FAO SPECIES IDENTIFICATION SHEETS
FOR FISHERY PURPOSES

EASTERN CENTRAL ATLANTIC
FISHING AREA 34 AND PART OF 47

VOLUME
III

Canada
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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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FAO SPECIES IDENTIFICATION SHEETS

FOR FISHERY PURPOSES

EASTERN CENTRAL ATLANTIC

Fishing Areas 34, 47 (in part)

edited by

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VOLUME III

CONTENTS:

Bony Fishes

Families: Malacanthidae
to Scombridae

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Identification sheets. Taxonomy. Geographic distribution. Fisheries. Vernacular names. Bony fishes. Chimaeras. Sharks. Batoid fishes. Lobsters. Shrimps. True crabs. Stomatopods. Molluscs. Sea turtles. ASW

MALAC

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

MALACANTHIDAE

Sand tilefishes

A single species in the area; see species sheet for:

Malacanthus plumieri (Bloch, 1786) MALAC Malac 1

Prepared by J.K. Dooley, Department of Biology, Adelphi University, Garden City, Long Island, New York 11530, U.S.A.

MALAC Malac 1

1981

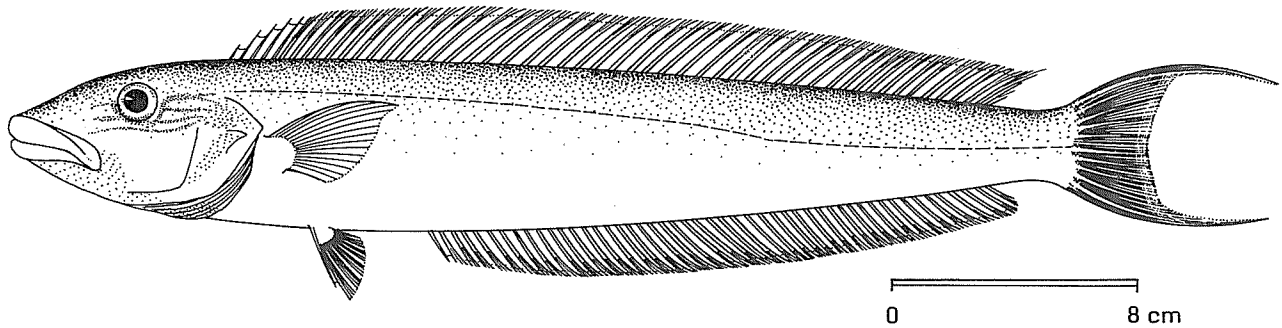
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MALACANTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Malacanthus plumieri (Bloch, 1786)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Sand tilefish
Fr - Matajuel blanc
Sp - Matajuelo

NATIONAL :

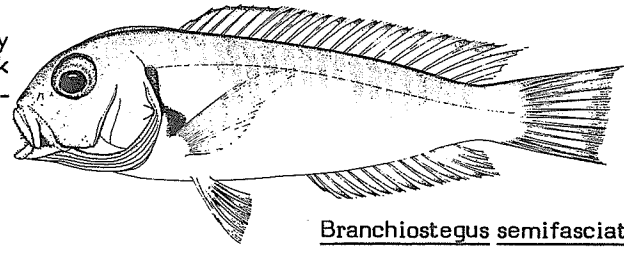
DISTINCTIVE CHARACTERS :

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 posteriorly to below posterior nostril, well in front of eye; upper lip fleshy and overhanging upper jaw; both jaws with patches of villiform teeth at symphyses (in front) and with well developed, rearward curved canine-like teeth. Dorsal and anal fins both long and continuous, dorsal with 4 or 5 spines and 54 to 60 soft rays, anal 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.

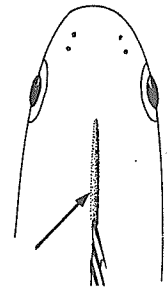
Colour: body bluish-green, darker above; sides may have light yellow bars; underbelly bluish-white. Dorsal fin with a thin yellow outer margin, followed by a narrow clear band and another band of yellow; remainder of fin with 3 or 4 rows of yellow spots; anal fin more or less as dorsal, but yellow spots fainter and most of fin membrane milky white; pectoral fins clear, pelvic fins white; caudal fin with large areas of yellow-range on upper and lower lobes.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Branchiostegus semifasciatus: body deeper; predorsal ridge present; dark vertical bars on sides. Preopercle serrated.



Branchiostegus semifasciatus

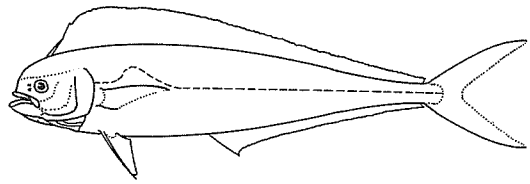


head viewed from above

Coryphaena species: dorsal fin extending forward to nape.

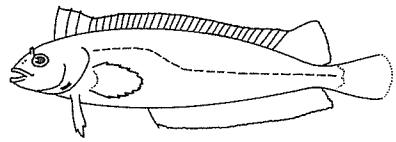
Species of Labridae: prominent, nipping canines and large scales.

Species of Clinidae: usually more spines than soft rays in dorsal fin.



Coryphaena sp.

Labridae



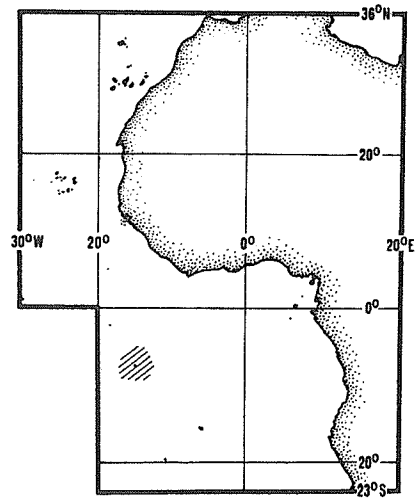
Clinidae

SIZE :

Maximum: about 60 cm; common to 50 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Within Fishing Area 34, known only from Ascension Island. In the Western Central Atlantic it occurs from Cape Lookout, North Carolina, and Bermuda, southward to Santos (Brazil), and probably even to Uruguay.



Primarily a shallow-water benthic fish, found most abundantly at depths from 10 to 50 m on sand and rubble bottom; confirmed depth is 153 m (off Charleston, South Carolina). Builds mounds of rubble and shell fragments near reefs and grass beds; a shy fish that enters its mound head-first, when frightened; tends to bite when handled; has unusual pelagic larvae that metamorphose at about 6 cm length.

Feeds mainly on stomatopods, fishes, polychaete worms, chitons, sea urchins and sea stars, amphipods and shrimp.

PRESENT FISHING GROUNDS :

Sandy area in the vicinity of reefs and grass beds, near source of mound-building materials.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species; apparently not found in great abundance.

Caught mainly on hook and line; occasionally in bottom trawls.

Probably marketed fresh; excellent quality white flesh.

MEGAL

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

MEGALOPIDAE

Tarpons

A single species in the area; see species sheet for:

Tarpon atlanticus (Valenciennes, 1846) MEGAL Tarp 1

Prepared by P.J.P. Whitehead, Zoology Department, British Museum (Natural History), London SW7 5BD, U.K.

MEGAL Tarp 1

1981

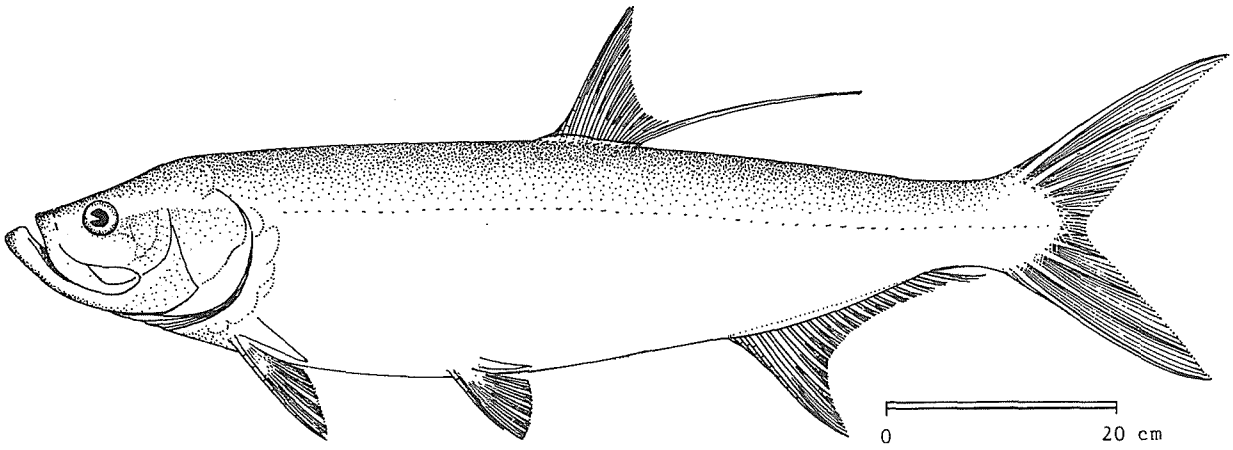
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MEGALOPIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Tarpon atlanticus (Valenciennes, 1846)

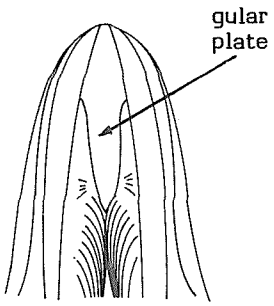
OTHER SCIENTIFIC NAMES STILL IN USE : Megalops atlanticus (Valenciennes, 1846)



VERNACULAR NAMES:

FAO : En - Atlantic Tarpon
Fr - Tarpon argenté
Sp - Tarpón

NATIONAL :



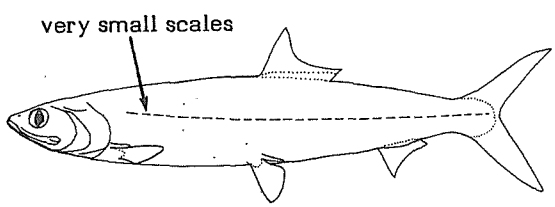
DISTINCTIVE CHARACTERS :

Body moderately deep. Eye large; lower jaw projecting; a gular plate present between arms of lower jaw. Fins lacking spines; dorsal fin origin at about midpoint of body, last dorsal finray filamentous; anal fin origin a little behind dorsal fin base; pelvic fins in front of dorsal fin. Scales large, 40 to 48 along lateral line.

Colour: back blue/grey, sides silvery.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

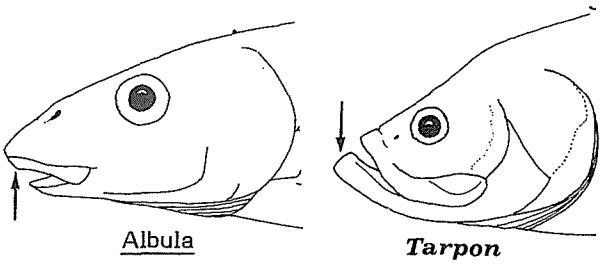
Elops species: last dorsal finray not a filament; also, scales very small, 70 to 100 along lateral line (40 to 48 in Tarpon).

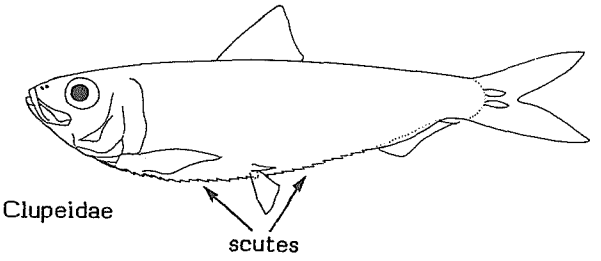


Elopidae

Albula vulpes: last dorsal finray not a filament; also, snout conical, mouth inferior, and scales small (65 to 70 along lateral line).

Species of Clupeidae: no dorsal filament, no lateral line or gular plate, and a keel of scutes along belly.





SIZE :

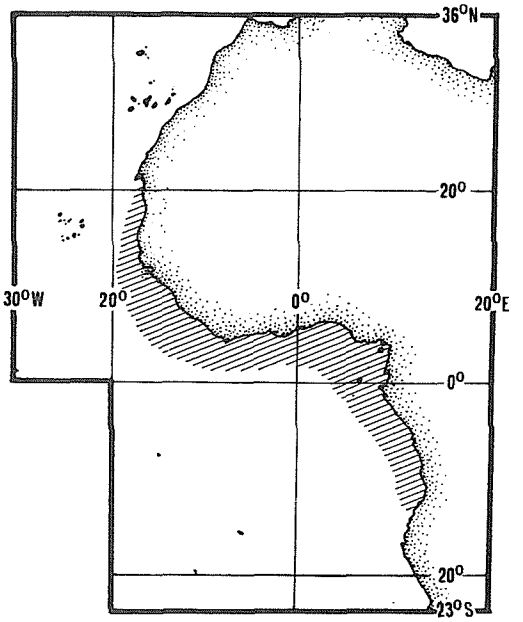
Maximum: 250 cm; common to 130 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In coastal waters from about Mauritania south to Congo and perhaps to Angola.

A pelagic inshore fish, the young coming into shallow water; tolerant of brackish or freshwater and of oxygen-poor conditions. Famous for its spectacular leaps when hooked. In the Western Atlantic it moves into open waters to spawn (late April to August), and this possibly also happens off West Africa. It has a leptocephalous larval stage.

Feeds on fishes, mainly those forming schools, such as sardines, anchovies and mullets; also takes crabs.



PRESENT FISHING GROUNDS :

Throughout area of distribution, in small numbers, but no special fishery.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught mainly on hook and line as a sport fish, but probably also taken in purse seines and beach seines.

Marketed fresh or frozen; the flesh is rather fatty.

MERLU

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

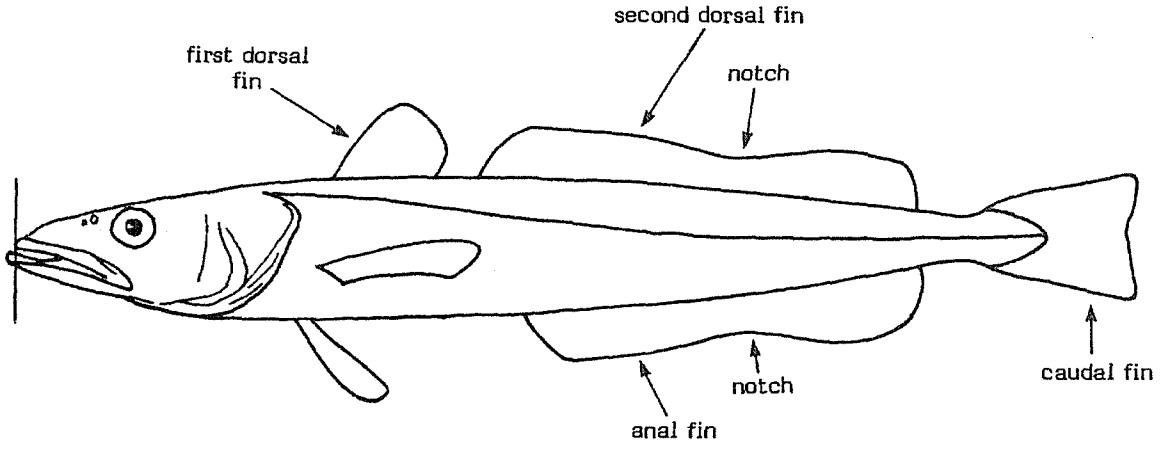
MERLUCCIIDAE

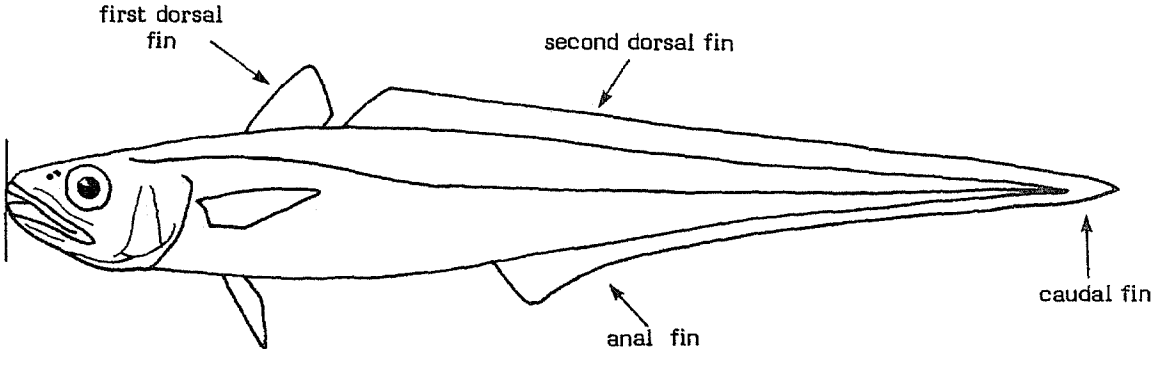
Hakes

Body long, slender and laterally compressed. Head large and little depressed with a low V-shaped ridge on upper side and with big eyes; mouth terminal (Macruronus) or the lower jaw slightly projecting beyond the upper (Merluccius); strong, pointed teeth in jaws; roof of mouth (head of vomer) also toothed; no barbel on chin. All fins soft, without spines; two dorsal and one anal fins; first dorsal fin short and roughly triangular in shape; second dorsal and anal fins with a deep notch in rear part (Merluccius); pectoral fins rather long and high in position; pelvic fins normally developed, not filamentous, placed in front of pectoral fins; caudal fin tapering and confluent with second dorsal and anal fins (Macruronus) or truncate, not confluent with second dorsal and anal fins (Merluccius). Scales small, cycloid (smooth) and easily detached.

Colour: various Merluccius species are usually steel grey on back, silvery white on sides and belly; more blackish in some species; iridiscent when first taken, fading soon after death.

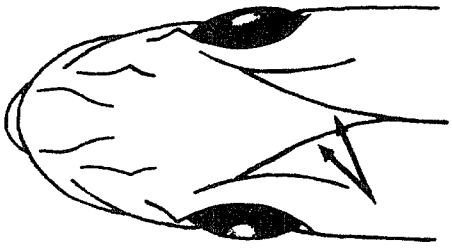
Voracious predators living in large shoals, sometimes at considerable depths. Hakes are world-wide in distribution with major fisheries in the Eastern and Western Atlantic and the Eastern Pacific. The flesh is white and flaky and low in fat content. Used for fishmeal as well as for food.





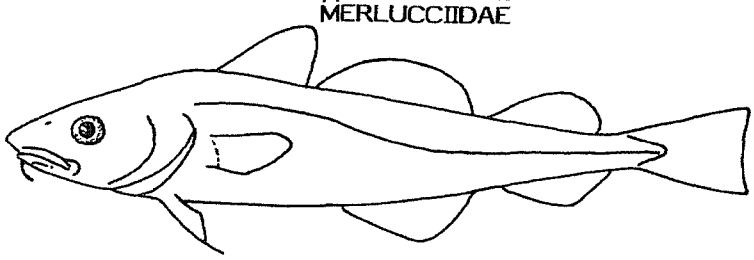
SIMILAR FAMILIES OCCURRING IN THE AREA:

All similar families in the area lack the V-shaped ridge on upper side of head characteristic of the Merlucciidae. Further distinguishing characters of these families are the following:



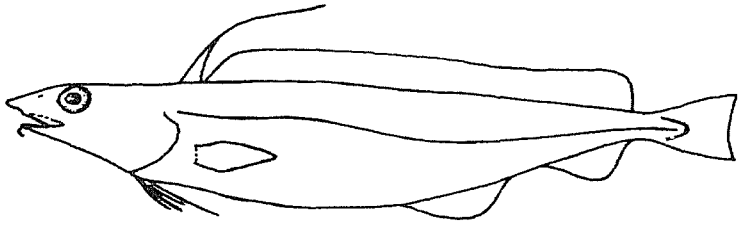
upper side of head
MERLUCCIIDAE

Gadidae: a barbel present on chin in most species; jaw teeth small; head of vomer with a large tooth patch in most species; 2 or 3 dorsal fins and 1 or 2 anal fins, without a distinct notch.



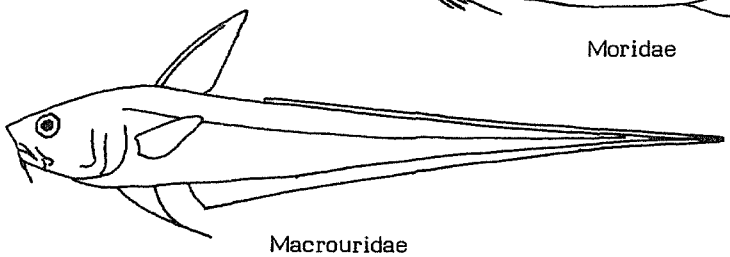
Gadidae

Moridae: jaw teeth small; teeth few or lacking on head of vomer; second dorsal and anal fins without a notch or if notch present, chin barbel present; pelvic fins modified into bifid filaments or outer rays produced into filaments; anterior paired projections of swimbladder attached to rear of cranium (not attached to rear of cranium in Merlucciidae).



Moridae

Macrouridae: second dorsal and anal fins continuous with tail, which tapers to a sharp point; second dorsal fin lower than anal fin in most species; chin barbel usually present.

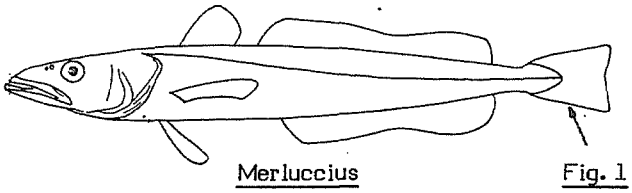


Macrouridae

KEY TO GENERA AND SPECIES OCCURRING IN THE AREA*:

1 a. Caudal fin distinct and not connected with second dorsal and anal fins (Fig. 1)

2 a. Total number of gillrakers on first arch 12 or less (Fig. 2)



Merluccius Fig. 1

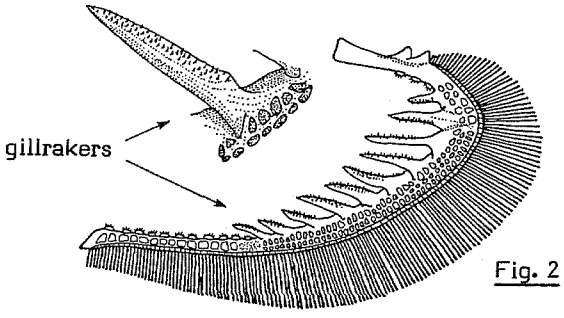


Fig. 2

M. merluccius

* The membership of this family follows Marshall and Cohen (1973). The systematic position of the genus Macruronus within Merlucciidae is still under discussion and hence their inclusion here is tentative.

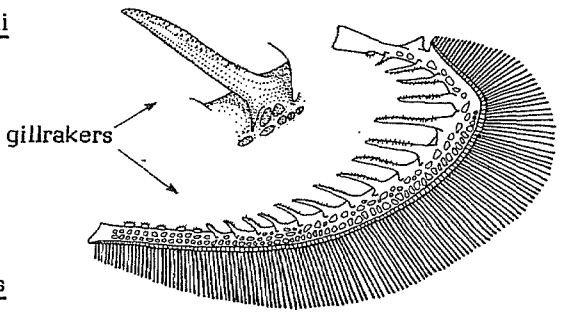
3 a. Scales small, 127 to 156 along lateral line; body silvery; from Mauritania northward ..... Merluccius merluccius

3 b. Scales large, 102 to 127 along lateral line; body blackish; from Mauritania southward ..... Merluccius polli

2 b. Total number of gillrakers on first arch 13 or more (Fig. 3)

4 a. Total number of vertebrae usually 52 to 55 (range 51 to 56); total number of gillrakers usually 13 to 16 (13 to 18); head length 24.9 to 27.7% of standard length; from Cape Roxo (10°N) northward .... Merluccius senegalensis

4 b. Total number of vertebrae usually 49 to 52 (49 to 53); total number of gillrakers usually 16 to 20 (15 to 20) head length 17.2 to 19.9% of standard length; from Baie Farte (10°S) southward ..... Merluccius capensis

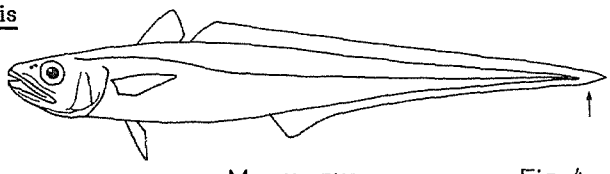


M. senegalensis Fig. 3

1 b. Caudal fin tapering and connected with second dorsal and anal fins (Fig. 4)

5 a. First dorsal fin rays 9 to 11; second dorsal rays about 105; anal rays about 86; pectoral rays 14; pelvic rays 9 ..... Macruronus caninus

5 b. First dorsal fin rays 8; second dorsal rays about 120; anal rays about 105; pectoral rays 18; pelvic rays 10 ..... Macruronus maderensis



Macruronus Fig. 4

LIST OF SPECIES OCCURRING IN THE AREA :

Code numbers are given for those species for which Identification Sheets are included

* Macruronus caninus Maul, 1951
* Macruronus maderensis Maul, 1951

** Merluccius capensis Castelnau, 1861
Merluccius merluccius (Linnaeus, 1758) MERLU Merlu 1
Merluccius polli Cadenat, 1950 MERLU Merlu 4
Merluccius senegalensis Cadenat, 1950 MERLU Merlu 3

Prepared by T. Inada, JAMARC, Chiyoda-ku, Tokyo 102, Japan

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* Only known from the type specimens from Madeira

** Scarcely entering the area from the south

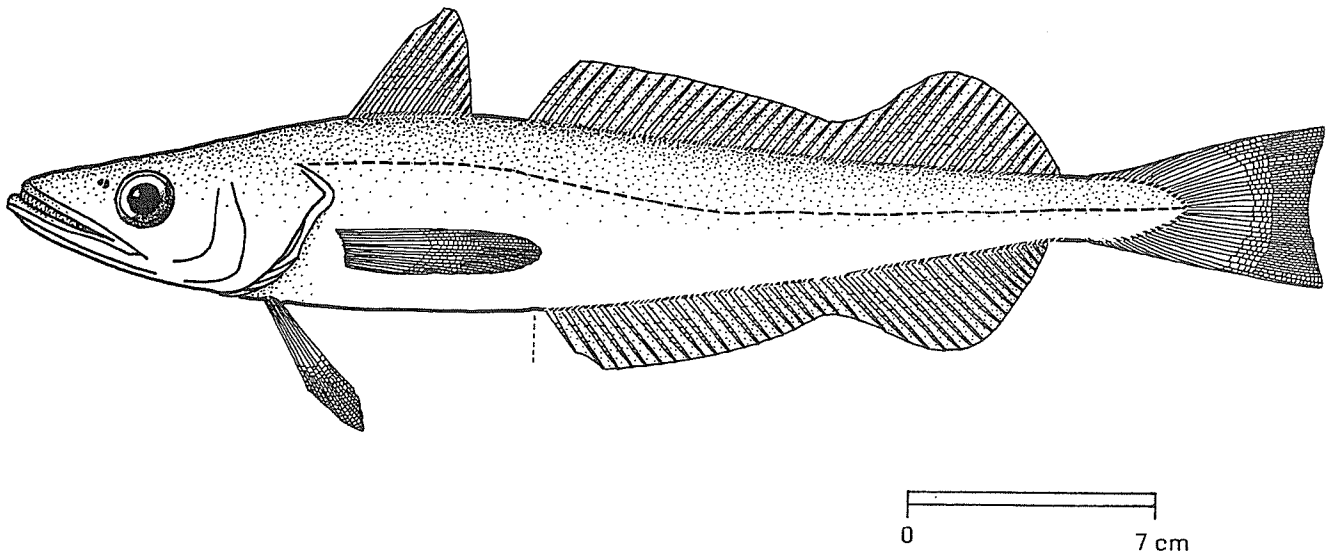
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MERLUCCIIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Merluccius merluccius (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Merluccius merluccius atlanticus Cadenat, 1950



VERNACULAR NAMES:

FAO : En - European hake
Fr - Merlu commun (= Merlu européen)
Sp - Merluza europea

NATIONAL :

DISTINCTIVE CHARACTERS :

Body long, slender and laterally compressed. Upper side of head flattened, with a low, V-shaped ridge; mouth large, the maxilla extending to below vertical line from centre of eye; lower jaw slightly projecting beyond upper; teeth in jaws large and hinged; no barbel on chin; total number of gillrakers on first arch 8 to 11. Two separate dorsal fins, the first short, higher and triangular, the second long and partially divided by a notch; anal fin similar to second dorsal; pectoral fins long and slender; pelvic fins placed in front of pectorals; caudal fin smaller than head and becoming progressively forked with growth. Lateral line more or less straight. Scales small, 127 to 156 along lateral line.

Colour: steel grey on back, lighter on sides and silvery white on belly.

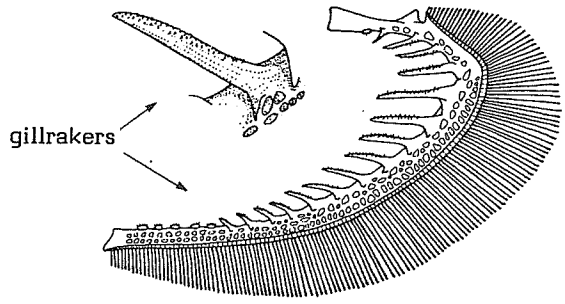
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Merluccius senegalensis and M. capensis (the latter confined to the extreme south of the area): more numerous (more than 13) gillrakers on first arch (8 to 11 in M. merluccius).

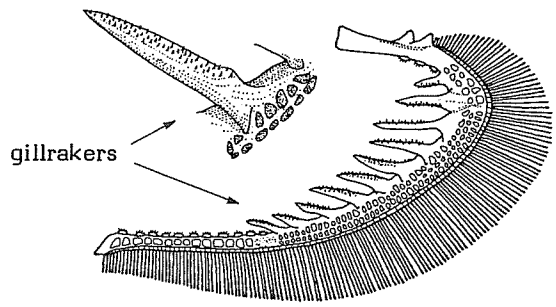
M. polli (confined to the central and southern parts of the area): colour of body blackish, and scales larger, 102 to 127 along lateral line (127 to 156 in M. merluccius).

Macruronus species: caudal fin tapering and continuous with dorsal and anal fins.

Other gadoid species: lack the low V-shaped ridge on upper side of head characteristic of the Merlucciidae.



M. senegalensis



M. merluccius

first gill arch

SIZE:

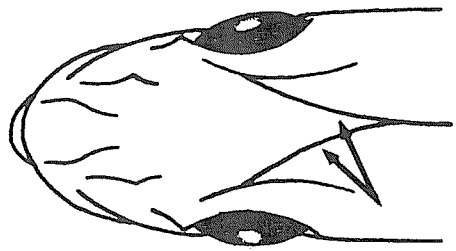
Maximum: 130 cm; common to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from Gibraltar southward to Mauritania; northward extending into the Mediterranean and along the Atlantic coast of Europe up to Norway and Iceland.

Usually found at depths between 70 and 370 m, but may occur within a wider depth range, from inshore waters (30 m) to 1 000 m; lives close to the bottom during day-time, but moves off-bottom at night.

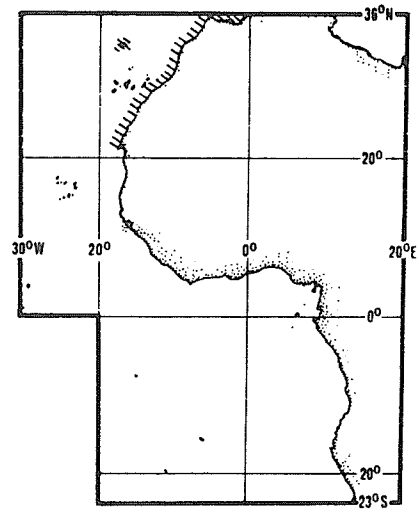
Adults feed mainly on fishes (young merlucciids, anchovies, sardines and gadoid species) and squids; the young feed on crustaceans (especially euphausiids and amphipods).



MERLUCCIIDAE

PRESENT FISHING GROUNDS:

In the area, only off Morocco and Mauritania. The main fishing grounds lie further north (Scotland, Ireland, Bay of Biscay).



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catch reported from the area in 1978 totalled about 3 200 t (in 1975: 12 000 t).

Caught with bottom trawls, longlines and bottom gillnets

Regularly marketed, mainly fresh; recently it is also frozen, especially on distant fishing grounds.

MERLU Merlu 3

1981

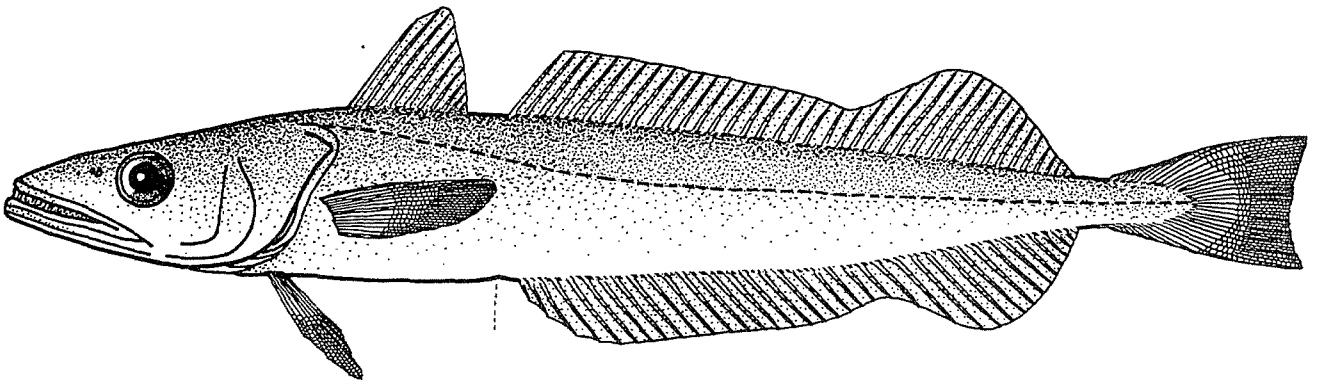
FAO SPECIES IDENTIFICATION SHEETS

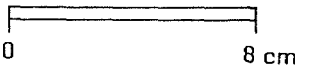
FAMILY : MERLUCCIIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Merluccius senegalensis Cadenat, 1950

OTHER SCIENTIFIC NAMES STILL IN USE : Merluccius merluccius senegalensis Franca, 1962





VERNACULAR NAMES:

FAO : En - Senegalese hake
Fr - Merlu du Sénégal
Sp - Merluza senegalesa

NATIONAL :

DISTINCTIVE CHARACTERS :

Body long, slender and laterally compressed. Head rather long (24.9 to 27.7% of standard length), its upper side flattened, with a low, V-shaped ridge; mouth large, the maxilla extending beyond vertical line from centre of eye; lower jaw slightly projecting beyond upper; teeth in jaws strong and pointed, larger anteriorly and set in 2 rows; no barbel on chin; total number of gillrakers on first arch 13 to 18. Two separate dorsal fins, the first short, higher and triangular, the second long and partially divided by a notch; anal fin similar to second dorsal; pectoral fins long and slender; pelvic fins placed in front of pectorals; caudal fin smaller than head and becoming progressively forked with growth. Scales small, covering head except for maxilla and anterior portion of snout. Total number of vertebrae 51 to 56.

Colour: steel grey to blackish on back, silvery white on sides and belly.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

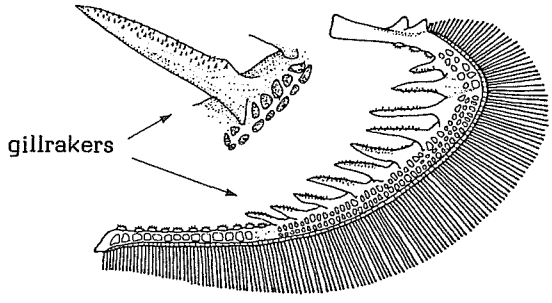
Merluccius merluccius (confined to the northern part of the area): fewer (8 to 11) gillrakers on first arch (13 to 18 in M. senegalensis).

M. polli (confined to the central and southern part of the area): fewer (8 to 12) gillrakers on first arch, body colour more blackish.

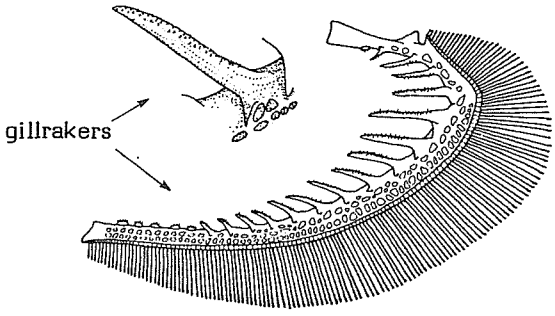
M. capensis (confined to extreme south of area): head shorter, 17.2 to 19.9% of standard length (24.9 to 27.7% in M. senegalensis); total number of vertebrae 49 to 53 (51 to 56 in M. senegalensis).

Macruronus species: caudal fin tapering and continuous with dorsal and anal fins.

Other gadoid species: lack the low V-shaped ridge on upper side of head characteristic of the Merlucciidae.



M. merluccius



M. senegalensis

first gill arch

SIZE:

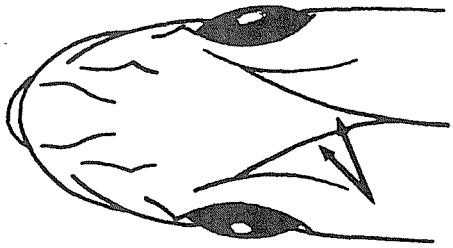
Maximum: 81 cm; common to 42 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Along the coast of western north Africa, from Cape Cantin (33°N) to Cape Roxo (10°N), mixing with M. merluccius in the northern part and with M. polli in the southern part of this area.

Lives close to the bottom in shallow waters from about 18 m depth to around 500 m.

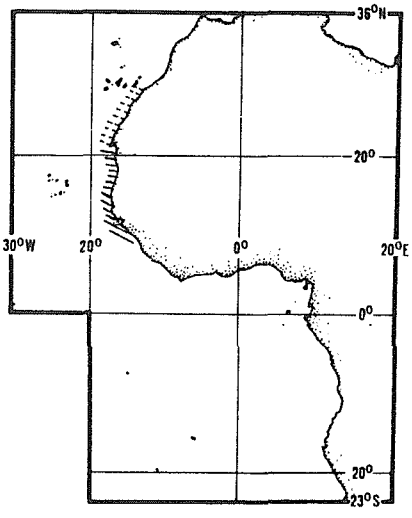
Feeds mainly on small fishes, partly crustaceans and cephalopods.



MERLUCCIIDAE

PRESENT FISHING GROUNDS:

Offshore grounds of Mauritania and Senegal; caught together with M. merluccius



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catch reported from the area in 1978 totalled about 36 000 t. However, this figure includes the catches of M. cadenati, a synonym of M. polli rather than of M. senegalensis.

Caught with bottom trawls.

Marketed fresh and frozen; also used for fishmeal and oil.

MERLU Merlu 4

1981

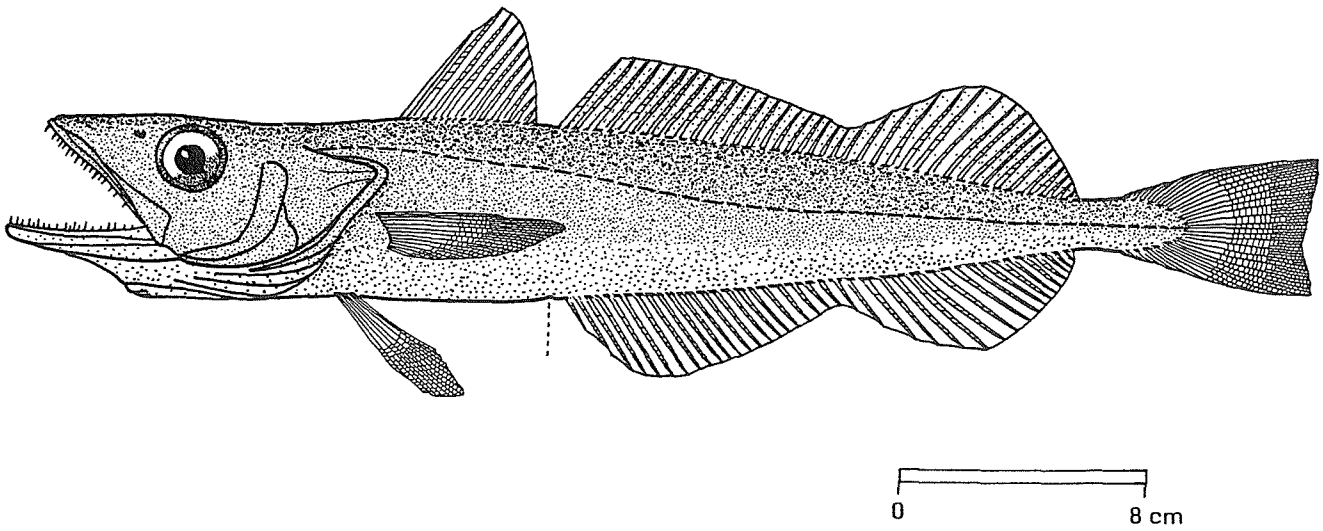
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MERLUCCIIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Merluccius polli Cadenat, 1950

OTHER SCIENTIFIC NAMES STILL IN USE : ? Merluccius cadenati Doutre, 1960



VERNACULAR NAMES:

FAO : En - Benguela hake
Fr - Merlu d'Afrique tropicale
Sp - *Merluza de Benguela*

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate and somewhat compressed laterally. Head large and little depressed, its upper side with a low, V-shaped ridge; lower jaw slightly projecting beyond the upper; strong, pointed teeth in jaws and set in 2 rows; no barbel on chin; total number of gillrakers on first arch 8 to 12. Two dorsal and one anal fins; first dorsal roughly triangular in shape, second dorsal and anal much longer, with a deep notch in rear part; pectoral fins rather long and high in position; pelvic fins placed in front of pectorals; caudal fin short, its posterior margin slightly emarginate. Scales easily shed, 102 to 127 along lateral line.

Colour: usually blackish on back, steel grey to blackish on belly; caudal fin white-edged.

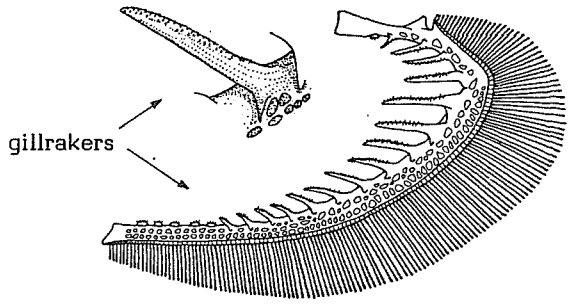
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Merluccius merluccius (confined to the northern part of the area): colour silvery white; scales smaller, 127 to 156 along lateral line (102 to 127 in M. polli).

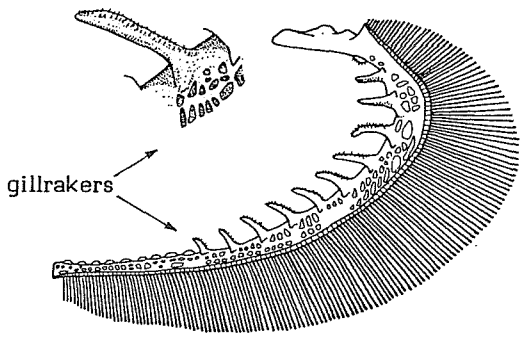
M. senegalensis and M. capensis: more numerous (more than 13) gillrakers on first arch, (8 to 12 in M. polli); lower sides and belly silvery white.

Macruronus species: caudal fin tapering and continuous with dorsal and anal fins.

Other gadoid species: lack the low, V-shaped ridge on upper side of head characteristic of the Merlucciidae.



M. senegalensis



M. polli

first gill arch

SIZE:

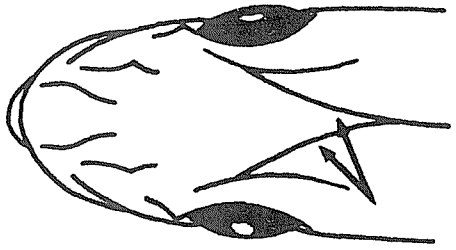
Maximum: 80 cm; common to 38 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Along the West African coast from Mauritania (20°N) to Angola (18.5°S), mixing with M. senegalensis in the northern part and with M. capensis in the southern part of the area.

Lives close to the bottom on the continental shelf from 50 m depth to the slope (550 m).

Feeds mainly on small fishes, partly squids and shrimps.



MERLUCCIIDAE

PRESENT FISHING GROUNDS:

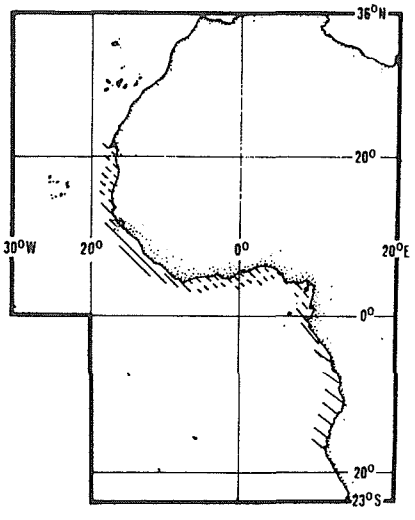
Offshore grounds on the deeper shelf and slope.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Catch statistics for this species are available only for the southern part of the area (about 60 000 t). Further north, the species is probably identified as M. cadenati and catch data combined with M. senegalensis (total catch in 1978: 36 000 t).

Caught mainly with bottom trawls (otter trawls).

Marketed mostly fresh and frozen; regularly found in local markets in Ghana; also used for fishmeal and oil.



MOLI

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

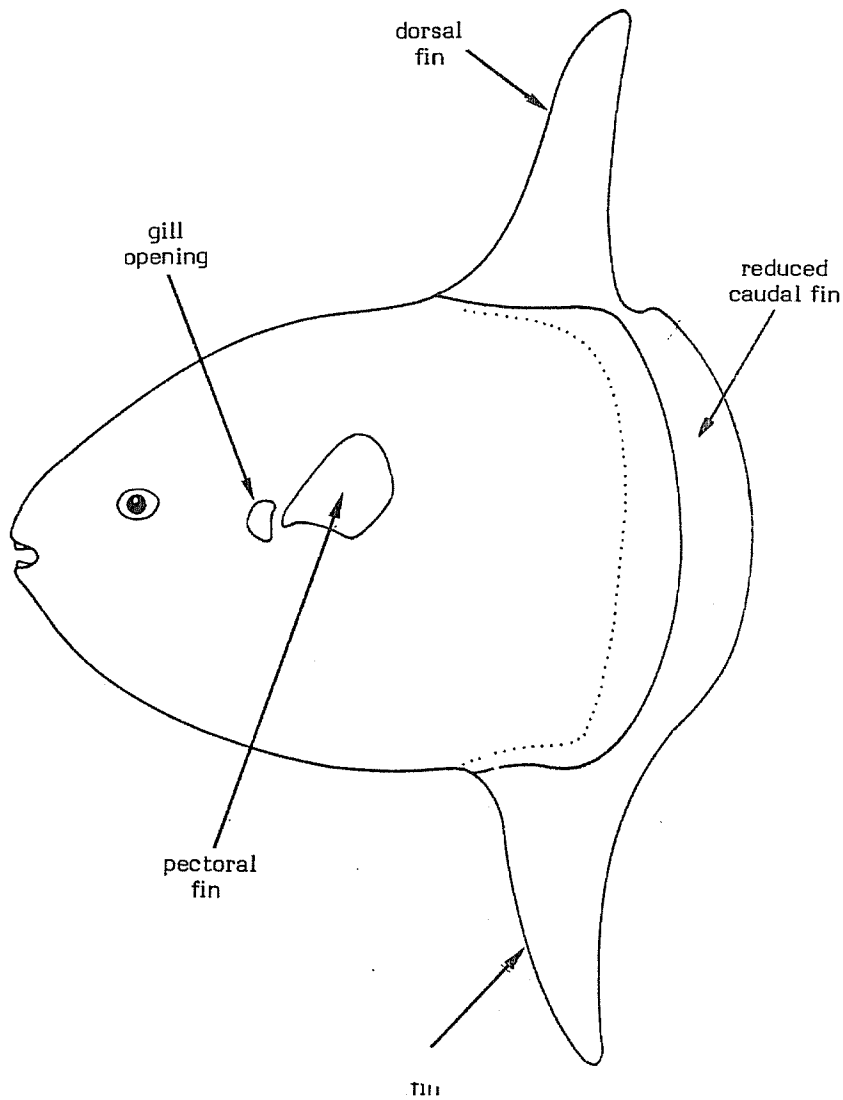
MOLIDAE

Molas, ocean sunfishes, headfishes

Body short and deep or oblong, markedly compressed, truncate and without caudal peduncle and normal caudal fin. Eyes small; mouth terminal, small; teeth united and beak-like in each jaw, no palatine teeth; gill openings small, pore-like, located in front of pectoral fin bases. Dorsal and anal fins of similar shape, generally triangular, dorsal located above anal, the posterior portions of each more or less continuous with the greatly abbreviated caudal fin; both fins without spines and of 15 to 19 rays; pectoral fins small, located mid-side, with or without a shallow concavity behind, into which the fin may fit; pelvic fins absent; caudal fin reduced to a leathery fold with a scalloped trailing margin, immediately posterior to the bases of dorsal and anal fins. Skin of body leathery and thick, scales small, but basal plates in contact, and close-fitting, sometimes hexagonal in shape.

Colour: grey to dark grey on back, grey brown on sides with silvery reflections and dusky below, sides sometimes with small light spots.

Large fishes; some species reaching 3 m or more in length and up to 1 300 kg in weight; one species only to 75 cm. Molas are pelagic fishes of warm and temperate seas. Sometimes seen swimming lazily, or idling at the surface, often partially on their side (large ones occasionally struck by vessels). Food consists of jelly fishes, and medusae, algae, brittle stars, larval eels and at times larger fishes. Usually heavily parasitized. Not generally used as food since flesh usually considered tough and unpalatable but sometimes treated as a delicacy. Only three species known throughout the world.



Tiii

SIMILAR FAMILIES OCCURRING IN THE AREA:

The peculiar truncated shape, absence of a caudal peduncle and a normal caudal fin, together with the high dorsal and anal fins located far posteriorly on body readily distinguish the molas from all other fish families.

