names: **En** - Crucifix sea catfish; **Fr** - Mâchoiron crucifix; **Sp** - Bagre piedraero.



premaxillary and palatine tooth patches

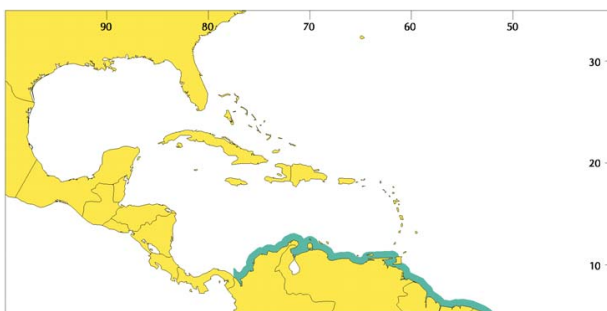
Diagnostic characters: Head more or less flattened above; **exposed head shield very rugose, extending forward approximately to eyes, supraoccipital process short, varying from slender and almost spine-like to squarish and distally spine-like, its point extending into a notch of the shield-shaped predorsal plate** which is very rugose. Snout broadly round transversely. Mouth slightly inferior. Teeth on palate villiform, in a broad, U-shaped patch. Three pairs of barbels (1 maxillary and 2 mental) around mouth, the maxillary barbels reaching to pectoral fins. No gill rakers on rear surfaces of first 2 arches; **total number of anterior gill rakers on first arch 15 to 18**. Dorsal fin with a strong, serrated, erectile spine. A well-developed adipose fin present. Pectoral fins with a strong, serrated, erectile spine; soft rays in pectoral fins usually 11. **Colour:** medium grey, bluish grey, or dark brown to dark blue above, lighter below.

Size: Maximum over 100 cm; common to 60 cm.

Habitat, biology, and fisheries: Predominantly found in brackish water estuaries and lagoons; also occurs from fresh waters to hypersaline shallow lagoons, including marine waters. Females produce 63 to 217 eggs. Separate statistics are not reported for this species; caught mainly with beach seines, Chinese trap nets, and on hook-and-line; marketed mostly fresh; the head of this fish is cleaned of flesh and the skull sold throughout the world as representing the crucifix.

Distribution: Northern coast of South America from Colombia to Brazil.

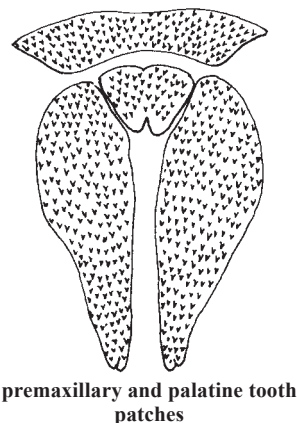
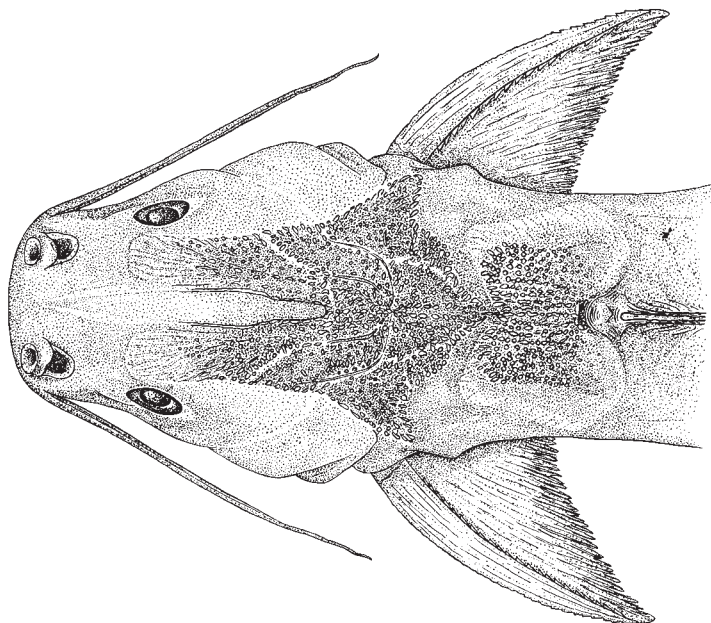
Remarks: Considered vulnerable by Colombian law due to heavy artisanal fishery pressure.



Arius quadriscutis Valenciennes, 1840

Frequent synonyms / misidentifications: None / *Arius parkeri* (not Traill, 1832); *Sciadeichthys parkeri* (not Traill, 1832); *Selenaspis parkeri* (not Traill, 1832).

FAO names: **En** - Bressou sea catfish; **Fr** - Mâchoiron bressou; **Sp** - Bagre bresú.



Diagnostic characters: Head arched and slightly flattened above; **exposed head shield clearly visible, very rugose posteriorly, smooth anteriorly, extending forward to opposite eyes, its supraoccipital process short, broad at base, tapering posteriorly to a narrowly rounded tip; predorsal plate large, saddle-shaped, shallowly notched anteriorly, overlapping the supraoccipital process, its central portion rugose, outer portions smooth.** Snout transversely rounded. Mouth inferior. Teeth on palate coarsely granular, forming a long U-shaped pattern of more or less contiguous patches, the posterior extensions of which are only slightly separated. Three pairs of barbels (1 maxillary and 2 mental) around mouth, the maxillary barbels reaching pectoral fins. No gill rakers on rear surfaces of first 2 arches; **total number of anterior gill rakers on first arch 11 to 14.** Dorsal fin with a strong, serrated, erectile spine. A well-developed adipose fin present. Pectoral fins with a strong, serrated, erectile spine; soft rays in pectoral fins usually 11. **Colour:** yellow to dark yellow in life, grey to dark brown in preserved specimens; lighter below.

Size: Maximum 50 cm; common to 30 cm.

Habitat, biology, and fisheries: Chiefly a marine species, living in turbid waters over muddy bottoms in shallow coastal areas; also around estuaries. Food items include bottom-living invertebrates. Separate statistics are not reported for this species; caught mainly with beach seines, and occasionally as bycatch in industrial trawl fisheries for shrimp; marketed mostly fresh and exported frozen.

Distribution: Northeastern coast of South America from eastern Venezuela to Brazil.