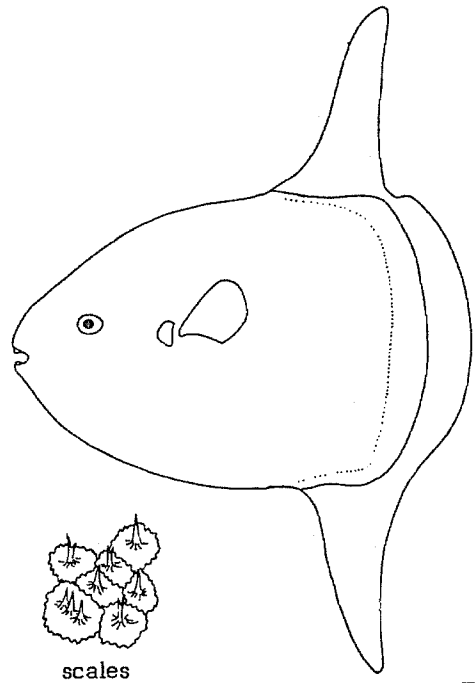
KEY TO GENERA AND SPECIES OCCURRING IN THE AREA:

1 a. Body depth into body length 1 to 1½ times; lips normal; body with small, round scales; pectoral fins small, rounded, not fitting into shallow grooves; large fishes, 1 m or more in length (Figs. 1, 2)

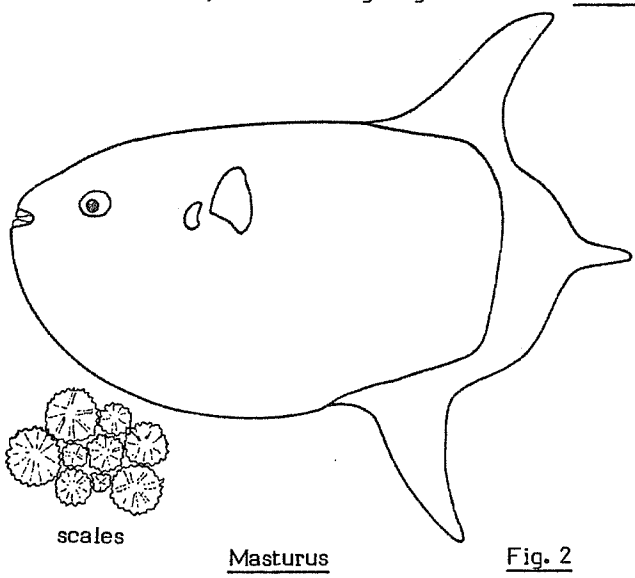
2 a. Body depth usually equal to body length; caudal fin without posterior extention or tip (Fig. 1) ..... Mola mola

2 b. Body depth usually into body length 1½ times; caudal fin with central projection; i.e. posterior margin of body with pronounced point (Fig. 2) ..... Masturus lanceolatus

1 b. Body depth into body length 2 times or nearly so; lips funnel-like forming a vertical slit when closed; body with adjoining scales often hexagonal in shape; pectoral fin elongate, fitting into shallow concavity; smaller fishes, to 75 cm long (Fig. 3) ..... Ranzania laevis



Mola mola Fig. 1



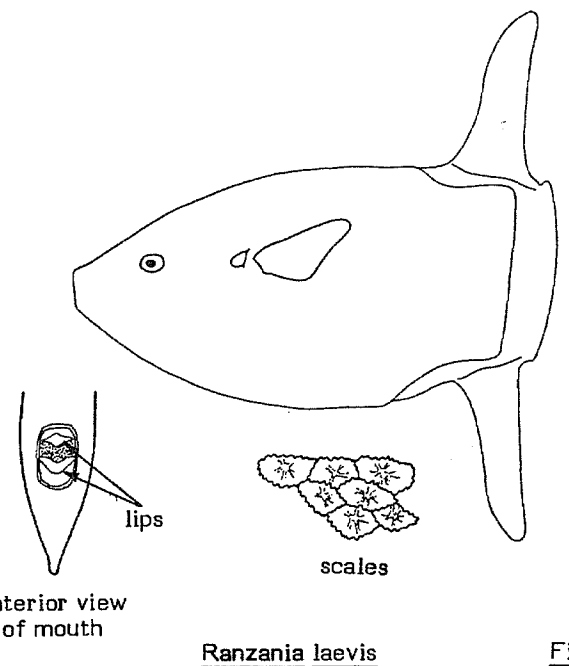
Masturus Fig. 2

LIST OF SPECIES OCCURRING IN THE AREA:

Masturus lanceolatus (Liénard, 1841)

Mola mola (Linnaeus, 1758)

Ranzania laevis (Pennant, 1776)



Ranzania laevis Fig. 3

Prepared by W.B. Scott, Huntsman Marine Laboratory, Brandy Cove Road, St. Andrews, N.B., EOG 2X0, Canada

Illustrations from Tyler, 1980 (Osteology, Phylogeny and Higher Classification of the fishes of the Order Plectognathi; NOAA, NMFS)

MONOD

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

MONODACTYLIDAE

Moonies and fingerfishes

A single species in the area; see species sheet for:

Psettias sebae Cuvier, 1831 MONOD Pset 1

Prepared by G.R. Allen, Western Australian Museum, Perth, Australia

MONOD Pset 1

1981

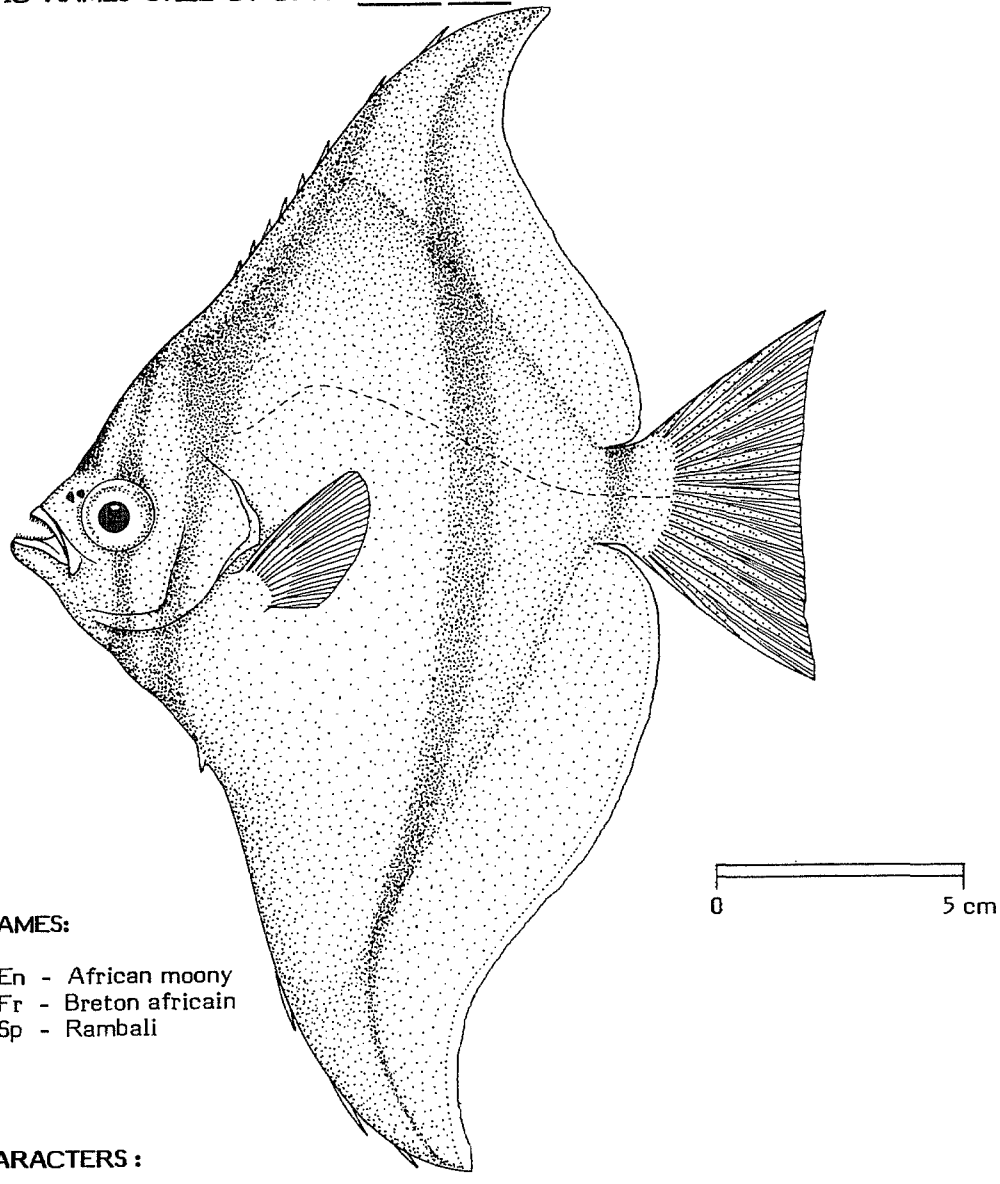
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MONODACTYLIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Psettias sebae (Cuvier, 1831)

OTHER SCIENTIFIC NAMES STILL IN USE : Psettus sebae (Cuvier, 1831)



VERNACULAR NAMES:

FAO : En - African moony
Fr - Breton africain
Sp - Rambali

NATIONAL :

DISTINCTIVE CHARACTERS :

Body very deep, depth about equal to length without tail, strongly compressed laterally. Forehead profile very steep; snout obtuse; eye large; mouth oblique, lower jaw protruding, maxilla reaching level of front edge of pupil; bands of villiform teeth in jaws, and on vomer and palatines (roof of mouth); preopercle edge mostly smooth. Dorsal and anal fins triangular, greatly elevated; a single dorsal fin with a long base consisting of 8 graduated spines and 32 to 38 soft rays; anal fin with 3 spines and 36 to 38 soft rays; pectoral rays 16 to 18; pelvic fins very small and rudimentary. *Scales moderate to small in size, about 50 tubular scales in lateral line;* scales covering bases of dorsal and anal fins.

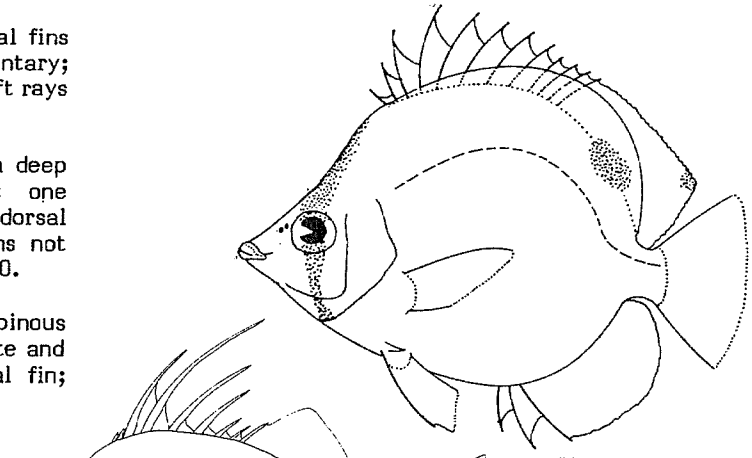
Colour: silvery grey with 4 dark brown to blackish vertical bands, one through eye, one from anterior edge of dorsal fin to anterior edge of anal fin, another from tip of elevated dorsal fin to tip of anal fin, and one across caudal peduncle; fins translucent to dusky black.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

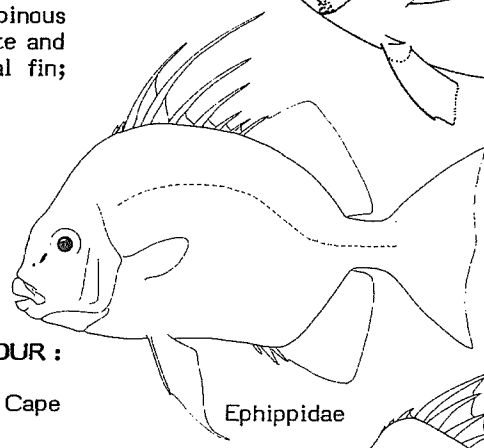
Species of Chaetodontidae: dorsal and anal fins not greatly elevated; pelvic fins not rudimentary; dorsal fin with 11 to 13 spines and less than 25 soft rays (8 spines and 32 to 38 soft rays in P. sebae).

Species of Ephippidae (Chaetodipterus): a deep notch between spinous and soft parts of dorsal fin; one or more dorsal spines prolonged into filaments; dorsal and anal fins not greatly elevated; pelvic fins not rudimentary; soft dorsal and anal fin rays 15 to 20.

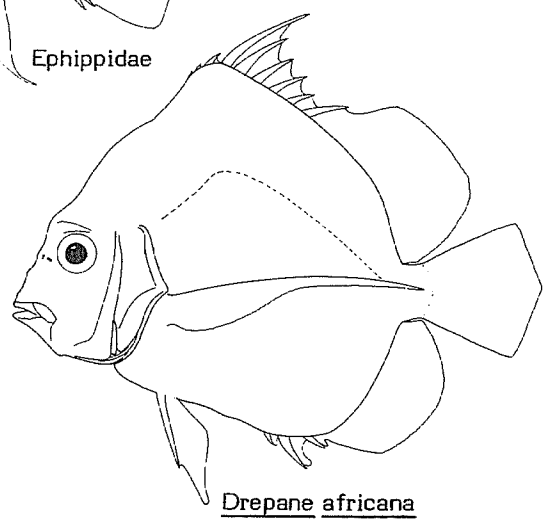
Drepane africana: a deep notch between spinous and soft parts of dorsal fin; pectoral fins falcate and very elongate, reaching nearly to base of caudal fin; pelvic fins not rudimentary.



Chaetodontidae



Ephippidae



Drepane africana

SIZE:

Maximum: 20 cm; common to 15 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

West African coast from the vicinity of Cape Verde to about Angola.

A common inhabitant of mangrove estuaries and the lower reaches of freshwater streams. Also occurs in the sea, particularly in shallow embayments and in harbours in the vicinity of wreckage, wharf pilings, and stone jettys.

Feeds on a variety of small invertebrates. Sometimes found in schools composed of several hundred individuals.

PRESENT FISHING GROUNDS:

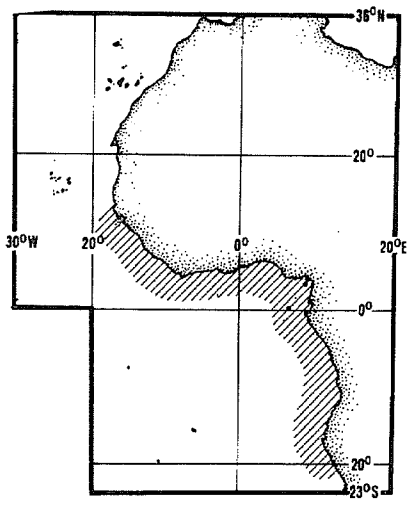
Shallow inshore waters.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species which is not considered to be commercially important.

Caught mainly with cast and seine nets next to shore.

Marketed fresh, but not often seen in markets.



MOR

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

MORIDAE

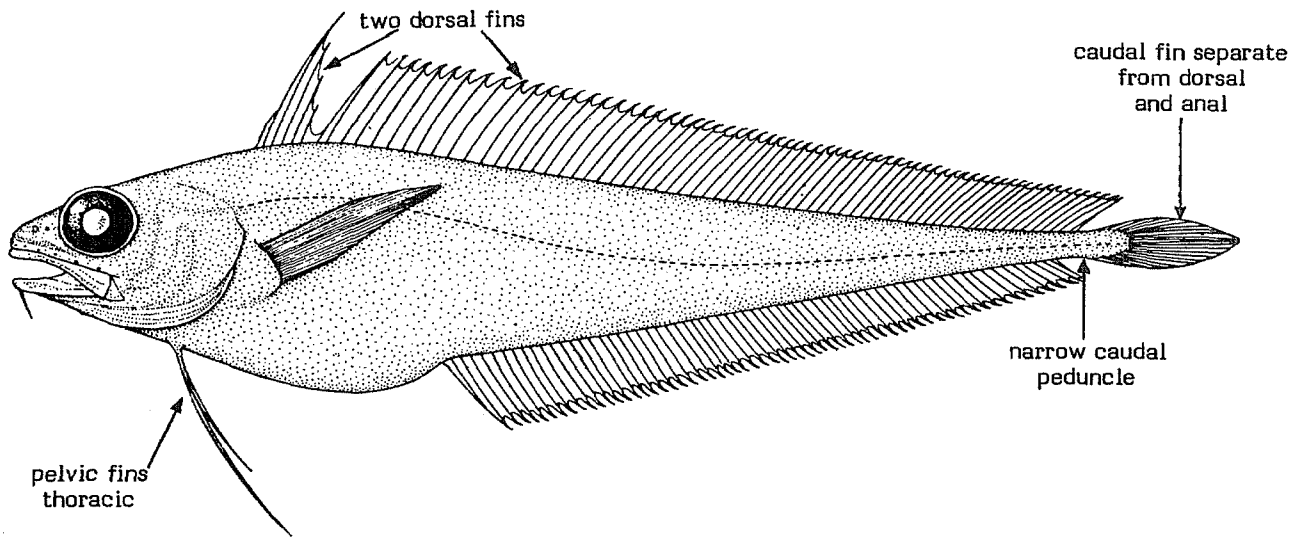
(Eretmophoridae has been used recently but is incorrect)

Moras

Body relatively elongate, tapering to a very narrow caudal peduncle. Gill openings wide; mouth terminal or inferior; teeth few or lacking on head of vomer (roof of mouth). Fins lacking spines; two or three dorsal fins and one or two anal fins; pelvic fins thoracic, never very close together; caudal fin always separated from dorsal and anal fins. Small cycloid (smooth) scales cover the body and head. Anterior paired projections of swimbladder attached to a membranous area at the rear of the cranium.

Colour: brown to black; some species with silvery areas.

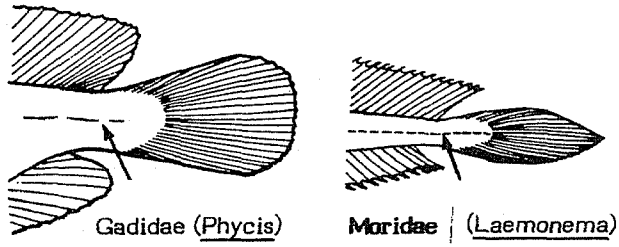
Small to medium-sized fishes (up to slightly over 50 cm) of the continental slope and abyssal depths. Locally abundant in some habitats, but apparently only one species, Mora moro, is of some commercial interest at present.

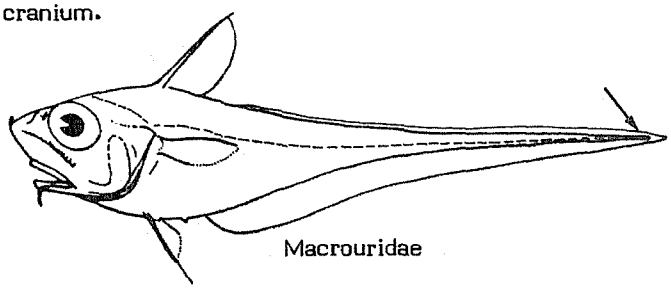


SIMILAR FAMILIES OCCURRING IN THE AREA:

Gadidae: caudal peduncle relatively broad; head of vomer with large tooth patch; anterior end of swimbladder not attached to membranous area at rear of cranium.

Macrouridae: no caudal fin.

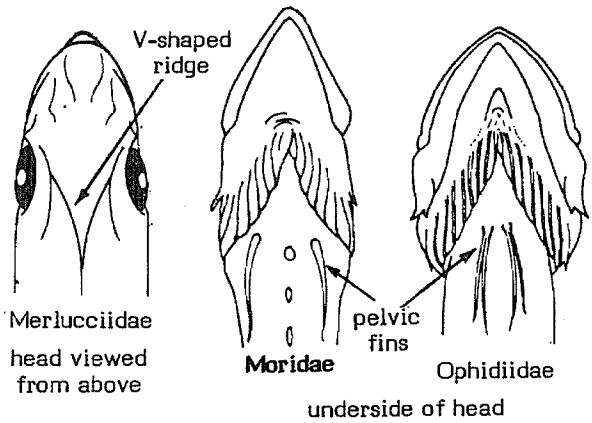


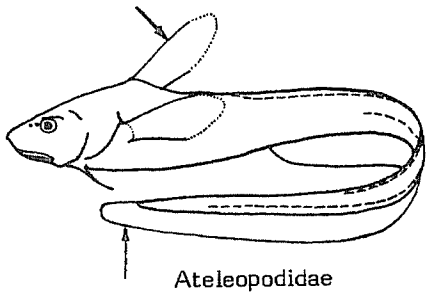


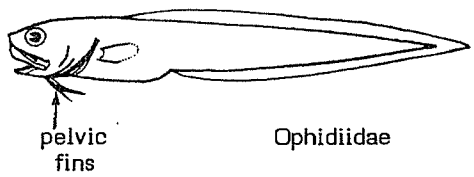
Merlucciidae: a V-shaped ridge on top of the skull, its apex at the nape.

Ophidiidae: pelvic fins close together; placed far forward under the eye in some species; dorsal and anal fins united with caudal fin.

Ateleopodidae: no scales; no free caudal fin; a single dorsal fin far forward on body.




Ateleopodidae



KEY TO GENERA OCCURRING IN THE AREA:

1 a. Mouth inferior, beneath a prominent, pointed, bony snout (Fig. 1) ..... Antimora

1 b. Mouth terminal to slightly inferior (Fig. 2)

2 a. A small, dark, scale-less patch (covering a light organ) on the ventral surface of the body (Fig. 3)

3 a. A chin barbel present ..... Physiculus

3 b. No chin barbel

4 a. Inside of mouth pale ..... Gadella

4 b. Inside of mouth with dark pigment patterns ..... Brosmiculus

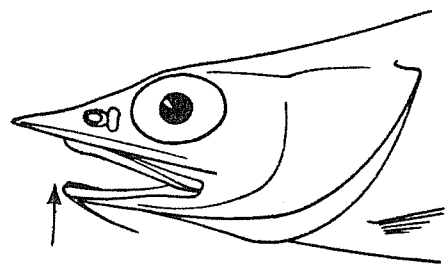
2 b. No dark, scale-less patch on the ventral surface of body

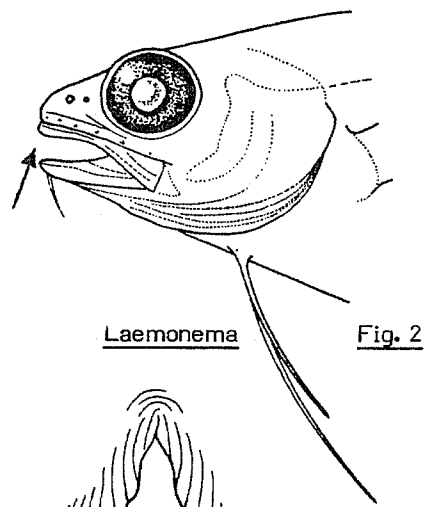
5 a. No teeth on vomer (roof of mouth) ..... Halargyreus

5 b. Tooth patch (sometimes rather small) present on head of vomer

6 a. Pelvic fins with two rays in each ..... Laemonema

6 b. Pelvic fins with more than two rays in each


Antimora Fig. 1


Laemonema Fig. 2

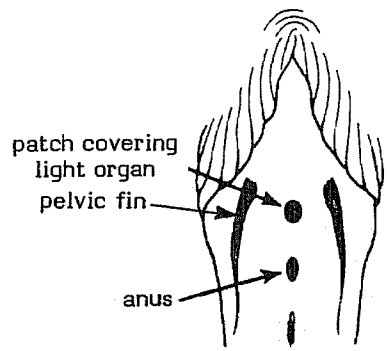
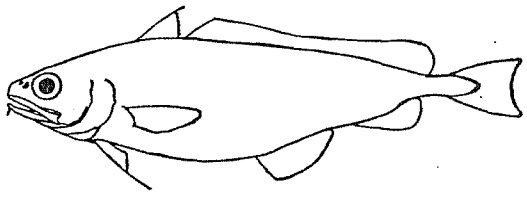


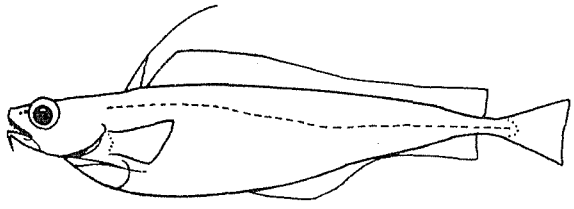
Fig. 3

7 a. Anal fin in two, short-based sections (Fig. 4) ..... Mora

7 b. *Anal fin indented at mid-length but in a* single, long-based section (Fig. 5) ..... Lepidion



Mora Fig. 4



Lepidion sp. Fig. 5

LIST OF SPECIES OCCURRING IN THE AREA :

Code numbers are given for those species for which Identification Sheets are included

Antimora rostrata (Günther, 1878)

Brosmiculus imberbis Vaillant, 1888

Gadella maraldi (Risso, 1810)

Halargyreus johnsonii Günther, 1862

Laemonema laureysi Poll, 1953
Laemonema robustum Johnson, 1862
Laemonema yarrellii (Lowe, 1841)

Lepidion guentheri (Giglioli, 1880)

Mora moro (Risso, 1810) MOR Mor 1

Physiculus dalwigkii Kaup, 1858
Physiculus huloti Poll, 1953

Prepared by D.M. Cohen, NMFS Systematics Laboratory, NOAA, National Museum of Natural History, Washington, D.C., U.S.A.

Part of original illustrations provided by author

MOR Mor 1

1981

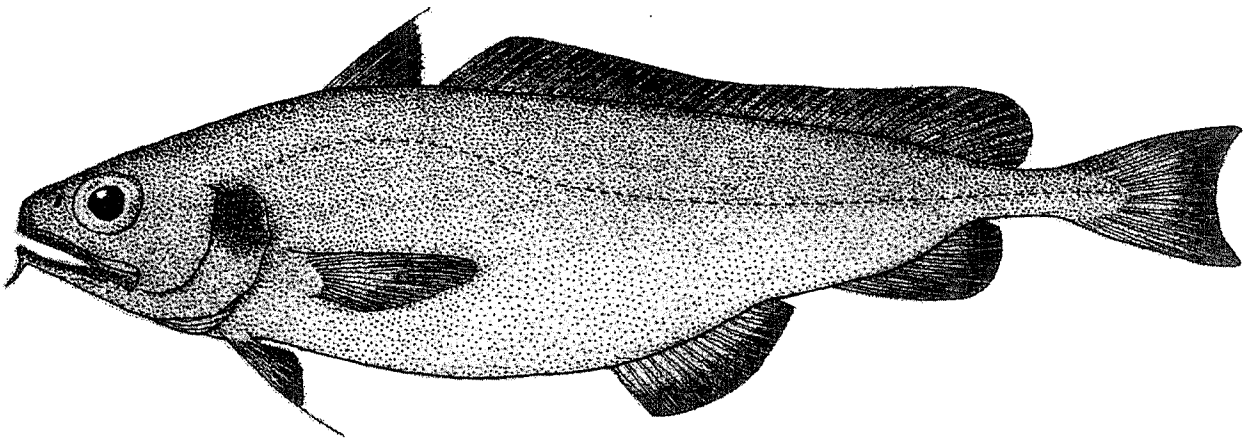
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MORIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Mora moro (Risso, 1810)

OTHER SCIENTIFIC NAMES STILL IN USE : Mora mediterranea Lowe, 1843



0 10 cm

VERNACULAR NAMES:

FAO : En - Common mora
Fr - Moro commun
Sp - Mollera moranella

NATIONAL :

DISTINCTIVE CHARACTERS :

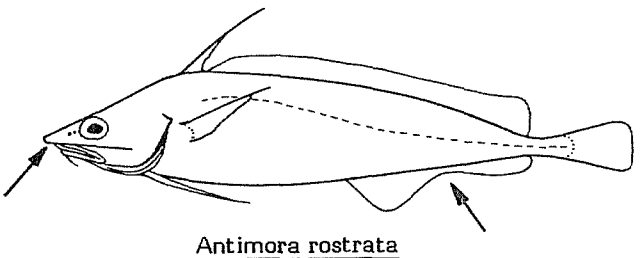
Body fusiform, tapering to a narrow caudal peduncle. Eye large, 2.5 to 3.25 times in head length; mouth terminal; a barbel present at tip of lower jaw. Two dorsal fins, the first short-based, with a slightly elongated filament, the second long-based; two anal fins, both short-based; pelvic fins with 6 rays, one or two somewhat prolonged; rear margin of caudal fin concave. Scale rows along sides of body 75 to 95.

Colour: dark grey-brown, belly paler.

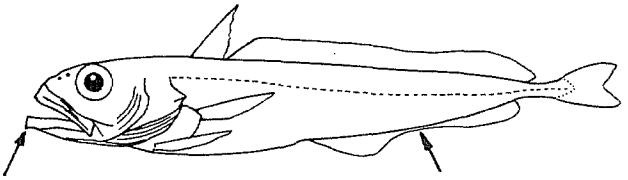
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Antimora rostrata: a projecting shovel-snout; a single, indented anal fin.

Halargyreus johnsonii: body more elongate; no chin barbel, but lower jaw with a slight bony projection; vomer lacking teeth; anal fins joined at base.



Antimora rostrata



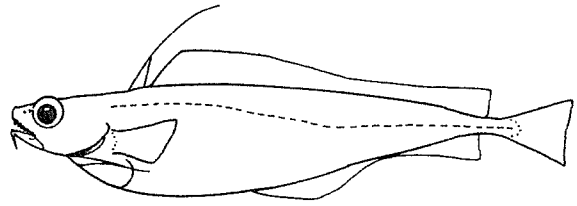
Halargyreus johnsonii

Lepidion guentheri: a single anal fin; about 200 scale rows along sides of body.

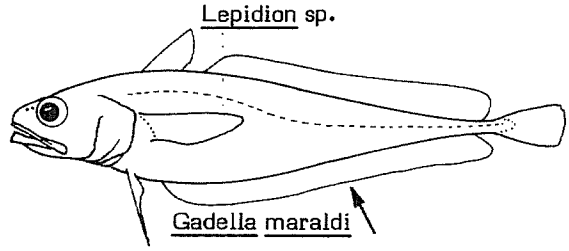
Brosmiculus imberbis and Gadella maraldi: no chin barbel; a single, long, anal fin.

Laemonema species and Phycis species (Family Gadidae): pelvic fins with two rays in each. Also, caudal peduncle broad in Phycis.

Trisopterus and Micromesistius (both in Family Gadidae): 3 dorsal fins; caudal peduncle broad.



Lepidion sp.



Gadella maraldi

SIZE :

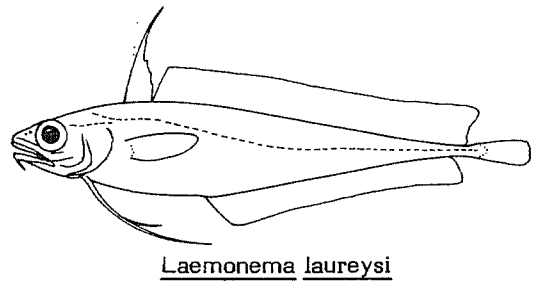
Maximum: over 50 cm total length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

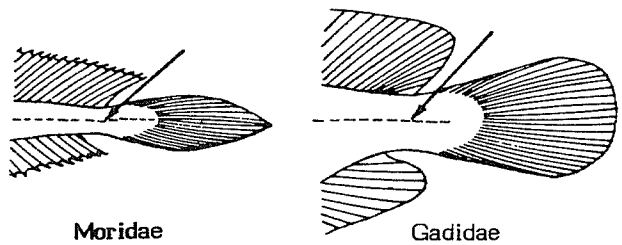
Along the African coast from Gibraltar to Bojador (about 26°N), including Madeira and the Canary Islands. Northward extending into the Western Mediterranean, to the Azores and along the Atlantic coast of Europe up to Iceland.

A benthopelagic fish inhabiting the continental slope to depths of at least 1 500 m, but most commonly fished at 500 to 800 m; reported to occur occasionally in shallow inshore waters (Canary Islands).

Carnivorous, feeding mostly on fishes but also crustaceans, molluscs, and other invertebrates.



Laemonema laureysi

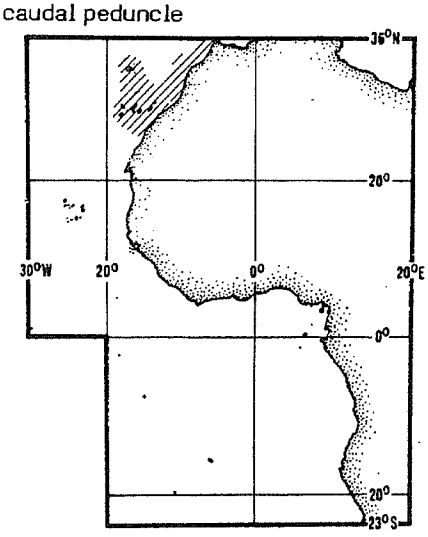


Moridae Gadidae

caudal peduncle

PRESENT FISHING GROUNDS :

Madeira, Canary Islands, deep waters off Northwest Africa.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with longlines and bottom trawls.

Marketed mostly fresh.

MORON

1981

(= PERCI,
Fishing Area 31)

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

MORONIDAE

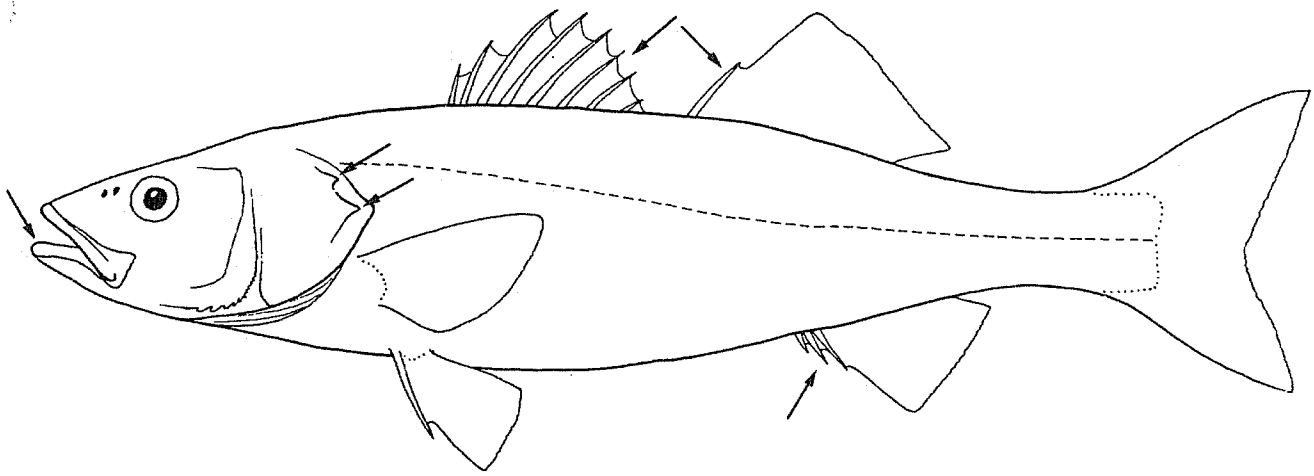
(included in the Serranidae by earlier authors and included as Percichthyidae in the set of identification sheets for the Western Central Atlantic (Fishing Area 31)

Temperate basses

Rather elongate, silvery perch-like fishes. Opercle with 2 flat spines, preopercle without a lateral ridge; mouth terminal, moderately protractile; posterior end of maxilla exposed, not slipping under the suborbital bone; jaw teeth small, no canines; teeth also present on vomer, with or without a backward extension in the midline of roof of mouth. Two separate dorsal fins, the first with 8 to 10 spines, the second with 1 spine and 11 to 14 soft rays; anal fin with 3 spines and 10 to 12 soft rays; bases of pelvic fins without a scaly process; caudal fin moderately forked. Caudal peduncle rather deep. Lateral line complete, not extending onto caudal fin. Scales fairly small, about 55 to 80 in lateral line in Eastern Atlantic species.

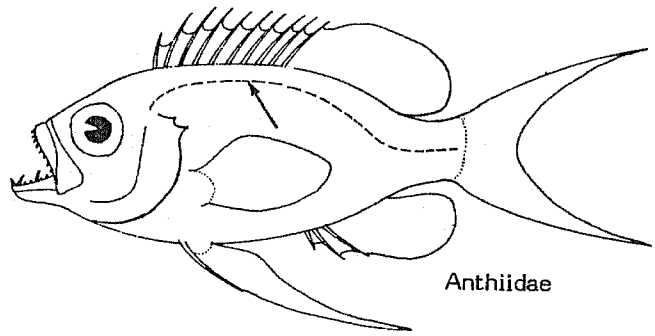
Colour: generally silvery; one species with small black spots; lower fins sometimes yellowish in life.

Moderate-sized to large fishes (up to 1 m in total length) possibly restricted to temperate and cold regions. Both species occurring in our area are found primarily in coastal and brackish waters, and are sometimes used in pond culture. They are excellent foodfishes.



SIMILAR FAMILIES OCCURRING IN THE AREA:

Anthiidae: a single dorsal fin; lateral line running close to base of dorsal fin, with 37 to 40 lateral line scales; anal soft rays 7 (10 to 12 in Moronidae).



Anthiidae

Pomatomidae: soft dorsal and anal fin rays 23 to 28; anal fin spines 2 (3 in Moronidae).

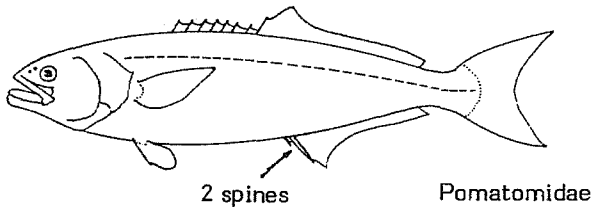
Grammistidae: only 2 or 3 dorsal fin spines; skin thick with special mucous glands; no anal fin spines.

Serranidae: a single dorsal fin; 3 spines on gill cover (2 in Moronidae); eastern Atlantic species not silvery.

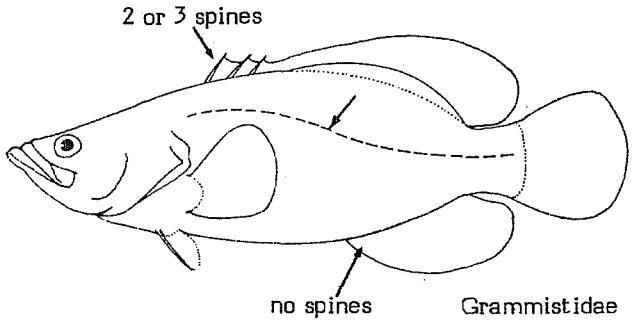
Sciaenidae: lateral line extending onto tail fin; only 2 spines in anal fin (3 in Moronidae).

Pomadasyidae: end of maxilla slipping under suborbital bone; a single dorsal fin.

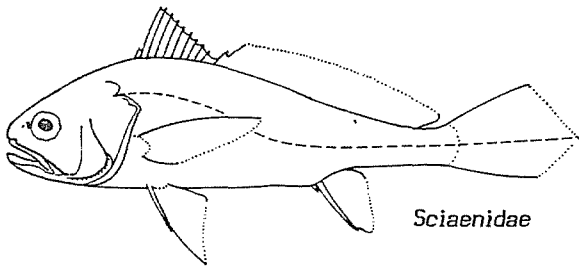
Lutjanidae: end of maxilla bone slipping under *suborbital bone; a single dorsal fin.*



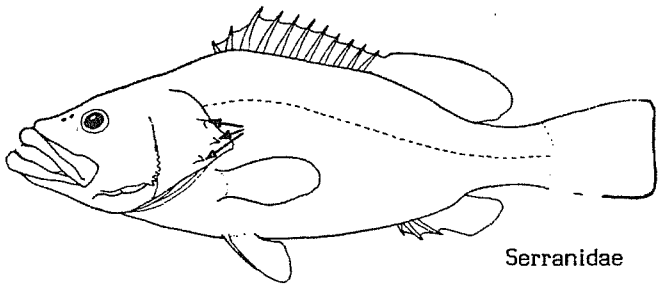
Pomatomidae



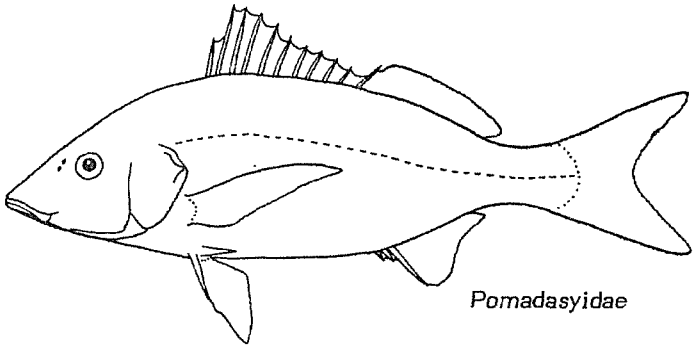
Grammistidae



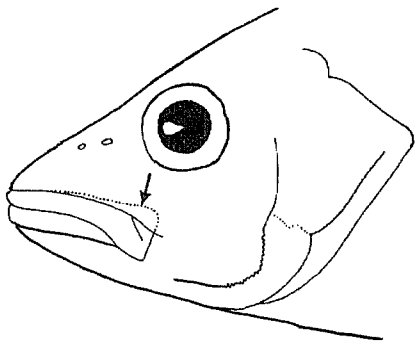
Sciaenidae



Serranidae



Pomadasyidae



Lutjanidae

GENERA OCCURRING IN THE AREA:

Dicentrarchus only.

LIST OF SPECIES OCCURRING IN THE AREA:

Code numbers are given for those species for which Identification Sheets are included

Dicentrarchus labrax (Linnaeus, 1758)	MORON Dicen 1 (= SERRAN Dicent 1, Fishing Area 31)
Dicentrarchus punctatus (Bloch, 1792)	MORON Dicen 2

Prepared by C.L. Smith, Department of Ichthyology, The American Museum of Natural History, New York, U.S.A.

MORON Dicen 1

1981

(SERRAN Dicent 1)
(Fishing Area 31)

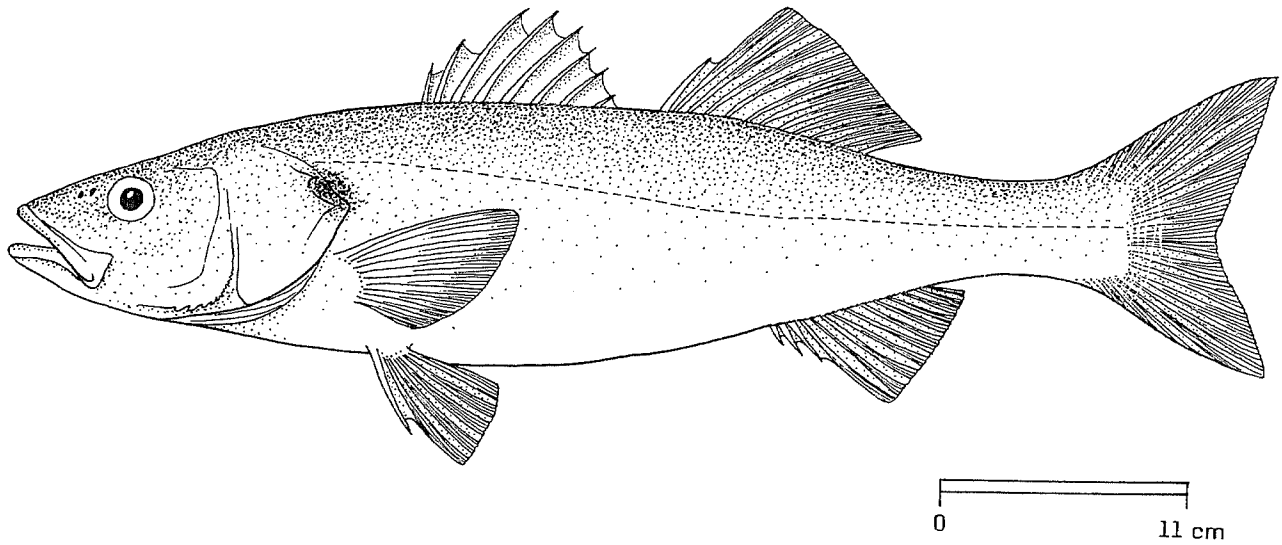
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MORONIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Dicentrarchus labrax (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Morone labrax (Linnaeus, 1758)



VERNACULAR NAMES:

FAO : En - European seabass
Fr - Bar européen
Sp - Lubina

NATIONAL :

DISTINCTIVE CHARACTERS :

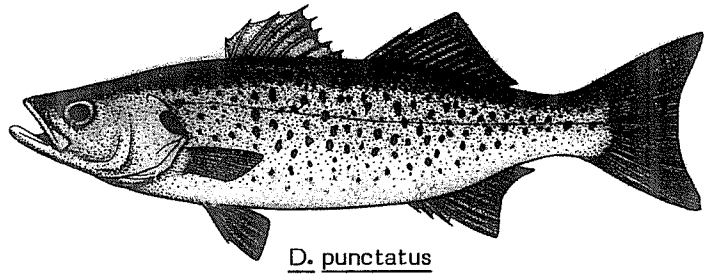
A rather elongate, silvery fish with 2 separate dorsal fins and a deep caudal peduncle. Opercle with 2 flat spines; preopercle with large, forward-directed spines on its lower margin; vomerine teeth in a crescentic band without a backward extension on midline of roof of mouth. First dorsal fin with 8 to 10 spines, second dorsal with 1 spine and 12 or 13 soft rays; anal fin with 3 spines and 11 or 12 soft rays; caudal fin moderately forked. Scales in lateral line 62 to 74 (mode 70).

Colour: silvery grey to bluish on the back, silvery on the sides, belly sometimes tinged with yellow. Young may have a few spots on upper part of body but adults are unspotted. There is a diffuse black spot on the edge of opercle.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Dicentrarchus punctatus: adults with small black spots on upper part of body; scales larger, 57 to 65 (mode 70) in lateral line; vomerine tooth patch anchor-shaped.

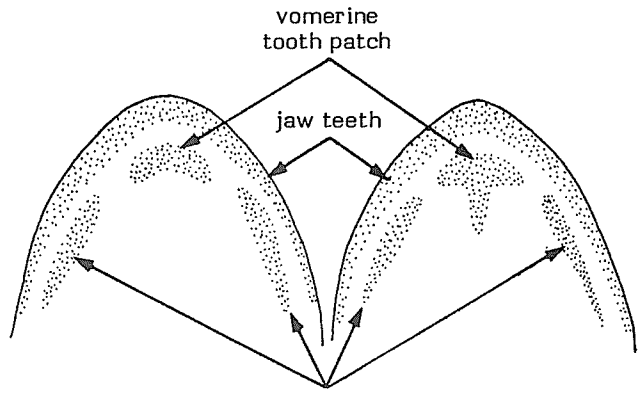
Species of Serranidae, Grammistidae, Anthiidae: dorsal fin continuous or at most, slightly notched.



D. punctatus

SIZE:

Maximum: 100 cm; common to 55 cm.



D. labrax D. punctatus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

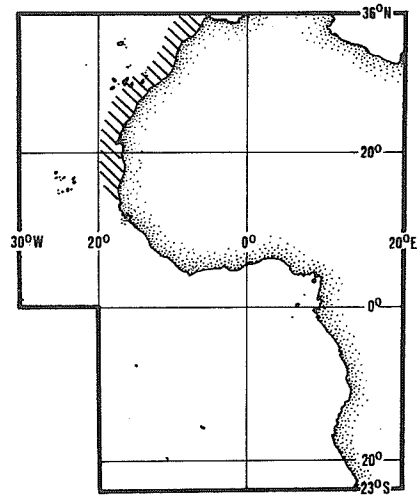
In the area, from the Straits of Gibraltar to Senegal. Northward extending into the Mediterranean and along the Atlantic coasts of Europe up to Norway.

Inhabits coastal waters down to about 200 m depth, but more common in shallow inshore areas; often entering estuaries and sometimes ascending rivers; often used in pond culture.

A voracious predator, feeding on small shoaling fish and a wide range of invertebrates including shrimps, prawns, crabs, squids, etc.

PRESENT FISHING GROUNDS:

Mainly shallow coastal waters.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species in Fishing Area 34.

Caught in bottom trawls, beach seines and on hook and line.

Marketed mostly fresh or frozen.

MORON Dicen 2

1981

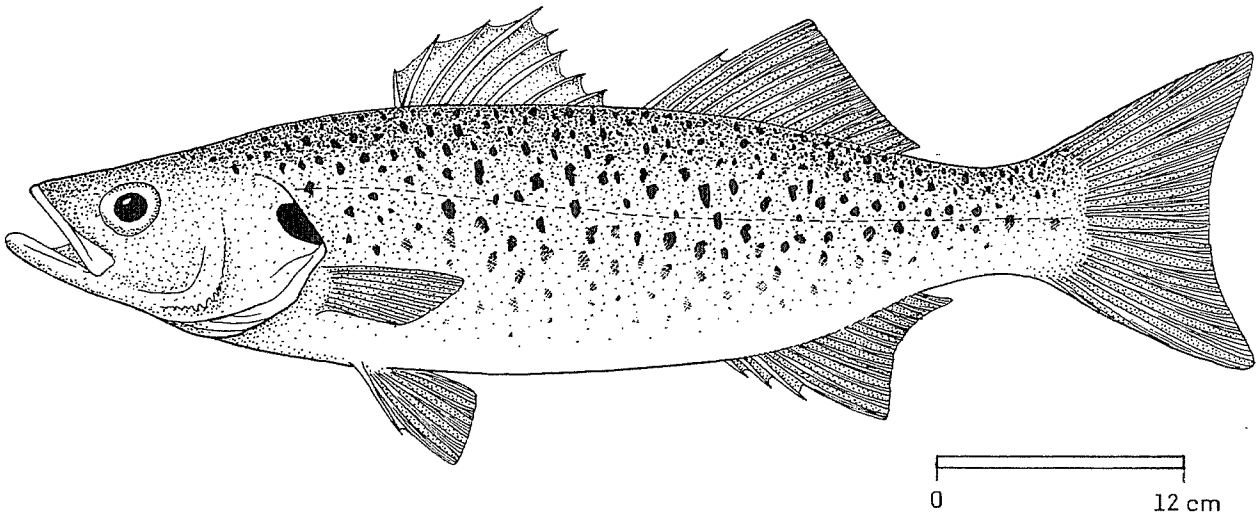
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MORONIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Dicentrarchus punctatus (Bloch, 1792)

OTHER SCIENTIFIC NAMES STILL IN USE : Morone punctatus (Bloch, 1792)



VERNACULAR NAMES:

FAO : En - Spotted seabass
Fr - Bar tacheté
Sp - Baila

NATIONAL :

DISTINCTIVE CHARACTERS :

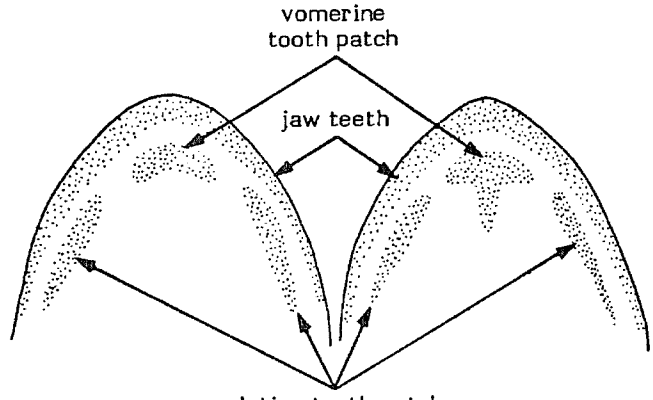
A rather elongate, silvery fish with 2 separate dorsal fins and a deep caudal peduncle. Opercle with 2 flat spines; preopercle with large, forward-directed spines on its lower margin; vomerine tooth patch anchor-shaped with a row of teeth extending backward on midline of roof of mouth. First dorsal fin with 8 or 9 spines, second dorsal with 1 spine and 12 to 14 soft rays; anal fin with 3 spines and 10 to 12 soft rays; caudal fin moderately forked. Scales in lateral line 57 to 65 (mode 60).

Colour: silvery grey; back bluish in life, adults with small black spots scattered over back and sides. A conspicuous black spot on gill cover.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Dicentrarchus labrax: adults without dark spots; scales smaller, 62 to 74 (mode 70) in lateral line; vomerine teeth without backward projecting band.

Species of Serranidae, Grammistidae, Anthiidae: dorsal fin continuous or at most, slightly notched.



SIZE :

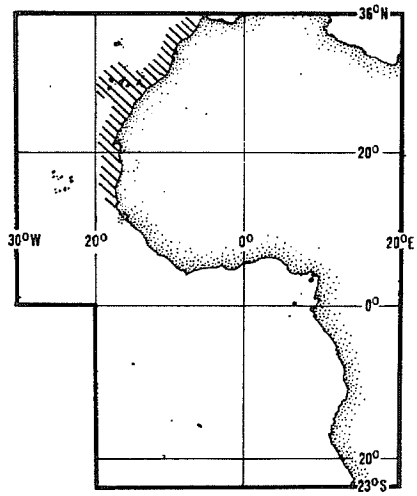
Maximum: at least 60 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the area, from the Straits of Gibraltar to Senegal, including the Canary Islands. Northward extending into the Mediterranean and along the Atlantic coasts of Europe to the Bay of Biscay.

Inhabits inshore and brackish waters over sand and mud with sand and rocks; often used in pond culture.

A voracious predator, feeding on fishes, molluscs and crustaceans.



PRESENT FISHING GROUNDS :

Primarily brackish and marine inshore waters.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught in bottom trawls, beach seines, trammel nets and on hook and line.

MUGIL

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

MUGILIDAE

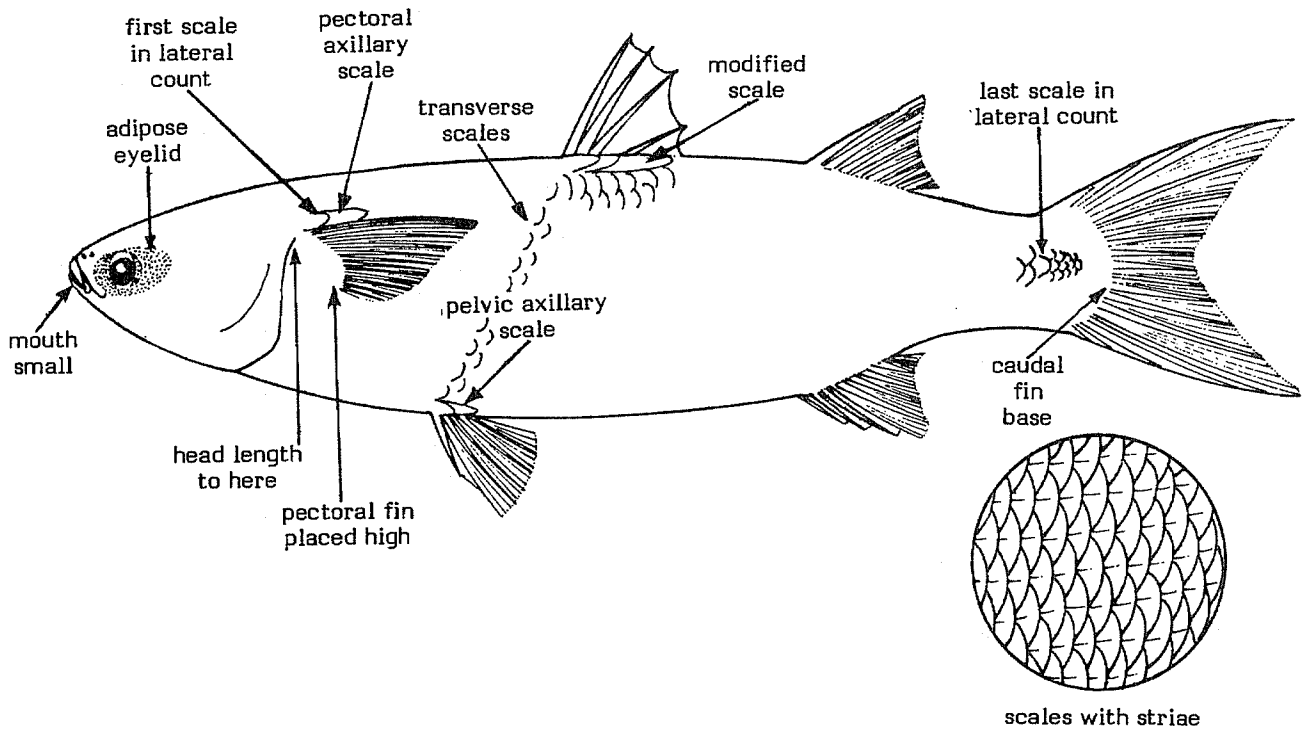
Mullets

Elongate fishes, usually with a broad, flattened head (but head rounded in Agonostomus and Joturus) blunt snout and cylindrical body. Mouth rather small, terminal or inferior; premaxillae protractile; teeth small, feeble, hidden or absent. Eyes often partly covered by fatty tissue (adipose eyelid). No lateral line. Two short dorsal fins, the first with 4 slender spines; pectoral fins set rather high on body; pelvic fin base about equidistant between pectoral fin base and origin of first dorsal fin; 2 or 3 spines in anal fin; caudal fin moderately forked, emarginate or truncate; scales large or moderate-sized, usually with 1 or more rows of striae (mucous grooves); modified scales may be present below first dorsal fin and above pectoral and pelvic fins (axillary scales).

Colour: in life, blue/green or olive on back, silvery on sides and belly, often with 3 to 9 longitudinal streaks on back, sides and belly; fins hyaline and dusky.

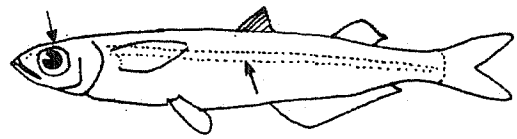
Medium-sized to large fishes inhabiting coastal marine waters, estuaries and freshwaters. Most species are typically coastal-estuarine and adaptable to great changes in salinity. Most species spawn at sea. A few have evolved into freshwater fishes. Mullets are usually found schooling in shallow water; they feed largely on plant material obtained by grubbing through bottom detritus.

They have been important food fishes since ancient times and fished commercially wherever they occur abundantly, mostly with castnets and beach seines. Owing to their rapid growth and hardiness, they are often used in fish pond cultures. The total catch of mullets reported from the present fishing area in 1978 totalled about 26 000 t; but the catches are not broken down to species, probably due to difficulties in field identification.



SIMILAR FAMILIES OCCURRING IN THE AREA:

Atherinidae: a silvery stripe along sides, larger eyes and soft anal fin rays usually more than 10 (usually less than 10 in Mugilidae).

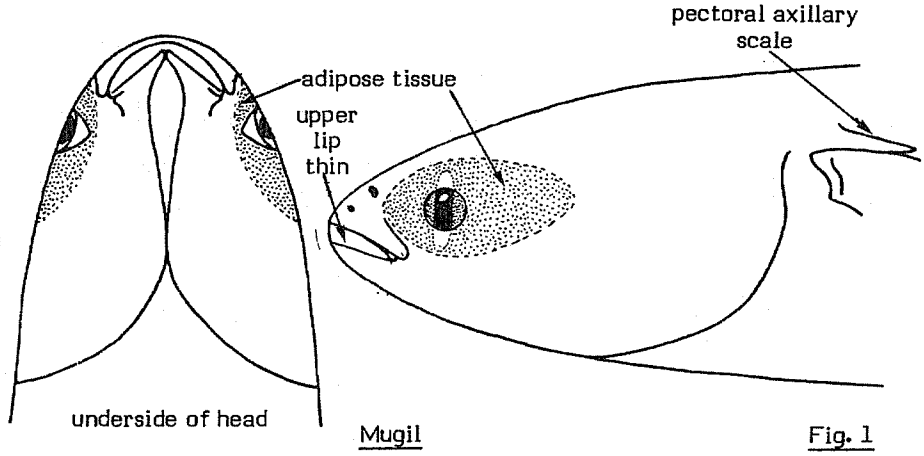


Atherinidae

KEY TO GENERA OCCURRING IN THE AREA:

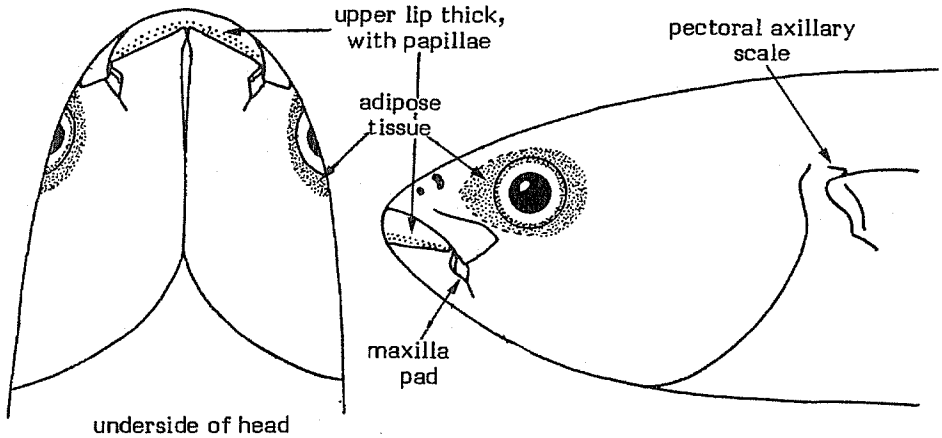
1 a. Maxilla pad not visible below mouth corner when mouth is closed; upper lip not particularly thick, low, without ornamentation of papillae; adipose tissue on head extending over most of pupil; pectoral axillary scale well developed, usually more than 30% of pectoral fin length (Fig. 1) ..... Mugil

1 b. Maxilla pad visible below mouth corner when mouth is closed; upper lip thick or thin, with or without papillae; adipose tissue on head either forming a rim around eye or extending over iris; pectoral axillary scale absent or rudimentary (Figs. 2,3)



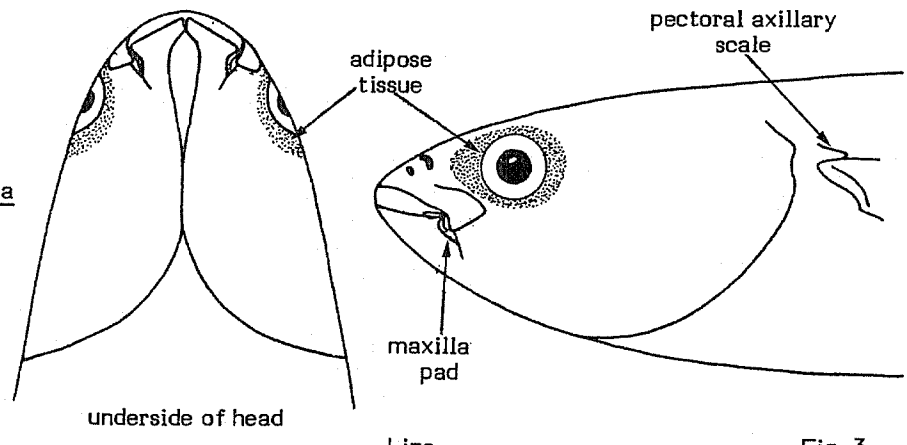
Mugil Fig. 1

2 a. Upper lip thick, high and ornamented (in fish larger than 10 cm) with papillae in several rows; adipose tissue on head extending over iris (Fig. 2) ..... Chelon



Chelon Fig. 2

2 b. Upper lip not thick or ornamented with papillae; adipose tissue on head forming only a rim around eye (Fig. 3) ..... Liza



Liza Fig. 3

LIST OF SPECIES OCCURRING IN THE AREA :

Code numbers are given for those species for which Identification Sheets are included

Chelon bispinosus (Bowdich, 1825)	MUGIL Chelon 1
Chelon labrosus (Risso, 1810)	MUGIL Chelon 2 (= MUGIL Mugil 2, Area 37)
Liza aurata (Risso, 1810)	MUGIL Liza 1 (= MUGIL Mugil 5, Area 37)
Liza dumerili (Steindachner, 1870)	MUGIL Liza 2
Liza falcipinnis (Valenciennes, 1836)	MUGIL Liza 3
Liza grandisquamis (Valenciennes, 1836)	MUGIL Liza 4
Liza ramada (Risso, 1826)	MUGIL Liza 5 (= MUGIL Mugil 3, Area 37)
* Liza richardsoni A. Smith, 1849	MUGIL Liza 6
** Liza saliens (Risso, 1810)	
Mugil bananensis (Pellegrin, 1928)	MUGIL Mugil 2
Mugil capurrii (Perugia, 1892)	MUGIL Mugil 3
Mugil cephalus Linnaeus, 1758	MUGIL Mugil 1
Mugil curema Valenciennes, 1836	MUGIL Mugil 6

Prepared by J.M. Thomson, Department of Zoology, University of Queensland, Brisbane, Australia

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*May just enter our fishing area from the south (reported from 22°S (Walvis Bay)

**The presence of this species in the area is doubtful; possibly found off Morocco, but bibliographic citations may be misidentifications

MUGIL Chelon 1

1981

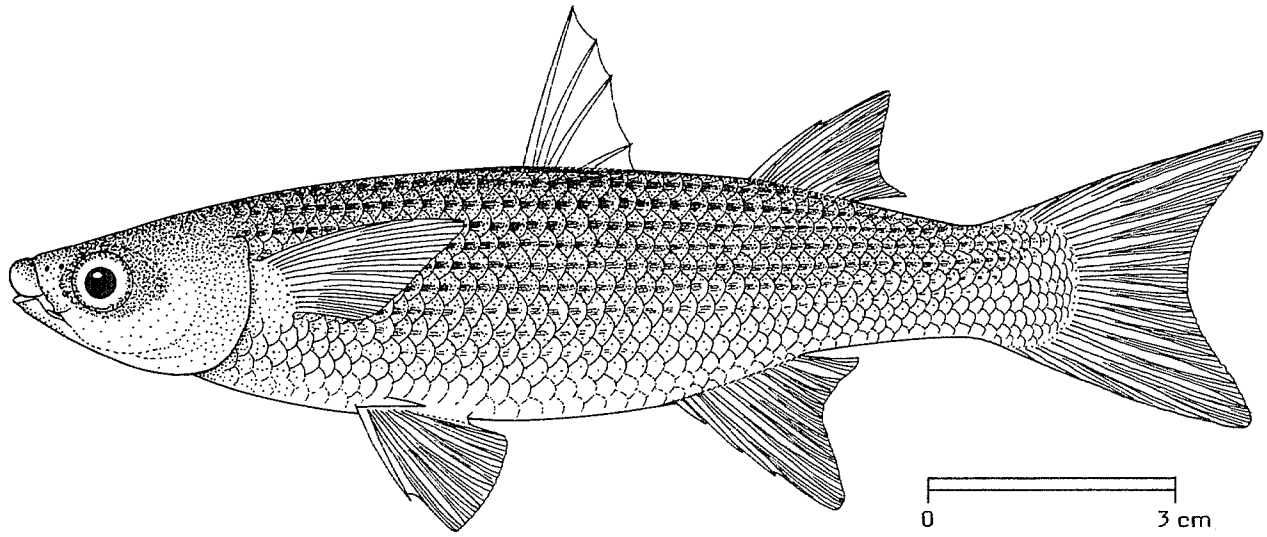
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MUGILIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Chelon bispinosus (Bowdich, 1825)

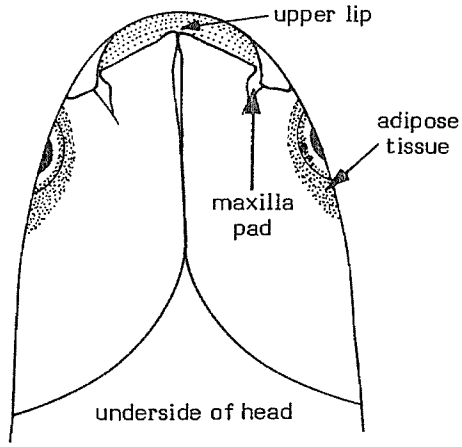
OTHER SCIENTIFIC NAMES STILL IN USE : Mugil nigrostrigatus Günther, 1861



VERNACULAR NAMES:

FAO : En - Cape Verde mullet
Fr - Mulet des îles Cap Vert
Sp - Lisa de Cabo Verde

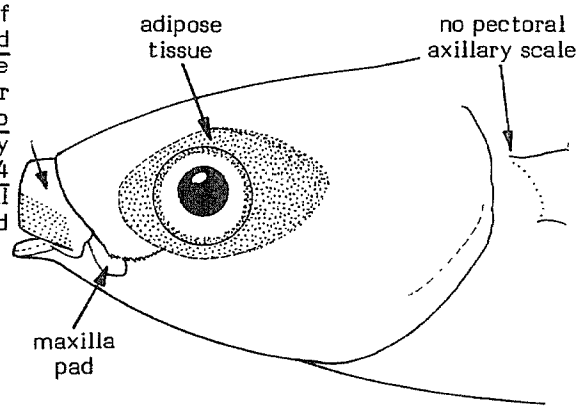
NATIONAL :



DISTINCTIVE CHARACTERS :

Body rounded, robust. Head broad, interorbital space almost flat; head length 26 or 27% of standard length; fatty (adipose) tissue covering only outer edge of iris; upper lip thick and high, lower third with 5 to 7 rows of flask-shaped papillae, tips horn-covered in large specimens; lower lip thin-edged, turned down, deeply recessed in front of high double symphysial knob; 2 rows of small curving teeth in upper lip, lower lip edentate; hind end of upper jaw reaching vertical from posterior nostril; maxilla pad visible below mouth corner when mouth is closed; preorbital bone filling the space between lip and eye, with 16 to 26 serrae on lower edge. Origin of first dorsal fin nearer to caudal fin base than to snout tip; second dorsal fin origin on vertical almost half way along anal fin base; no pectoral axillary scale; pectoral fins 84 to 87% of head length; soft anal fin rays 9. Scales in lateral series 40 to 42; second dorsal and anal fins lightly scaled anteriorly.

Colour: generally silvery, with darker longitudinal stripes.



DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

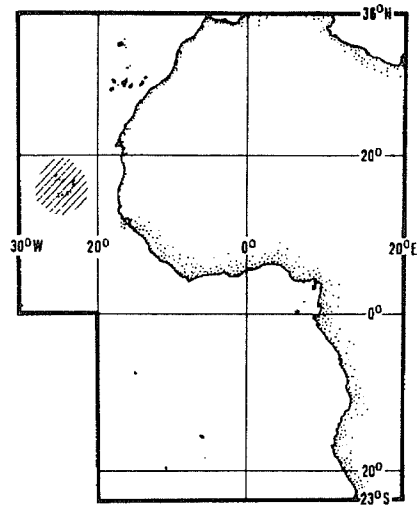
Chelon labrosus: pectoral fins only 81 or 82% of head length (84 to 87% in C. bispinosus); origin of first dorsal fin nearer to snout tip than to caudal fin base; papillae on upper lip oval, not flask-shaped.

Other species of Mugilidae: upper lip not thick and high, not ornamented with papillae.

SIZE :

Maximum: 15 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :



Recorded only from the Cape Verde Islands.

Inhabits shallow coastal waters.

PRESENT FISHING GROUNDS :

Cape Verde Islands.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with beach seines and trammel nets.

Probably marketed fresh.

MUGIL Chelon 2

1981

(= MUGIL Mugil 2)
(Fishing Area 37)

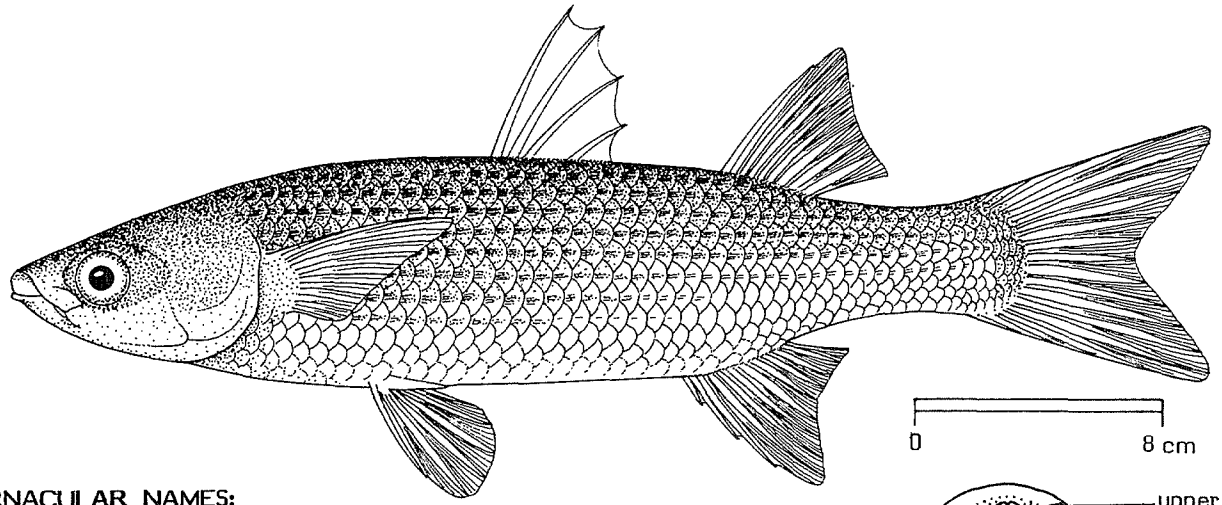
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MUGILIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Chelon labrosus (Risso, 1810)

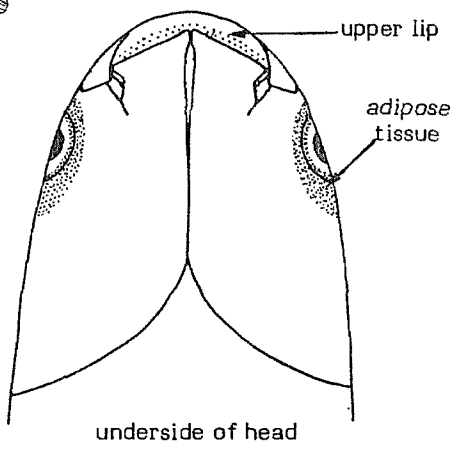
OTHER SCIENTIFIC NAMES STILL IN USE : Mugil chelo Cuvier, 1829
Mugil provensalis Fowler, 1903 (non Risso, 1910)



VERNACULAR NAMES:

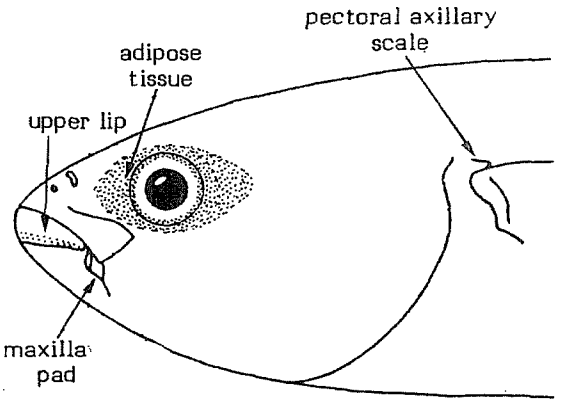
FAO : En - Thicklip mullet
Fr - Mulet lippu (= Muge à grosses lèvres, Area 37)
Sp - Lisa negra

NATIONAL :



DISTINCTIVE CHARACTERS :

Body rounded, robust. Head broad, interorbital space almost flat; head length 23 to 24.5% of standard length; fatty (adipose) tissue extending only slightly over iris; upper lip thick and high, lower third with 2 or 3 rows of oval papillae, transversely extended in lowermost row, horn-tipped in large fish (not present in fish less than 10 cm); lower lip thin-edged, not turned down, only slight recession in front of symphysial knob; 2 rows of fine unicuspid teeth in upper lip, some scattered teeth between rows, lower lip edentate; hind end of upper jaw reaching vertical from posterior nostril; maxilla pad visible below mouth corner when mouth is closed; preorbital bone filling the space between lip and eye, with 16 to 20 broad serrae on lower edge. Origin of first dorsal fin nearer to snout tip than to caudal base; second dorsal fin origin on vertical between one quarter and one third along anal fin base; pectoral axillary scale absent or rudimentary; pectoral fins 81 or 82% of head length; soft anal fin rays 9. Scales in lateral series 42 to 45; second dorsal and anal fins lightly scaled anteriorly and along base.



Colour: back dark brown, sides and belly silvery; often darker stripes following scale rows along sides.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Chelon bispinosus: pectoral fins 84 to 87% of head length (81 or 82% in C. labrosus); origin of first dorsal fin nearer to caudal fin base than to snout tip; papillae in upper lip flask-shaped, in 5 to 7 rows.

Other species of Mugilidae: upper lip not thick and high, not ornamented with papillae.

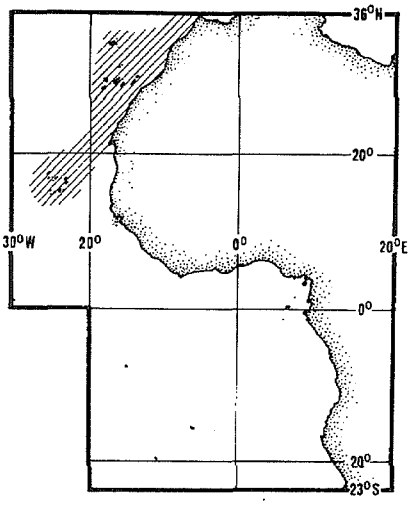
SIZE:

Maximum: 42 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from the Straits of Gibraltar to Senegal, including offlying islands. Northward extending into the Mediterranean and in the North-eastern Atlantic up to Iceland and the Faroe Islands.

Inhabits shallow coastal waters, brackish-water lagoons and rivers.



PRESENT FISHING GROUNDS:

Coastal waters, estuaries, brackish lagoons and rivers throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with beach seines, trammel nets and other artisanal gear.

Marketed fresh, smoked and dried salted.

MUGIL Liza 1

1981

(= MUGIL Mugil 5)
(Fishing Area 37)

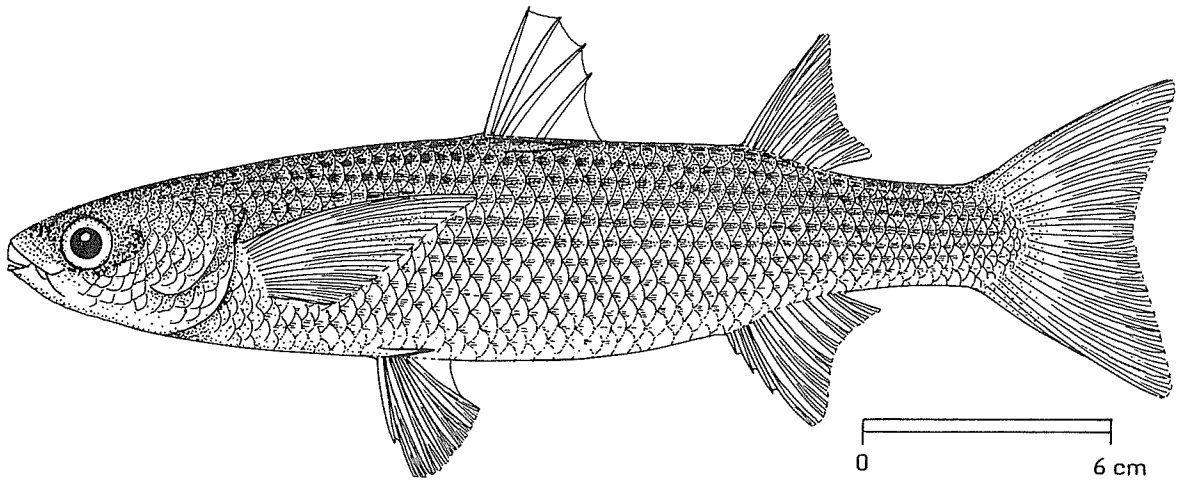
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MUGILIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Liza aurata (Risso, 1810)

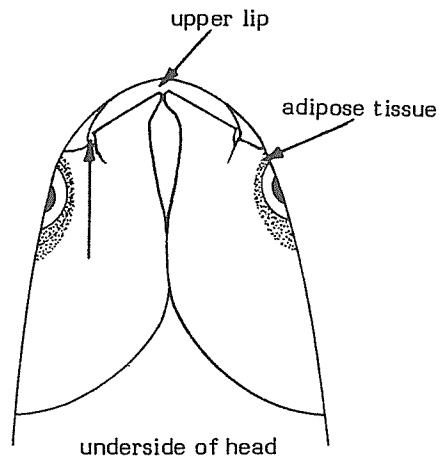
OTHER SCIENTIFIC NAMES STILL IN USE : Mugil auratus Risso, 1810

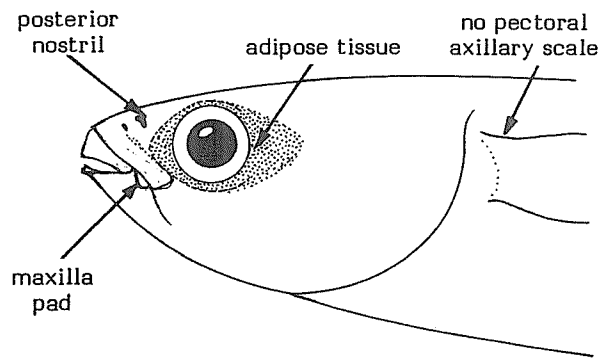


VERNACULAR NAMES:

FAO : En - Golden mullet
Fr - Mulet doré
Sp - Galupe

NATIONAL :





DISTINCTIVE CHARACTERS :

Body rounded, slender. Head broad, interorbital space almost flat; head length 23.5 to 24.7% of standard length; fatty (adipose) tissue only a rim around eye; upper lip thin, not ornamented, lower lip thin-edged, not turned down, but with folds at mouth corner obscuring end of upper lip; a single row of fine, unicuspid teeth in upper lip; lower lip edentate; tip of upper jaw reaching vertical from posterior nostril; maxilla pad visible below mouth corner when mouth is closed; preorbital bone filling the space between lip and eye, with 12 to 15 serrae on lower edge. Origin of first dorsal fin slightly nearer to snout tip than to caudal fin base; origin of second dorsal fin at vertical about one third along anal fin base; no pectoral axillary scale; pectoral fin length 77 to 80% of head length; soft anal fin rays 9 (rarely 8). Scales in lateral series 40 to 45, with unusually wide mucous grooves; second dorsal and anal fins lightly scaled anteriorly.

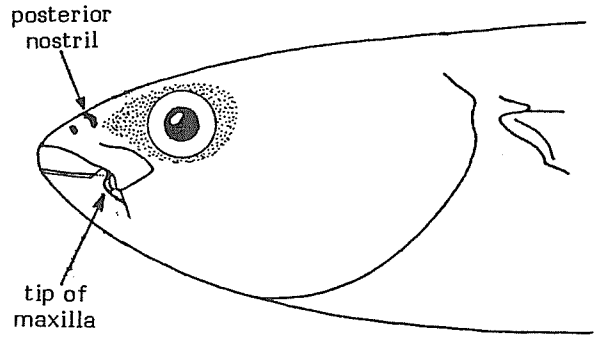
Colour: back greyish brown, sides and belly silvery; often horizontal darker streaks on back and sides following scale rows.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other Liza species: vertical from tip of maxilla behind posterior nostril, and mucous grooves on scales narrow.

Chelon species: upper lip thick, ornamented with several rows of papillae; adipose tissue on head extending over iris.

Mugil species: maxilla pad not visible below mouth corner when mouth is closed; adipose tissue extending over most of pupil; pectoral axillary scale well developed.



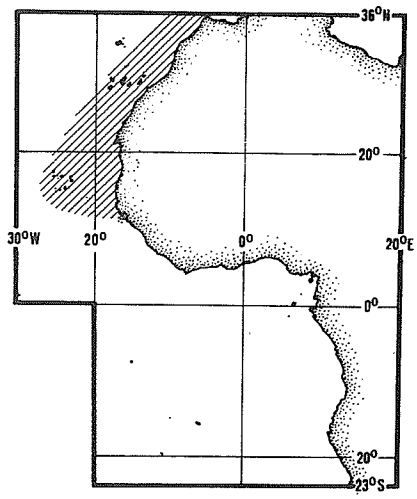
Liza ramada

SIZE:

Maximum: 45 cm; common to 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from the Straits of Gibraltar to Senegal, including offlying islands. Northward extending into the Mediterranean and the Black Sea, and in the northeastern Atlantic up to Scotland.



Inhabits shallow coastal marine waters, brackish water lagoons, estuaries and lower reaches of rivers.

Feeds on small benthic and planktonic organisms.

PRESENT FISHING GROUNDS:

Coastal waters, brackish lagoons and estuaries throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with beach seines, trammel nets and sometimes, on line gear.

Marketed fresh, smoked and dried salted.

MUGIL Liza 2

1981

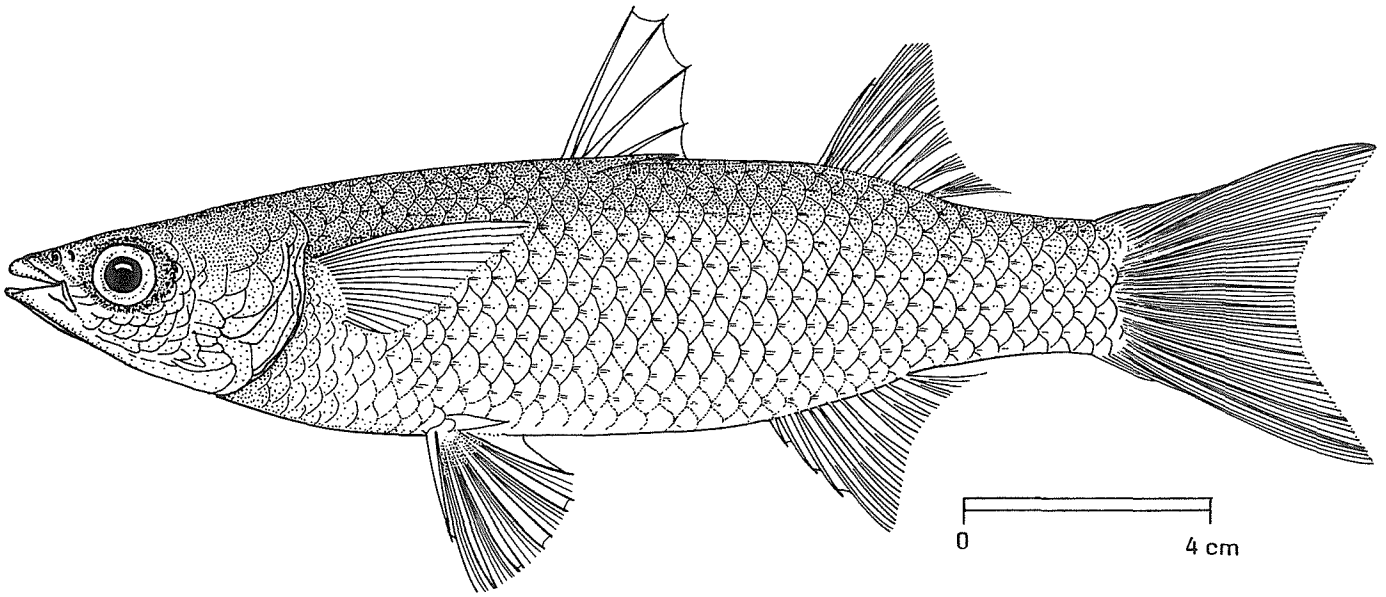
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MUGILIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Liza dumerili (Steindachner, 1870)

OTHER SCIENTIFIC NAMES STILL IN USE : Mugil hoefleri Steindachner, 1882
Mugil canaliculatus Smith, 1935



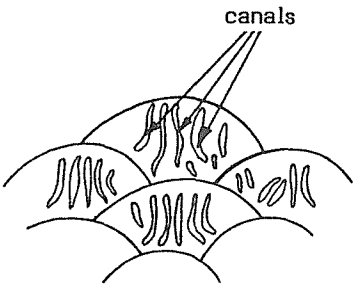
VERNACULAR NAMES:

FAO : En - Grooved mullet
Fr - *Mulet bouri*
Sp - Liza acanalada

NATIONAL :

DISTINCTIVE CHARACTERS :

Body rounded, slender. Head broad, interorbital space almost flat; head length 24 or 25% of standard length; fatty (adipose) tissue only a rim around eye; upper lip thin, not ornamented; lower lip thin-edged, not turning down; 1 to 3 rows of sparse short straight teeth in upper lip, lower lip with ciliiform teeth in young, lost in older fish; hind end of upper jaw reaching vertical between posterior nostril and anterior rim of eye; maxilla part visible below mouth corner when mouth is closed; preorbital bone filling the space between lip and eye, with 10 or 20 serrae along lower edge. Origin of first dorsal fin equidistant from snout tip and caudal fin base; second dorsal fin origin opposite origin of anal fin; no pectoral axillary scale; pectoral fins 90 to 96% head length; soft anal fin rays 9 (rarely 8). Scales in lateral series 34 to 39; second dorsal and anal fins lightly scaled anteriorly and along bases; dorsal scales in front of first dorsal fin with 5 to 8 mucous canals (in fish larger than 12 cm standard length).



scales on top of head

Colour: silvery, darker above.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Other Liza species: only one or, less often, 2 or 3 mucous canals in dorsal scales preceding the first dorsal fin.

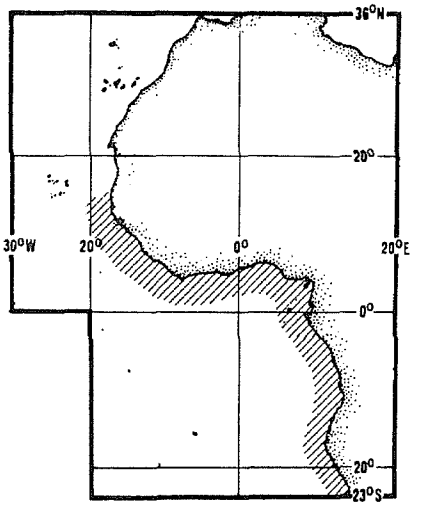
Chelon species: upper lip thick, ornamented with several rows of papillae; adipose tissue on head extending over iris.

Mugil species: maxilla pad not visible below mouth corner when mouth is closed; adipose tissue extending over most of pupil; pectoral axillary scale well developed.

SIZE :

Maximum: 28 cm; common to 18 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :



From Senegal to Delagoa Bay.

Inhabits shallow coastal waters.

PRESENT FISHING GROUNDS :

Shallow coastal waters throughout its range; said to be rather abundant in some localities.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with beach seines, bottom trawls and trammel nets.

Marketed fresh, smoked and dried salted.

MUGIL Liza 3

1981

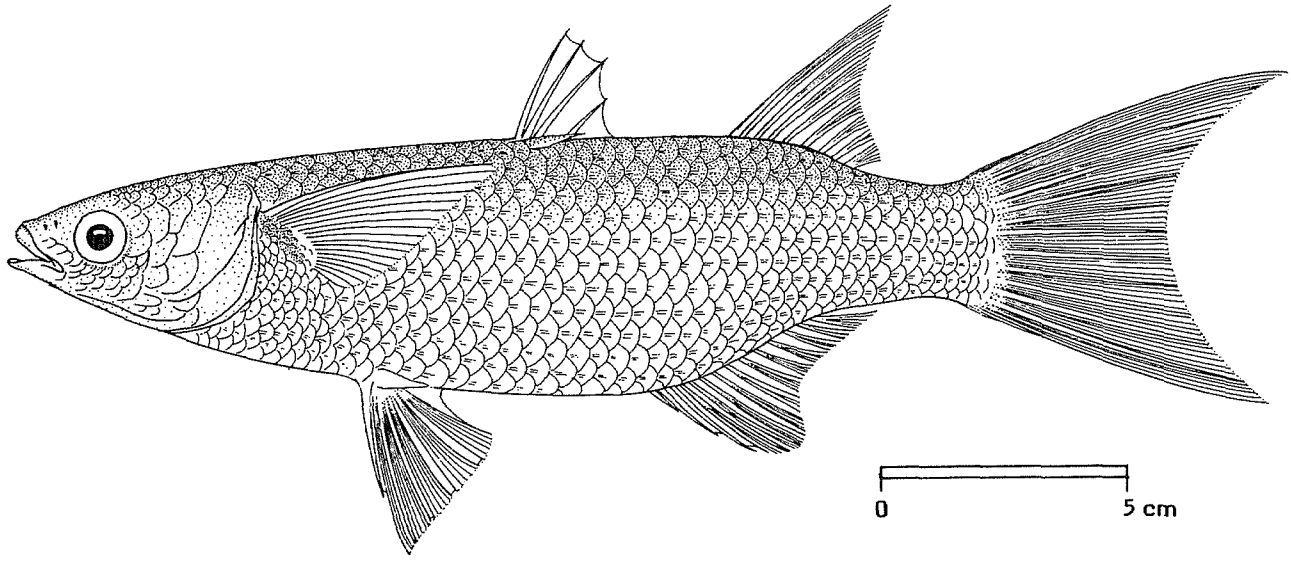
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MUGILIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Liza falcipinnis (Valenciennes, 1836)

OTHER SCIENTIFIC NAMES STILL IN USE : None, but apparently misidentified as Mugil strongylocephalus, an Indo-Pacific species



VERNACULAR NAMES:

FAO : En - Sicklefin mullet
Fr - Mulet à grandes nageoires
Sp - Liza aletona

NATIONAL :

DISTINCTIVE CHARACTERS :

Body rounded, robust. Head broad, interorbital space almost flat; head length 23 or 24% of standard length; fatty (adipose) tissue only a rim around eye; upper lip thin, not ornamented; lower lip thin-edged, not turning down; 6 to 8 rows of teeth in upper lip, outermost row unicuspid, inner rows bicuspid; scattered ciliiform teeth in lower lip; hind end of upper jaw reaching vertical between posterior nostril and anterior rim of eye; maxilla pad visible below mouth corner when mouth is closed; preorbital bone filling space between lip and eye, with 14 to 19 serrae on lower edge. Origin of first dorsal fin equidistant from snout tip and caudal fin base; second dorsal fin origin at vertical about half along anal fin base; pectoral axillary scale absent or rudimentary; pectoral fins 90 to 93% of head length; second dorsal, pectoral and anal fins highly falcate; soft anal fin rays II. Scales in lateral series 35 to 37; second dorsal and anal fins lightly scaled anteriorly.

Colour: silvery, the back darker; a black spot at base of upper pectoral fin rays.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Other Liza species: only 8 or 9 soft anal fin rays (11 in L. falcipinnis); pectoral and anal fins not highly falcate.

Chelon species: upper lip thick, ornamented with several rows of papillae; adipose tissue on head extending over iris.

Mugil species: maxilla pad not visible below mouth corner when mouth is closed; adipose tissue extending over most of pupil; pectoral axillary scale well developed.

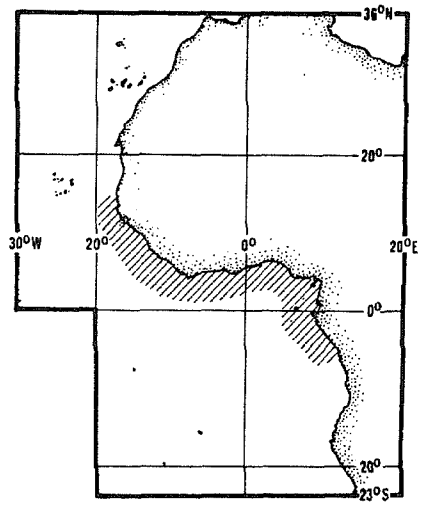
SIZE :

Maximum: at least 33 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

From Senegal to Congo.

Inhabits coastal marine and brackish waters.



PRESENT FISHING GROUNDS :

Coastal and brackish waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with beach seines, trammel nets, bottom trawls and on line gear.

Marketed fresh, smoked and dried salted.

MUGIL Liza 4

1981

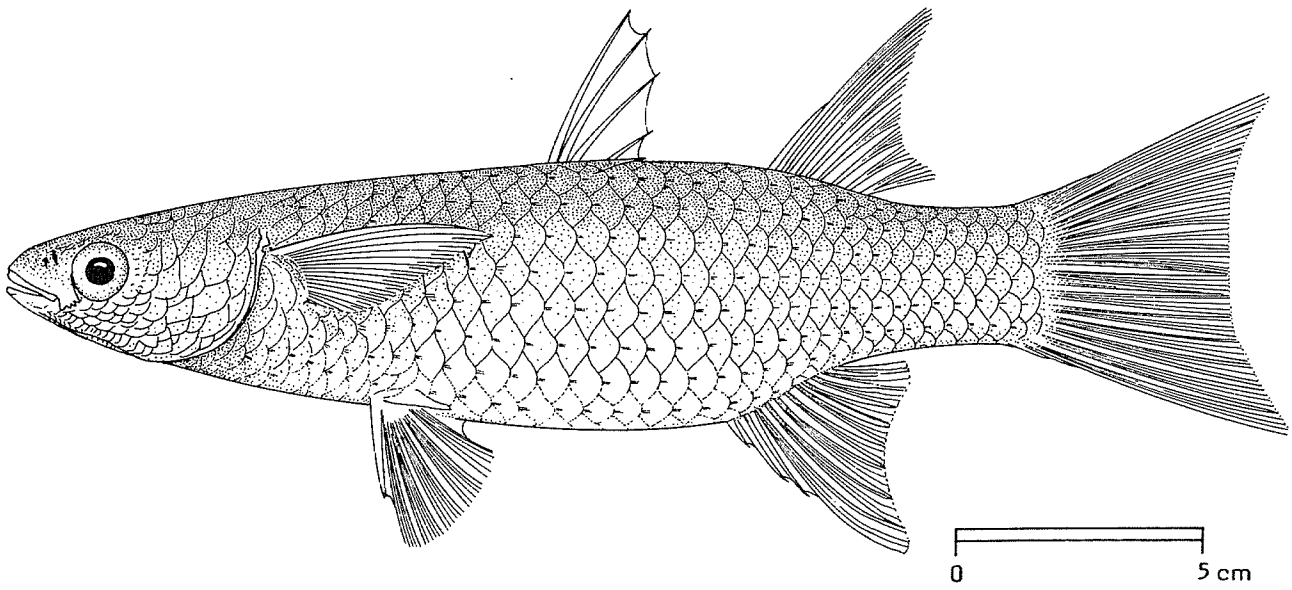
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MUGILIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Liza grandisquamis (Valenciennes, 1836)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Largescaled mullet
Fr - Mulet écailleux
Sp - Liza escamuda

NATIONAL :

DISTINCTIVE CHARACTERS :

Body rounded, robust. Head broad, interorbital space almost flat; head length 23 to 28% of standard length; fatty (adipose) tissue only a rim around eye; upper lip thin; lower lip thin-edged, not turned down; 1 to 2 rows of scattered short teeth in upper lip, not apparent in fish less then 1 cm long; a few sparse ciliiform teeth in lower lip or none; hind end of upper jaw reaching vertical a little in front of anterior eye rim; maxilla pad visible below mouth corner when mouth is closed; preorbital bone filling space between lip and eye, with 9 to 16 serrae on lower edge. Origin of first dorsal fin either nearer caudal fin base than to snout tip or equidistant; second dorsal fin origin on vertical between one third and half along anal fin base; pectoral axillary scale absent; pectoral fins 84 to 95% of head length; soft anal fin rays 9. Scales large, 25 to 29 in lateral series; second dorsal and anal fins moderately scaled anteriorly and along base.

Colour: silvery, scarcely darker on back; sometimes ill defined longitudinal stripes following scale rows on sides.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other Liza species: scales smaller, more than 35 in lateral line (25 to 29 in L. grandisquamis).

Chelon species: upper lip thick, ornamented with several rows of papillae; adipose tissue on head extending over iris.

Mugil species: maxilla pad not visible below mouth corner when mouth is closed; adipose tissue extending over most of pupil; pectoral axillary scale well developed.

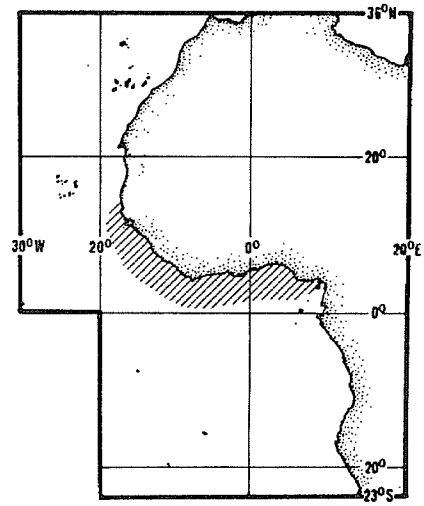
SIZE:

Maximum: at least 35 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

From Senegal to Nigeria.

Inhabits shallow coastal waters, estuaries and brackish water lagoons, including mangrove environment.



PRESENT FISHING GROUNDS:

Littoral and brackish waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with trammel nets, beach seines, bottom trawls and other artisanal gear.

Marketed fresh, smoked and dried salted.

MUGIL Liza 5

1981

(= MUGIL Mugil 3)
Fishing Area 37)

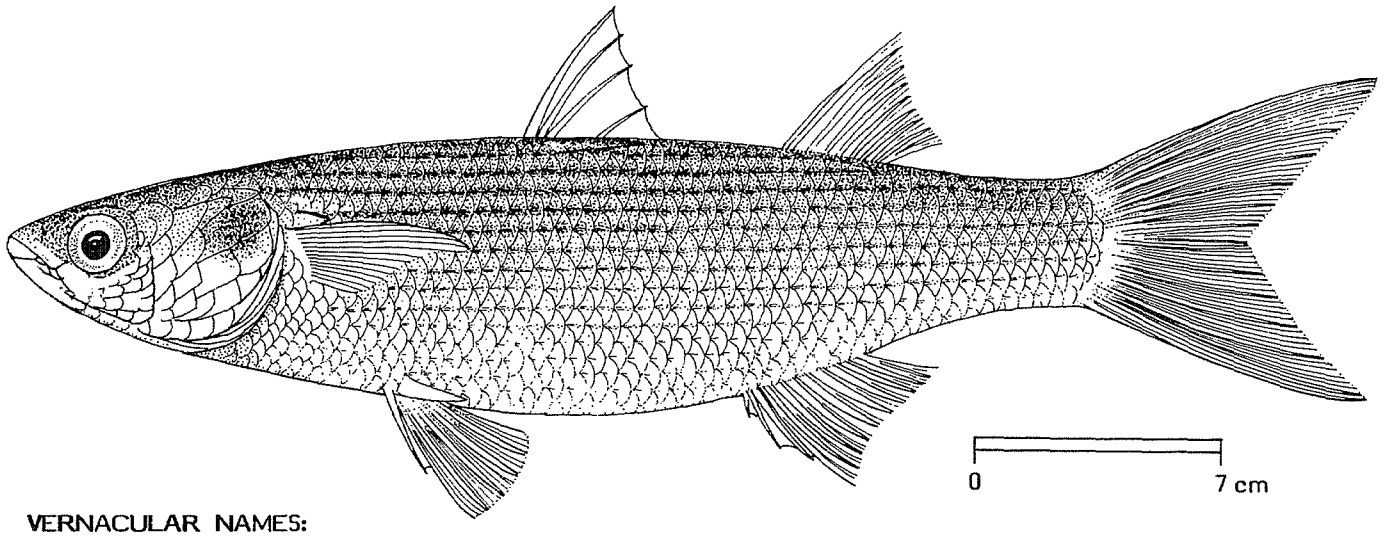
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MUGILIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Liza ramada (Risso, 1826)

OTHER SCIENTIFIC NAMES STILL IN USE : Mugil capito Cuvier, 1829



VERNACULAR NAMES:

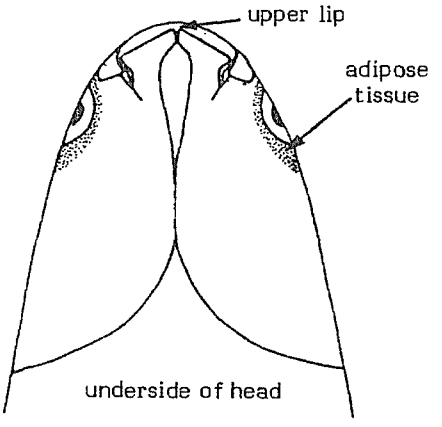
FAO : En - Thinlip mullet
Fr - Mulet porc
Sp - Morragute

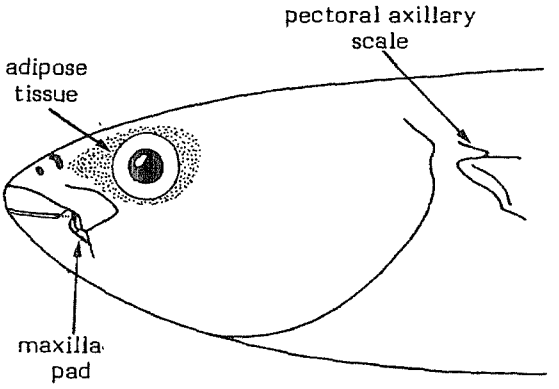
NATIONAL :

DISTINCTIVE CHARACTERS :

Body rounded, slender. Head broad, interorbital space almost flat; head length 24 or 25% of standard length; fatty (adipose) tissue only a rim around eye; upper lip moderately thick not ornamented; lower lip thin-edged, not turned down, upward fold at hind end obscuring end of upper lip; 1 row of fine, curving unicuspid teeth on edge of upper lip, some scattered teeth behind; a row of ciliiform teeth in lower lip, not evident in small specimens; hind end of upper jaw reaching vertical about midway between posterior nostril and anterior rim of eye; maxilla pad visible below mouth corner when mouth is closed; preorbital bone filling space between lip and eye, with 12 to 15 serrae on lower edge. Origin of first dorsal fin nearer to snout tip than to caudal fin base; second dorsal fin origin at vertical a quarter along anal fin base; pectoral axillary scale absent or rudimentary; pectoral fins 71 to 73% of head length; soft anal fin rays 9. Scales in lateral series 41 to 46; second dorsal and anal fins lightly scaled anteriorly and along base.

Colour: back ocreous yellowish or bluish, sides and belly silvery; often darker longitudinal stripes following scale rows on sides; usually a diffuse dark blotch on gill cover.





DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Liza aurata: mucous grooves on scales unusually wide; tip of upper jaw on vertical from posterior nostril.

Liza richardsoni: second dorsal fin origin opposite anal fin origin; pectoral fins shorter.

Other Liza species: no upward fold at hind end of lower lip.

Chelon species: upper lip thick, ornamented with several rows of papillae; adipose tissue on head extending over iris.

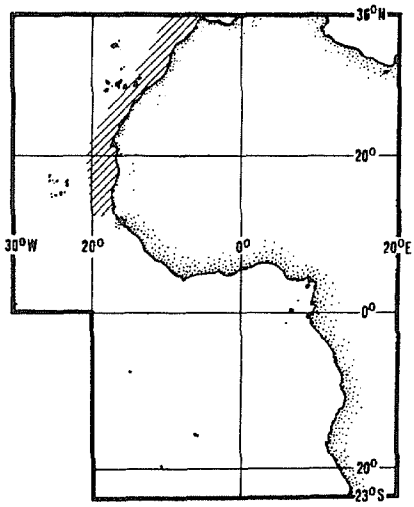
Mugil species: maxilla pad not visible below mouth corner when mouth is closed; adipose tissue extending over most of pupil; pectoral axillary scale well developed.

SIZE:

Maximum: 70 cm; common to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from the Strait of Gibraltar to Cape Verde. Northward extending into the Mediterranean and the Black Sea, and in the northeastern Atlantic up to the North Sea.



Inhabits coastal waters, estuaries, brackish lagoons and freshwaters.

Feeds on small benthic and planktonic organisms, and on suspended organic matter.

PRESENT FISHING GROUNDS:

Coastal, brackish and freshwater throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species

Caught with beach seines, trammel nets, bottom trawls and other artisanal gear.

Marketed fresh, smoked and dried salted.

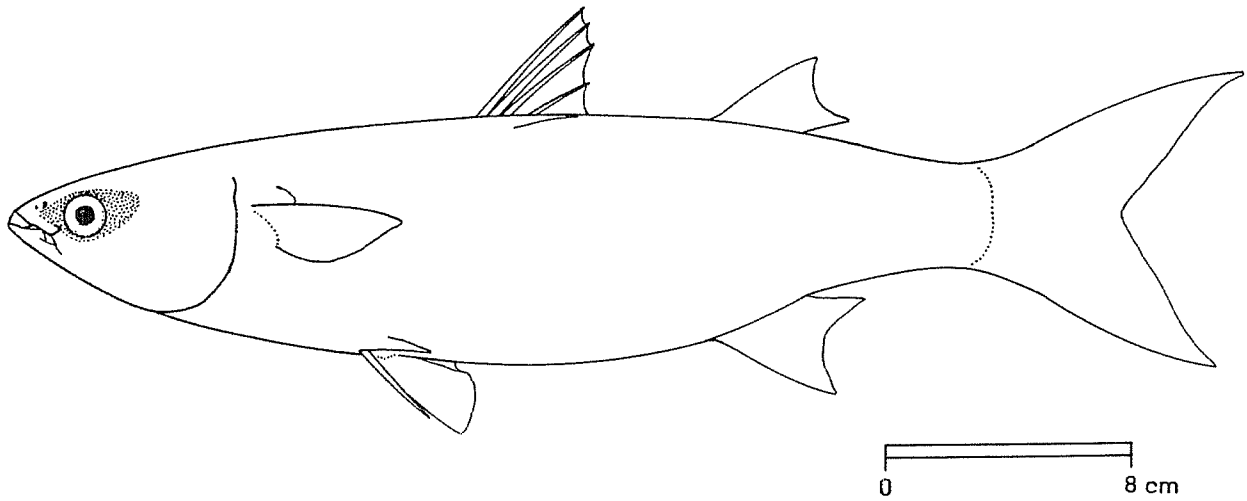
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MUGILIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Liza richardsoni (A. Smith, 1849)

OTHER SCIENTIFIC NAMES STILL IN USE : Liza ramada J.L.B. Smith, 1948 (non Risso)



VERNACULAR NAMES:

FAO : En - South African mullet
Fr - Mulet sudafricain
Sp - Liza sudafricana

NATIONAL :

DISTINCTIVE CHARACTERS :

Body slender, elongate. Head broad, interorbital space almost flat; head length 24.5 to 28% of standard length; fatty (adipose) tissue only a rim around eye; upper lip moderately thick, not ornamented; lower lip thin-edged, not turned down, but with folds at mouth corner obscuring end of upper lip; a row of long, fine unicuspid teeth on edge of upper lip with scattered teeth behind; lower lip edentate; tip of upper jaw reaching a vertical halfway between posterior nostril and anterior rim of eye; maxilla pad visible below mouth corner when mouth closed; preorbital bone filling space between lip and eye, with 16 to 19 serrae on lower edge. Origin of first dorsal fin slightly nearer snout tip than to caudal fin base; origin of second dorsal fin on vertical from anal fin origin; pectoral axillary scale absent or rudimentary; pectoral fin length 57 to 68% of head length; soft anal finrays 9. Scales in lateral series 43 to 45; second dorsal and anal fins lightly scaled anteriorly and along base.

Colour: back bluish grey, belly silvery.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Liza aurata and L. ramada: second dorsal fin origin posterior to vertical through anal fin origin; pectoral fin larger, more than 71% of head length (57 to 68% in L. richardsoni).

Other Liza species: no upward fold at hind end of lower lip.

Chelon species: upper lip thick, ornamented with several rows of papillae; adipose tissue on head extending over iris.

Mugil species: maxilla pad not visible below mouth corner when mouth is closed; adipose tissue extending over most of pupil; pectoral axillary scale well developed.

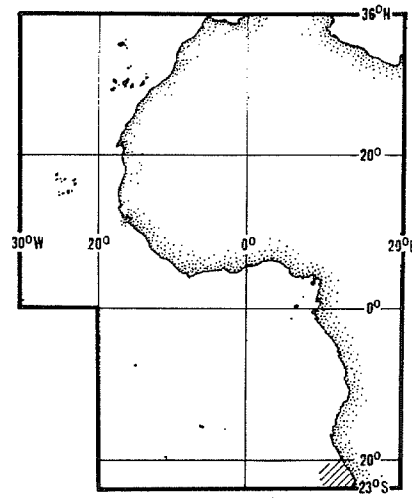
SIZE :

Maximum: 40 cm standard length; common to 28 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the area, from Walvis Bay southwards; extending around South Africa to Durban.

Inhabits coastal waters.



PRESENT FISHING GROUNDS :

Walvis Bay, South-west Cape.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with beach seines, trammel nets and other artisanal gear.

Marketed fresh, smoked and dried salted.

MUGIL Mugil 1

1981

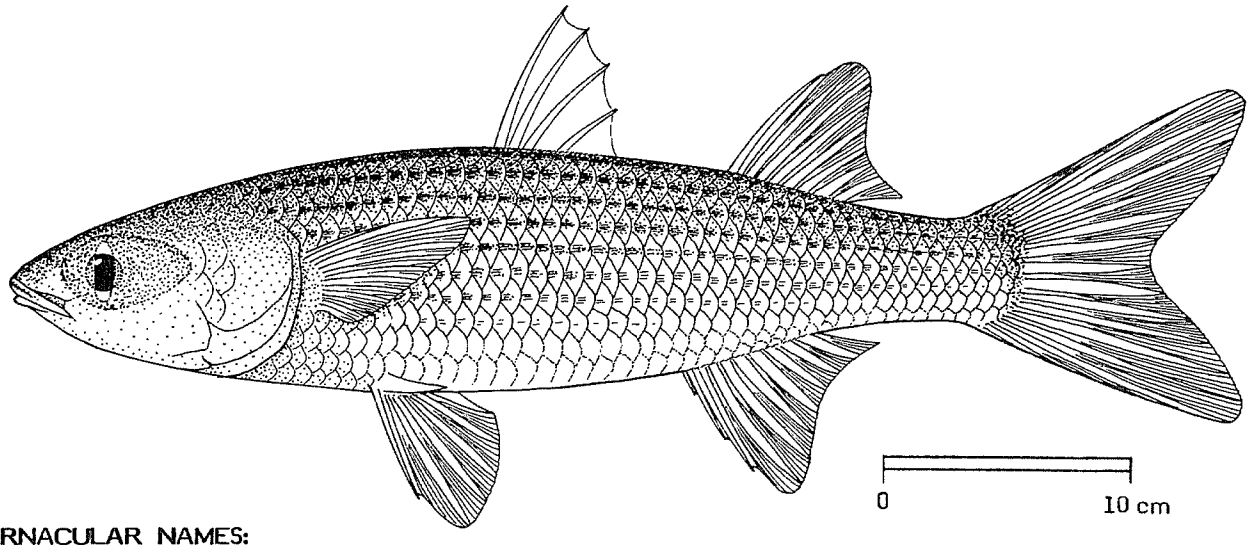
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MUGILIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Mugil cephalus Linnaeus, 1758

OTHER SCIENTIFIC NAMES STILL IN USE : Mugil ashanteensis Bleeker, 1863



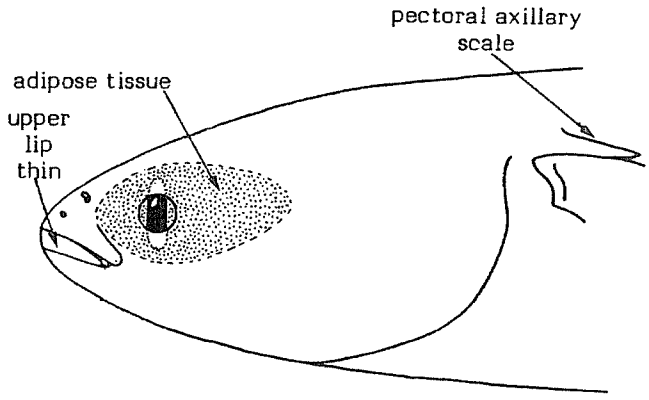
VERNACULAR NAMES:

FAO : En - Flathead grey mullet
Fr - Mulet cabot
Sp - Pardete

NATIONAL :

DISTINCTIVE CHARACTERS :

Body rounded, robust. Head broad, interorbital space almost flat; head length 27 to 28.5% of standard length; fatty (adipose) tissue over most of pupil; upper lip thin, low, not ornamented; lower lip thin-edged, not turned down; 1 to 6 rows of fine teeth in upper lip, 1 to 4 rows in lower lip, outer row in both lips unicuspid, inner rows bicuspid (rarely unicuspid); hind end of upper jaw reaching vertical from anterior rim of eye; maxilla pad not visible below mouth corner when mouth is closed; preorbital bone filling only half the space between lip and eye, with 6 to 10 serrae on lower edge. Origin of first dorsal fin nearer to snout tip than to caudal fin base; origin of second dorsal fin at vertical between a quarter and a half along anal fin base; pectoral axillary scale well developed, 33 to 36% of pectoral fin length which is 66.5 to 74% of head length; soft anal fin rays 8. Scales in lateral series 37 to 43; second dorsal and anal fins moderately scaled anteriorly and along base; 14 or 15 transverse scale rows between first dorsal fin origin and origin of pelvic fin.



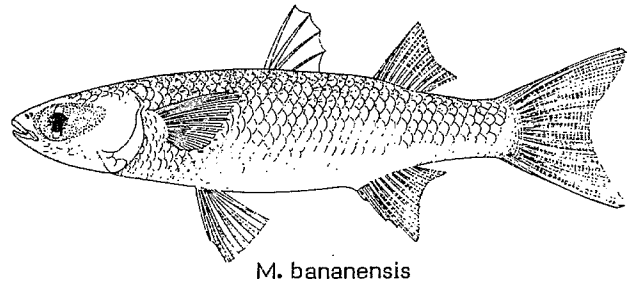
Colour: back greyish blue, sides and belly silvery whitish, sometimes with golden reflections; often horizontal grey stripes following scale rows on sides.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

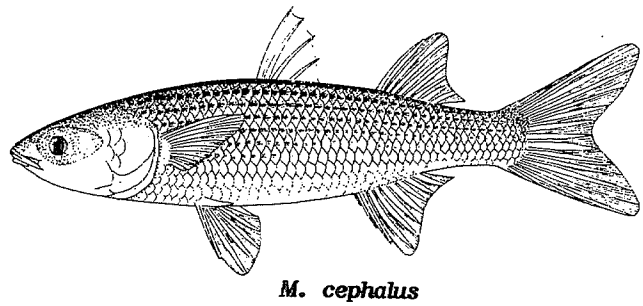
Mugil bananensis and M. curema: only 11 or 12 transverse scale rows (14 or 15 in M. cephalus); teeth only unicuspid.

M. capurrii: 9 soft anal finrays (8 in M. cephalus).

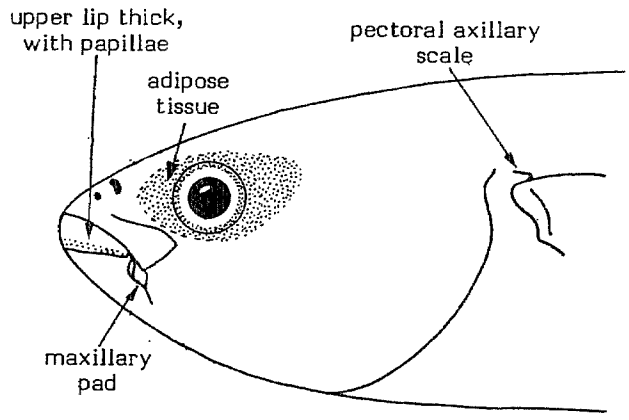
Chelon and Liza species: maxilla pad showing below corner of mouth when mouth is closed; adipose tissue on head only forming a rim around eye (Liza), or intruding only over iris (Chelon); pectoral axillary scale rudimentary or absent.



M. bananensis



M. cephalus



Chelon labrosus

SIZE :

Maximum: 120 cm; common to 50 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Coastal waters throughout the area. A cosmopolitan species from tropical and temperate waters of the Atlantic, Pacific, and Indian Oceans.

Inhabits coastal marine waters, estuaries and brackish lagoons, and rivers.

Feeds on small benthic organisms, algae and on interstitial organic matter in the sand.

PRESENT FISHING GROUNDS :

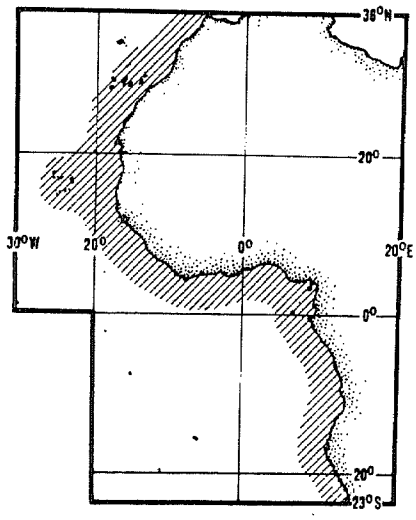
Coastal waters, estuaries, brackish water lagoons and rivers throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with beach seines, trammel nets, and other artisanal gear.

Marketed fresh, smoked and dried salted.



MUGIL Mugil 2

1981

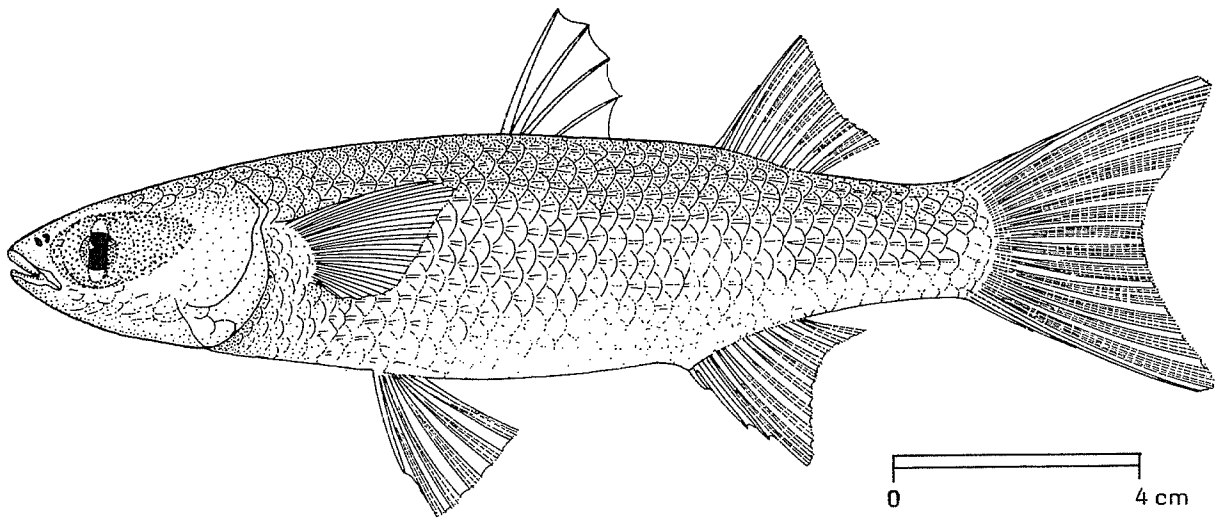
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MUGILIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Mugil bananensis (Pellegrin, 1928)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Banana mullet
Fr - Mulet banane
Sp - Liza banana

NATIONAL :

DISTINCTIVE CHARACTERS :

Body round, moderately robust. Head broad, interorbital space almost flat; head length 26 to 28% of standard length; fatty (adipose) tissue extending over pupil; upper lip thin, not ornamented; lower lip thin-edged, not turning down; a row of slightly curving setiform (bristle-like) teeth in both lips, with a second row at base of lower lip in smaller fish; hind end of upper jaw reaching vertical from posterior nostril; maxilla pad not visible below mouth corner when mouth is closed; preorbital bone filling only half the space between lip and eye, with 4 to 8 serrae on lower edge. Origin of first dorsal fin nearer to snout tip than to caudal fin base; origin of second dorsal fin at vertical one third along anal fin base; pectoral axillary scale well developed, 31.5 to 33% of pectoral fin length which is 70 to 77% of head length; soft anal fin rays 8. Scales in lateral series 36 to 38; second dorsal and anal fins lightly scaled anteriorly and along base; 11 to 12 tranverse scale rows between first dorsal fin origin and origin of pelvic fin.

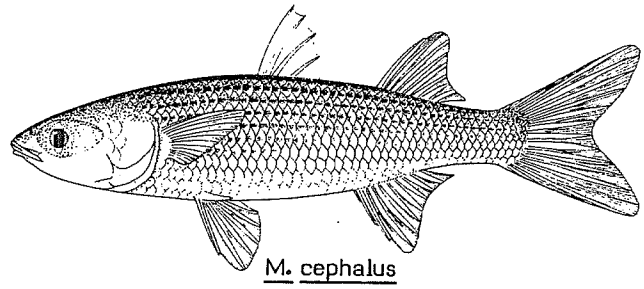
Colour: back greyish brown, sides silvery, with or without darker longitudinal stripes.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

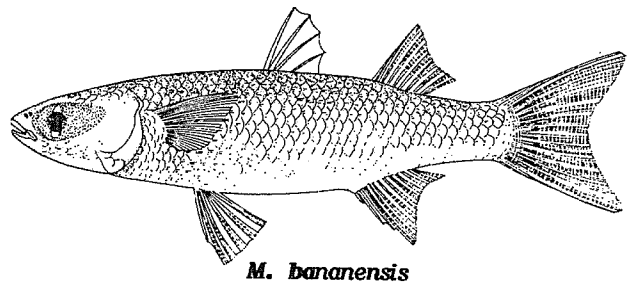
Mugil curema and M. capurrii: 9 soft anal finrays (8 in M. bananensis). Furthermore, tip of upper jaw reaching behind vertical from posterior nostril in M. curema and 14 or 15 transverse scale rows in M. capurrii (11 or 12 in M. bananensis).

M. cephalus: 14 transverse rows of scales and usually abundant bicuspid teeth in several rows in each lip.

Chelon and Liza species: maxilla pad showing below corner of mouth when mouth is closed; adipose tissue on head only forming a rim around eye (Liza), or intruding only over iris (Chelon); pectoral axillary scale rudimentary or absent.



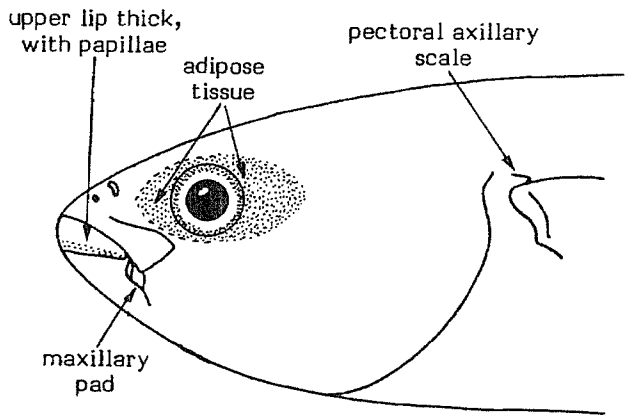
M. cephalus



M. bananensis

SIZE:

Maximum: recorded 26 cm; common to 20 cm.



Chelon labrosus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

West Africa from Senegal to Angola.

Inhabits shallow coastal and brackish waters.

PRESENT FISHING GROUNDS:

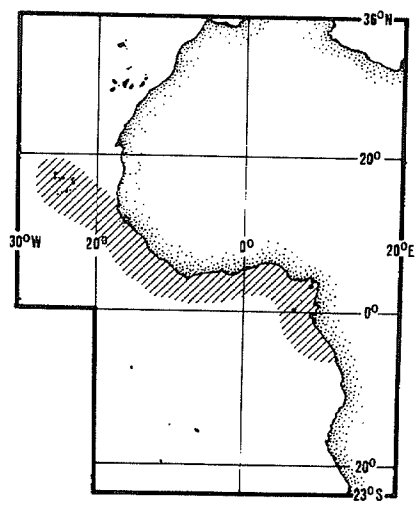
Littoral and brackish waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with beach seines, trawls and trammel nets.

Marketed fresh, smoked and dried salted.



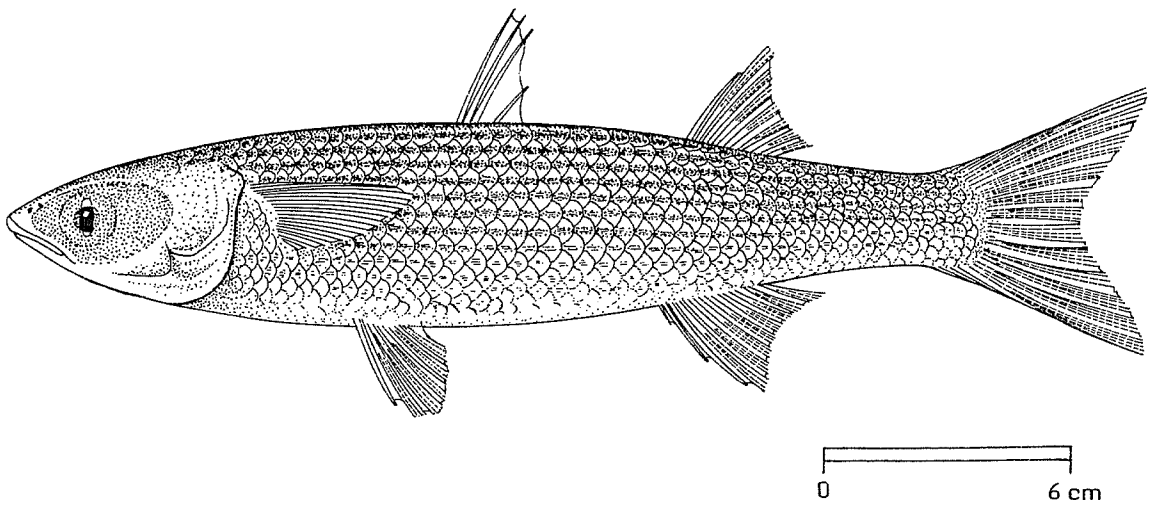
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MUGILIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Mugil capurrii (Perugia, 1892)

OTHER SCIENTIFIC NAMES STILL IN USE : Mugil monodi Chabanaud, 1926



VERNACULAR NAMES:

FAO : En - Leaping African mullet
Fr - Mulet sauteur d'Afrique
Sp - Galúa africana

NATIONAL :

DISTINCTIVE CHARACTERS :

Body rounded, slender. Head broad, interorbital space flat; head length 28 to 31.5% of standard length; fatty (adipose) tissue partly covering pupil; upper lip thin, low, not ornamented; lower lip thin-edged, not turning down; a single row of longish, curved setiform teeth in both lips, tending to be lost in large specimens; hind end of upper jaw reaching vertical from anterior field of iris; maxilla pad not visible below mouth corner when mouth is closed; preorbital bone not filling space between lip and eye, its front and lower edges in continuous curve, with 29 to 33 serrae. Origin of first dorsal fin nearer to snout tip than to caudal fin base; origin of second dorsal fin on vertical varying from just behind anal fin origin to a quarter along anal fin base; pectoral axillary scale well developed, between 27 and 30% of pectoral length which is 68 to 73% of head length; soft anal fin rays 9. Scales in lateral series 44 to 46; second dorsal and anal fins lightly scaled; 14 to 15 transverse scale rows between first dorsal fin origin and origin of pelvic fin.

Colour: back greyish brown, sides silvery.

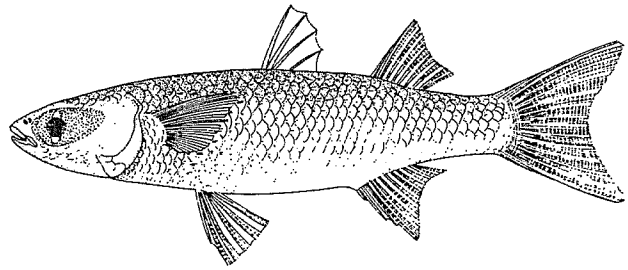
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Mugil bananensis: only 8 soft anal finrays (9 in M. capurrii) and 11 or 12 transverse rows of scales (14 or 15 in M. capurrii).

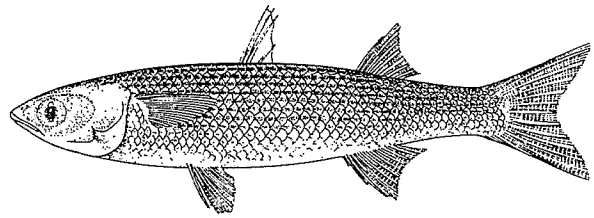
M. cephalus: only 8 anal soft rays and tip of upper jaw reaching vertical from anterior rim of eye.

M. curema: tip of upper jaw reaching between posterior nostril and anterior eye rim.

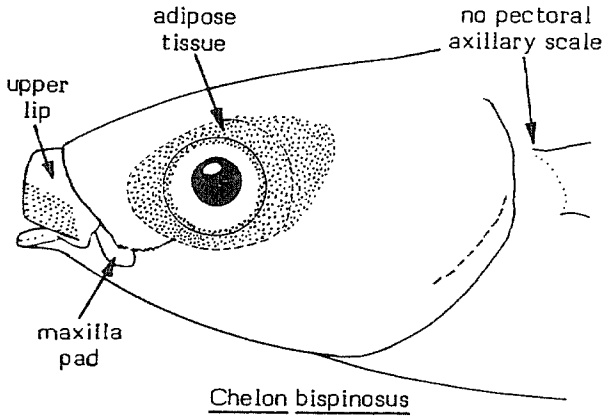
Chelon and Liza species: maxilla pad showing below corner of mouth when mouth is closed; adipose tissue on head only forming a rim around eye (Liza), or intruding only over iris (Chelon); pectoral axillary scale rudimentary or absent.



M. bananensis



M. capurrii



Chelon bispinosus

SIZE :

Maximum: 45 cm; common to 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

From Morocco to Senegal.

Inhabits coastal waters.

PRESENT FISHING GROUNDS :

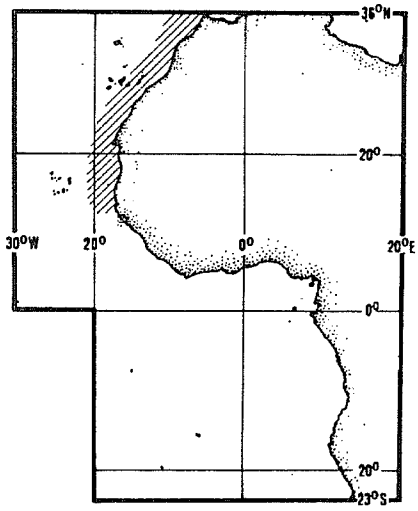
Shallow coastal waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with beach seines and trammel nets.

Probably marketed fresh, smoked and dried salted.



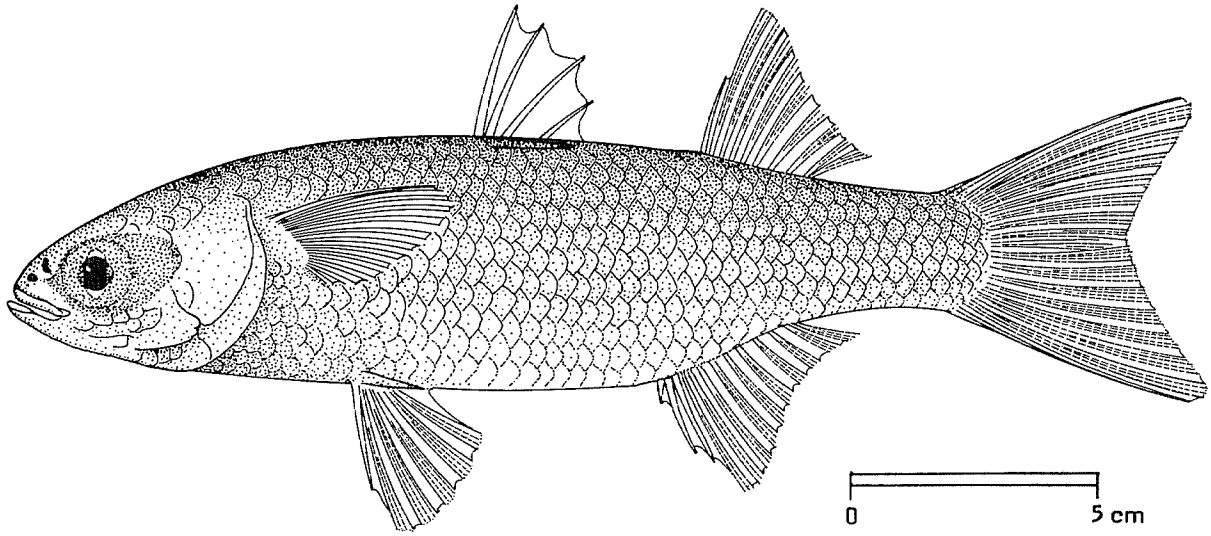
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: MUGILIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Mugil curema Valenciennes, 1836

OTHER SCIENTIFIC NAMES STILL IN USE: Mugil brasiliensis Günther, 1861 (non Spix)
Mugil metzelaari Chabanaud, 1976



VERNACULAR NAMES:

FAO: En - Curema mullet
Fr - Mulet curème
Sp - Liza curema

NATIONAL:

DISTINCTIVE CHARACTERS:

Body rounded, robust. Head broad, interorbital space almost flat; head length 27 or 28% of standard length; fatty (adipose) tissue covering much of pupil; upper lip thicker and higher than in most Mugil species, but not approaching the condition of Chelon species, not ornamented; lower lip thin-edged, not turned down; 2 or 3 rows of teeth in upper lip, outer row long curved, unicuspid, well-spaced; inner teeth much finer; teeth in lower lip similar; hind end of upper jaw reaching vertical midway between posterior nostril and anterior rim of eye; maxilla pad not visible below mouth corner when mouth is closed; preorbital bone filling only half the space between lip and eye, with 4 to 6 serrae on lower edge. Origin of first dorsal fin equidistant from snout tip and caudal fin base; origin of second dorsal fin on vertical between a quarter and one third along anal fin base; pectoral axillary scale well developed, 30 to 37% of pectoral fin length which is 77 to 84% of head length; soft anal finrays 9. Scales in lateral series 35 to 40; second dorsal and anal fins lightly scaled; 11 or 12 transverse rows of scales between first dorsal fin origin and origin of pelvic fin.

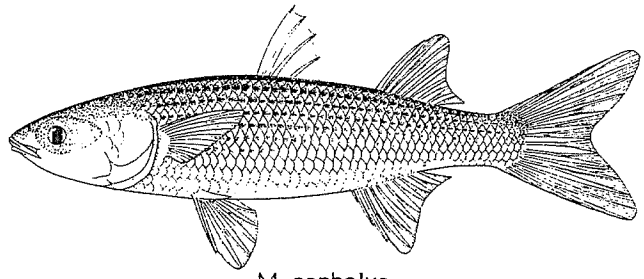
Colour: silvery, back slightly darker.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

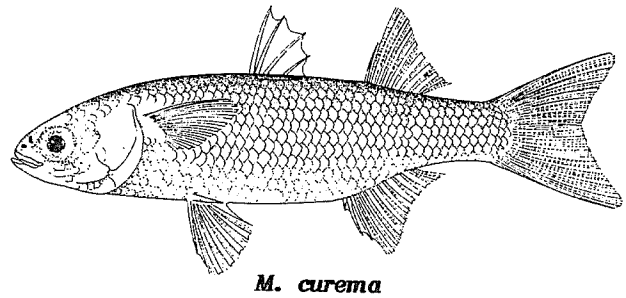
Mugil capurrii and M. cephalus: 14 or 15 transverse rows of scales (11 or 12 in M. curema). Furthermore, only 8 soft anal finrays in M. cephalus (9 in M. curema) and tip of upper jaw reaching under anterior field of iris in M. capurrii.

M. bananensis: 8 soft anal finrays; pectoral fin length less than 78% of head length (77 to 84% in M. curema).

Chelon and Liza species: maxilla pad showing below corner of mouth when mouth is closed; adipose tissue on head only forming a rim around eye (Liza) or intruding only over iris (Chelon); pectoral axillary scale rudimentary or absent.



M. cephalus



M. curema

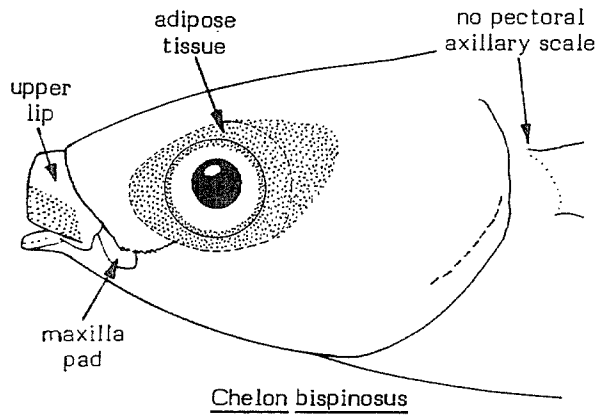
SIZE :

Maximum: 35 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

West coast of Africa from Gambia to Congo. Also along the east coast of the Americas from Cape Cod to Buenos Aires.

Inhabits shallow coastal waters.



Chelon bispinosus

PRESENT FISHING GROUNDS :

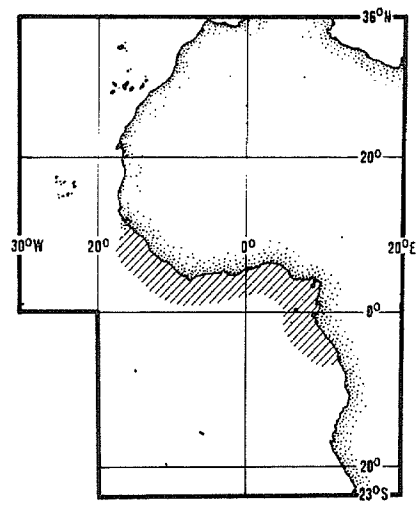
Shallow coastal waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with bottom trawls, beach seines and trammel nets.

Marketed fresh, smoked and dried salted.



MULL

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

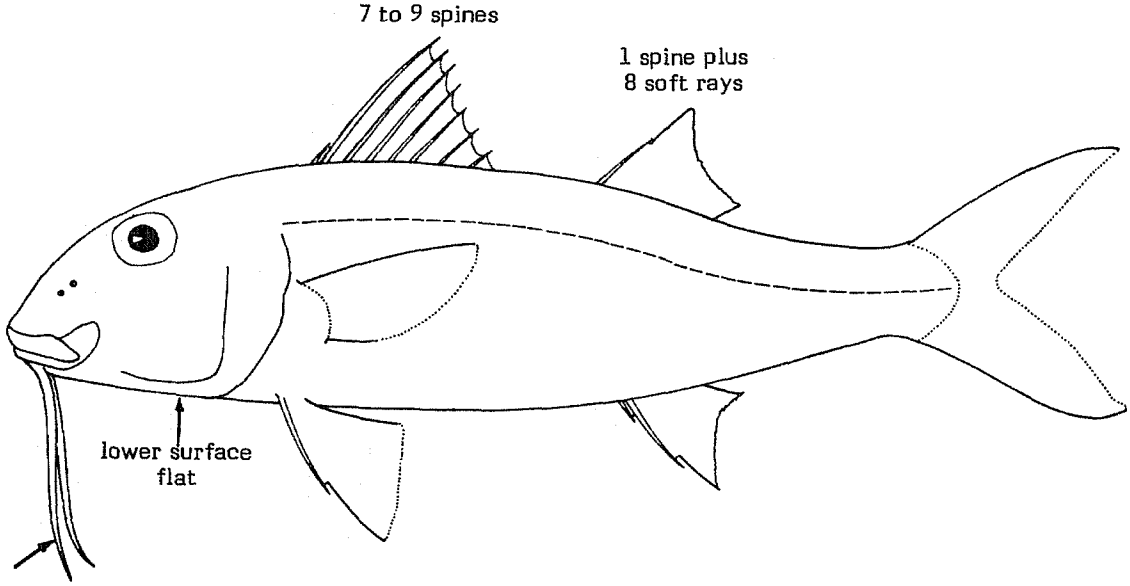
MULLIDAE

Goatfishes, red mullets

Small to moderate-sized fishes. Body somewhat compressed, ventral side of head and of belly flat. Two stout barbels on chin which can be folded into a median groove on throat. Two well-separated dorsal fins, the first with 7 to 9 spines, the second with 1 spine and 8 soft rays. Scales rather large, slightly ctenoid.

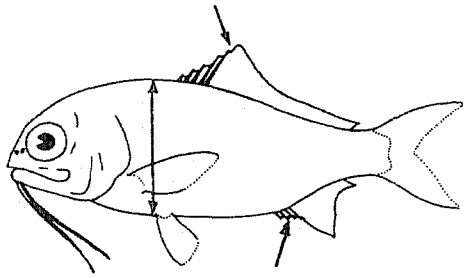
Colour: bright with red, pink and yellow tones predominating.

Goatfishes live in coastal waters near the bottom. The barbels carry sensory organs used in finding food which consists mainly of small, bottom-living invertebrates. They occur single or in aggregations; highly esteemed as foodfishes; taken mainly in artisanal fisheries. The catch of goatfishes reported from Fishing Area 34 totalled about 2 000 t in 1978.



SIMILAR FAMILIES OCCURRING IN THE AREA:

Polymixiidae: also a single pair of barbels on chin but differ from Mullidae in having a deeper body, large eyes, and a single continuous dorsal fin.



Polymixiidae

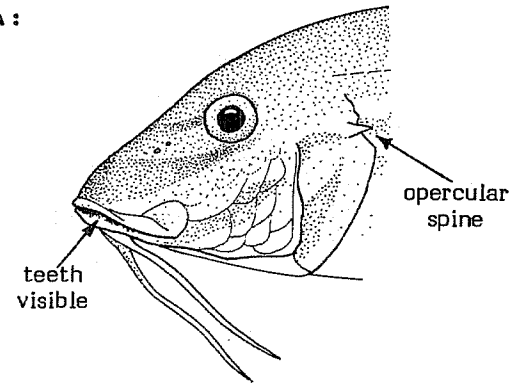
KEY TO GENERA AND SPECIES OCCURRING IN THE AREA:

1 a. Prominent conical teeth in both jaws clearly visible even when mouth is closed; a spine on opercular margin (Fig. 1) ..... Pseudupeneus prayensis

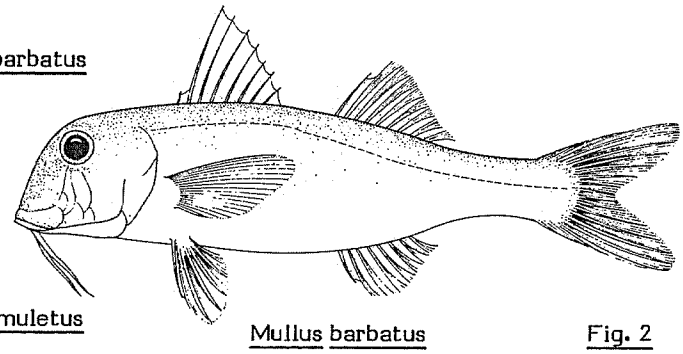
1 b. No teeth on upper jaw and no teeth are visible when mouth is closed; no spine on opercular margin.

2 a. Profile of head very steep; maxilla in adults reaching beyond anterior eye margin; barbels shorter or equal to length of pectoral fins; colour reddish, without markings on body or fins (Fig. 2) ..... Mullus barbatus

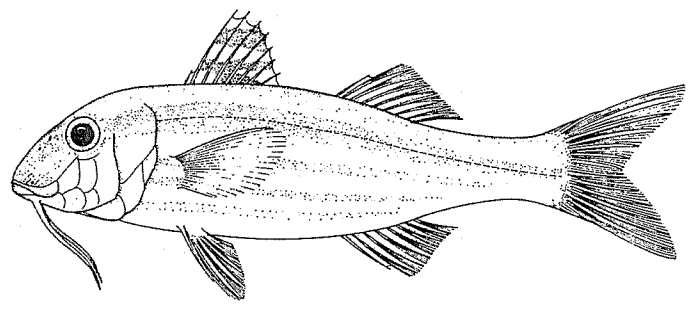
2 b. Profile of head less steep; maxilla at most reaching to anterior margin of eye; barbels longer than length of pectoral fin; body with longitudinal red and yellow brown lines; first dorsal fin with dark markings (Fig. 3) ..... Mullus surmuletus



Pseudupeneus prayensis Fig. 1



Mullus barbatus Fig. 2



Mullus surmuletus Fig. 3

LIST OF SPECIES OCCURRING IN THE AREA:

Code numbers are given for those species for which Identification Sheets are included

Mullus barbatus Linnaeus, 1758	MULL Mull 1
Mullus surmuletus Linnaeus, 1758	MULL Mull 2
Pseudupeneus prayensis (Cuvier, 1829)	MULL Pseudu 2

Prepared by A. Ben-Tuvia, The Hebrew University of Jerusalem, Jerusalem, Israel

MULL Mull 1

1981

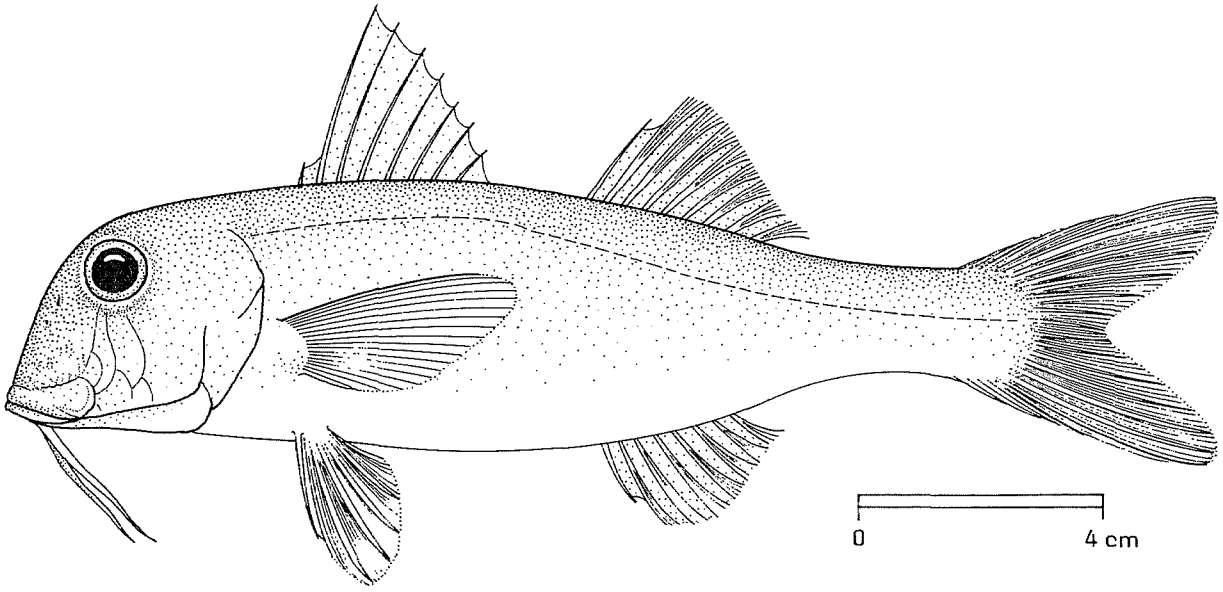
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MULLIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Mullus barbatus Linnaeus, 1758

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Red mullet (= Striped mullet, Area 37)
Fr - Rouget-barbet de vase (= Rouget barbet, Area 37)
Sp - Salmonete de fango

NATIONAL :

DISTINCTIVE CHARACTERS :

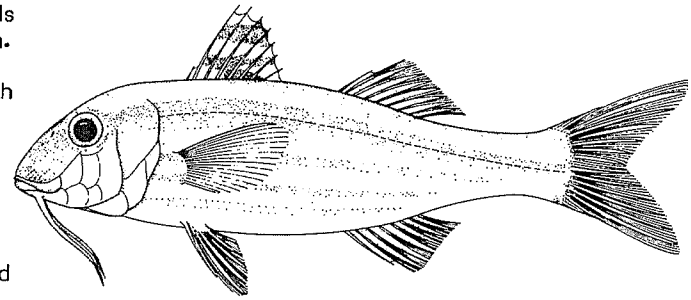
Body moderately compressed. A pair of stout barbels under chin, their length smaller than that of pectoral fins; opercle without spine; snout short and very steep; maxilla reaching, at least in adults, beyond anterior eye margin; small villiform teeth in lower jaw; upper jaw toothless; teeth also present on roof of mouth (vomer and palatines). First dorsal fin with 8 spines, the first minute; second dorsal fin with 1 spine and 8 soft rays; 31 to 35 scales in lateral line.

Colour: rosy, no markings on fins.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Mullus surmuletus: snout less steep, maxilla reaching at most below front of eye; yellow bands along the body and dark markings on the first dorsal fin.

Pseudupeneus prayensis: prominent teeth in both jaws and a spine on opercular margin.



Mullus surmuletus

SIZE:

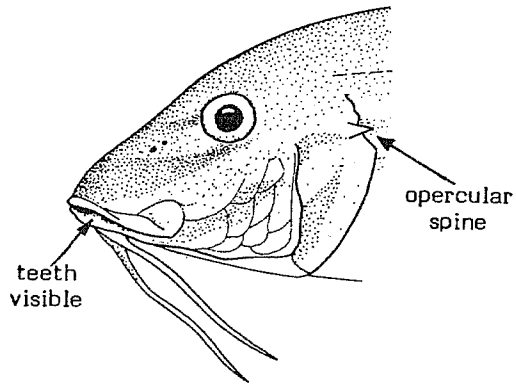
Maximum: 30 cm; common between 10 and 18 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Northern part of the area from Gibraltar to Dakar, including Madeira and the Canary Islands. Outside the area, along the coast of Western Europe, occasionally up to Scandinavia and in the Mediterranean and the Black Sea.

Inhabits sand, gravel and occasionally mud bottoms in shallow waters, to about 100 m depth.

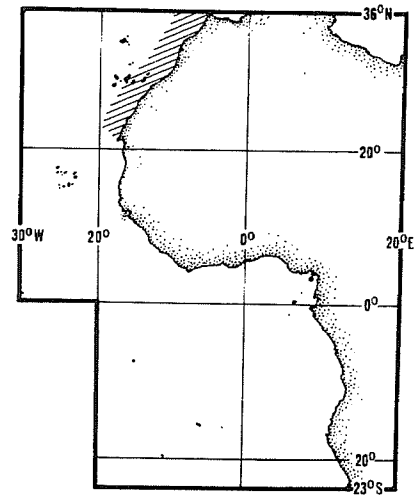
Feeds predominantly on small bottom-living invertebrates (crustaceans, worms, molluscs, etc.).



Pseudupeneus prayensis

PRESENT FISHING GROUNDS:

Coastal waters of the continental shelf, occasionally trawling grounds at depths from 10 to 60 m.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with gillnets, trammel nets and bottom trawls.

Marketed fresh or frozen; the flesh is highly esteemed.

MULL Mull 2

1981

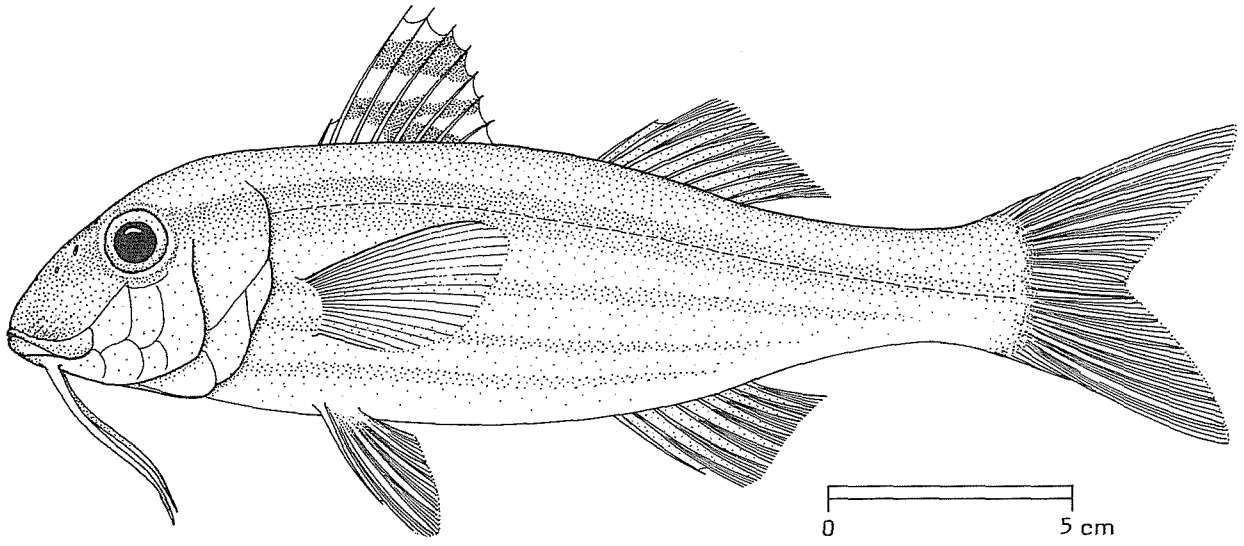
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MULLIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Mullus surmuletus Linnaeus, 1758

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Striped red mullet (= Red mullet, Area 37)
Fr - Rouget-barbet de roche
Sp - Salmonete de roca

NATIONAL :

DISTINCTIVE CHARACTERS :

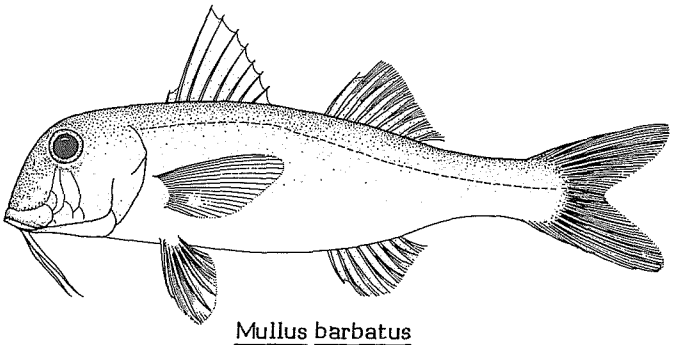
Body moderately compressed. A pair of stout barbels under chin; their length greater than that of pectoral fins; opercle without spine; snout less steep, anterior head profile parabolic; maxilla at most reaching below anterior eye margin; small villiform teeth in lower jaw; upper jaw toothless; teeth also present on roof of mouth (vomer and palatines). First dorsal fin with 7 or 8 spines, the first minute; second dorsal fin with 1 spine and 8 soft rays; 33 to 37 scales in lateral line.

Colour: reddish, usually with a darker red longitudinal stripe from eye to caudal fin and 3 yellow-brown lines on lower sides; first dorsal fin with dark markings.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Mullus barbatus: snout more steep; maxilla usually reaching beyond front of eye; no yellow bands along body and no dark markings on first dorsal fin.

Pseudupeneus prayensis: prominent teeth in both jaws and a spine on opercular margin.



Mullus barbatus

SIZE:

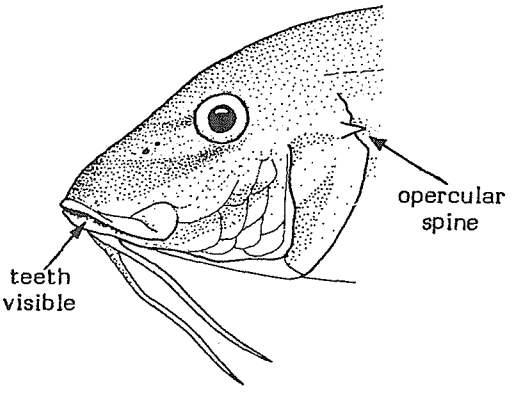
Maximum: 40 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Northern part of West Africa from Gibraltar to Dakar. Outside the area, along the coast of Western Europe up to the English Channel; also in the Mediterranean and Black Seas.

Inhabits mud and sandy bottoms, usually in depth less than 100 m, but some individuals were reported from depths of 370 m.

Feeds predominantly on small bottom-living invertebrates (crustaceans, worms, molluscs, etc.).



Pseudupeneus prayensis

PRESENT FISHING GROUNDS:

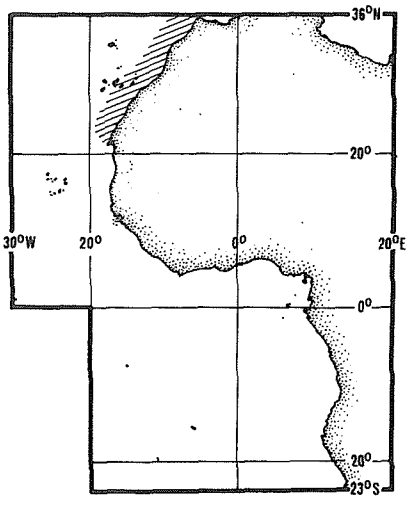
Coastal waters of the continental shelf, mostly trawling grounds at depths 20 to 200 m.

CATCHES, FISHING-GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with trawls, occasionally with gill-nets and trammel nets.

Marketed fresh or frozen; the flesh is highly esteemed.



MULL Pseudu 2

1981

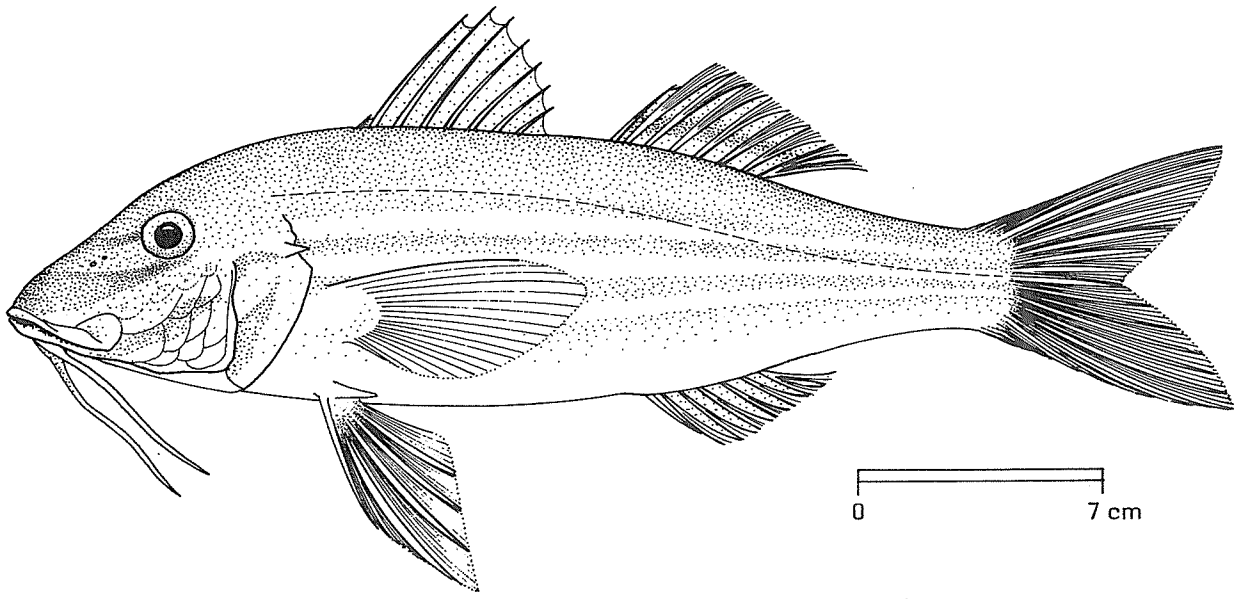
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MULLIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Pseudupeneus prayensis (Cuvier, 1829)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - West African goatfish
Fr - Rouget-barbet du Sénégal
Sp - Salmonete barbudo

NATIONAL :

DISTINCTIVE CHARACTERS :

Body moderately compressed; a pair of stout barbels under the chin; profile of head not strongly convex; posterior margin of opercle with one spine; strong, conical teeth in both jaws; some of the outer teeth in upper jaw pointed backwards and clearly visible when mouth is closed; no teeth on roof of mouth (vomer and palatines). First dorsal fin with 8 spines, the first very short; second dorsal fin with 1 spine and 8 soft rays; scales large, 28 or 29 in lateral line.

Colour: rosy, with 3 or 4 red lines along the body.

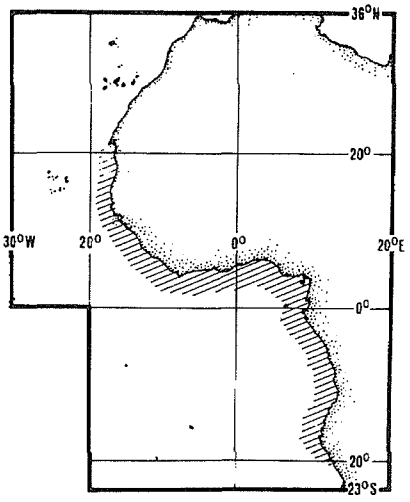
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Mullidae: no canine-like teeth in jaws; upper jaw toothless; teeth present on roof of mouth; no spine on opercular margin.

SIZE:

Maximum: 55 cm; common to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:



Known from Mauritania to southern Angola.

Inhabits mud and sand bottoms at depths between 10 and 300 m, usually from 30 to 45 m.

Feeds mainly on small bottom-living invertebrates.

PRESENT FISHING GROUNDS:

Coastal waters of the continental shelf, mostly trawling grounds at depths of 10 to 300 m. During the Guiney Trawling Survey this species constituted 3 to 8% of all catches; the highest catches were obtained at depths of 30 to 50 m.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catch reported for this species from the area in 1978 totalled about 2 500 t.

Caught mainly with bottom trawls occasionally with gillnets, trammel net, fixed bottom nets and on hook and line.

Marketed fresh, frozen and smoked; the flesh is highly esteemed.

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

MURAENESOCIDAE*

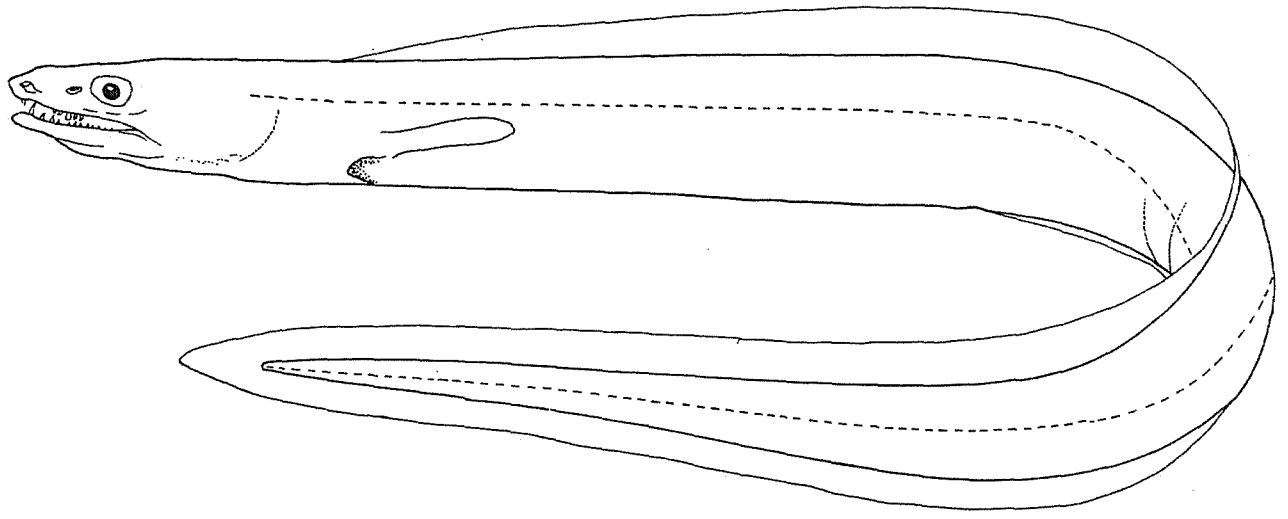
Pike-congers

Like other eel families, the Congridae are elongate fishes with numerous vertebrae. Body cylindrical becoming compressed posteriorly. Anus somewhat before midpoint of body. Mouth large, extending to behind eye; posterior nostril at about mideye level; eyes well developed; jaws equal or upper jaw slightly longer; gill openings large, separate, placed just in front of pectoral fin; a series of enlarged, fang-like teeth on midline of roof of mouth (vomerine teeth), often flanked by smaller teeth; tongue not free from floor of mouth. Dorsal fin origin over or slightly ahead of pectoral fins; dorsal and anal fins confluent with caudal; pectoral fins well developed; pelvic fins absent. Scales absent. Frontal bones fused.

Colour: brown or grey, paler ventrally, vertical fins edged in black posteriorly.

As currently recognized, the Muraenesocidae contains 7 or 8 genera of congrid-like eels, but there is some doubt that the group is a natural assemblage. Only the genera Muraenesox, Congresox, and Cynoponticus are of interest to fisheries workers, since they reach a large size and are used as food. Muraenesox and Congresox each contain two species and are found in the tropical Indo-West Pacific, where they sustain an important fishery. Cynoponticus contains three species, one each in the eastern Pacific, western Atlantic and eastern Atlantic. Each of these is exploited on a small scale by local fisheries, but none seems to be as important as the Indo-Pacific species.

All species of the Muraenesox-Congresox-Cynoponticus group are aggressive predators and live in relatively shallow water, generally less than 50 m. They are caught mainly on hook and line, and to a lesser extent by bottom trawls. They may be more active at night.



*Considered recently as part of the Family Congridae

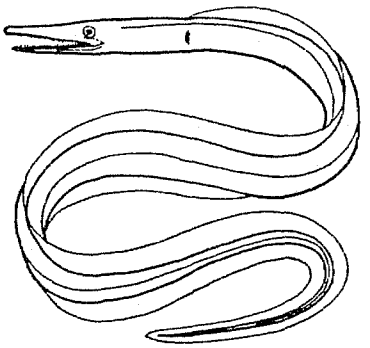
SIMILAR FAMILIES OCCURRING IN THE AREA:

Nettastomatidae: no pectoral fins; body very elongate.

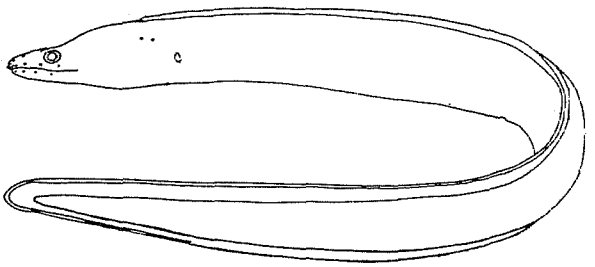
Muraenidae: no pectoral fins; gill openings reduced to small pores.

Synaphobranchidae (including Dysommidae): anus usually below pectoral fins, those species with a more posterior anus have small embedded scales and gill openings near ventral midline.

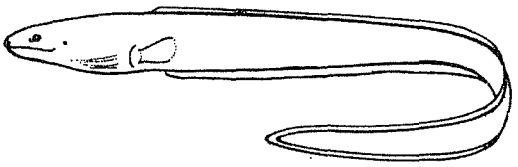
All other eel families lack the row of large, fang-like teeth on the shaft of the vomer.



Nettastomatidae



Muraenidae

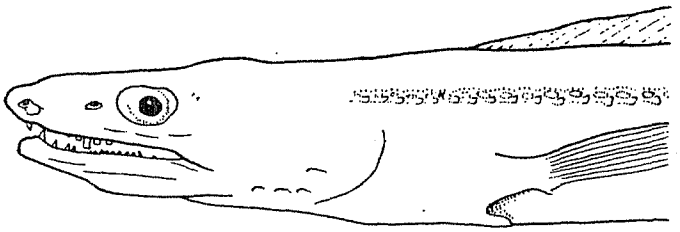


Synaphobranchidae

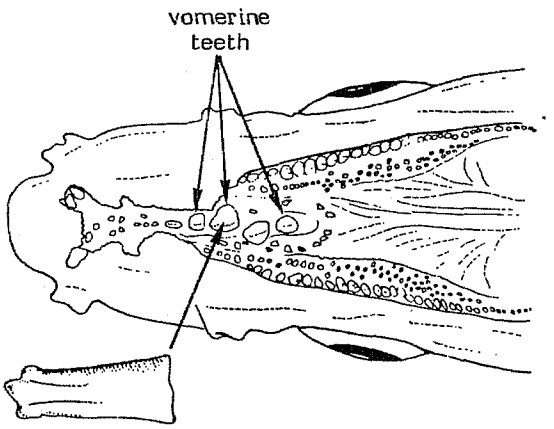
KEY TO GENERA OCCURRING IN THE AREA:

1 b. No obvious sensory pores on head, instead canals have a complex system of branches; vomerine teeth stout, compressed, close-set (Fig. 1) ..... Cynoponticus

1 b. Obvious sensory pores on head; vomerine teeth more slender, conical



a. head

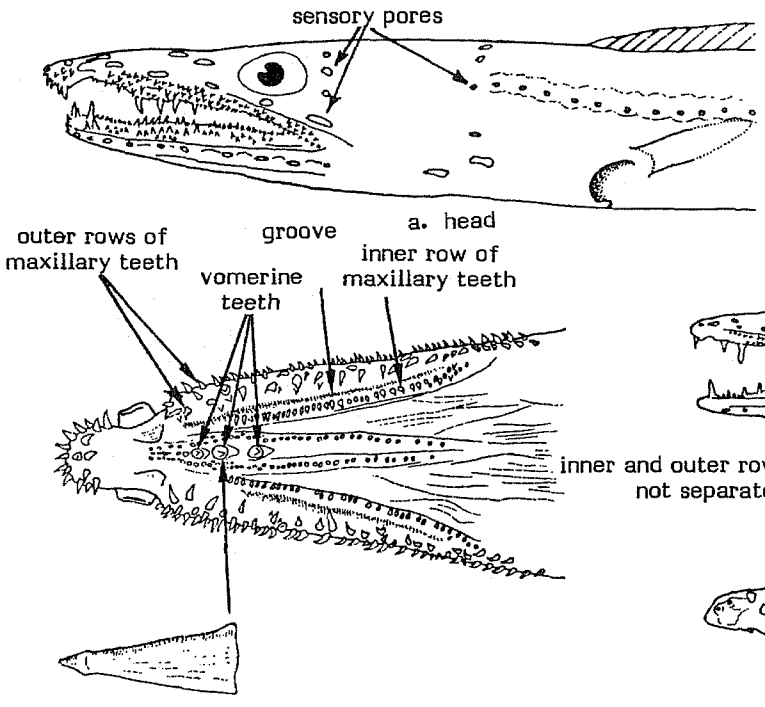


b. roof of mouth

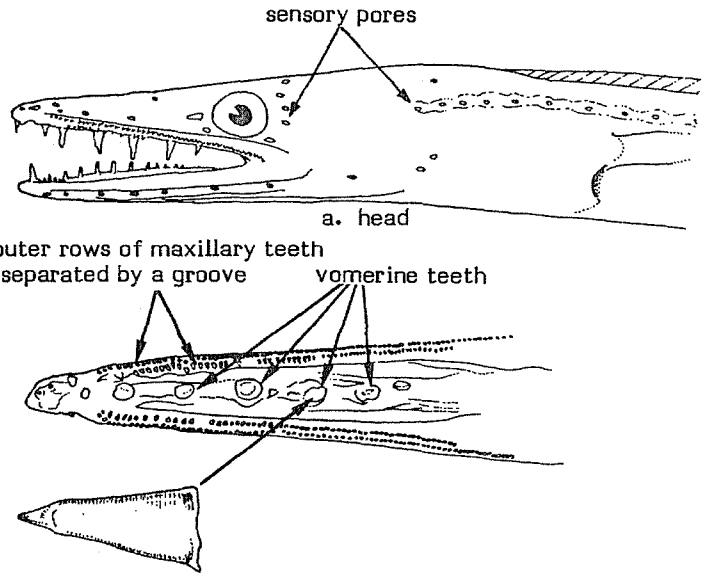
Cynoponticus Fig. 1

2 a. Maxillary and mandibular teeth in 3 or more rows, the inner row separated from the outer rows by a distinct groove (Fig. 2) ..... Xenomystax

2 b. Maxillary and mandibular teeth in 2 or 3 rows, the inner row not separated from the outer (Fig. 3) ..... Hoplunnis



Xenomystax Fig. 2



Hoplunnis Fig. 3

LIST OF SPECIES OCCURRING IN THE AREA:

Code numbers are given for those species for which Identification Sheets are included

Cynoponticus ferox Costa, 1846 MURAENES Cynop 1

Hoplunnis punctata Regan, 1915

*Xenomystax sp.

Prepared by David G. Smith, Marine Biomedical Institute, University of Texas (Galveston), Texas, U.S.A.

Part of illustrations redrawn from Blache, 1968

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*Erroneously reported in the literature as Paraxenomystax bidentatus Reid, a western Atlantic species; the eastern Atlantic species is undescribed

MURAENES Cynop 1

1981

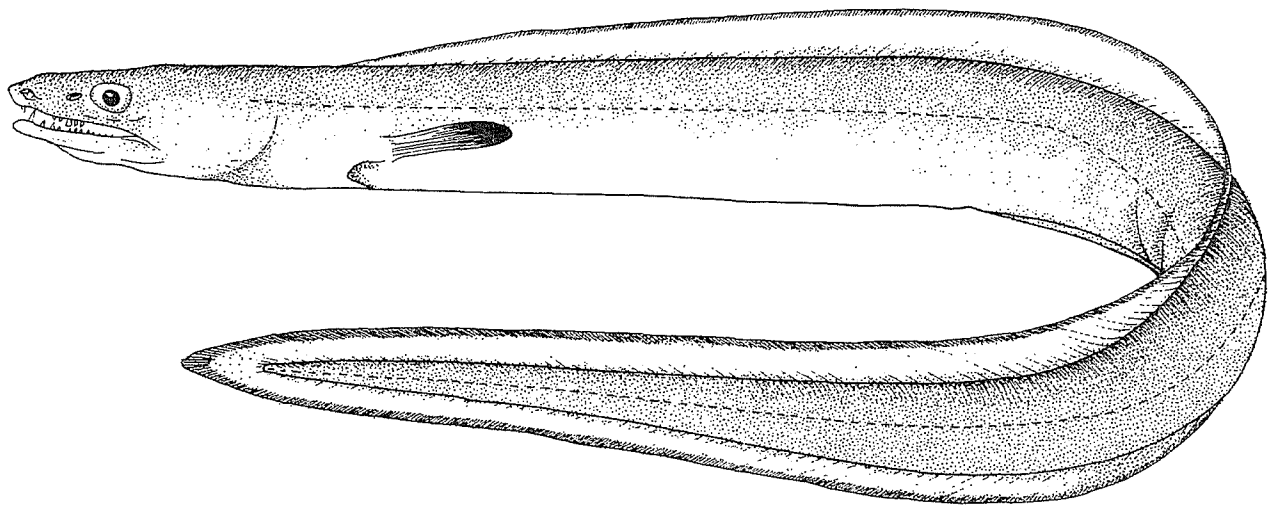
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MURAENESOCIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Cynoponticus ferox Costa, 1846

OTHER SCIENTIFIC NAMES STILL IN USE : Muraenesox ferox (Costa, 1846)
Phyllogramma regani Pellegrin, 1934



VERNACULAR NAMES:

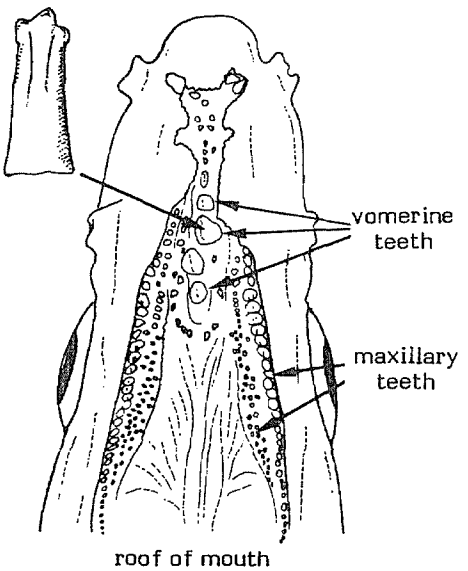
FAO : En - Guinean pike conger
Fr - Murénésoce de Guinée
Sp - Morenocio de Guinea

NATIONAL :

DISTINCTIVE CHARACTERS :

Body moderately elongate, anus somewhat ahead of midbody. Mouth large, upper jaw ending just behind eye; no upturned flange on upper lip; snout projects slightly beyond lower jaw; posterior nostril at about mid-eye level; gill opening large, on lower sides; vomerine teeth large, stout, compressed, forming a median row flanked by much smaller teeth; maxillary teeth hidden in external view by lip. Dorsal fin originates slightly ahead of pectoral-fin base; pectoral fins well developed; dorsal and anal fins confluent with caudal fin. Lateral line not opening in discrete pores as in most other eels, instead the canal gives off a series of complex diverticula, each bearing a variable number of minute pores. Scales absent.

Colour: grey above, pale below; dorsal and anal fins edged in black; pectoral fins dark grey or black distally.



roof of mouth

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Xenomystax sp.: vomerine teeth slender, conical; inner row of maxillary teeth separated from outer rows by a distinct groove; maxillary teeth exposed in external view; discrete sensory pores on head and body.

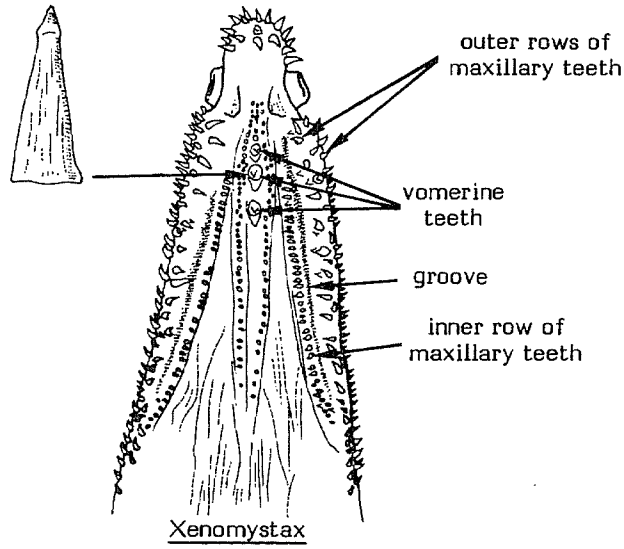
Hoplunnis punctata: body slender, elongate; vomerine teeth conical; discrete sensory pores on head and body.

Conger conger (Family Congridae): a broad, upturned flange on upper lip; outer row of jaw teeth forming a cutting edge; no large, fang-like teeth on vomer.

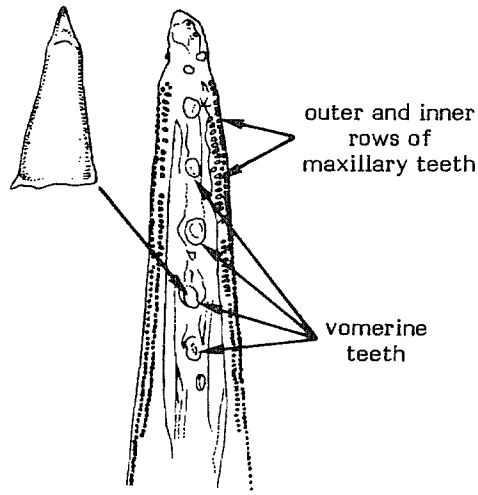
Synaphobranchidae: either small embedded scales present or anus near pectoral fins.

Muraenidae: pectoral fins absent; gill opening reduced to a small pore.

Nettastomatidae: body elongate; pectoral fins absent.



Xenomystax



Hoplunnis

roof of mouth

SIZE:

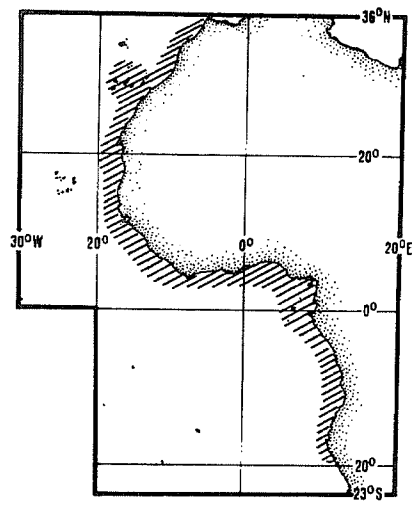
Maximum: 2 m.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, along the Coast of West Africa from Gibraltar to about 20°S. Northward extending into the Mediterranean. Rare in the Mediterranean but common in the Gulf of Guinea.

Occurs on sandy or sandy-muddy bottoms at depths of 10 to 100 m. The lower part of the depth range, from 70 to 100 m, is inhabited mainly by very large individuals, greater than 1.5 m total length.

Feeds on small and medium-sized fishes and invertebrates.



PRESENT FISHING GROUNDS:

Primarily the Gulf of Guinea.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken by hook and line and by bottom trawl.

Consumed fresh.

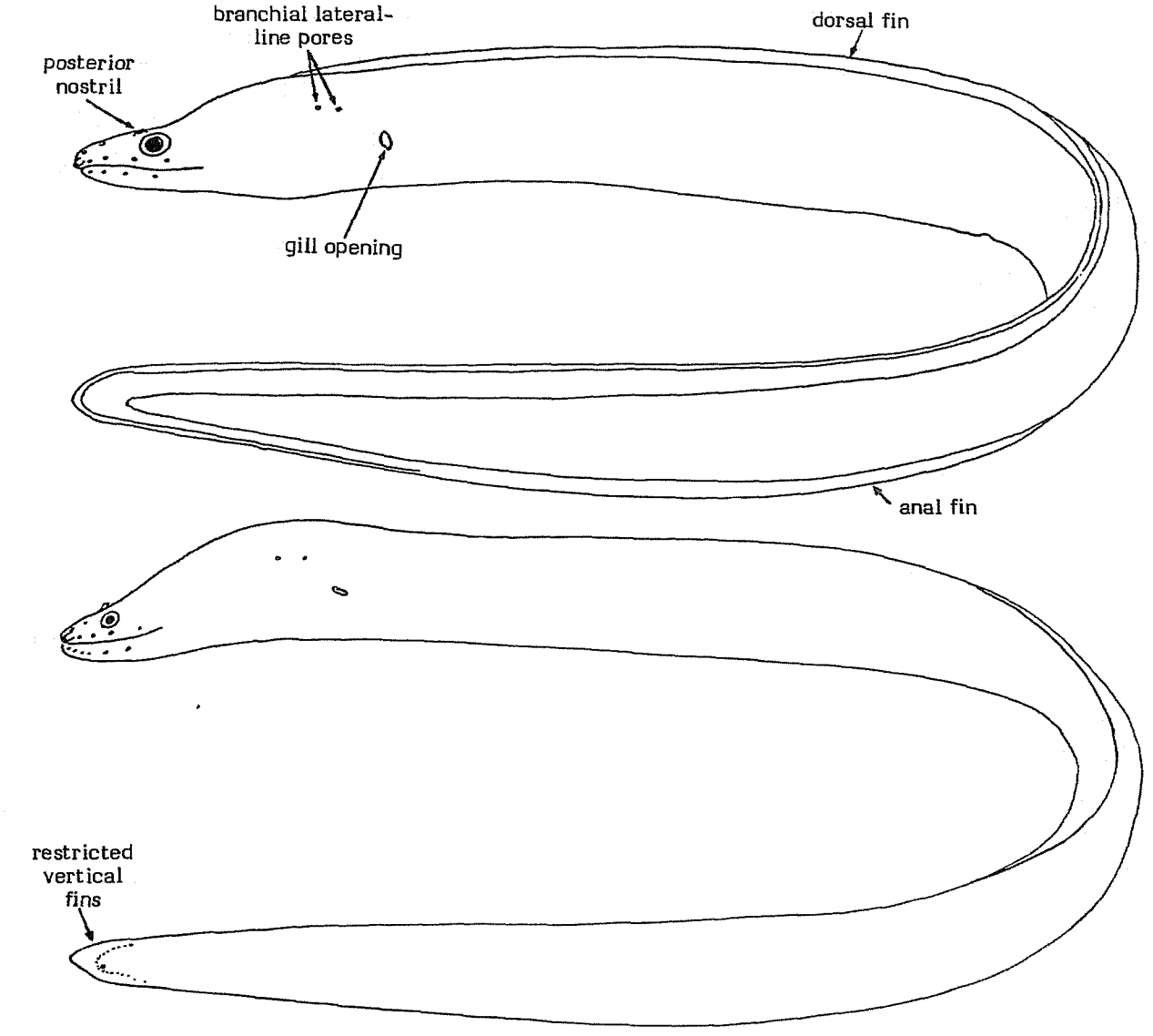
FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

MURAENIDAE*

Morays

Stocky, powerful eels, their body muscular and somewhat compressed. Typically the occipital region of head is somewhat elevated due to the development of strong muscles; anterior nostrils tubular at front of snout, posterior nostrils above or slightly before anterior portion of eye or elongated forward from that point; teeth in jaws usually strong, ranging from sharply pointed and depressible canines to blunt molars; teeth on vomer (roof of mouth) uniserial or in a median patch; gill openings restricted to small, roundish, lateral apertures; fourth branchial arch strengthened and supporting pharyngeal jaws. Vertical fins variously developed, from dorsal fin originating on head and anal fin immediately behind anus, to both fins restricted to tail tip; pectoral fins absent. No lateral-line pores on body, but a reduced complement of lateral-line pores on head, typically 2 in the branchial region.



*Diagnosis applies to Eastern Central Atlantic representatives only

Colour: variable, sometimes plain, brownish, purplish or blackish, but more often with distinctive patterns of marblings, blotches or bands.

Small-sized to large fishes (to over 200 cm in total length) inhabiting essentially shallow-waters in tropical areas, although a few species have invaded rather deep water (over 500 m) and a few others occur in temperate areas. Morays are most abundant on reefs or in rocky areas where they find protection in holes and crevices. They are scavengers and predators which become active mainly at night. They are prone to cause deep lacerating wounds with their powerful jaws and teeth if provoked, but usually they do not leave their hiding places to attack swimmers. Their remarkable vitality outside the water, and their slippery bodies contribute to increase the rate of accidents among fishermen. Morays are often caught on longlines and in traps.

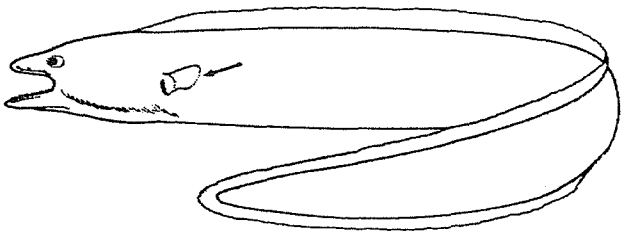
They are eaten in many parts of the world but none can be considered to be of commercial importance at present. Consumption of large individuals of some morays may cause fatal poisoning (ciguatera) in coral reef areas. In the Eastern Central Atlantic, a few species are reported to be marketed locally (mainly dried-salted), but more data based on reliable species identifications are needed to clarify this question further.

SIMILAR FAMILIES OCCURRING IN THE AREA:

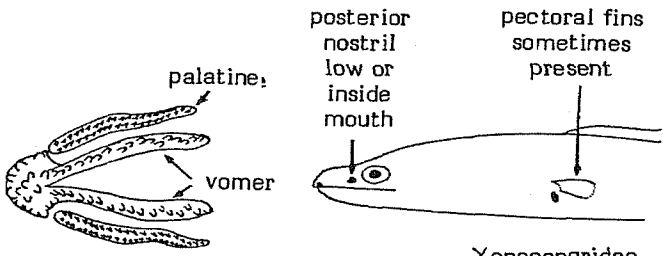
Myrocongridae (only in the South and Eastern Central Atlantic): generally similar in appearance to morays, but pectoral fins present.

Xenocongridae: with vomerine tooth series usually widely divergent in Eastern Atlantic species; posterior nostril oral (inside mouth) labial or before lower half of eye, rather than above eye or before its upper portion; pectoral fins sometimes present.

Other eel families: morays may be separated from other eel families by the combination of: body strong and muscular; anterior nostril tubular at front of snout, posterior nostril at or above level of upper portion of eye; vomerine teeth median when present; gill opening small and round; pectoral fins consistently absent; lateral-line pores present in branchial area but none on body.



Myrocongridae



teeth on roof of mouth (vomer and palatines)

Xenocongridae

KEY TO GENERA OCCURRING IN THE AREA:

1 a. Dorsal and anal fins confined to tail tip (Fig. 1)

2 a. A lateral line pore adjacent to posterior nostril, the pore and nostril separated by only a septum (Fig. 2) ..... Anarchias

2 b. No pore adjacent to posterior nostril (Fig. 3)

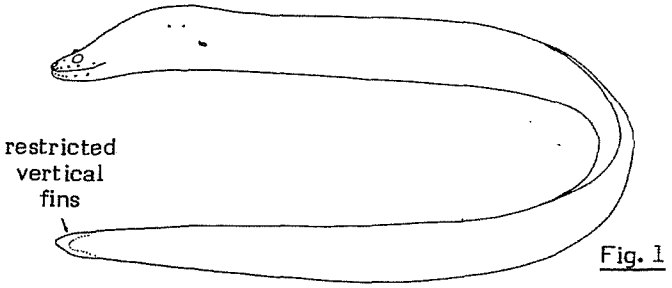


Fig. 1

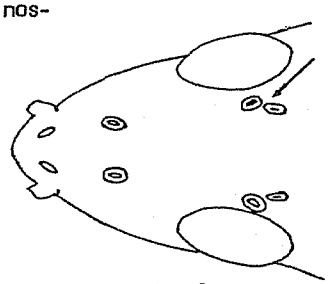


Fig. 2

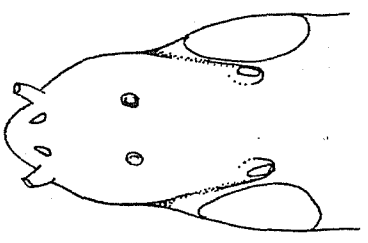


Fig. 3

3 a. Lower jaw projecting well beyond upper jaw; colour pattern of strong bands ..... Channomuraena

3 b. Lower jaw equal to upper or slightly shorter; body without bands ..... Uropterygius

1 b. Dorsal fin originating above gill opening or forward on head (Fig. 4)

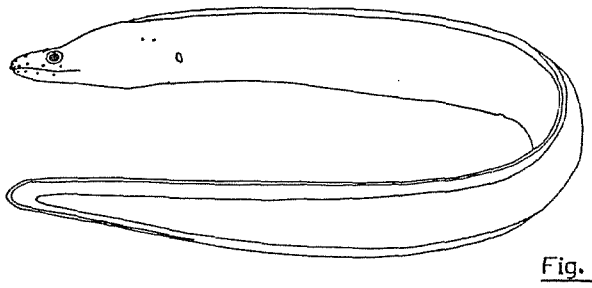


Fig. 4

4 a. Teeth sharp, some of them fang-like or shark-like

5 a. Jaws arched so that many teeth are exposed in lateral aspect when mouth is closed; dorsal fin origin above or just before gill opening ..... Enchelycore

5 b. Dorsal fin origin farther forward on head, well before gill opening

6 a. Posterior, as well as anterior, nostril with a tube ..... Muraena

6 b. Only anterior nostril with tube

7 a. Lateral jaw teeth shark-like, with some serrations on their margins (Fig. 5) ..... Gymnothorax

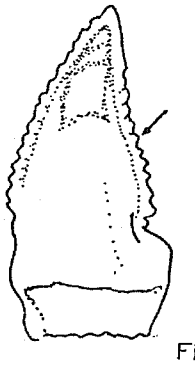


Fig. 5

7 b. Lateral jaw teeth without serrations (Fig. 6) ..... Lycodontis

4 b. Teeth mostly blunt, molar-like ..... Echidna

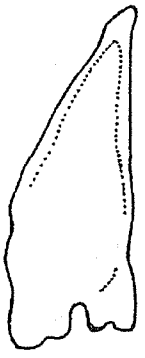


Fig. 6

LIST OF SPECIES OCCURRING IN THE AREA :

Code numbers are given for those species for which Identification Sheets are included

Anarchias grassi (Roule, 1916)	
Anarchias yoshiae Kanazawa, 1952	
Channomuraena vittata (Richardson, 1844)	MURAEN Chan 1
Echidna catenata (Bloch, 1795)	
Echidna peli (Kaup, 1856)	MURAEN Echid 1
Enchelycore anatina (Lowe, 1837)	MURAEN Ench 2
Enchelycore nigricans (Bonnaterre, 1788)	MURAEN Ench 1
Gymnothorax maderensis (Johnson, 1862)	MURAEN Gymn 2
Lycodontis afer (Bloch, 1795)	MURAEN Lycod 4
Lycodontis mareei (Poll, 1953)	MURAEN Lycod 5
Lycodontis moringa (Cuvier, 1829)	
Lycodontis polygonius (Poey, 1870)	
Lycodontis unicolor (Delaroche, 1809)	MURAEN Lycod 6
Lycodontis vicinus (Castelnau, 1855)	MURAEN Lycod 3
Muraena augusti (Kaup, 1856)	MURAEN Muraen 2
Muraena helena Linnaeus, 1758	MURAEN Muraen 3
Muraena melanotis (Kaup, 1859)	MURAEN Muraen 4
Muraena miliaris (Kaup, 1856)	MURAEN Muraen 5
Muraena robusta Osorio, 1909	MURAEN Muraen 6
Uropterygius wheeleri Blache, 1967	

Prepared by J.E. Böhlke, Department of Ichthyology, The Academy of Natural Sciences, Philadelphia, Pennsylvania, U.S.A.

Most outline drawings provided by author - Main species illustrations redrawn at FAO from published illustrations (Blache, 1967)

MURAEN Chan 1

1981

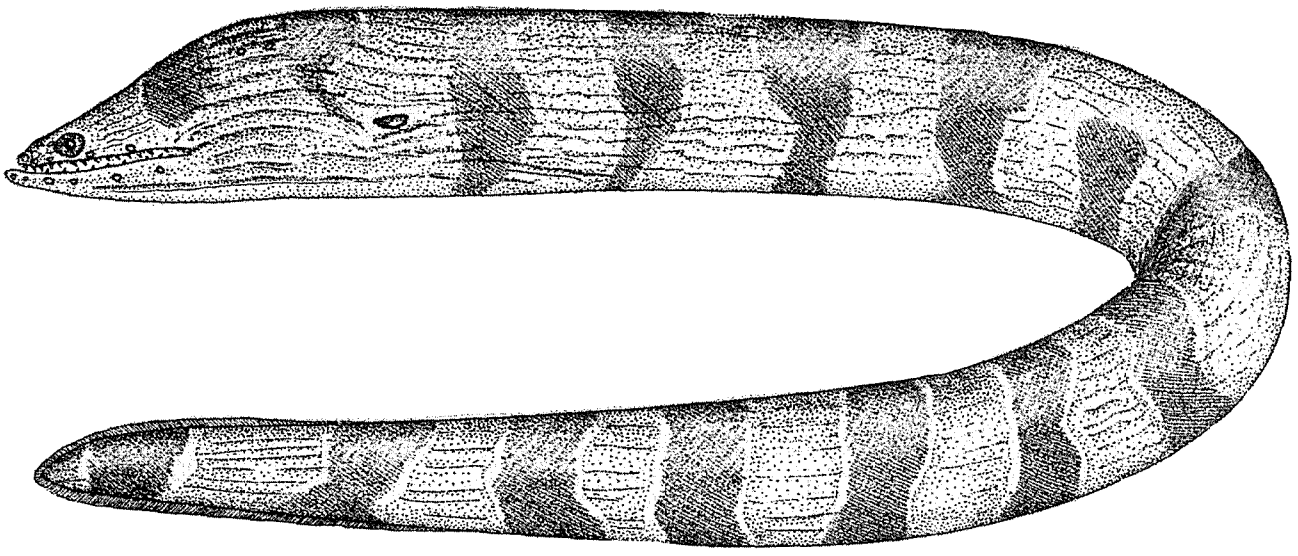
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MURAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Channomuraena vittata (Richardson, 1844)

OTHER SCIENTIFIC NAMES STILL IN USE : None



0 12 cm

VERNACULAR NAMES:

FAO : En - Broadbanded moray
Fr - Murène anneau
Sp - Morena franjeada

NATIONAL :

DISTINCTIVE CHARACTERS :

Body strong, muscular. Head with occipital region somewhat elevated; posterior nostrils with a tube, placed above anterior margins of eyes; lower jaw projecting beyond the upper; teeth small but pointed, multiserial, particularly those on upper jaw which increase from irregularly 3 to 6 rows with age. Vertical fins confined to posterior part of tail. Anus placed far posteriorly, the preanal distance two-thirds of total length. Total number of vertebrae 146 to 155.

Colour: yellowish brown, with dark brown cross-bands and partial bands; pale interspaces between bands usually edged with lighter yellowish than the spaces themselves.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

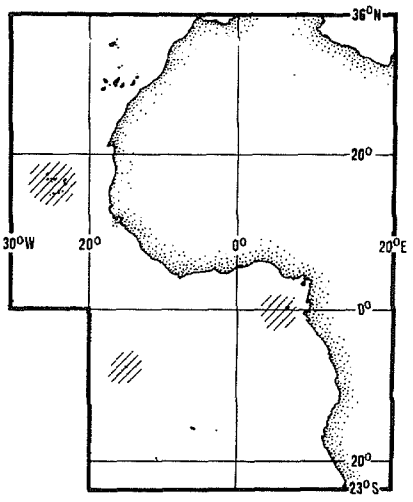
Uropterygius wheeleri, Anarchias grassi and A. yoshiae: without banded patterns; lower jaw not protruding; size smaller (to 55 cm in U. wheeleri to 15 cm in A. grassi, and to 22 cm in A. yoshiae); fewer vertebrae (127 to 135 in U. wheeleri, 116 to 119 in A. grassi, and 105 to 113 in A. yoshiae, against 146 to 155 in C. vittata).

Other species of Muraenidae in the region: vertical fins not confined to end of tail.

SIZE:

Maximum: 120 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:



In the Eastern Atlantic, from the islands of Cape Verde, Annobon, and Ascension. Also in the Western Atlantic from Bermuda and the Caribbean Islands (Antillean Ring).

An uncommon insular bottom-dwelling species from depths to 40 m.

PRESENT FISHING GROUNDS:

Caught incidentally in insular trap and line fisheries.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken by hook and line, in fish traps and speared.

Probably consumed occasionally, but apparently not often marketed.

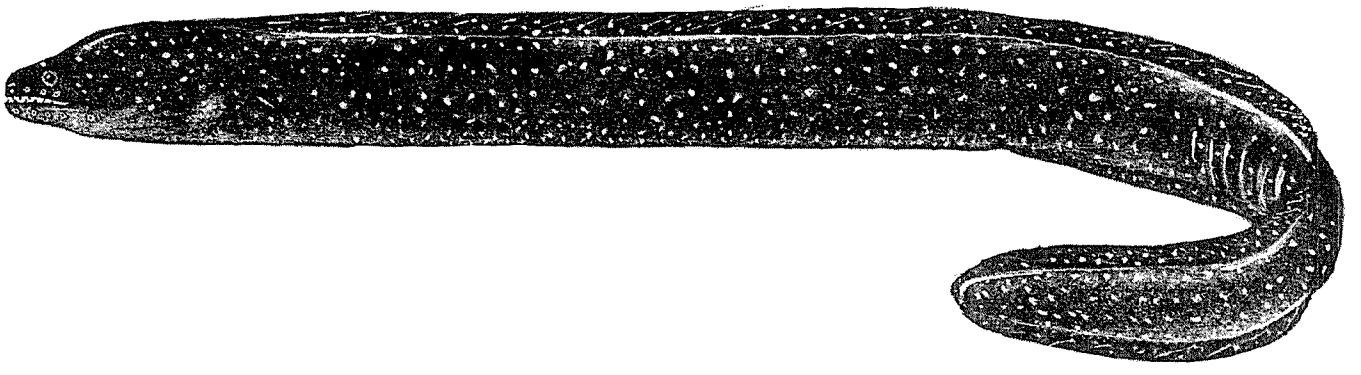
FAO SPECIES IDENTIFICATION SHEETS

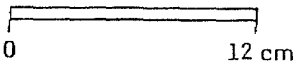
FAMILY : MURAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Echidna peli (Kaup, 1856)

OTHER SCIENTIFIC NAMES STILL IN USE : None





VERNACULAR NAMES:

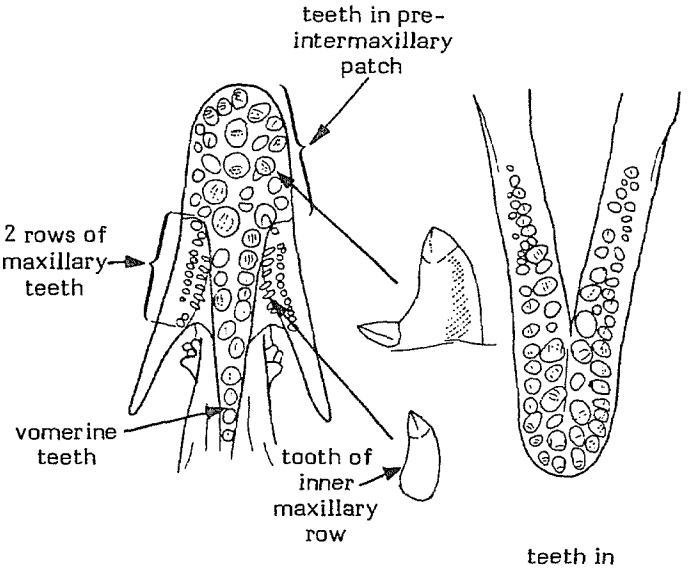
FAO : En - Pebbletooth moray
Fr - Murène serpent
Sp - Moreneta

NATIONAL :

DISTINCTIVE CHARACTERS :

Body strong, muscular, moderately compressed. Head with occipital region somewhat elevated; posterior nostril with a short tube; teeth without serrations along their anterior and posterior margins; upper jaw bearing anteriorly a large patch of low, broad, pointed to blunt pre- and intermaxillary teeth continuous with the biserial to uniserial vomerine dentition (on roof of mouth), and posteriorly 2 rows of more slender maxillary teeth, those in inner row the more elongated and pointed, dentary tooth patches (in lower jaw) biserial. Dorsal fin originating on head, before gill opening. Total number of vertebrae 118 to 123.

Colour: juveniles generally dark with irregular small, pale spots scattered over head and body. Adults becoming more nearly uniform dark except that the pores on jaws are set in pale spots.

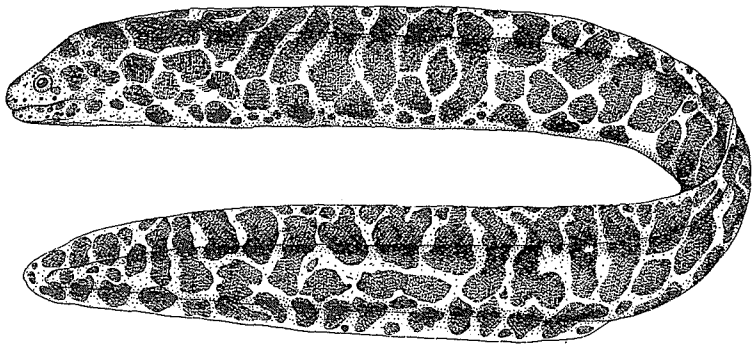


DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Echidna catenata (116 to 121 vertebrae; within the area, only known from Ascension Island): colour dark, with narrow pale reticulations forming a segmented, chain-like pattern.

Gymnothorax maderensis: teeth on jaws shark-like, with distinct serrations along their margins.

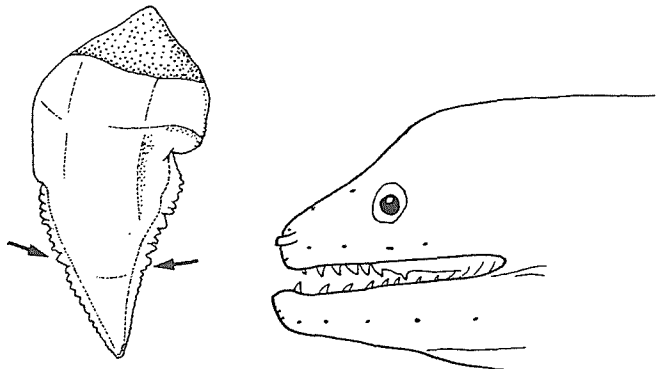
Other species of Muraenidae: teeth in jaws narrow-based, long and sharply pointed.



Echidna catenata

SIZE:

Maximum: 90 cm; sexually mature females have been reported at 50 to 59 cm.



upper tooth

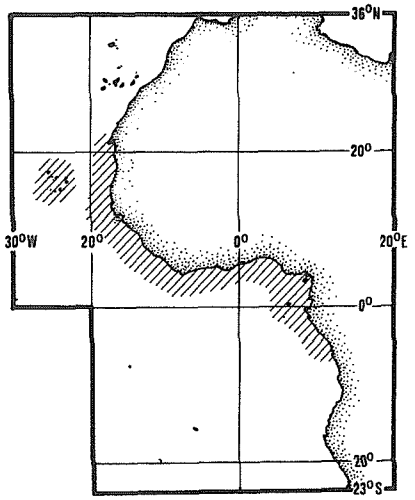
Gymnothorax maderensis

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Found on the west coast of Africa from Mauritania to Angola; also from the islands of Cape Verde and from Sao Tomé and Annobon in the Bay of Biafra.

A common species found in rocky shallow-water habitats.

Feeds on crustaceans, small shrimp and young crabs.



PRESENT FISHING GROUNDS:

Occasionally caught throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken with trawls and, probably, in traps and on hook and line.

Not often seen in markets but occasionally consumed.

MURAEN Ench 1

1981

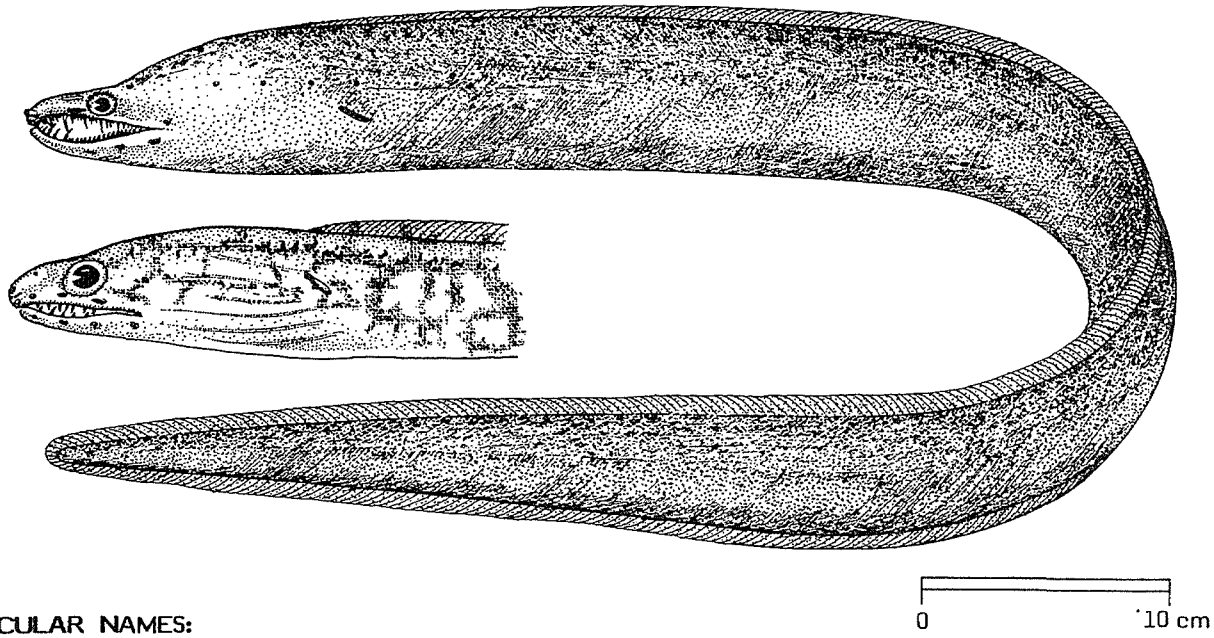
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MURAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Enchelycore nigricans (Bonnaterre, 1788)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Viper moray
Fr - Murène noire
Sp - Morena negra

NATIONAL :

DISTINCTIVE CHARACTERS :

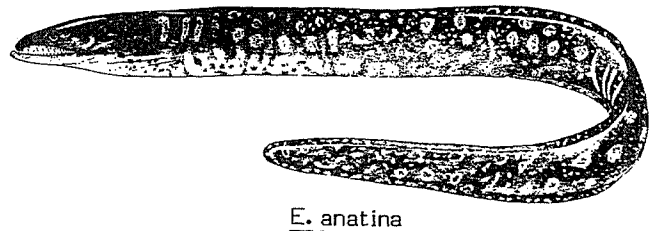
Body strong, muscular, moderately compressed. Head with occipital region somewhat elevated; posterior nostril a rounded opening above anterior margin of eye in young, but soon elongating forward to become a long, open, oval structure; jaws arched so that many long, fang-like teeth are exposed along sides when mouth is closed; a few enlarged canines forming a second, inner, series on lower jaw anteriorly. Dorsal fin origin above or only slightly in advance of gill opening. Total number of vertebrae 141 to 148.

Colour: young have a reticulated pattern as shown in the insert above, whereas adults become uniformly chestnut brown or brown faintly mottled with darker brown.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Enchelycore anatina: colour pattern of small, pale spots on head, and larger pale spots and blotches on body and fins; posterior nostril not elongated anteriorly, thus not forming long oval opening; jaw teeth biserial.

Other species of Muraenidae: jaws not arched and teeth not exposed.



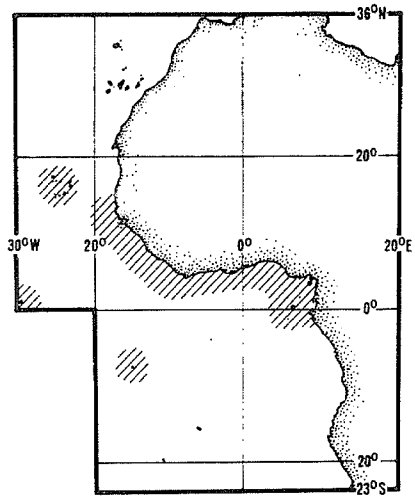
E. anatina

SIZE:

Maximum: 100 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from Senegal to Gabon and from the islands of Cape Verde and the Bay of Biafra; also recorded from Ascension Island and from St. Paul's rocks. Elsewhere, in the Western Atlantic from Bermuda, the Bahamas, and islands of southern Florida, the Gulf of Mexico, the Caribbean, and off the coasts of Central and South America to Brazil.



A common species inhabiting shallow waters of rocky and coral areas in depths recorded to 12 m.

Stomach contents include cephalopod parts and parts of fishes.

PRESENT FISHING GROUNDS:

Caught incidentally in trap-and-line fisheries.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken by hook and line, and in traps.

Most probably consumed occasionally, but apparently not often sold in markets.

MURAEN Ench 2

1981

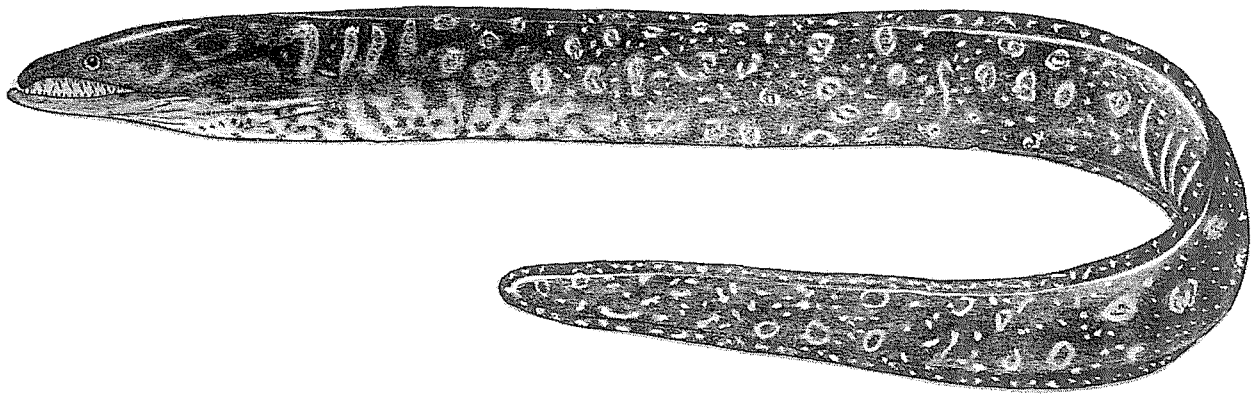
FAO SPECIES IDENTIFICATION SHEETS

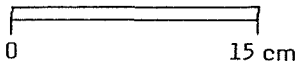
FAMILY : MURAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Enchelycore anatina (Lowe, 1837)

OTHER SCIENTIFIC NAMES STILL IN USE : Lycodontis anatinus (Lowe, 1837)





VERNACULAR NAMES:

FAO : En - Fangtooth moray
Fr - Murène des îles
Sp - Morena isleña

NATIONAL :

DISTINCTIVE CHARACTERS :

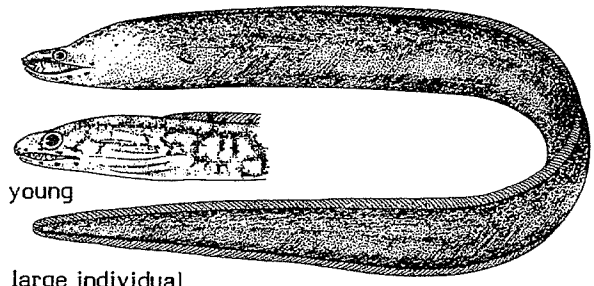
Body strong, muscular, moderately compressed. Head with occipital region somewhat elevated; posterior nostril a simple round or oval opening above anterior margin of eye. Jaws arched so that many long, fang-like teeth are exposed along sides when mouth is closed; teeth in upper jaw bi- to triserial, in lower jaw biserial. Dorsal fin origin above or slightly before gill opening. Total number of vertebrae 151 to 158.

Colour: body colour medium to dark brownish, lighter ventrally on head and anterior half of body; small pale spots on head, larger irregular pale spots and blotches on body and fins.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Enchelycore nigricans: colour pattern of dark reticulations on pale background in young; colour brownish, either uniform or faintly mottled with darker brown in adults; posterior nostril an elongated oval opening well in front of eye in larger specimens.

Other species of Muraenidae: jaws not arched and teeth not exposed when mouth is closed.



young

large individual

E. nigricans

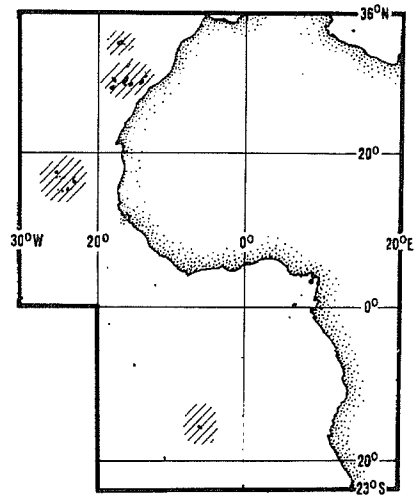
SIZE :

Maximum: 120 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

An insular species in the Eastern Atlantic from the islands of the Azores, Madeira, the Canaries, Cape Verde and St. Helena.

Uncommon, probably inhabits deeper waters rather than the shore area; in temperate rather than tropical waters.



PRESENT FISHING GROUNDS :

Caught incidentally.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Taken by hoook and line and by trawl.

Possibly consumed in subsistence fisheries.

MURAEN Gymn 2

1981

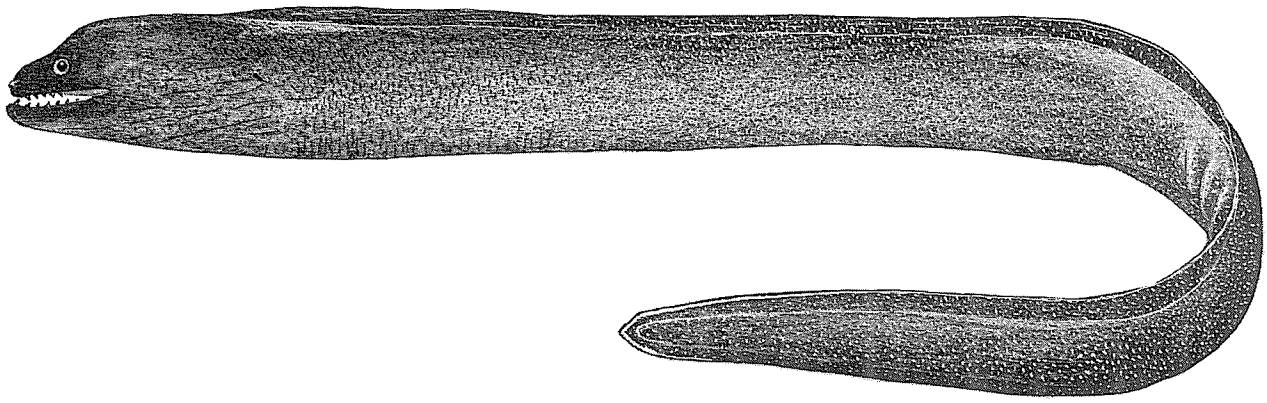
FAO SPECIES IDENTIFICATION SHEETS

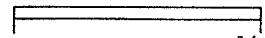
FAMILY : MURAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Gymnothorax maderensis (Johnson, 1862)

OTHER SCIENTIFIC NAMES STILL IN USE : None





VERNACULAR NAMES:

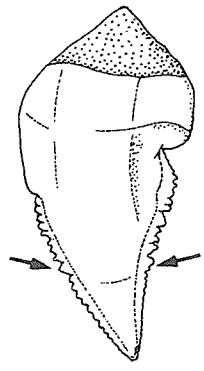
FAO : En - Sharktooth moray
Fr - Murène de Madère
Sp - Morena de Madeira

NATIONAL :

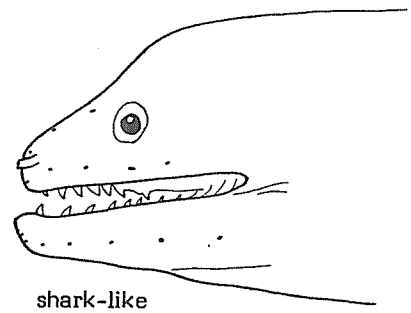
DISTINCTIVE CHARACTERS :

Body strong, muscular, moderately compressed. Head with occipital region somewhat elevated; posterior nostril a simple pore without tube before upper edge of eye; teeth shark-like in appearance, with strong serrations along both anterior and posterior margins, uniserial throughout. Dorsal fin originating on head a short distance before gill opening, posterior to branchial lateral line pores. Total number of vertebrae 150 to 156.

Colour: overall body colour light yellowish to medium or dark brown, everywhere covered with fine spots and reticulations, smallest and close-set on head, larger on body and fins, appearing dark in light individuals, light in dark ones; head noticeably dusky. Fins with light yellowish margins.



upper tooth



shark-like
serrated teeth

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Muraenidae: teeth not shark-like or serrated.

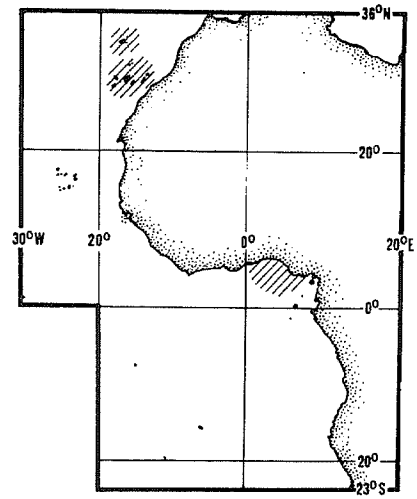
SIZE:

Maximum: to 100 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Known in the Eastern Atlantic from Madeira, the Canary Islands, and one African specimen from the coast of Benin.

Inhabits deep waters off islands.



PRESENT FISHING GROUNDS:

A rarely collected species.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken with hook and line and in deep traps.

Apparently not often consumed.

MURAEN Lycod 3

1981

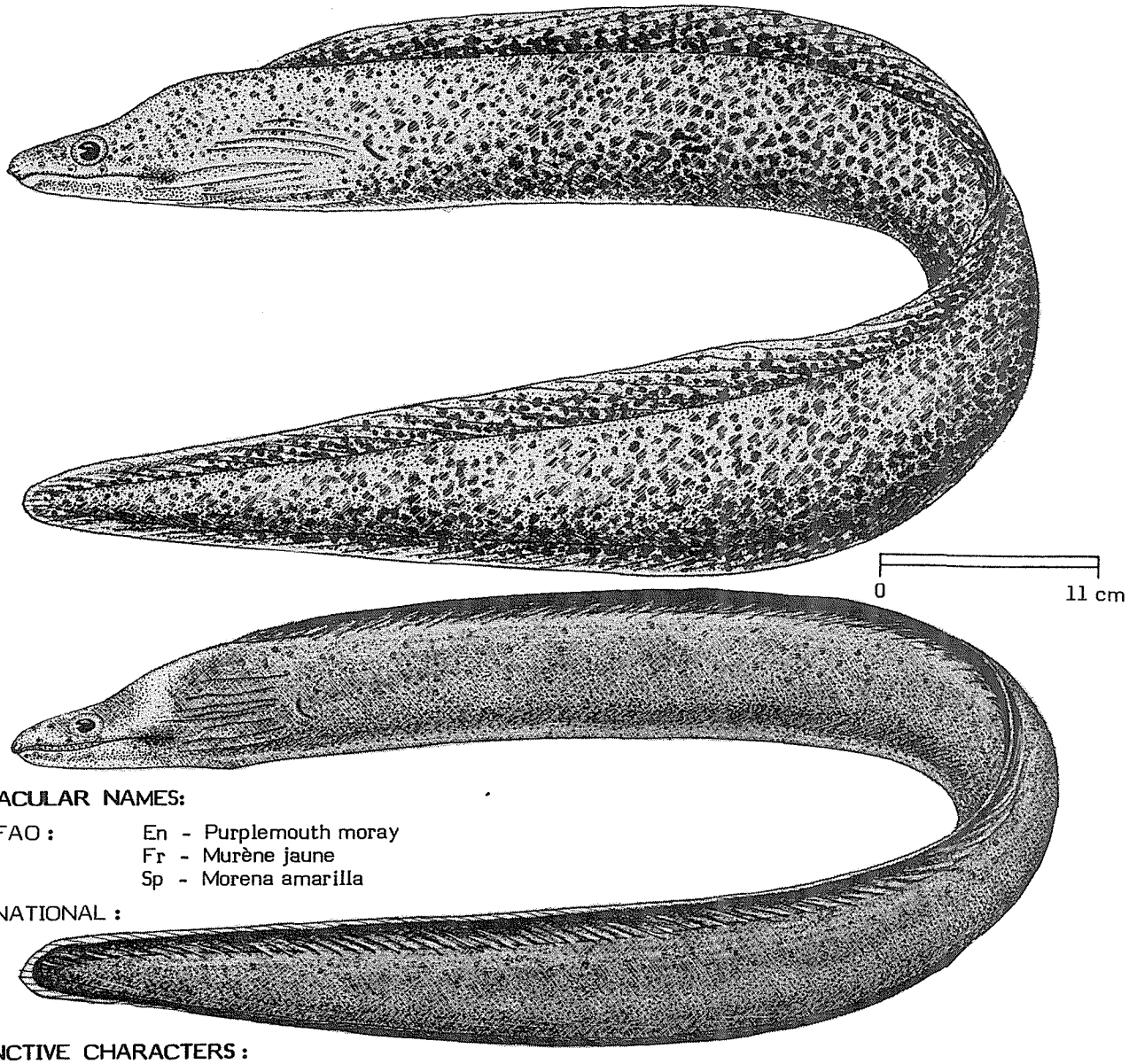
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MURAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Lycodontis vicinus (Castelnau, 1855)

OTHER SCIENTIFIC NAMES STILL IN USE : Gymnothorax vicinus (Castelnau, 1855)



VERNACULAR NAMES:

FAO : En - Purplemouth moray
Fr - Murène jaune
Sp - Morena amarilla

NATIONAL :

DISTINCTIVE CHARACTERS :

Body strong, muscular, moderately compressed. Head with occipital region somewhat elevated; posterior nostril a simple opening without tube; teeth without serrations on their anterior and posterior margins; teeth uniserial (plus two inner teeth on upper jaw only). Dorsal fin originating on head before anteriormost branchial lateral-line pore. Total number of vertebrae 129 to 136.

Colour: two extreme patterns of adults shown above; one with rather distinct greenish mottlings overall, the other nearly uniformly brownish with small darker freckling. Dorsal and anal fins with white edges, black submarginally; corner of mouth with a characteristic small dark brown patch.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Lycodontis afer and L. unicolor: uniform dark colour, no light edges on fins.

L. mareei: colour uniform dark, conspicuous white spots around jaw pores and a white area on lower jaw.

L. moringa (135 to 144 vertebrae; within the area known only from Ascension and St. Helena Islands): bold colour pattern of small dark spots and blotches on light background; no dark patch at corner of mouth.

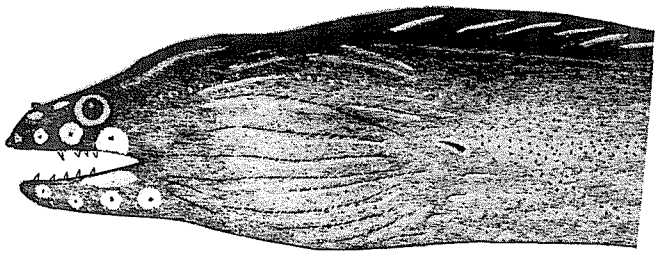
L. polygonius (135 to 142 vertebrae): colour pattern of irregular pale polygons outlined by and stippled with dark reticulations; pale margin on anal fin and posterior part of dorsal fin (see fig.); in the Eastern Atlantic known only from Cape Verde Islands.

Gymnothorax maderensis: teeth on jaws shark-like with distinct serrations along their margins.

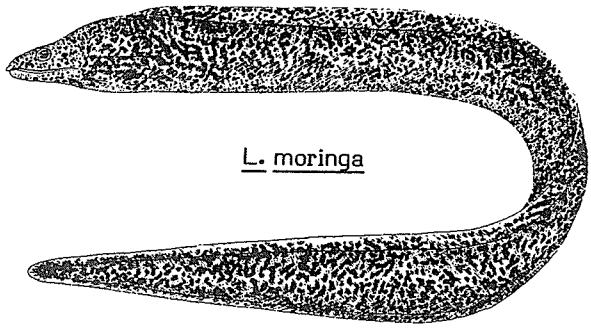
Muraena species: posterior, as well as anterior, nostril with a tube.

Echidna species: teeth mostly blunt, molar-like.

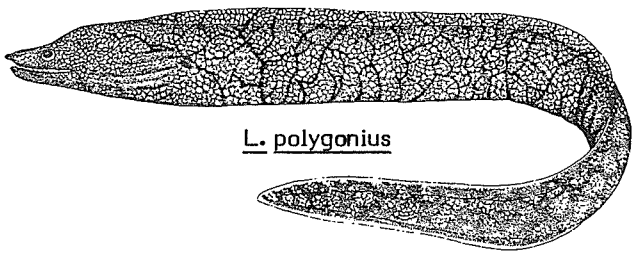
Other species of Muraenidae: origin of dorsal fin farther back, either over gill opening (Enchelycore) or confined to tail tip (Anarchias, Channomuraena, Uropterygius).



L. mareei



L. moringa



L. polygonius

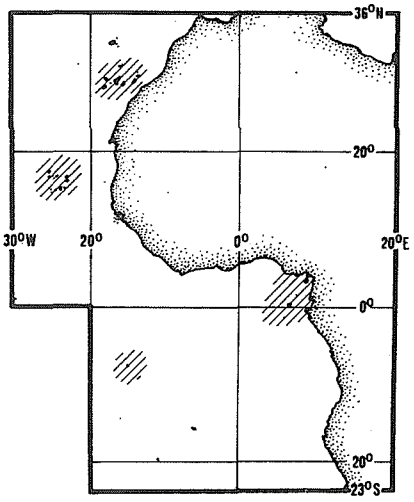
SIZE:

Maximum: 122 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the eastern Atlantic, known from the islands of Madeira, the Canaries, Cape Verde, Bay of Biafra, and Ascension. Also in the Western Atlantic, from Bermuda, the Bahamas and Florida south to Brazil, including islands in the Caribbean and along the Central and South American coastlines.

Inhabits shallow rocky and coral reef areas, also sea grass beds at depths to 40 m.



PRESENT FISHING GROUNDS:

Occasionally caught throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken by hook and line, in fish traps and speared.

Probably consumed occasionally, but not often seen in markets.

MURAEN Lycod 4

1981

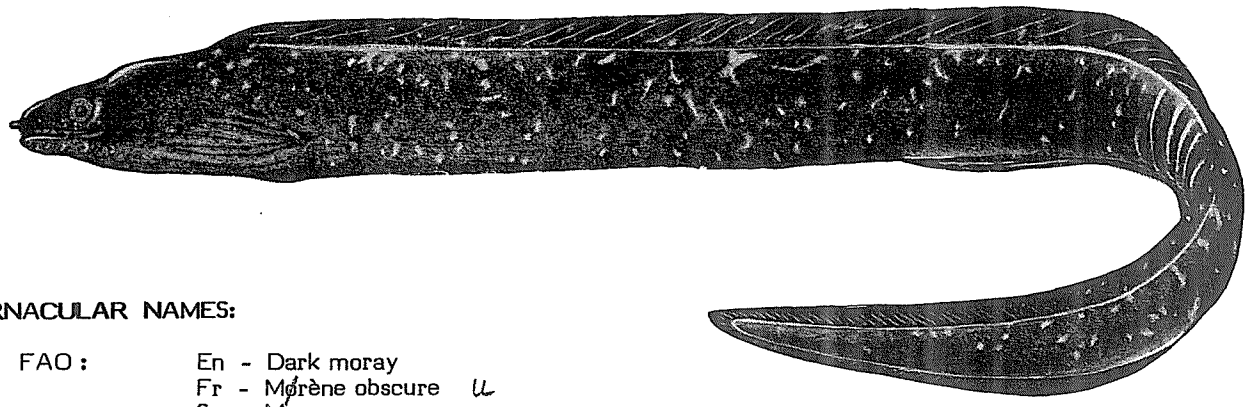
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MURAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Lycodontis afer (Bloch, 1795)

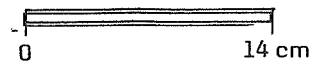
OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Dark moray
Fr - Mørène obscure
Sp - Morena oscura

NATIONAL :



DISTINCTIVE CHARACTERS :

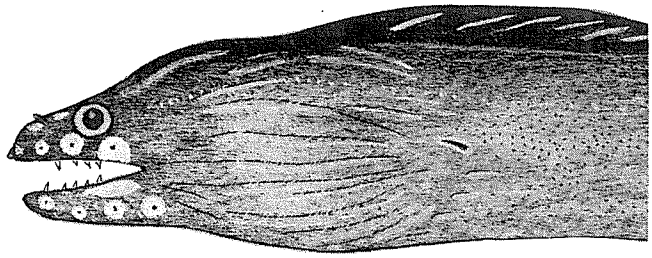
Body strong, muscular, moderately compressed. Head with occipital region somewhat elevated; posterior nostril a simple opening without tube; teeth without serrations on their anterior and posterior margins; teeth in jaws uniserial. Dorsal fin originating on head, before anteriormost branchial lateral-line pore. Total number of vertebrae 140 to 148.

Colour: dark brown or blackish overall with scattered irregular yellowish spots and blotches on body and dorsal fin, occasionally numerous and interconnecting (smaller individuals), more often few in number and difficult to discern, sometimes totally absent (large individuals). Fins edged with black.

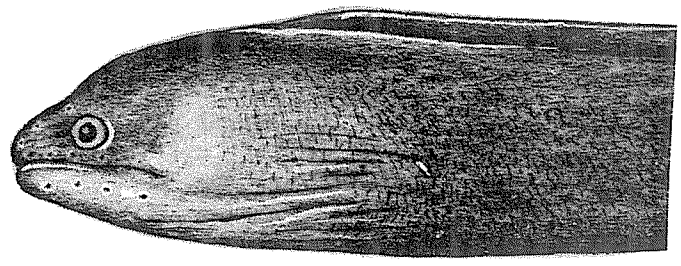
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Lycodontis mareei: colour uniformly dark; pores on jaws set in conspicuous white spots, and a longitudinal white bar on posterior half of lower jaw above row of pores.

L. unicolor: colour uniformly dark brown with anterior part of head darker followed by a lighter area to level of gill opening.



L. mareei



L. unicolor

L. vicinus: colour pattern sometimes brownish, but fins with white edges, black submarginally.

L. moringa (135 to 144 vertebrae; within the area, known only from Ascension and St. Helena Islands): a bold colour pattern of small dark spots and blotches on pale background on body and fins, fins edged with white posteriorly.

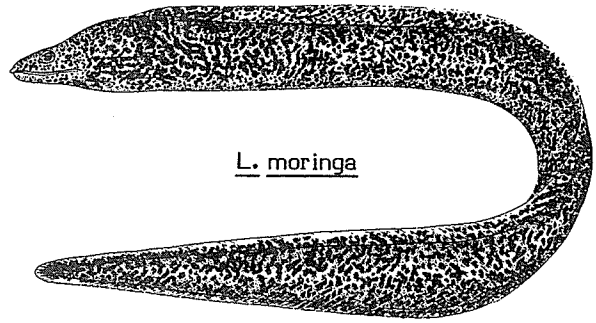
L. polygonius (135 to 142 vertebrae; within the area, known only from the Cape Verde Islands): colour pattern of irregular pale reticulated polygons, pale margin on anal fin and posterior part of dorsal fin.

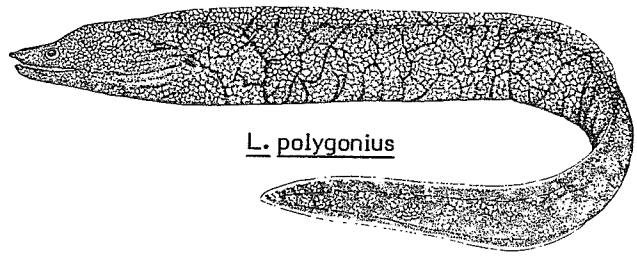
Gymnothorax maderensis: teeth on jaws shark-like, with distinct serrations along their margins.

Muraena species: posterior, as well as anterior, nostril with a tube.

Echidna species: teeth mostly blunt, molar-like.

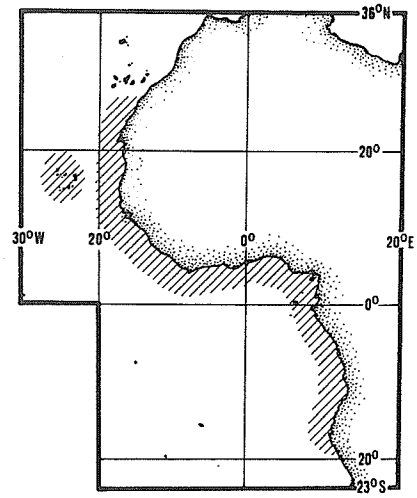
Other species of Muraenidae: origin of dorsal fin farther back, either over gill opening (Enchelycore) or confined to tail tip (Anarchias, Channomuraena, Uropterygius).


L. moringa


L. polygonius

SIZE :

Maximum: to 100 cm.



GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Found only off the west coast of Africa, from Mauritania to Angola and from the Cape Verde Islands.

The most common member of the genus found on the west coast of Africa in shallow waters.

PRESENT FISHING GROUNDS :

Occasionally caught throughout its range; a locally abundant species.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with trawls, traps and on hook and line.

Probably consumed occasionally, but not often seen in markets.

MURAEN Lycod 5

1981

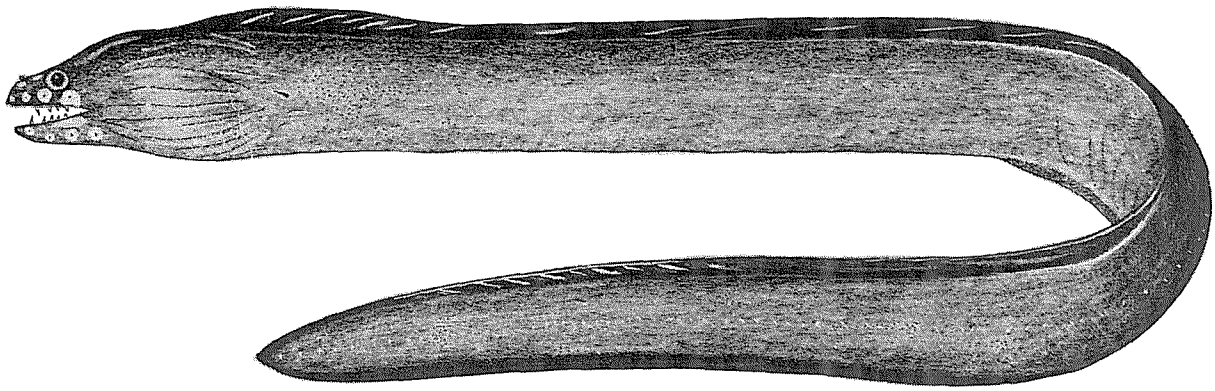
FAO SPECIES IDENTIFICATION SHEETS

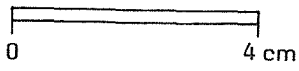
FAMILY : MURAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Lycodontis mareei (Poll, 1953)

OTHER SCIENTIFIC NAMES STILL IN USE : None





VERNACULAR NAMES:

FAO : En - Spotjaw moray
Fr - Murène cobra
Sp - Morena boca manchada

NATIONAL :

DISTINCTIVE CHARACTERS :

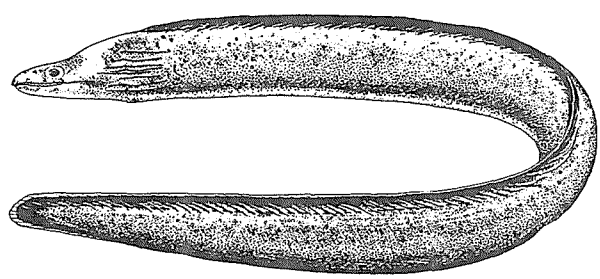
Body strong, muscular, moderately compressed. Head and snout short, occipital region elevated; posterior nostril a simple opening without tube; teeth without serrations on their anterior and posterior margins; upper jaw teeth biserial except posteriorly, lower jaw teeth uniserial except at tip of jaw. Dorsal fin originating on head, before anteriormost branchial lateral-line pore. Total number of vertebrae 130 to 138.

Colour: medium brown overall, somewhat lighter ventrally and in throat and lower jaw regions. Upper and lower jaw pores set in conspicuous white spots; a longitudinal white bar on posterior half of lower jaw just above the row of pores.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Lycodontis afer and L. unicolor: uniform dark colour but no conspicuous white spots on jaws.

L. vicinus: colour pattern sometimes brownish, but fins with white edges, black submarginally.

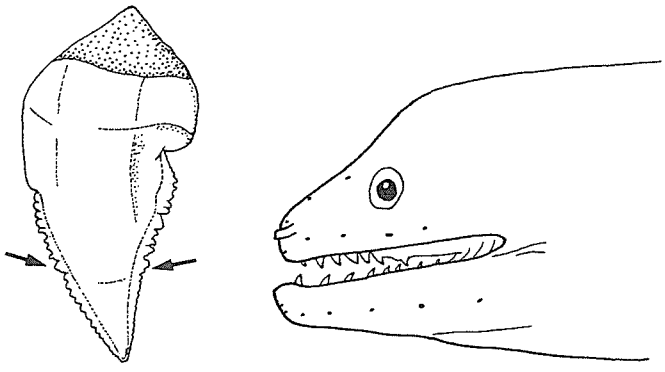


L. vicinus

Gymnothorax maderensis: teeth on jaws shark-like, with distinct serrations along their margins.

Enchelycore nigricans: sometimes uniformly brownish but with arched jaws, the teeth exposed when mouth is closed, dorsal fin originating over gill opening.

Other species of Muraenidae: with bold colour patterns.



upper tooth — shark-like, serrated teeth

Gymnothorax maderensis

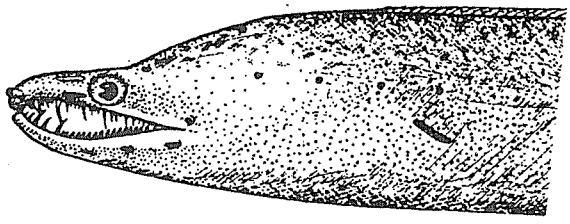
SIZE :

Maximum: to 40 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

West coast of Africa from Senegal to Angola; also from islands in the Bay of Biafra and St. Helena.

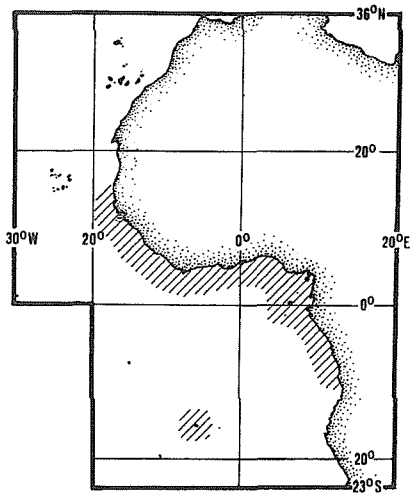
Commonly found in depths of 15 to 25 m. Has been confused with Lycodontis unicolor which is found only on offshore islands.



Enchelycore nigricans

PRESENT FISHING GROUNDS :

Occasionally caught throughout its range.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with trawls, traps and on hook and line.

Probably consumed occasionally, but not often seen in markets.

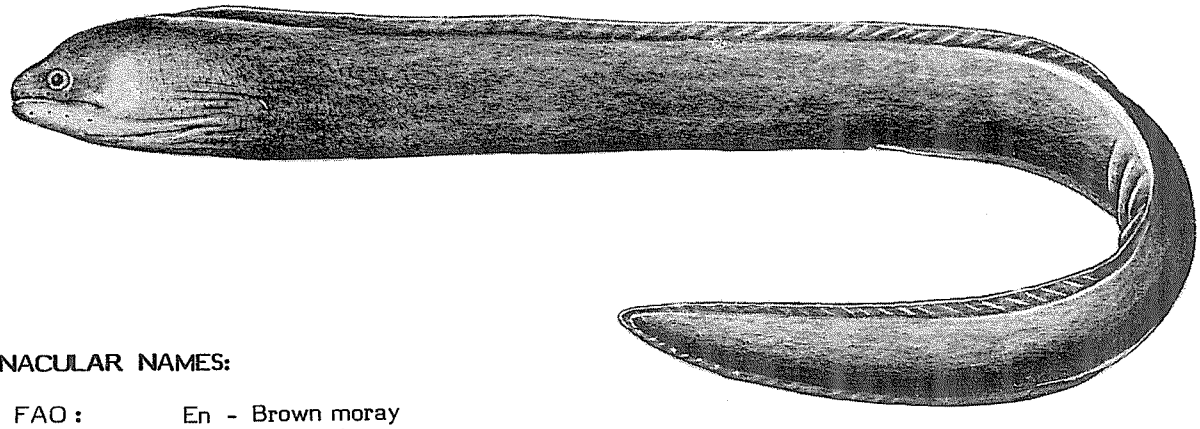
FAO SPECIES IDENTIFICATION SHEETS

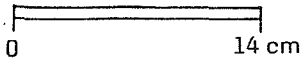
FAMILY : MURAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Lycodontis unicolor (Delaroche, 1809)

OTHER SCIENTIFIC NAMES STILL IN USE : None





VERNACULAR NAMES:

FAO : En - Brown moray
Fr - Murène brune
Sp - Morena lucia

NATIONAL :

DISTINCTIVE CHARACTERS :

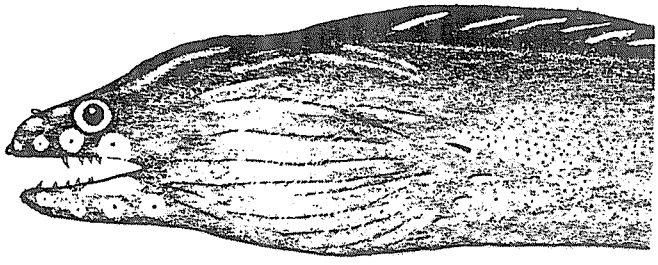
Body strong, muscular, moderately compressed. Head and snout short, occipital region somewhat elevated; posterior nostril a simple opening without tube; teeth without serrations on their anterior and posterior margins; upper jaw teeth biserial, lower jaw teeth biserial anteriorly, uniserial far posteriorly. Dorsal fin originating on head just before anteriormost branchial lateral-line pore. Total number of vertebrae 136 to 146.

Colour: body and fins uniform medium to dark brown; anterior part of head (to mouth angle) darker, followed by lighter area to about level of gill opening; mouth angle dark.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Lycodontis afer: body sometimes appearing dark overall, but no difference in head colour; teeth uniserial.

L. mareei: colour uniformly dark, but conspicuous white spots around jaw pores and a white area on lower jaw.



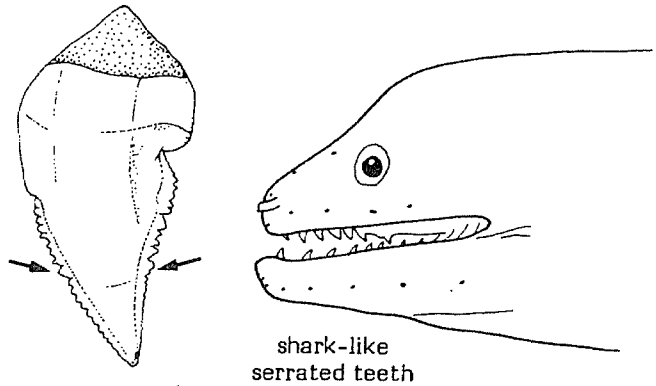
L. mareei

L. vicinus: colour sometimes brownish, but fins with white edges, black submarginally.

Gymnothorax maderensis: teeth on jaws shark-like with distinct serrations along their margins.

Enchelycore nigricans: sometimes uniformly brownish but with arched jaws, the teeth exposed when mouth is closed, and dorsal fin originating over gill opening.

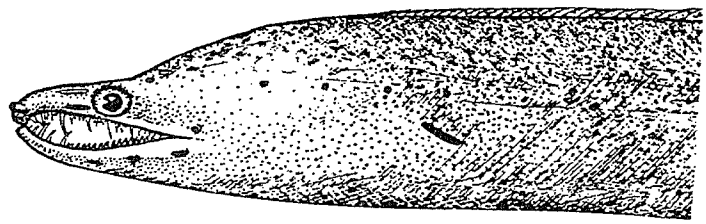
Other species of Muraenidae: with bold colour patterns.



Gymnothorax maderensis

SIZE :

Maximum: to 80 cm.



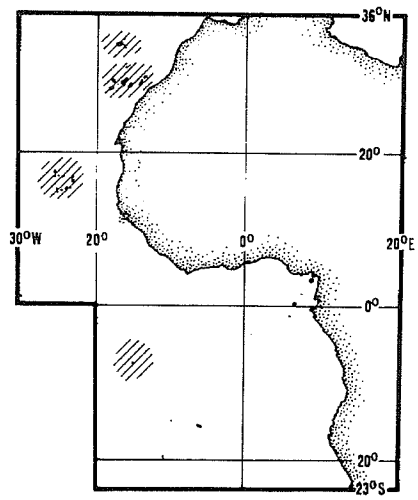
Enchelycore nigricans

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

From the islands of the Eastern Atlantic: Cape Verde, the Canaries, Madeira, Ascension; also in the Azores.

A relatively common insular species, found in shallow water in areas of rock, rough sand and gravel.

Stomach contents include small crabs and gastropods.



PRESENT FISHING GROUNDS :

Occasionally caught throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with trawls, traps and on hook and line.

Reported to be marketed dried salted in some localities (Senegal).

MURAEN Muraen 2

1981

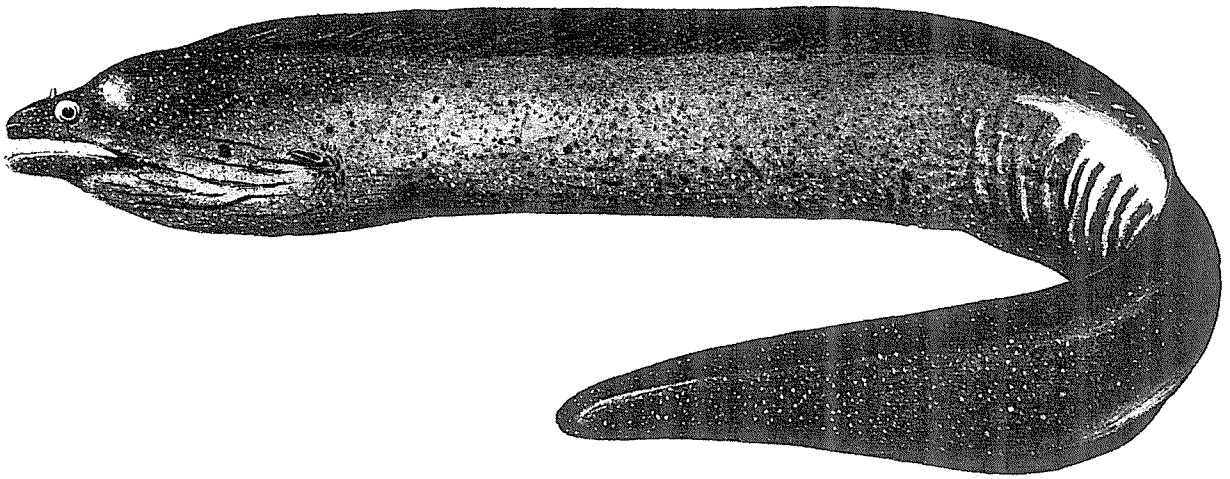
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MURAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Muraena augusti (Kaup, 1856)

OTHER SCIENTIFIC NAMES STILL IN USE : Muraena helena* Linnaeus, 1758



VERNACULAR NAMES:

FAO : En - Dotted moray
Fr - Murène auguste
Sp - Morena augusta

NATIONAL :

DISTINCTIVE CHARACTERS :

Body strong, muscular, moderately compressed. Head with occipital region somewhat elevated; posterior nostril tubular, above anterior margin of eye; teeth without serrations on their anterior and posterior margins; upper jaw teeth mostly biserial, lower jaw teeth biserial anteriorly, uniserial posteriorly. Dorsal fin origin on head, before anteriormost branchial lateral-line pore. Total number of vertebrae 137 to 142.

Colour: entire body dark purplish-black; minute, widely-separated, ocellated, light spots present on body and fins, sometimes not visible anteriorly on head. No light edge on fins; tip of tail dark.

*M. augusti is considered a form of M. helena by Blache

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

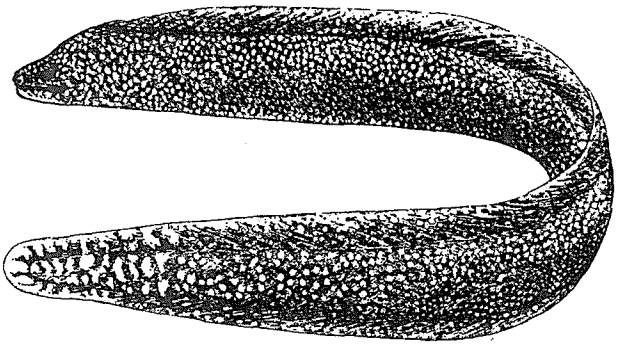
Muraena miliaris: end of tail marbled, tip always yellow; posterior nostril with low tube less than half the length of anterior nostril tube.

Other species of Muraena: spots are larger and varying in size.

Species of Echidna: teeth broad-based and rounded.

Species of Lycodontis, Gymnothorax and Enchelycore: posterior nostrils not tubular.

Species of Anarchias, Channomuraena and Uropterygius: vertical fins confined to end of tail.



Muraena miliaris

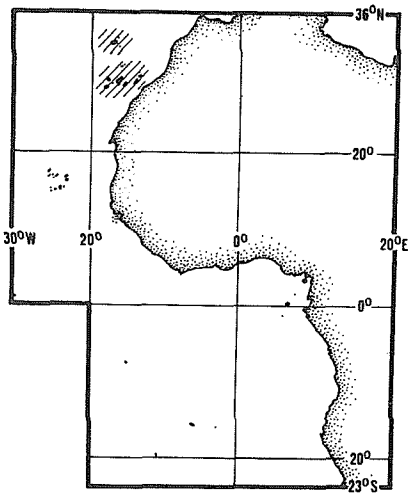
SIZE:

Maximum: to 70 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the Eastern Atlantic, known from the islands of the Azores, Madeira, and the Canaries. In the Western Atlantic, one questionable record from Brazil.

Habitat and depth range uncertain.



PRESENT FISHING GROUNDS:

Infrequently caught.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Probably taken with hook and line.

Probably consumed occasionally, but not often seen in markets.

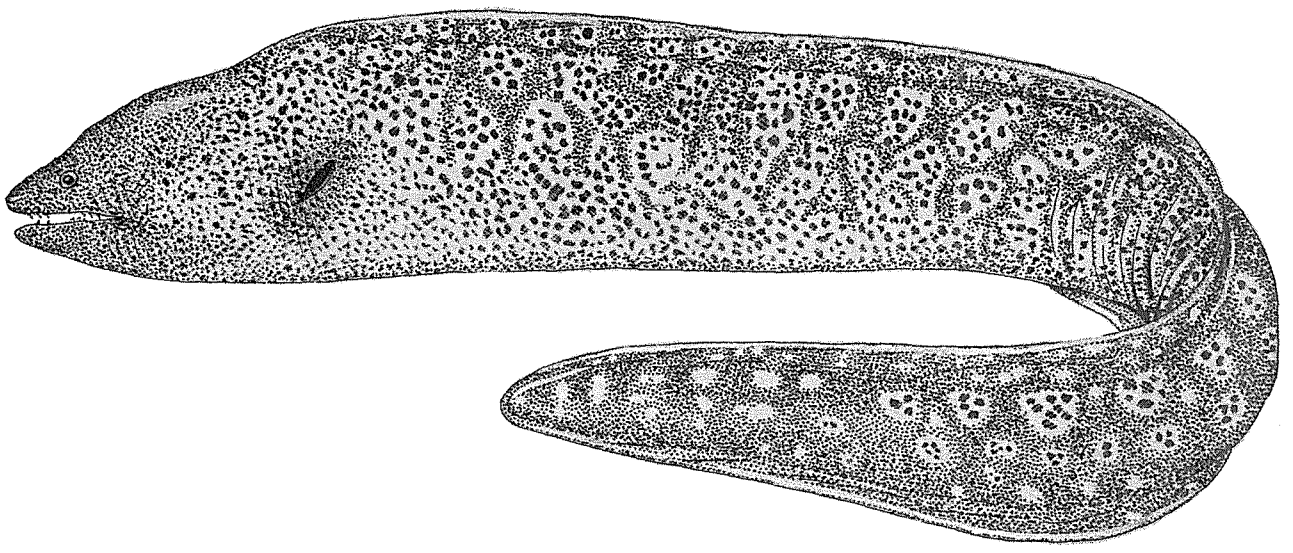
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MURAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Muraena helena Linnaeus, 1758

OTHER SCIENTIFIC NAMES STILL IN USE : None



0 13 cm

VERNACULAR NAMES:

FAO : En - Mediterranean moray
Fr - Murène de Méditerranée
Sp - Morena mediterránea

NATIONAL :

DISTINCTIVE CHARACTERS :

Body strong, muscular, moderately compressed. Head with occipital region somewhat elevated; posterior nostril tubular, above anterior margin of eye; teeth without serrations on their anterior and posterior margins; all jaw teeth uniserial. Dorsal fin origin on head, before anteriormost branchial lateral-line pore. Total number of vertebrae 142 to 146.

Colour: brown with large pale spots, each of which contains smaller brown spots, forming a "rosette" pattern; pale areas becoming smaller posteriorly with fewer brown spots, sometimes white blotches only at end of tail. Head lighter brown with various pale spots and reticulations; gill opening in a diffuse darker brown area. A light margin on fins. Extreme variations in colour recorded in literature apply to one (possibly two) distinct species.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Muraena: colour patterns include various sizes of spots, none with the "rosette" pattern of this species.

Species of Echidna: teeth broad-based and rounded.

Species of Lycodontis, Gymnothorax and Enchelycore: posterior nostrils not tubular.

Species of Anarchias, Channomuraena and Uropterygius: vertical fins confined to end of tail.

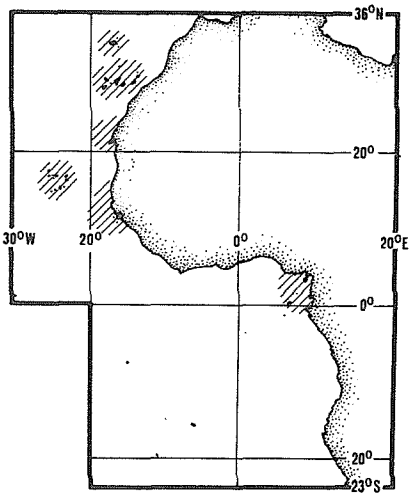
SIZE:

Maximum: to 100 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Primarily a Mediterranean species, also taken in the Azores and Madeira and from Senegal on the west coast of Africa. Other records probably are based on M. augusti.

Said to be from shallow-water rocky habitats.



PRESENT FISHING GROUNDS:

Taken in the Eastern Atlantic, but more commonly in the Mediterranean.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Probably taken with hook and line or in traps.

Reported to be marketed dried-salted in some localities (Senegal, Ghana). The white flesh is said to be of excellent quality.

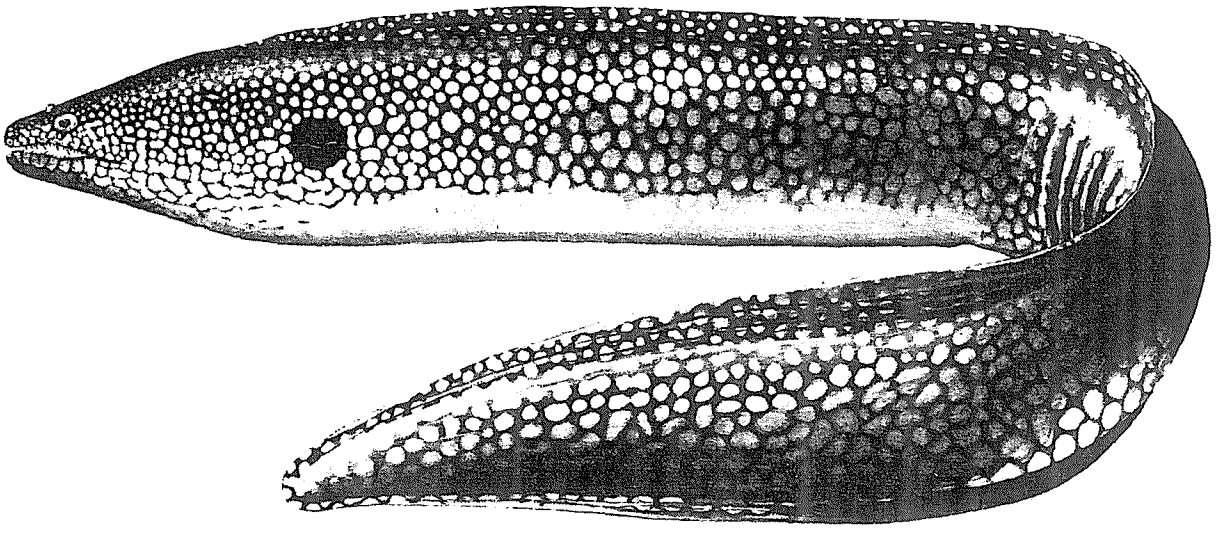
FAO SPECIES IDENTIFICATION SHEETS

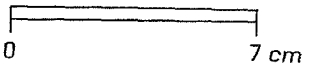
FAMILY : MURAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Muraena melanotis (Kaup, 1859)

OTHER SCIENTIFIC NAMES STILL IN USE : None





VERNACULAR NAMES:

FAO : En - Honeycomb moray
Fr - Murène à pois
Sp - Morena de lunares

NATIONAL :

DISTINCTIVE CHARACTERS :

Body strong, muscular, moderately compressed. Head with occipital region somewhat elevated; posterior nostril tubular, above anterior margin of eye; teeth without serrations on their anterior and posterior margins; in specimens less than 50 cm, upper jaw teeth biserial, lower jaw teeth biserial anteriorly; in larger specimens all jaw teeth mostly uniserial. Dorsal-fin origin on head before anteriormost branchial lateral-line pore. Total number of vertebrae 121 to 127.

Colour: dark brownish-black with pale round spots as large as or larger than eye (sometimes smaller on head), spots usually very close together, giving a honeycomb appearance; belly pale with few or no spots or marks visible from gill opening to anus. Gill opening in bold black blotch.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

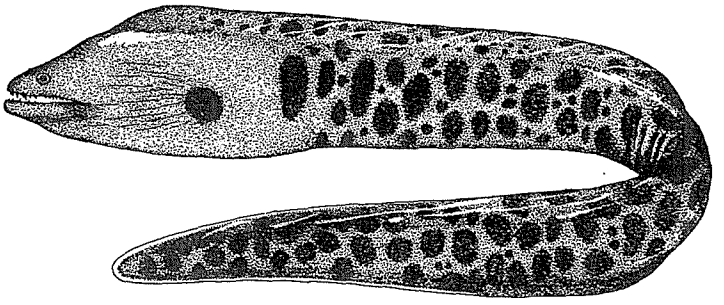
Muraena augusti, M. helena and M. miliaris: gill opening not surrounded by prominent black spot.

Muraena robusta: dark spots of varying sizes on paler background.

Species of Echidna: teeth broad-based and rounded.

Species of Lycodontis, Gymnothorax and Enchelycore: posterior nostrils not tubular.

Species of Anarchias, Channomuraena and Uropterygius: vertical fins confined to end of tail.

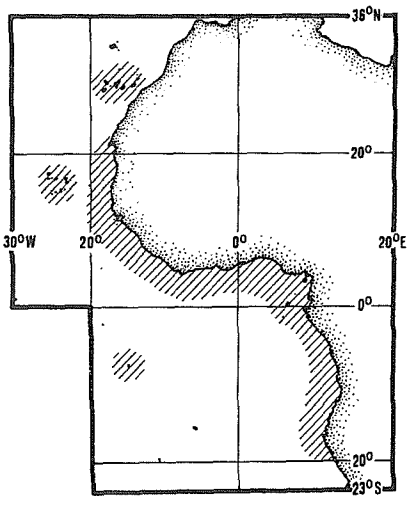


Muraena robusta

SIZE:

Maximum: 80 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:



West coast of Africa from Mauritania to Angola; also from the islands of the Canaries, Cape Verde, Ascension and the Bay of Biafra.

Inhabits shallow waters; M. melanotis and M. robusta are the most common species of Muraena in the East Atlantic.

Stomach contents mostly crustaceans.

PRESENT FISHING GROUNDS:

Occasionally caught throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken with hook and line and by trawls.

Probably consumed occasionally, but not often seen in markets.

MURAEN Muraen 5

1981

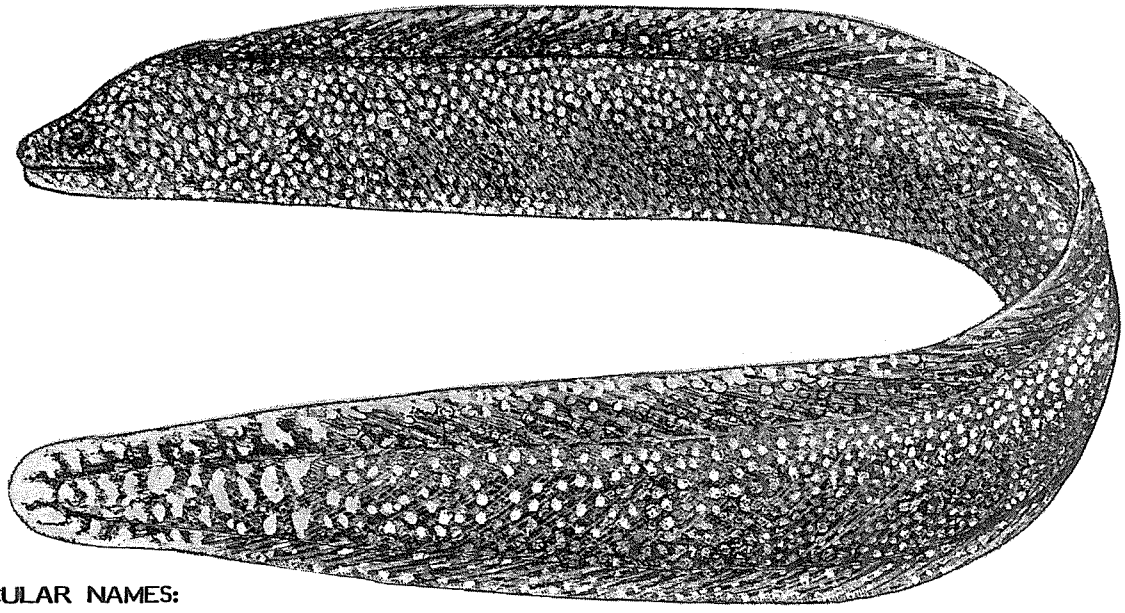
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MURAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

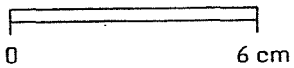
Muraena miliaris (Kaup, 1856)

OTHER SCIENTIFIC NAMES STILL IN USE : Gymnothorax miliaris (Kaup, 1856)
Lycodontis miliaris (Kaup, 1856)



VERNACULAR NAMES:

FAO : En - Goldentail moray
Fr - Murène dorée
Sp - Morena dorada



NATIONAL :

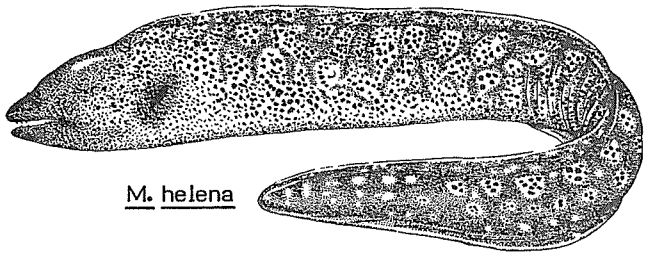
DISTINCTIVE CHARACTERS :

Body strong, muscular, moderately compressed. Head with occipital region somewhat elevated; posterior nostril tubular but the tube low, only about one third to one half the length of anterior nostril tube; teeth without serrations on their anterior and posterior margins; upper jaw teeth in 2 to irregularly 3 rows; lower jaw teeth biserial anteriorly. Dorsal fin origin on head, before anteriormost branchial lateral line pore. Total number of vertebrae 118 to 126.

Colour: highly variable. Common form illustrated above; dark brown to purple ground colour, everywhere covered with small to minute light yellowish spots that become larger at tip of tail, which is always pale. Other individuals have a pale background with brown spots, dashes, circles or semicircles. Occasional specimens are uniformly pale with very few widely scattered dark markings.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Muraena helena: colour pattern of rosettes visible on dark background; posterior nostril with longer tube; teeth uniserial.



M. helena

M. augusti: colour pattern similar but spots fewer and widely scattered; posterior nostril with longer tube; teeth uniserial.

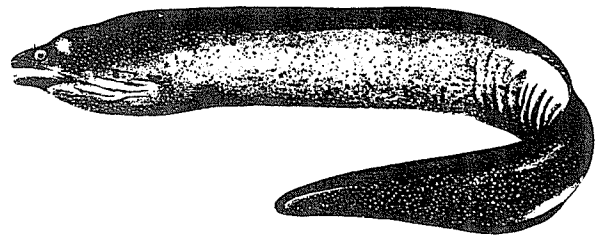
M. melanotis: spots as large as or larger than eye diameter, gill opening in prominent black blotch; posterior nostril with longer tube.

M. robusta: large widely-spaced dark spots on lighter background; gill opening in prominent black blotch.

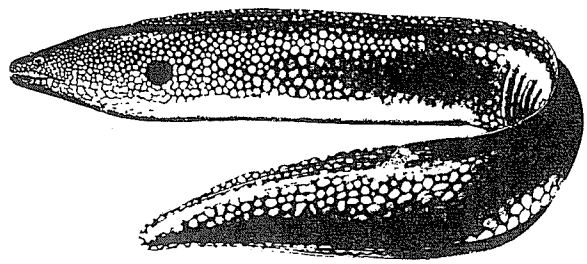
Species of Echidna: teeth broad-based and rounded.

Species of Lycodontis, Gymnothorax and Enchelycore: posterior nostrils not tubular.

Species of Anarchias, Channomuraena and Uropterygius: vertical fins confined to end of tail.



M. augusti



M. melanotis

SIZE :

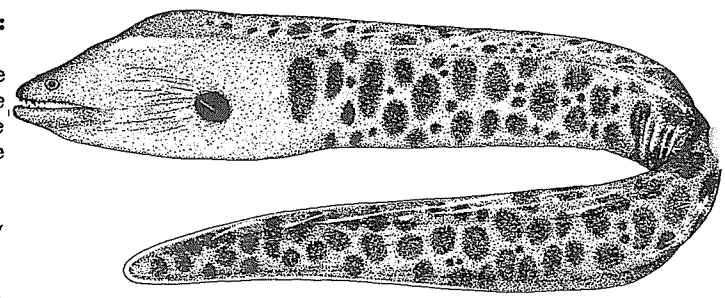
Maximum: 60 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the Eastern Atlantic only known from the Cape Verde Islands, St. Helena and Ascension. Common in the Western Atlantic from Bermuda, the Bahamas, the Florida Keys, islands in the Caribbean and off the coasts of Mexico, Central and South America to Brazil.

An insular species inhabiting coral reefs and rocky shorelines at depths to 50 m.

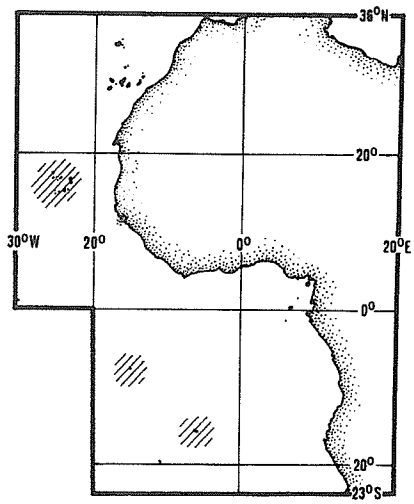
Stomach contents include parts of crabs and small fish.



M. robusta

PRESENT FISHING GROUNDS :

Occasionally caught throughout its range.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Taken with trawls, in traps and on hook and line.

Probably consumed occasionally, but not often seen in markets.

MURAEN Muraen 6

1981

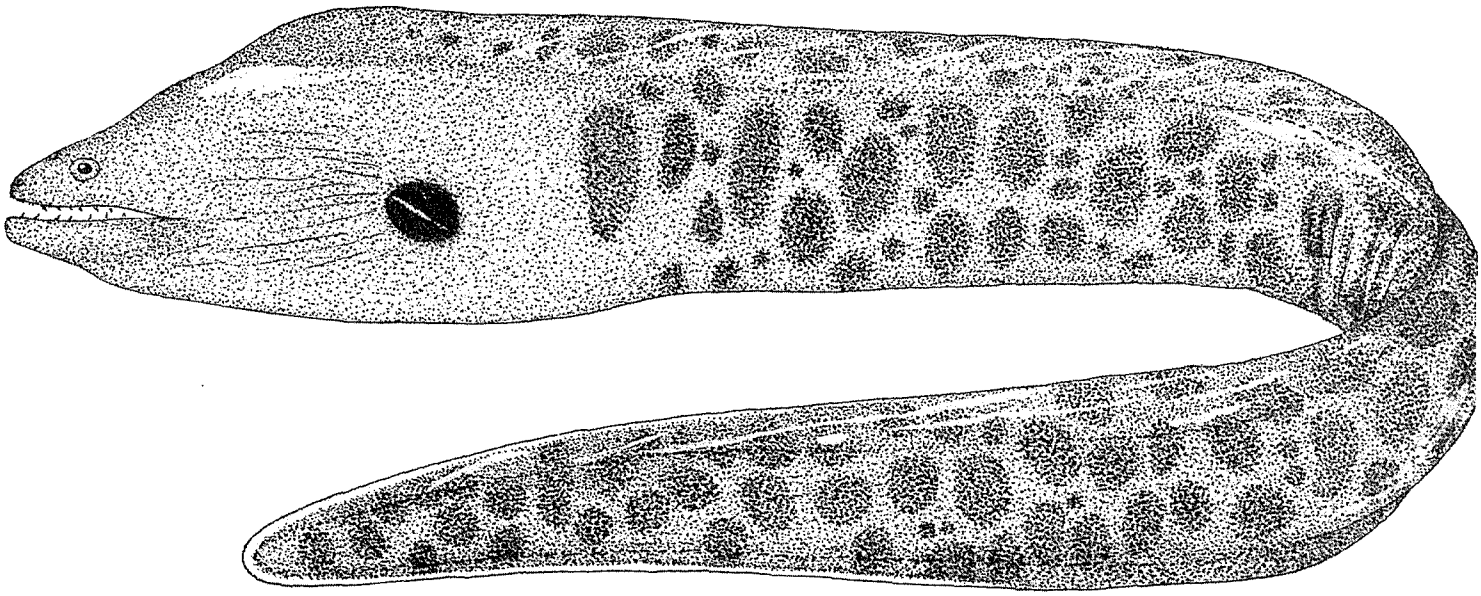
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : MURAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Muraena robusta Osorio, 1909

OTHER SCIENTIFIC NAMES STILL IN USE : None



0 14 cm

VERNACULAR NAMES:

FAO : En - Stout moray
Fr - Murène robuste
Sp - Morena robusta

NATIONAL :

DISTINCTIVE CHARACTERS :

Body strong, muscular, moderately compressed. Head with occipital region somewhat elevated; posterior nostril tubular, above anterior margin of eye; teeth without serrations on their anterior and posterior margins; jaw teeth uniserial. Dorsal fin origin on head before anteriormost branchial lateral line pore. Total number of vertebrae 151 to 158.

Colour: medium to dark greyish to brownish body with brownish-black spots behind gill opening, irregular in size and placement, darker and more contrasting on tail. Head lighter grey or brown with darker reticulations visible; gill opening in dark brown to black blotch. Margins of fins light posteriorly on tail. In fresh specimens, inside of mouth and throat region bright to dirty gold color. Young specimens are lighter overall with more contrasting pattern of spots; very large specimens are much darker overall, the spots visible only on posterior part of tail, dark around gill opening always noticeable.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Other species of Muraena: pale spots on dark background.

Species of Echidna: teeth broad-based and rounded.

Species of Lycodontis, Gymnothorax and Enchelycore: posterior nostrils not tubular.

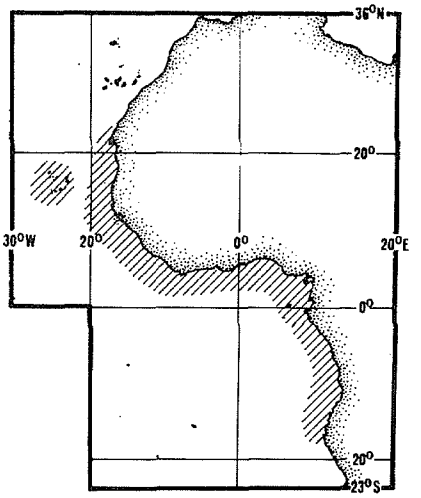
Species of Anarchias, Channomuraena and Uropterygius: vertical fins confined to end of tail.

SIZE :

Maximum: to 140 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

West coast of Africa from Mauritania to Angola; also from the islands of Cape Verde and the Bay of Biafra. In the West Atlantic taken off the coasts of North Carolina, Florida and Panama.



A common species found in the same shallow-water habitat as M. melanotis.

Stomach contents include crustaceans and fishes.

PRESENT FISHING GROUNDS :

Occasionally caught throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Probably taken by hook and line and trawls.

Probably consumed occasionally, but not often seen in markets.

MYCT

1981

FAO SPECIES IDENTIFICATION SHEETS

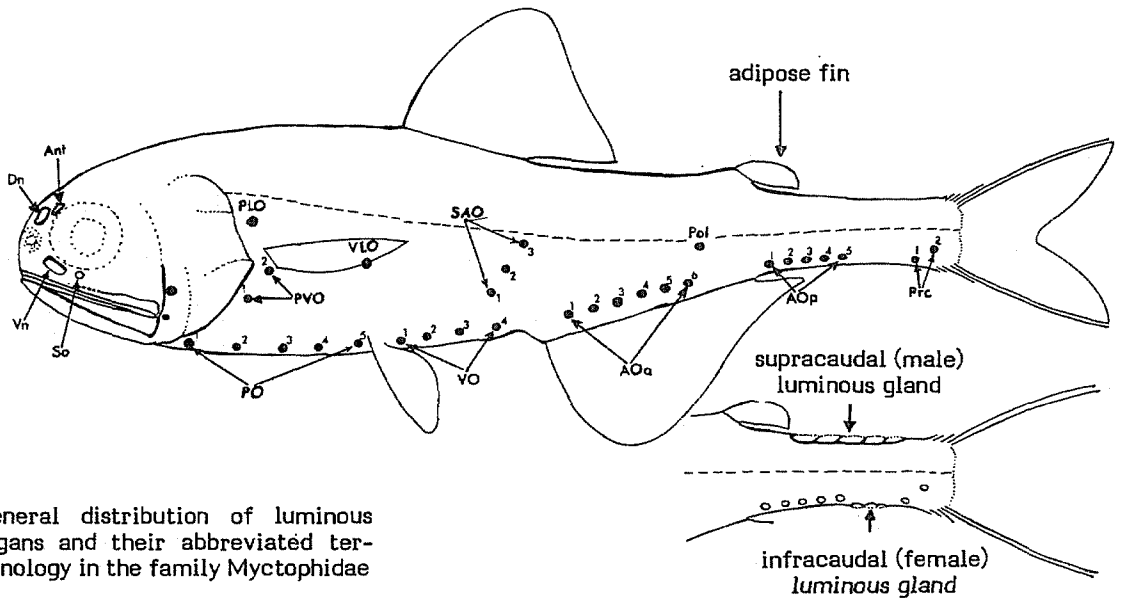
FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

MYCTOPHIDAE

Lanternfishes

Head and trunk compressed. Eyes large. *Mouth usually terminal (inferior in Loweina, Gonichthys and* Centrobranchus); jaws extending to or far beyond vertical through posterior margin of eye. Jaws (premaxillaries in upper, and dentaries in lower jaws) with bands of closely-set teeth, the inner ones of which may be enlarged; posterior teeth on jaws broad-based and strongly hooked forward in some species of Diaphus. Teeth also present on roof of mouth (palatines with a long, narrow band of closely-set small teeth or with one or two rows of enlarged, widely-spaced ones; mesopterygoids with a patch of closely-set and small or widely-spaced and enlarged teeth; most species with a cluster of minute teeth on each side of vomer). Branchiostegal rays 7 to 11, *but there may be as few as 6 and as many as 12. Well developed gill rakers present in all genera except* Centrobranchus. All fins lacking spines; adipose fin present; origin of anal fin under or close behind base of dorsal fin. Pelvic fins with 8 rays, except in Notolychnus (6) and Gonichthys (sometimes 7); caudal fin with 10 dorsal and 9 ventral principal rays. Discrete, round or kidney-shaped photophores in distinct groups on trunk and head of all species except Taaningichthys paurolychnus. Much smaller, secondary photophores on trunk and head in some species. Additional luminous organs of various shapes and sizes present on head, caudal peduncle, or on both. Scales usually cycloid or smooth to touch (ctenoid or comb-like in a few species of Myctophum), firm in *forms found in relatively shallow depths, loose and easily lost in deeper-dwelling species.*

Colour: the majority of lanternfishes are brown to nearly black. Those that live in relatively shallow depths (e.g., Gonichthys, Centrobranchus) are silvery, and members of the genera Diaphus and Lobianchia have bluish iridescent scales, especially along the lateral line.



General distribution of luminous organs and their abbreviated terminology in the family Myctophidae

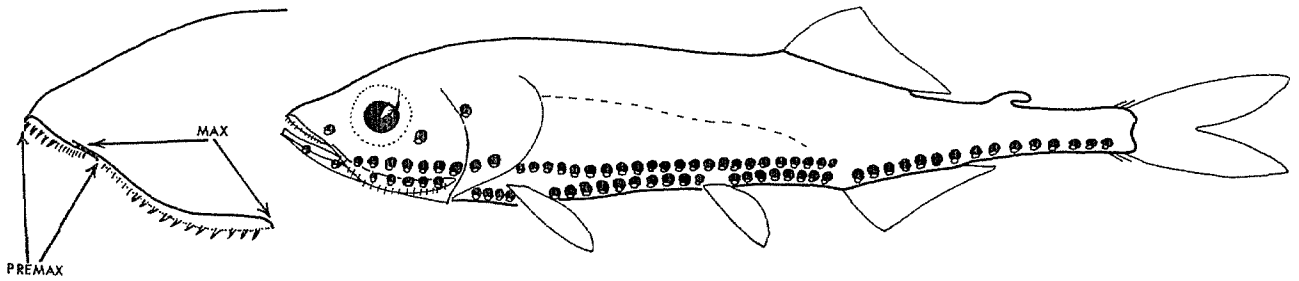
Myctophids range in size (adults) from about 2 cm to 30 cm. They are very common and occur in all oceans, from arctic to antarctic waters, and from the very surface at night to depths exceeding 2 000 m. They have been collected predominantly in open oceanic waters but are also found over continental and island shelves. The adults of a number of species have been observed and/or taken very near the bottom. With few exceptions, myctophids migrate from their daytime depths to the upper, mixed layer at night. While many spend the night at depths between 30 and 100 m, a good number of species enter the uppermost 10 m. Several of the latter are commonly dipnetted at the surface or taken with neuston nets.

Although abundant and widespread, myctophids are only now beginning to draw attention as a potentially exploitable source of animal protein. Some 15 t of a single species, Diaphus dumerilii, were taken in a single haul at a depth of 260 to 265 m off Uruguay (R/V WALTHER HERWIG sta. 208/1966; Institut für Seefischerei, Hamburg). Myctophids (mostly Lampanyctodes hectoris) have accounted for 0.30 percent to 10.45 percent of the total fish catch landed by South African pelagic fishing boats during the years 1969-73. Results of recent biochemical experiments in the Soviet Union do not preclude the use of the southern hemisphere myctophid, Gymnoscopelus nicholsi, for human consumption.

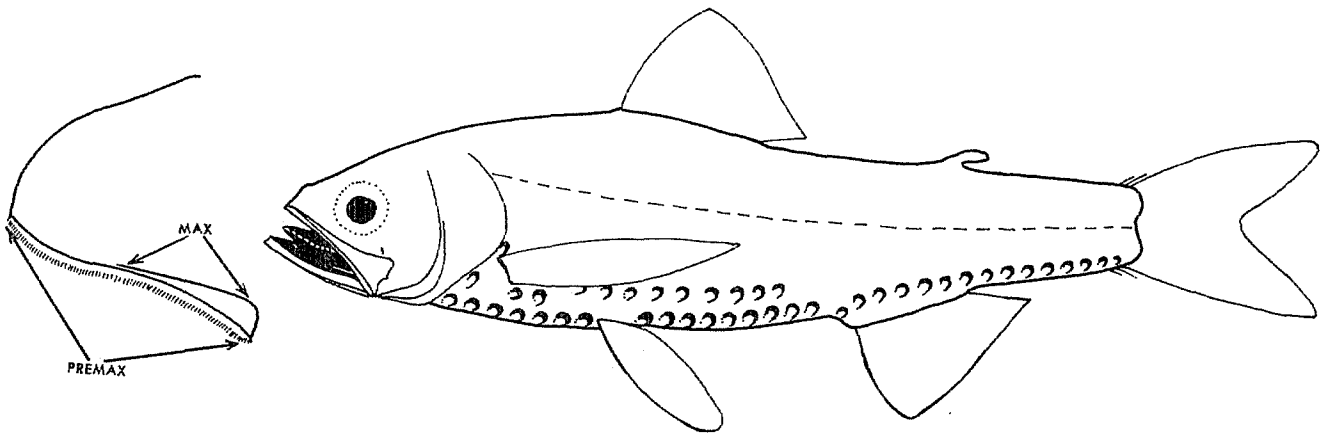
To date, more than 340 species of myctophids have been described. These have been assigned to some 50 genera. Of the approximately 240 species (30 genera) currently recognized, 83 species (21 genera) occur in the Eastern Central Atlantic (Fishing Area 34)

SIMILAR FAMILIES OCCURRING IN THE AREA:

Gonostomatidae: posterior portion of upper jaw contributed by toothed maxilla (MAX); dorsal and anal fins generally displaced posteriorly; one or more horizontal rows of photophores on ventral part of body and head.



Neoscopelidae: maxilla (MAX) greatly expanded posteriorly and, as in Myctophidae, completely excluded from gape by toothed premaxilla (PREMAX); dorsal fin well in advace of anal fin; large, oval-shaped, superficial photophores arranged linearly in horizontal series on ventral part of body and along periphery of tongue.



KEY TO GENERA OCCURRING IN THE AREA*:

1 a. Minute, "secondary" photophores on head, on body under each scale, and on fin membranes; "primary" body photophores (i.e., PLO, PO, VO, etc.) indistinct (Fig. 1) ..... Scopelopsis

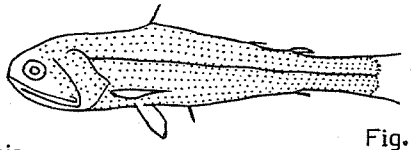


Fig. 1

1 b. "Secondary" photophores absent or, if present, clearly distinct from "primary" body photophores

2 a. Three photophores (VLO, SAO_3 and Pol very close to dorsal contour of body; 2 Prc; Prc_2 well above midlateral line (Fig. 2) ..... Notolychnus

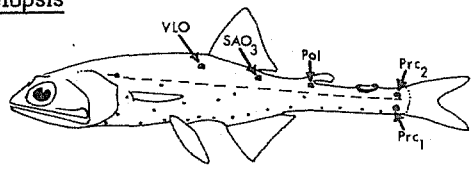


Fig. 2

2 b. No photophores close to dorsal contour of body; 2 or more Prc; Prc_2 never above horizontal septum or lateral line

3 a. PLO *(see Figs. 4 to 6) from less than its* diameter above to well below level of upper end of base of pectoral fin

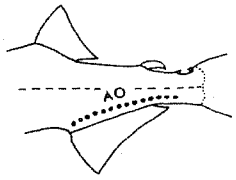


Fig. 3

4 a. PLO well below level of upper end of base of pectoral fin; AO not distinctly divided into AOa and AOp; Pol not differentiated; mouth terminal, snout not protruding; caudal peduncle not markedly slender, its least depth less than 2.5 times in its length (Fig. 3)

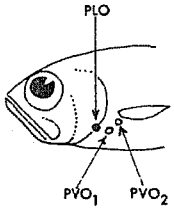


Fig. 4

5 a. PLO in front of and, often, slightly higher than PVO_1; PLO, PVO_1 and PVO_2 *on a somewhat* angulated line (Fig. 4) ..... Protomyctophum

5 b. PLO over PVO_1; PLO, PVO_1, and PVO_2 forming a triangle (Fig. 5)* ..... Electrona

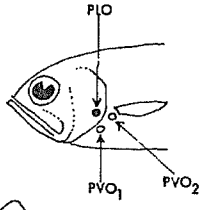


Fig. 5

4 b. PLO at or slightly above level of upper end of base of pectoral fin; AO divided into AOa and AOp; Pol well differentiated; mouth subterminal, snout more or less protruding; caudal peduncle markedly slender, its least depth 2.5 times or more in its length (Fig. 6)

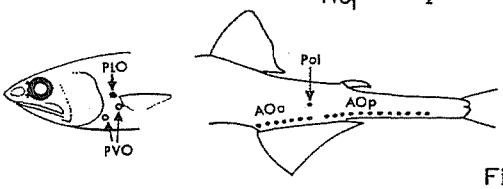


Fig. 6

6 a. Gill rakers absent ..... Centrobranchus

6 b. Gill rakers present

7 a. Origin of anal fin about under middle of base of dorsal fin; none or only one AOp over base of anal fin; least depth of caudal peduncle about 2.5 times in its length (Fig. 7) ..... Loweina

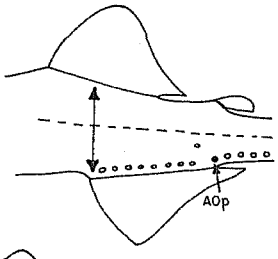


Fig. 7

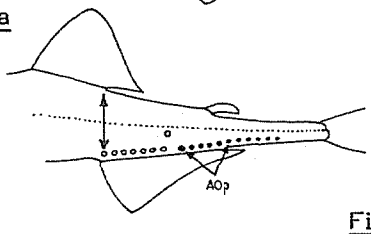


Fig. 8

*Abbreviations correspond to designations of luminous organs

*Except for Protomyctophum which has been added here for comparison with Electrona

7 b. Origin of anal fin on or slightly in front of vertical through end of base of dorsal fin; 5 to 7 AOp over base of anal fin; least depth of caudal peduncle 3.5 times or more in its length (Fig. 8) ..... Gonichthys

3 b. PLO More than its diameter above level of upper end of base of pectoral fin

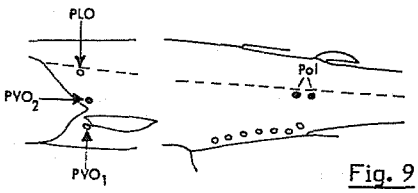


Fig. 9

8 a. PVO_2 well above level of upper end of base of pectoral fin; 2, sometimes 3, Pol horizontally arranged; numerous stiff, spine-like procurrent caudal fin rays; patches of luminous tissue on trunk and at bases of procurrent caudal fin rays (Fig. 9) ..... Notoscopelus

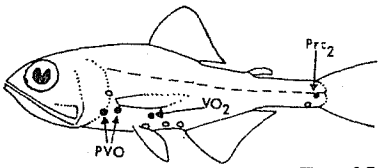


Fig. 10

8 b. PVO_2 at or below level of upper end of base of pectoral fin

9 a. Two Prc

10 a. PVO arranged horizontally or nearly so, with PVO_1 not more than its diameter below level of PVO_2; VO_2 more or less elevated

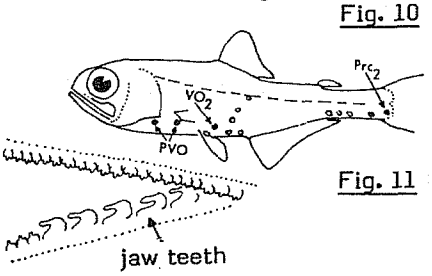


Fig. 11

11 a. Prc_2 much higher than Prc_1, lying twice its own diameter or less below lateral line; small, simple teeth on premaxillaries and dentaries (Fig. 10) ..... Benthosema

11 b. Prc_2 slightly higher than Prc_1; premaxillary teeth flattened, lanceolate, many with minute denticle on each edge at widest point; outer anterior teeth on dentary close-set and flattened, posterior ones broad-based and sharply hooked forward (Fig. 11) ..... Diogenichthys

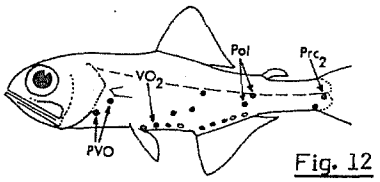


Fig. 12

10 b. PVO on an inclined line, with PVO_1 more than its own diameter below level of PVO_2; all VO at same level

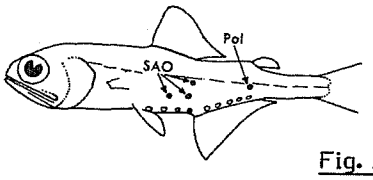


Fig. 13

12 a. Two Pol (Fig. 12) ..... Hygophum

12 b. One Pol

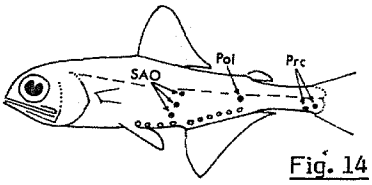


Fig. 14

13 a. SAO strongly angulated; SAO_1 in advance of, seldom directly over VO_3 (Fig. 13) ..... Symbolophorus

13 b. SAO on a straight or slightly angular line; SAO_1 behind VO_3 (Fig. 14) ..... Myctophum

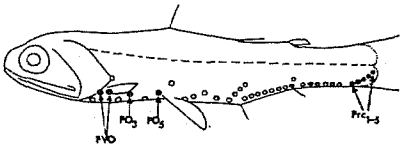


Fig. 15

9 b. More than 2 Prc or Prc absent

14 a. Five Prc; PVO arranged horizontally or nearly so; PO_3 and PO_5 elevated (Fig. 15) ..... Lampanyctodes

14 b. Three to 4 Prc or Prc absent; PVO not arranged horizontally or nearly so; PO_3 and PO_5 not elevated

15 a. First PO and 2 PVO on a straight, ascending line; first 3 VO on a straight ascending line; males with supracaudal, females with infracaudal luminous glands or caudal glands absent; 4 Prc

16 a. More than one pair of luminous organs on head; caudal luminous glands absent; usually a luminous scale at PLO (Fig. 16) ..... Diaphus

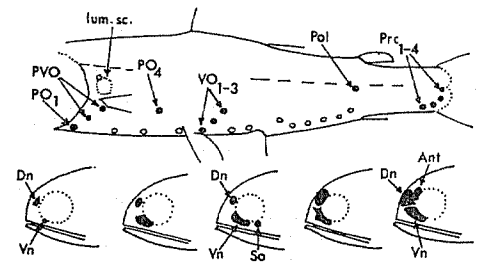


Fig. 16

16 b. Only one pair (Dn) of luminous organs on head; supracaudal (males) and infracaudal (females) luminous glands well developed; no luminous scale at PLO (Fig. 17) ..... Lobianchia

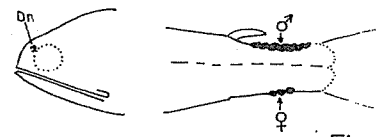


Fig. 17

15 b. First PO and 2 PVO not on a straight line; first 3 VO not on a straight, ascending line; both sexes with supracaudal and infracaudal luminous glands; 3 to 4 Prc

17 a. Caudal luminous glands large, undivided, bordered by black pigment; one Pol or none; 3 Prc or none (Fig. 18)

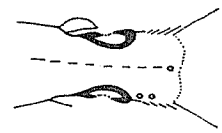


Fig. 18

18 a. Origin or dorsal fin directly over or somewhat in front of base of pelvic fin; photophores well developed; 3 SAO; lateral line well developed; no large crescent of whitish tissue on posterior half of iris (except for L. chavesi which has one on dorsal half of iris) (Fig. 19) ..... Lampadena

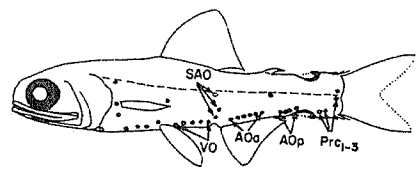


Fig. 19

18 b. Origin of dorsal fin behind base of pelvic fin; photophores present or absent; if present, poorly developed; one SAO; lateral line very poorly developed or absent; a large crescent of whitish tissue on posterior half of iris (best seen in preserved specimens) (Fig. 20) ..... Taaningichthys

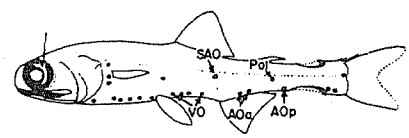


Fig. 20

17 b. Caudal luminous glands consisting of a series of overlapping scale-like structures not bordered by black pigment; 2 Pol; 3 to 4 Prc (Fig. 21)

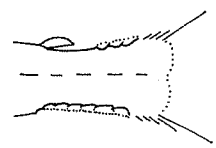
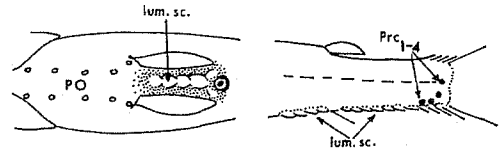


Fig. 21

19 a. PO_4 not elevated; luminous scale-like structures midventrally between bases of pelvic fins or between bases of pelvic fins and anus; 4 Prc (Fig. 22) ..... Ceratoscopelus

19 b. PO_4 highly elevated; no luminous scale-like structures midventrally between bases of pelvic fins or between bases of pelvic fins and anus; 3 to 4 Prc



ventral view of anterior part — side view of posterior part

Fig. 22

20 a. Four VO; SAO strongly angulated, a line through SAO_1 and SAO_2 not intersecting VO series; luminous tissue other than photophores restricted to caudal glands and, sometimes, base of adipose fin; 4 Prc; SAO_3, Pol_2 and PLO at or below lateral line (Fig. 23) ..... Lampanyctus

20 b. Five VO; SAO weakly angulated, a line through SAO_1 and SAO_2 intersecting VO series; patches of luminous tissue at bases of median and paired fins; 3 to 4 Prc; SAO_3, Pol_2 and, often, PLO at or just above lateral line

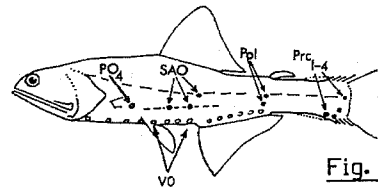


Fig. 23

21 a. Four Prc; no crescent of whitish tissue on posterior half of iris; jaws long, extending one or more times the diameter of eye behind vertical through posterior margin of orbit (Fig. 24) ..... Lepidophanes

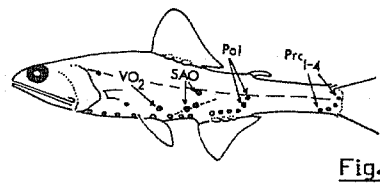


Fig. 24

21 b. Three Prc; a crescent of whitish tissue on posterior half of iris; jaws short, extending one-half the diameter of eye or less behind vertical through posterior margin of orbit (Fig. 25) ..... Bolinichthys

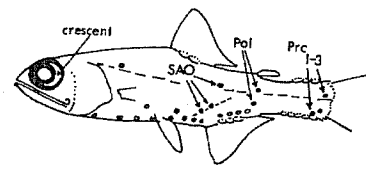


Fig. 25

LIST OF SPECIES OCCURRING IN THE AREA:

Benthosema glaciale (Reinhardt, 1837)
Benthosema suborbitale (Gilbert, 1913)

Bolinichthys indicus (Nafpaktitis & Nafpaktitis, 1969)
Bolinichthys photothorax (Parr, 1928)
Bolinichthys supralateralis (Parr, 1928)

Centrobranchus nigroocellatus (Günther, 1873)

Ceratoscopelus maderensis (Lowe, 1839)
Ceratoscopelus warmingii (Lütken, 1892)

Diaphus adenomus Gilbert, 1905
Diaphus anderseni Tåning, 1932
Diaphus bertelseni Nafpaktitis, 1966
Diaphus brachycephalus Tåning, 1928
Diaphus diadematus Tåning, 1932
Diaphus dumerilii (Bleeker, 1856)

Diaphus effulgens (Goode & Bean, 1896)
Diaphus fragilis Tåning, 1928
Diaphus holti Tåning, 1918
Diaphus hudsoni Zurbrigg & Scott, 1976
Diaphus lucidus (Goode & Bean, 1896)
Diaphus luetkeni (Brauer, 1904)
Diaphus meadi Nafpaktitis, 1978
Diaphus metopoclampus (Cocco, 1829)
Diaphus mollis Tåning, 1928
Diaphus ostenfeldi Tåning, 1932
Diaphus perspicillatus (Ogilby, 1898)
Diaphus problematicus Parr, 1928
Diaphus rafinesquii (Cocco, 1838)
Diaphus splendidus (Brauer, 1904)
Diaphus subtilis Nafpaktitis, 1968
Diaphus taaningi Norman, 1930
Diaphus termophilus Tåning, 1928
Diaphus vanhoeffeni Brauer, 1906

Diogenichthys atlanticus (Tåning, 1928)

Electrona risso (Cocco, 1829)

Gonichthys cocco (Cocco, 1829)

Hygophum benoiti (Cocco, 1838)
Hygophum hygomii (Lütken, 1892)
Hygophum macrochir (Günther, 1864)
Hygophum reinhardtii (Lütken, 1892)
Hygophum taaningi Becker, 1965

Lampadena chavesi Collette, 1905
Lampadena luminosa (Garman, 1899)
Lampadena pontifex Krefft, 1970
Lampadena speculigera Goode & Bean, 1896
Lampadena urophaos Paxton, 1963

Lampanyctodes hectoris (Günther, 1876)

Lampanyctus alatus Goode & Bean, 1896
Lampanyctus ater Tåning, 1928
Lampanyctus australis Tåning, 1932
Lampanyctus crocodilus (Risso, 1810)
Lampanyctus cuprarius Tåning, 1928
Lampanyctus festivus Tåning, 1928
Lampanyctus intricarius Tåning, 1928
Lampanyctus isaacsi Wisner, 1974
Lampanyctus lineatus Tåning, 1928
Lampanyctus nobilis Tåning, 1928
Lampanyctus photonotus Parr, 1928
Lampanyctus pusillus (Johnson, 1890)
Lampanyctus tenuiformis (Brauer, 1906)

Lepidophanes gaussi (Brauer, 1906)
Lepidophanes guentheri (Goode & Bean, 1896)

Lobianchia dofleini (Zugmayer, 1911)
Lobianchia gemellarii (Cocco, 1838)

Loweina interrupta (Tåning, 1928)
Loweina rara (Lütken, 1892)

Myctophum affine (Lütken, 1892)
Myctophum asperum Richardson, 1845
Myctophum nitidulum Garman, 1899
Myctophum obtusirostre Tåning, 1928
Myctophum punctatum Rafinesque, 1810
Myctophum selenops Tåning, 1928

Notolychnus valdiviae (Brauer, 1904)

Notoscopelus bolini Nafpaktitis, 1975
Notoscopelus caudispinosus (Johnson, 1863)
Notoscopelus resplendens (Richardson, 1845)

Scopelopsis multipunctatus Brauer, 1906

Symbolophorus boops (Richardson, 1845)
Symbolophorus rufinus (Tåning, 1928)
Symbolophorus veranyi (Moreau, 1888)
Symbolophorus sp.

Taaningichthys bathyphilus (Tåning, 1928)
Taaningichthys minimus (Tåning, 1928)
Taaningichthys paurolychnus Davy, 1972

Prepared by B.G. Nafpaktitis, Department of Biological Sciences, University of Southern California, University Park, Los Angeles, California 90007, U.S.A.

NOM

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

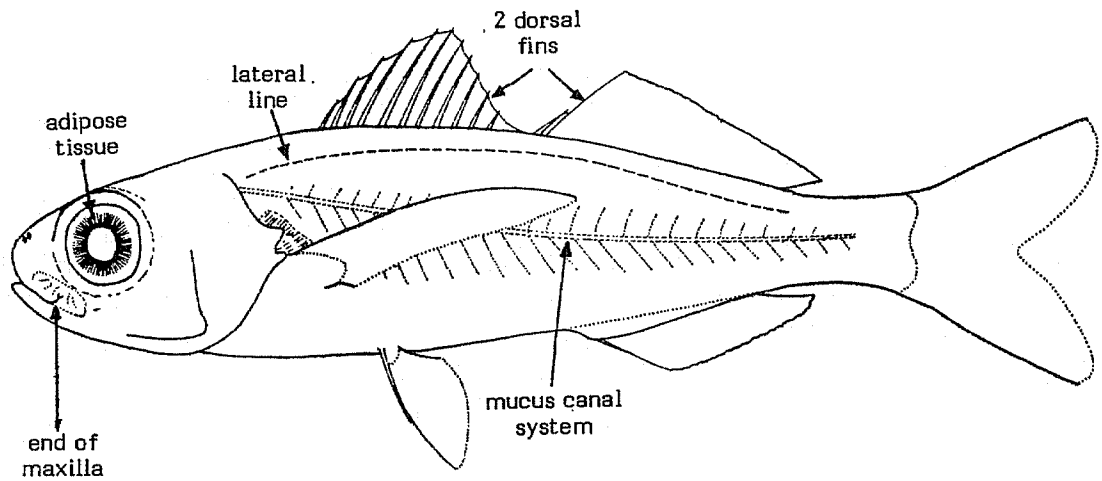
NOMEIDAE

Man-of-war fishes

Slender to deep, laterally compressed stromateoid fishes; in Psenes the young are quite deep-bodied becoming less so with growth. Adipose tissue around eyes developed in most species; opercular and preopercular margins entire or finely denticulate; opercle very thin, with 2 flat, weak spines; 6 branchiostegal rays; mouth small, maxilla rarely extending to below eye, supramaxilla absent; teeth small, conical, or cusped (in some Psenes), approximately uniserial in the jaws and also present on vomer, palatines (roof of mouth) and on the basibranchials; pharyngeal sacs with papillae in upper and lower sections, papillae in about 5 broad longitudinal bands, their bases stellate, teeth seated on top of a central stalk. Two dorsal fins, the first with about 10 slender spines folding into a groove, the longest spine at least as long as the longest ray of the second (soft) dorsal fin; anal fin with 1 to 3 spines, not separated from the soft rays; soft dorsal and anal fins approximately the same length; bases of median fins sheathed by scales; pectoral fins become long and almost wing-like with growth, their bases inclined about 45°; pelvic fins present in juveniles as well as in adults, attached to the abdomen by a thin membrane, folding into a narrow groove, the fins greatly produced and expanded in young Nomeus and some Psenes; caudal fin forked. Lateral line high, following dorsal profile and often not extending onto caudal peduncle. Skin thin; subdermal mucus canal system well developed and visible in most species, the main canal down the side of the body may be mistaken for a lateral line; scales small to very large, cycloid (smooth-edged) or with very weak cteni (Psenes pellucidus), thin, very easily shed. Vertebrae 30 to 33, 41 or 42; caudal skeleton with 4 hypural and 3 epural bones.

Colour: Cubiceps species are generally dark blue to brownish on the back, light-coloured or silvery on the sides with no mottling or stripes; may become uniformly dark with age. Nomeus is bright blue above, with a splotched and mottled blue pattern overlying the silvery sides; the pelvic fins are black; large specimens may be more uniformly coloured, resembling Cubiceps. Young Psenes are striped or mottled, dark over light, on the sides and back, but older ones are uniformly dark blue or black.

Small to medium-sized, epi- and mesopelagic fishes, adults 10 to 100 cm in length; often associating with jellyfish (siphonophores, especially the "Portuguese man-of-war" and medusae); probably schooling, at least found in large aggregations. They feed on zooplankton and jellyfishes of all kinds, occasionally taking small fish; the young are to be found in the very surface layers, while the adults live in deeper waters (some may be deep benthic). The body proportions of these fishes change considerably with growth. There is no special fishery for Nomeidae in Fishing Area 34.



SIMILAR FAMILIES OCCURRING IN THE AREA:

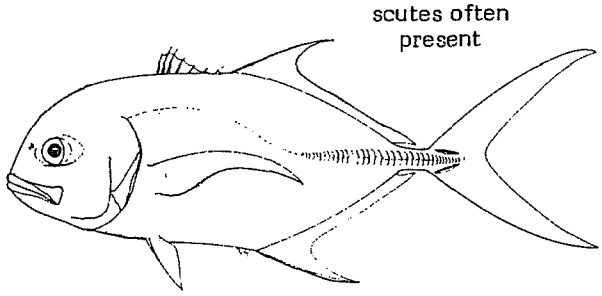
Carangidae: some species similar in shape and colour pattern, but can be distinguished by the 2 heavy spines ahead of the anal fin and, often, by the scutes along the side of the caudal peduncle.

Ariommidae: caudal peduncle very narrow, with 2 low fleshy keels on each side of the base of the fin, and no teeth on the roof of the mouth.

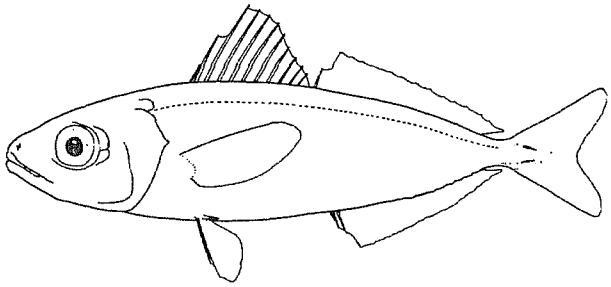
Centrolophidae: a single dorsal fin; mouth large, tip of maxilla usually extending well beyond anterior eye margin; 7 branchiostegal rays (6 in Nomeidae); no teeth on roof of mouth or on basibranchials.

Stromateidae: body always rather deep; dorsal fin single, continuous with very few spines (usually only 3); pelvic fins absent; no teeth on roof of mouth.

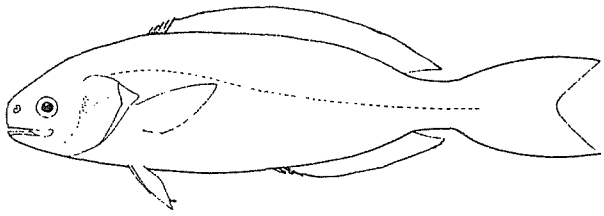
Tetragonuridae: spiny portion of dorsal fin much lower and longer-based than soft portion; scales with heavy keels, very adherent and forming a geodesic pattern around the body; modified scales form 2 lateral keels on each side of caudal peduncle near caudal fin base.



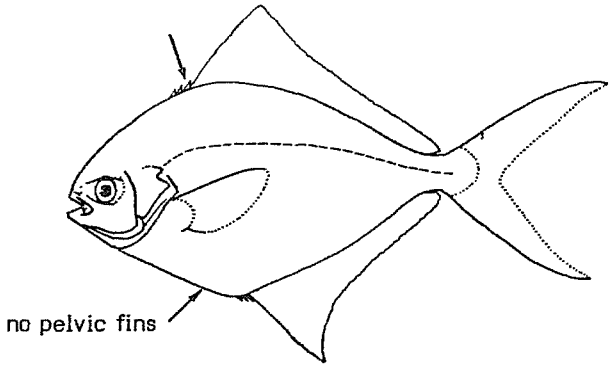
Carangidae



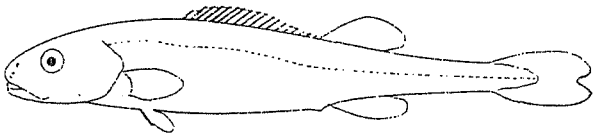
Ariommidae



Centrolophidae



Stromateidae



Tetragonuridae

KEY TO GENERA OCCURRING IN THE AREA:

1 a. Body elongate, maximum depth usually less than 35% of standard length, greatest in small specimens; origin of dorsal fin behind or directly over (in small specimens) insertion of pectoral fins (Figs. 2,3); scales on the top of the head extended forward of the eyes (Fig. 1a)

2 a. Anal fin with 1 to 3 spines and 14 to 25 soft rays; insertion of pelvic fins under end or behind base of pectoral fin (Fig. 2); teeth, knob-like or pointed, on the tongue; 30 to 33 vertebrae ..... Cubiceps

2 b. Anal fin with 1 or 2 spines and 24 to 29 soft rays; insertion of pelvic fins before or under insertion of pectoral fin (Fig. 3), possibly behind in very large specimens; no teeth on the tongue; 41 vertebrae ..... Nomeus

1 b. Body deep, maximum depth usually greater than 40% of standard length, although it can be reduced to 17% of standard length in very large specimens; origin of dorsal fin before, or directly over, in large specimens, insertion of pectoral fins (Fig. 4); no scales on the top of the head forward of the eyes (Fig. 1b) .. Psenes

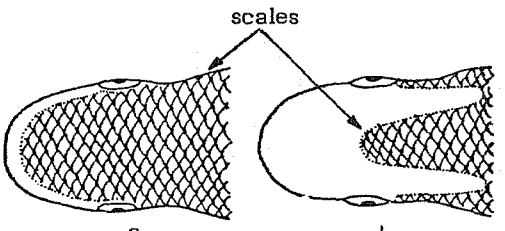
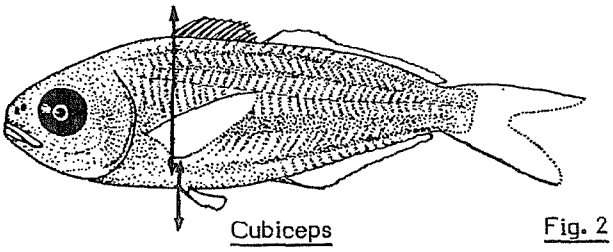
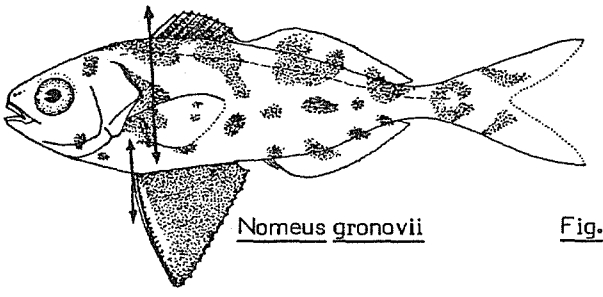
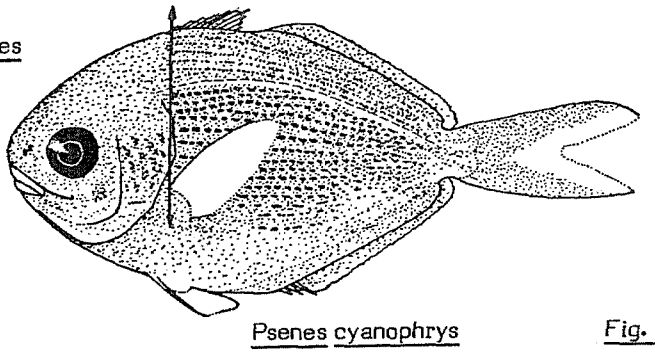


Fig. 1


Cubiceps Fig. 2


Nomeus gronovii Fig. 3


Psenes cyanophrys Fig. 4

LIST OF SPECIES OCCURRING IN THE AREA:

Cubiceps baxteri McCulloch, 1923
Cubiceps capensis (Smith, 1849)
Cubiceps gracilis (Lowe, 1843)
Cubiceps pauciradiatus Günther, 1872

Nomeus gronovii (Gmelin, 1788)

Psenes arafurensis Günther, 1889
Psenes cyanophrys Cuvier & Valenciennes, 1833
Psenes maculatus Lütken, 1880
Psenes pellucidus Lütken, 1880

Prepared by R.L. Haedrich, Memorial University of Newfoundland, St. John's, Newfoundland, Canada

OGCOC

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

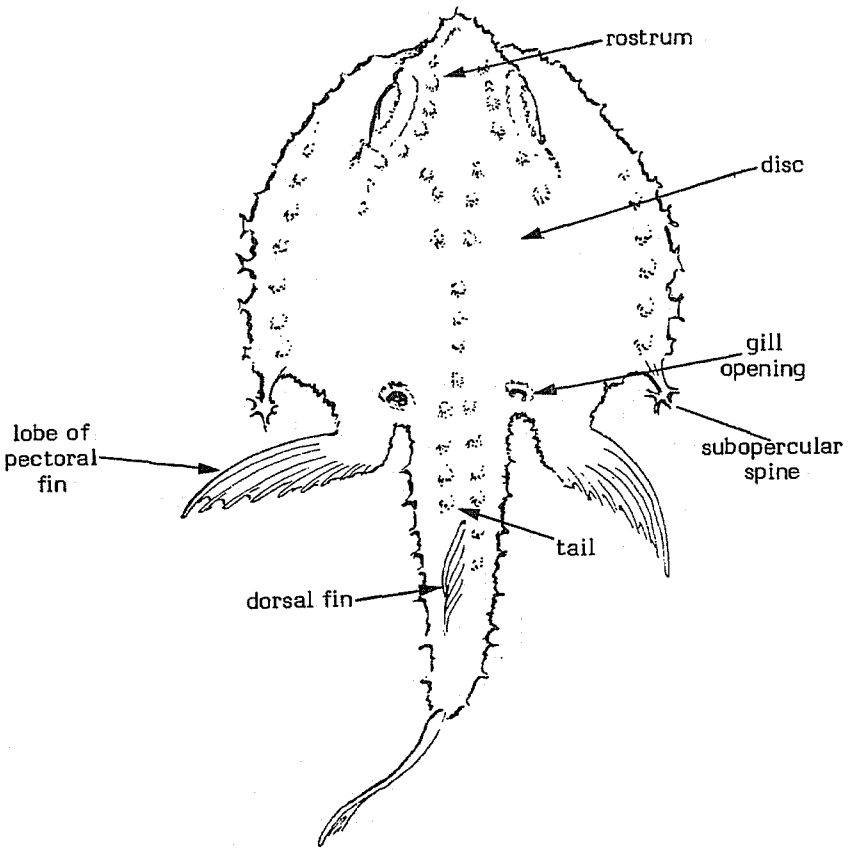
OGCOCEPHALIDAE

Batfishes

Body depressed as in skates and rays, tail distinct from the head. The large head, called the disc, markedly flattened on the ventral surface; mouth small to moderate with bands of villiform teeth; opercular (gill) openings far posterior on the dorsal surface of disc. Disc rounded or triangular in outline with a protruding rostrum in front of the eyes shaped like a little shelf or horn. First dorsal fin-spine free and modified as a lure, the bait of the lure visible beneath the rostrum as a small gland of 1 to 3 lobes attached to the distal end of the fin spine; pectoral fins leg-like owing to the remarkable elongation of the pectoral fin lobes; pelvic fins located on ventral surface of disc in advance of pectorals; anal fin located far behind anus, with 3 or 4 rays, folded to resemble a tentacle. Scales cone-shaped, usually covered with prickles, and present over the entire body; extremely strong, sharp spines often extending from the larger scales, especially those on lateral edges of disc and tail.

Colour: freshly caught specimens are pinkish to tan or brownish; sometimes a network of irregular dark lines on dorsal surface of disc; tabs of skin (cirri) scattered over body sometimes brown or black; fins reddish to dark brown.

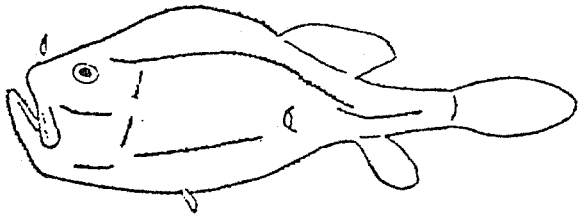
One species, Dibranchus atlanticus, is known from the Gulf of Guinea. Whether its range is so restricted in the Eastern Atlantic remains to be seen; in the Western Atlantic, this species ranges from New England to Rio de Janeiro. It is taken most often at depths between 100 and 300 m, occasionally shallower. Strictly benthic (except pelagic when small, less than 3 cm). Maximum size 15 cm. Taken in bottom trawls, and occasionally abundant. Rarely used for food but reduced to fishmeal.



A second undescribed species of Dibranchus now known from the Gulf of Guinea, apparently separated from D. atlanticus by its depth range (occurs between 1 250 and 2 350 m). It is considerably larger, reaching at least 17 cm in total length.

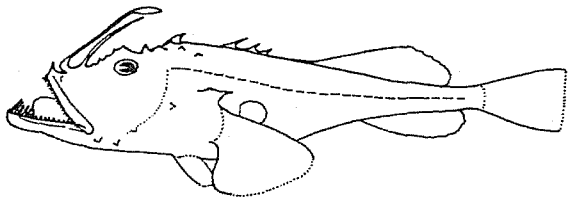
SIMILAR FAMILIES OCCURRING IN THE AREA:

Chaunacidae: body box-shaped, not distinctly flattened ventrally; no subopercular spines; prickles on scales short, weak, dense; without strong spines.



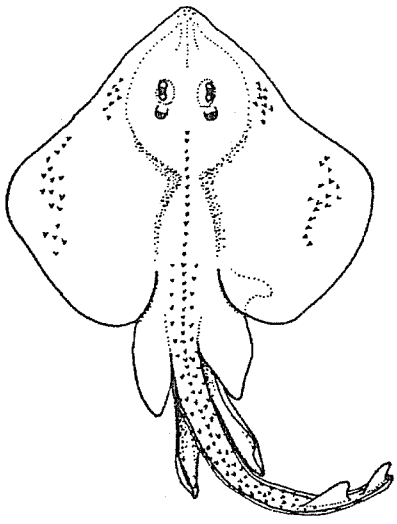
Chaunacidae

Lophiidae: mouth large with many large canine teeth; no rostrum; no scales.

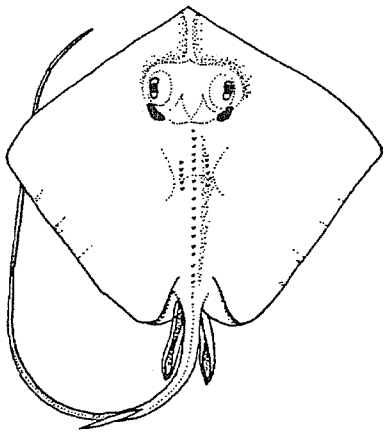


Lophiidae

Rajidae, Dasyatidae: no lure; pectoral fins not attached to lobes; pelvic fins located behind (not in advance of) pectoral fins.



Rajidae



Dasyatidae

LIST OF SPECIES OCCURRING IN THE AREA:

Dibranchus atlanticus Peters, 1875

Dibranchus sp.

Prepared by M.G. Bradbury, Department of Biological Sciences, San Francisco State University, San Francisco, California 94132, U.S.A.

Formal description is still in preparation. Users of the Species Identification Sheets are invited to send enquiries to the author

OPHICH

1981

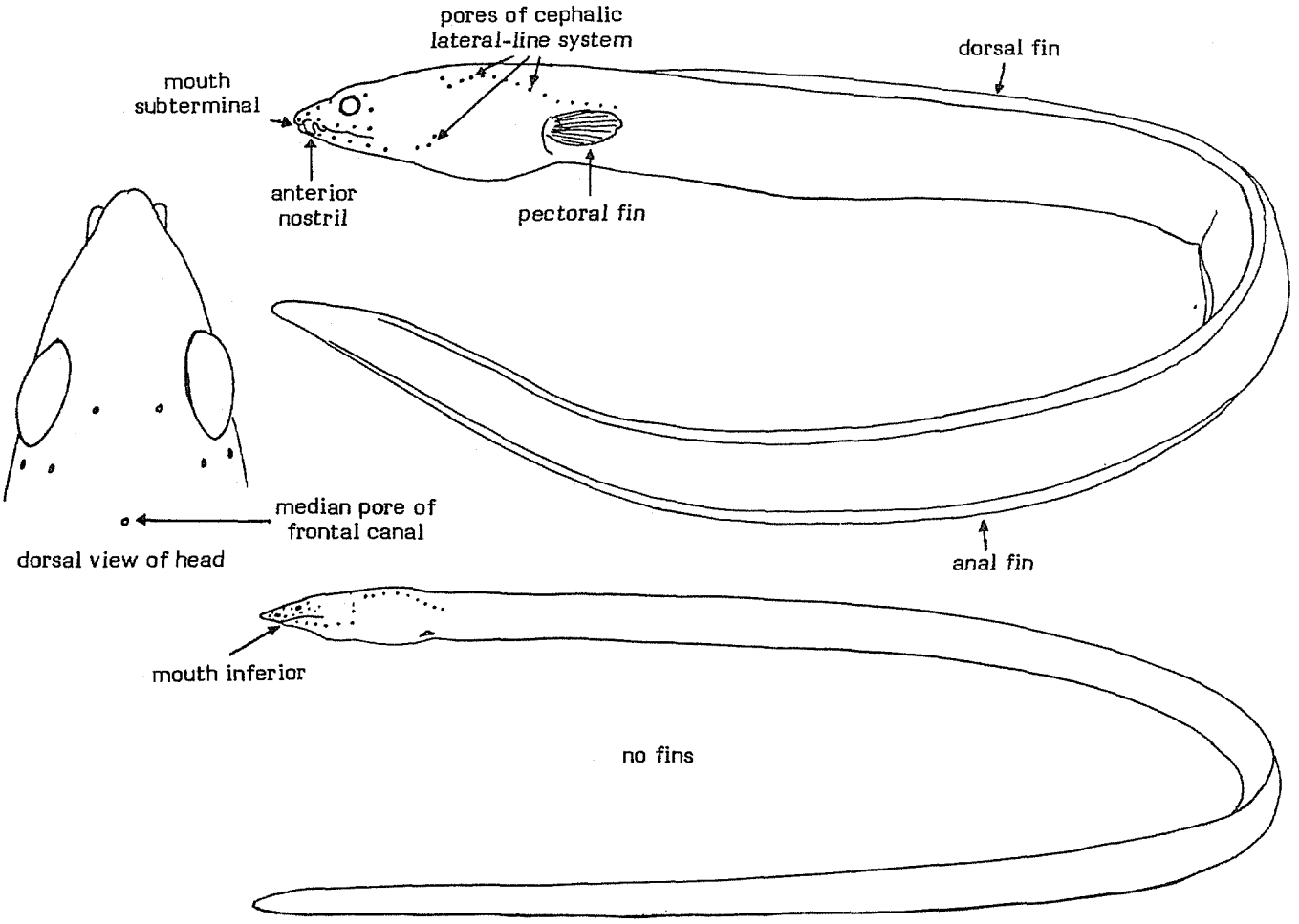
FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

OPHICHTHIDAE*

Snake eels, shrimp eels, snapper eels and worm eels

Body long and snake-like (or worm-like in Myrophis), cylindrical anteriorly. Lower jaw either equal to upper or, most often, shorter; dentition variable with the genera: typically conical and in one or two series, certain teeth enlarged in some forms but never fang-like (in West African waters), but in Myrichthys and Pisodonophis molariform or granular; anterior nostril tubular or not; posterior nostril either lateral (Pseudomyrophis), opening through a valve in upper lip and visible laterally as well as ventrally, or entirely within confines of mouth; gill openings slit-like (straight or curved) to rounded; branchial region supported by a basket of branchiostegal rays that overlap below, a feature unique to this family. Dorsal and anal fins, when present, either continuous around the tail externally or discontinuous, with the caudal fin rays reduced and enclosed within a hard, fleshy tip; pectoral fins present or absent; pelvic fins always absent. Lateral line systems of two sides of head connected dorsally by frontal and supratemporal canals; a median pore in the frontal canal distinguishes most members of the family.



*Diagnosis applies to Eastern Central Atlantic representatives only

Colour: some of the species, including sand-burrowing ones, lack distinctive patterns, except that some are darker dorsally than ventrally; others in the region are strikingly spotted or blotched.

Worm and snake eels are small to large-sized (to about 250 cm in total length in East Atlantic waters) marine fishes occurring mostly in tropical and subtropical waters between the shoreline and depths to below 600 m. Most species are benthic and burrow in the substrate at least for part of the day. Some of the larger and more abundant coastal snake eels are taken rather frequently with longlines and trawls; some may be consumed locally but statistics are lacking. The larger species with strong dentition may inflict painful wounds when handled.

SIMILAR FAMILIES OCCURRING IN THE AREA:

Other eel families: median dorsal pore (in the frontal lateral line canal) absent, and branchiostegal rays not overlapping below. Most ophichthids are snake eels, i.e. with the dorsal and anal fins discontinuous posteriorly, the tail tip stiff and finless; this feature distinguishes them from other eels except certain species of Heteroconger (garden eels) of the Congridae. The ophichthids with a continuous fringe of fin around tail (Myrophis and allied genera) have labial nostrils, except Pseudomyrophis; the last mentioned is the only genus that should be confused with eels of other families, but it has the branchial basket that characterizes the Ophichthidae.

KEY TO GENERA OCCURRING IN THE AREA:*

1 a. A fringe of fin present around tip of tail, the dorsal, caudal and anal fins thus forming one continuous external unit (Fig. 1)

2 a. Posterior nostril lateral, in front of eye (Fig. 2) ..... Pseudomyrophis

2 b. Posterior nostril labial, bisecting lip and partly inside, partly outside mouth (Fig. 3)

3 a. Dorsal fin origin above posterior part of pectoral fin; two supraorbital pores; no infraorbital pore behind eye (Fig. 4) ..... Echelus

3 b. Dorsal fin origin far behind pectoral fins; three supraorbital pores; an infraorbital pore present behind eye (Fig. 5) ..... Myrophis

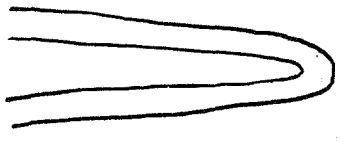


Fig. 1

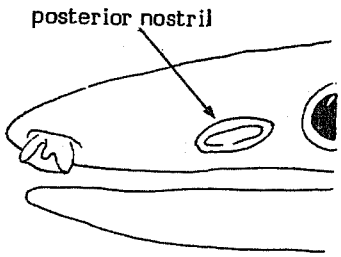


Fig. 2

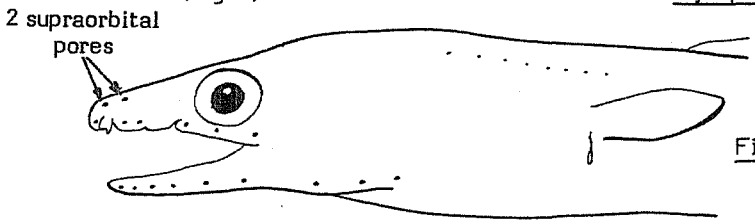


Fig. 4

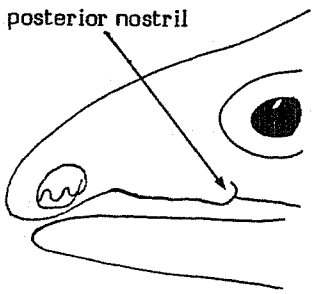


Fig. 3

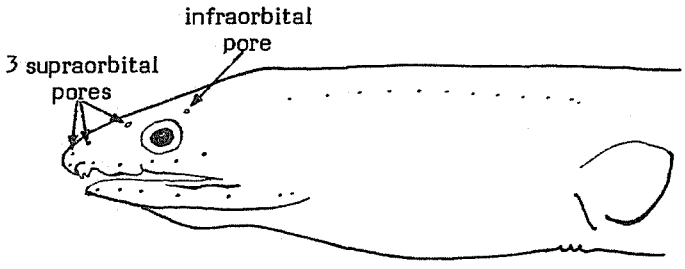


Fig. 5

*The characters do not necessarily all apply to species of the genera found in other areas

1 b. Tip of tail finless externally, the tail tip hard and pointed (Figs. 6,7)

4 a. Pectoral fins present

5 a. Teeth low, rounded, molariform

6 a. Pectoral fin low, rounded with base as broad as gill opening; dorsal fin origin farther forward relative to gill opening (Fig. 8) ..... Myrichthys

6 b. Pectoral fin larger, its outline asymmetrical, the longest rays in upper part of fin, with base narrower than gill opening; dorsal fin origin farther posteriorly (Fig. 9) ..... Pisodonophis

5 b. Teeth pointed

7 a. A fringe of papillae along margin of upper lip; eye far foward, in anterior one-third of upper jaw length (Fig. 10) ..... Brachysomophis

7 b. No papillae or cirri along margin of upper lip; eye in middle third of upper jaw length or farther posteriorly (Fig. 11)

8 a. Snout very long, attenuate, its length greater than that of pectoral fin and less than four times in head length; jaws incapable of closing completely in adults (Fig. 11) ..... Ophisurus

8 b. Snout length shorter than that of pectoral fin and four or more times in head length; jaws may be closed completely (Figs. 12, 13)

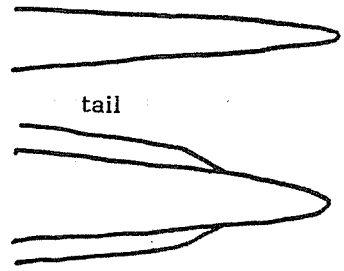


Fig. 6

Fig. 7

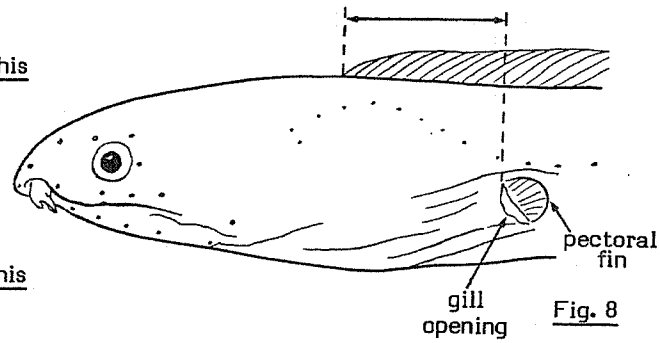


Fig. 8

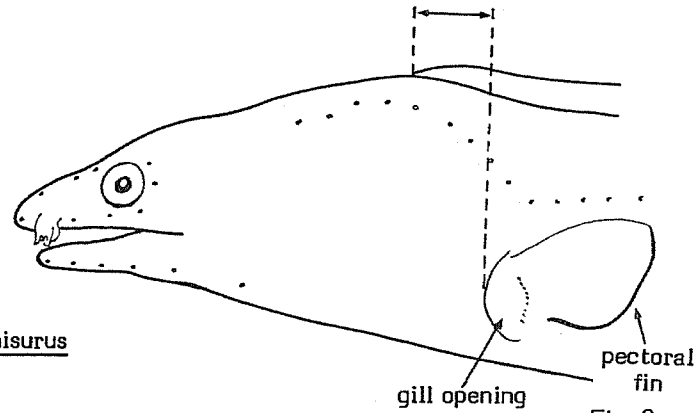
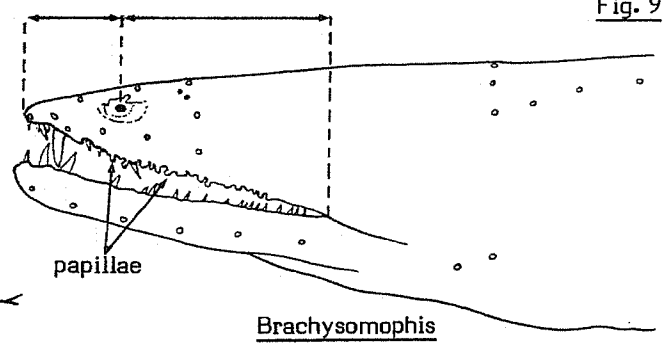
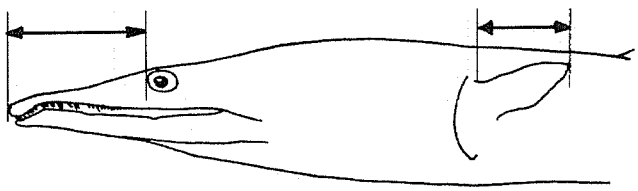


Fig. 9



Brachysomophis

Fig. 10



Ophisurus

Fig. 11

9 a. Eye before midpoint on upper jaw (less so in Mystriophis than Echiophis)

10 a. *Three preopercular pores present* (Fig. 12); coloration spotted ..... Echiophis

10 b. Two preopercular pores present (Fig. 13); without spots ..... Mystriophis

9 b. Eye above or slightly behind midpoint on upper jaw (Fig. 14) ..... Ophichthus

4 b. Pectoral fins absent (except for minute fins, usually only visible with magnification, in some species of Bascanichthys (Fig. 15) where individuals of a single species may have them present or absent)

11 a. Dorsal and anal fins entirely lacking

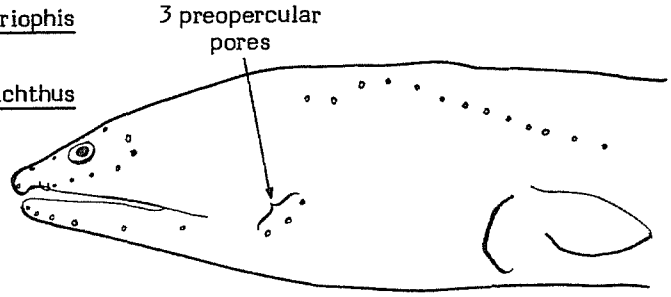
12 a. Posterior nostril opening outside mouth (Fig. 16); anterior nostril tubular ..... Apterichtus

12 b. Posterior nostril opening inside mouth (Fig. 17); anterior nostril flush with snout ..... Ichthyapus

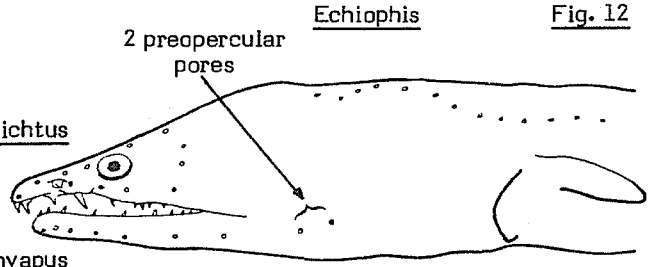
11 b. Dorsal and anal fins present

13 a. Dorsal fin origin above or behind gill opening

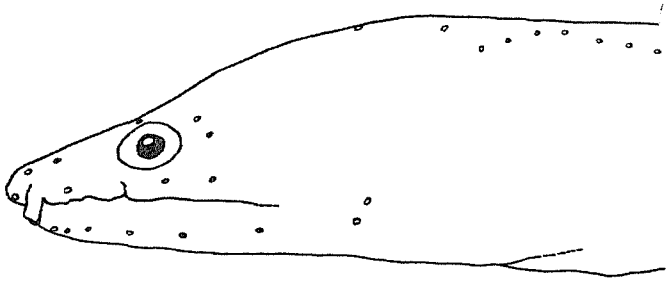
14 a. Anterior nostrils non-tubular, simple openings on snout; anterior end of premaxillary dentition well posterior to them (Fig. 18) ..... "Hemerorhinus"



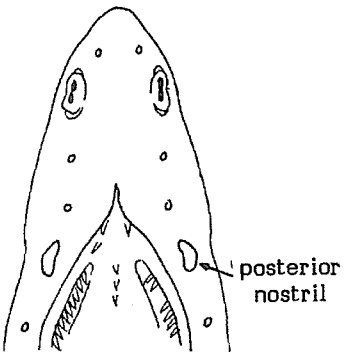
Echiophis Fig. 12



Mystriophis Fig. 13

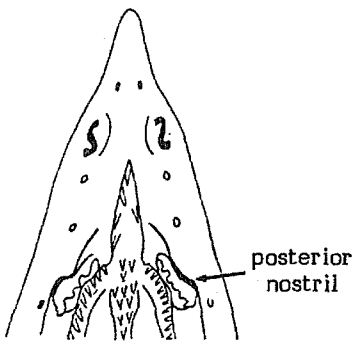


Ophichthus Fig. 14



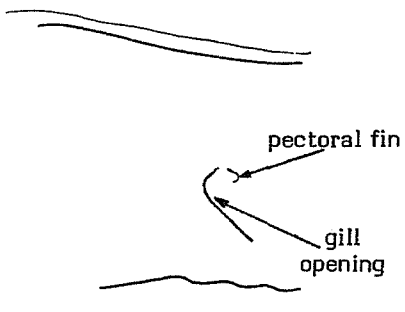
Apterichtus Fig. 16

underside of head



Ichthyapus Fig. 17

underside of head



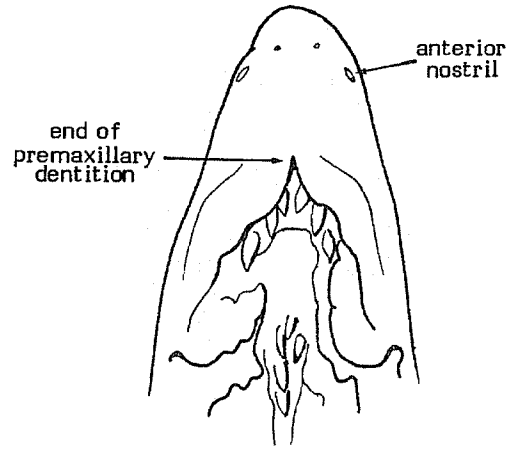
Bascanichthys Fig. 15

14 b. Anterior nostrils tubular, anterior end of premaxillary dentition lying between them (Fig. 19) ..... Dalophis

13 b. Dorsal fin origin on head well before gill opening

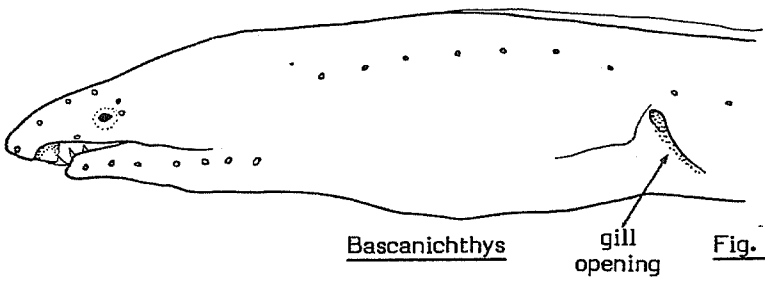
15 a. Colour pattern plain, showing little contrast, without bold stripes or spots; gill opening subvertical or slightly forwardly inclined (Fig. 20); body elongate, head more than 15 times in total length ..... Bascanichthys

15 b. Colour pattern showing strong contrast, usually with stripes or spots; gill opening strongly posteriorly inclined (Fig. 21); body shorter, head less than 15 times in total length ..... Callechelys

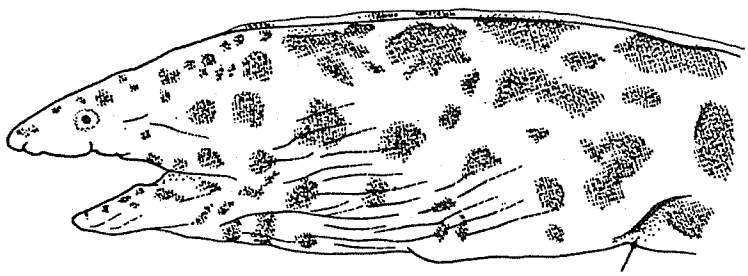


"Hemerorhinus" Fig. 18

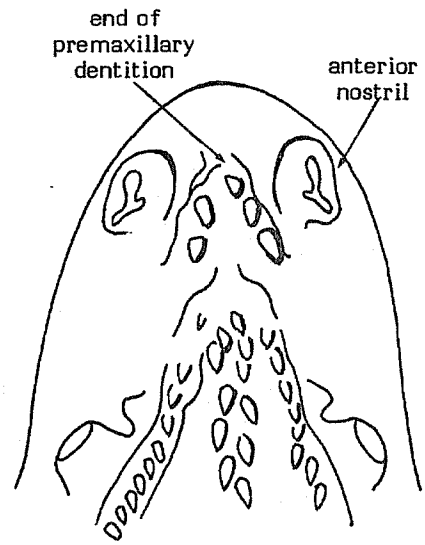
underside of head



Bascanichthys Fig. 20



Callechelys Fig. 21



Dalophis Fig. 19

underside of head

LIST OF SPECIES OCCURRING IN THE AREA:

Code numbers are given for those species for which Identification Sheets are included

Apterichtus anguiformis (Peters, 1856)
Apterichtus caecus (Linnaeus, 1758)
Apterichtus epinepheli (Blache & Bauchot, 1972)
Apterichtus foresti (Cadenat & Roux, 1964)
Apterichtus gracilis (Kaup, 1856)
Apterichtus kendalli (Gilbert, 1891)
Apterichtus monodi (Roux, 1966)

Bascanichthys ceciliae Blache & Cadenat, 1971
Bascanichthys congoensis Blache & Cadenat, 1971
Bascanichthys longissimus (Cadenat & Marchal, 1963)

Brachysomophis atlanticus Blache & Saldanha, 1972

Callechelys leucoptera (Cadenat, 1954)
Callechelys perryae Storey, 1939

Dalophis boulengeri Blache & Bauchot, 1972
Dalophis cephalopeltis (Schlegel, in Bleeker, 1863)
Dalophis multidentatus Blache & Bauchot, 1972
Dalophis obtusirostris Blache & Bauchot, 1972

Echelus myrus (Linnaeus, 1758) OPHICH Echel 1
Echelus pachyrhynchus (Vaillant, 1888)

Echiophis creutzbergi (Cadenat, 1956) OPHICH Echiop 1

"Hemerorhinus" opici Blache & Bauchot, 1972

Ichthyapus acutirostris Brisout de Barneville, 1847
Ichthyapus ophioneus (Evermann & Marsh, 1902)

Myrichthys pardalis (Valenciennes, 1835) OPHICH Myrich 1

Myrophis plumbeus (Cope, 1871)

Mystriophis crosnieri Blache, 1971
Mystriophis rostellatus (Richardson, 1844) OPHICH Mystrio 1

Ophichthus ascensionis Studer, 1889 (a synonym of O. ophis ?)
* Ophichthus karreri Blache, 1975
Ophichthus leonensis Blache, 1975
Ophichthus ophis Linnaeus, 1758 OPHICH Ophich 1
Ophichthus regius (Shaw, in Richardson, 1848)

Ophisurus guineensis Blache, 1975
Ophisurus serpens (Linnaeus, 1758) OPHICH Ophis 1

Pisodonophis semicinctus (Richardson, 1848)

Pseudomyrophis atlanticus Blache, 1975
Pseudomyrophis nimius Böhlke, 1960

Prepared by J.E. Böhlke, Department of Ichthyology, The Academy of Natural Sciences, Philadelphia, Pennsylvania, U.S.A.

*To be expected in the area; to date known only from 26°S (one specimen)

OPHICH Echel 1

1981

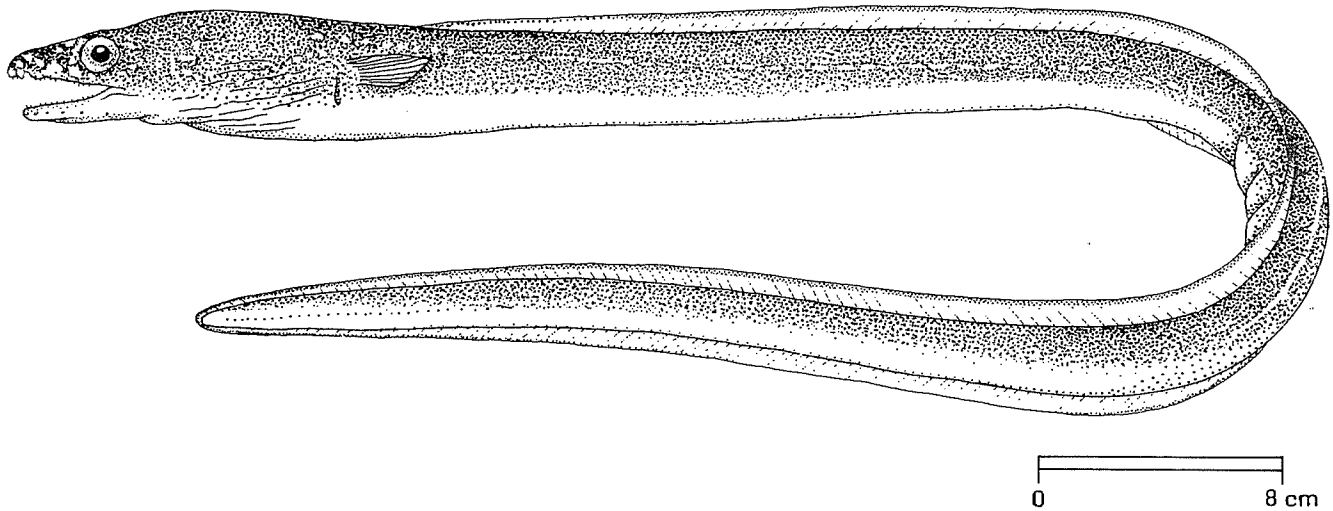
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : OPHICHTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Echelus myrus (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Painted eel
Fr - Serpenton miro
Sp - Tieso miro

NATIONAL :

DISTINCTIVE CHARACTERS :

Body rounded in cross-section anteriorly, becoming increasingly compressed posteriorly. Eye rather large, above posterior margin of gape; anterior nostril tubular, posterior nostril a ventral slit in upper lip; snout projecting beyond lower jaw; teeth pointed, multiserial on jaws and roof of mouth; branchial region supported by relatively few branchiostegal rays that overlap below. Vertical fins continuous posteriorly with a well developed caudal fin; tail tip, however, is somewhat hardened; dorsal fin originating behind gill opening but before tip of pectoral fin. Number of lateral line pores on head reduced, only two in the supraorbital series, none in the infraorbital series behind the eye. Total number of vertebrae 149 to 152 (to 155 in Mediterranean specimens).

Colour: generally dark above and pale below; dorsal fin and posterior part of anal fin margined with black. Sensory papillae on head white on a darker background.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

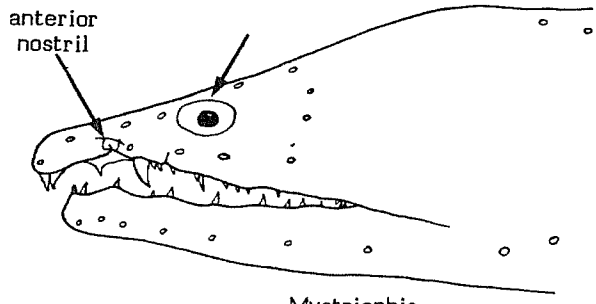
Echelus pachyrhynchus (149 to 157 vertebrae): colouration dark overall, including head; sensory papillae on head not light. A deep-water species normally living at 200 to 500 m; from Mauritania to Angola and the Cape Verde Islands.

Myrophis species: dorsal fin originating far back, about midway between snout tip and anus.

Pseudomyrophis species: body extremely elongate.

Eastern Atlantic species of Mystriophis: eye above middle third of gape rather than partially above posterior margin of same; anterior nostril midway between snout tip and anterior eye margin; stronger vomerine dentition.

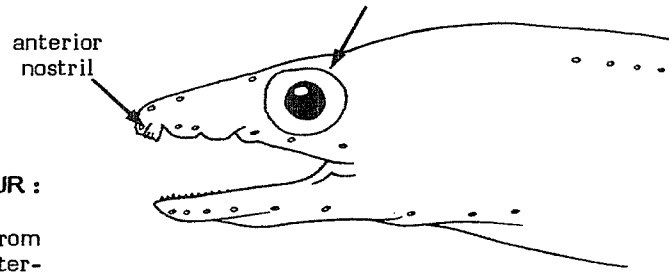
Other species of Ophichthidae: caudal fin absent, tail tip stiff.



Mystriophis

SIZE :

Maximum: at least 80 cm.

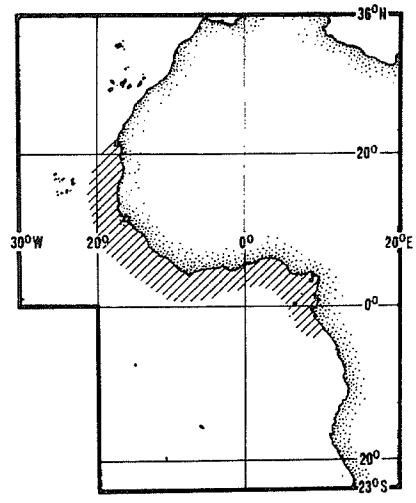


Echelus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Known from the west coast of Africa from Mauritania south to Congo; also found in the Mediterranean.

Taken infrequently in estuaries and lagoons over mud and sand bottom at depths of 3 to 12 m; recorded in the Mediterranean from 150 m. Seen buried in sand with only its head showing.



PRESENT FISHING GROUNDS :

Not sought as a commercial species.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Taken by hook and line.

Probably consumed occasionally, but not often seen in markets.

OPHICH Echiop 1

1981

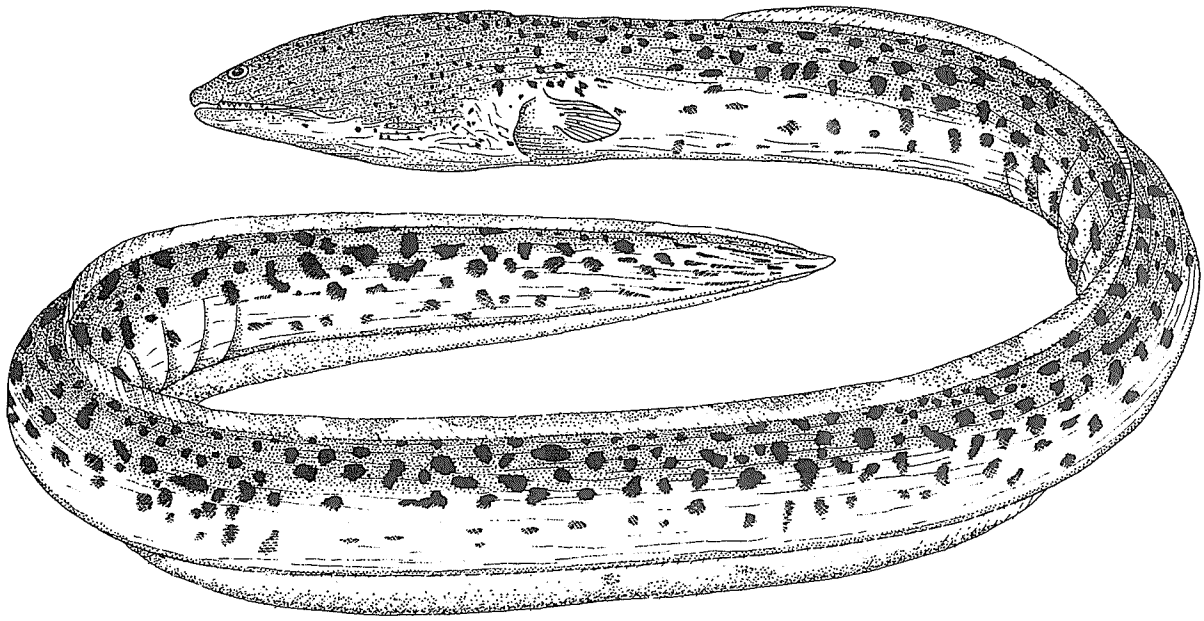
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : OPHICHTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Echiophis creutzbergi (Cadenat, 1956)

OTHER SCIENTIFIC NAMES STILL IN USE : Mystriophis creutzbergi Cadenat, 1956
Echiopsis (sic.) intertinctus (Richardson, 1844) = misidentification



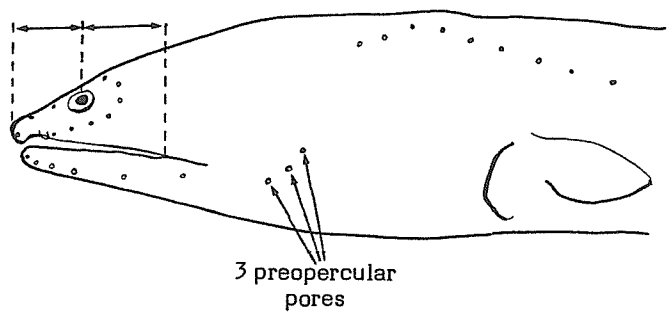
VERNACULAR NAMES:

FAO : En - Spoon-nose eel
Fr - Serpenton tiyeux
Sp - Tieso culebrón

NATIONAL :

DISTINCTIVE CHARACTERS :

Body rounded in cross-section. Eye small, placed high on head and before middle of gape; anterior nostril tubular, posterior nostril opening beneath flap in lip shortly behind anterior nostril; snout projecting slightly beyond lower jaw; teeth biserial on jaws and roof of mouth, those of the outer series on jaws strongest; several anterior upper jaw teeth enlarged. Vertical fins discontinuous posteriorly, the tail tip stiff and finless; origin of dorsal fin distinctly behind tips of pectoral fins; pectoral fins well developed, longer than snout. Median frontal and supratemporal pores present; three preopercular pores. Total number of vertebrae 134 to 143.



Colour: small to medium blackish-brown spots on a lighter brownish background, fewer spots and paler background ventrally; spots smaller, sometimes absent on head. Dorsal and anal fins with an irregular dark border distally, few small spots.

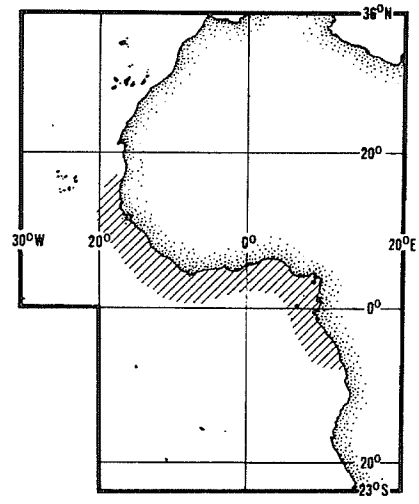
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Ophichthidae: eye not high on head and not before middle of gape.

SIZE:

Maximum: 170 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:



Along the west coast of Africa only known from Senegal, Sierra Leone, and Congo. Represented in the West Atlantic by a similar species, Echiophis punctifer.

A littoral form, from the same habitat as Mystriophis rostellatus (lagoons and waters less than 40 m depth; often buried in sand); common in Sierra Leone, rare on the coasts of Senegal and Congo.

PRESENT FISHING GROUNDS:

Taken incidental to fishing for other species and not specifically sought by commercial fishermen.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken by trawl and on hook and line.

Probably consumed occasionally, but not often seen in markets.

OPHICH Myrich 1

1981

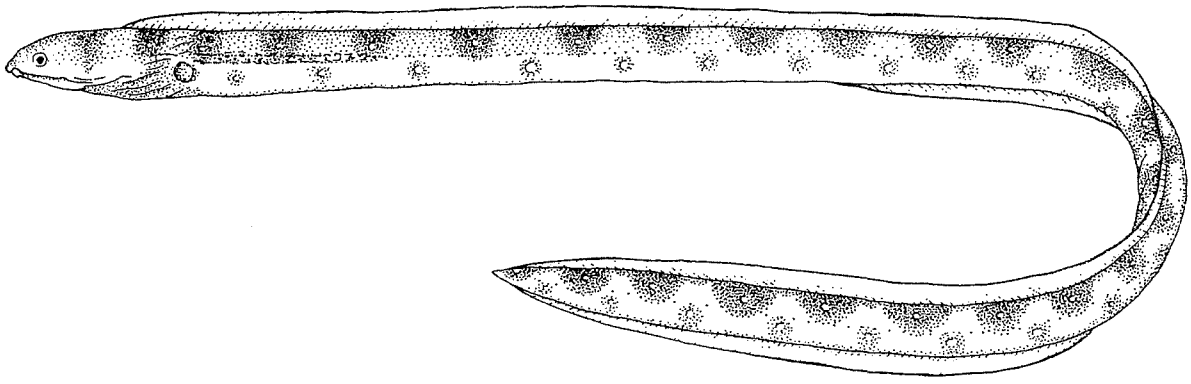
FAO SPECIES IDENTIFICATION SHEETS

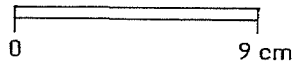
FAMILY : OPHICHTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Myrichthys pardalis (Valenciennes, 1835)

OTHER SCIENTIFIC NAMES STILL IN USE : None





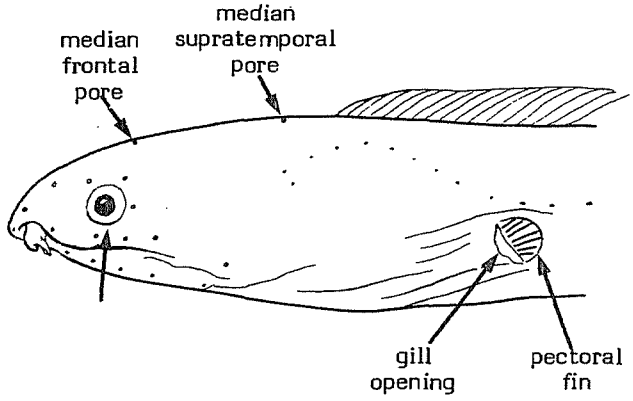
VERNACULAR NAMES:

FAO : En - Leopard eel
Fr - Serpenton léopard
Sp - Tieso leopardo

NATIONAL :

DISTINCTIVE CHARACTERS :

Body rounded in cross-section. Eye small, over centre of gape; anterior nostril tubular, its posterior rim extending well beyond anterior rim; posterior nostril a slit covered by a flap of skin on lower surface of upper lip, opening inside mouth; snout projecting beyond lower jaw; teeth low, rounded, molariform, mostly biserial on jaws and roof of mouth. Vertical fins discontinuous posteriorly, the tail tip stiff and finless externally; origin of high dorsal fin well forward on head, midway between eye and gill opening; pectoral fin low and rounded in outline, its upper and lower ends corresponding to upper and lower ends of gill opening. Median frontal and supratemporal pores present. Total number of vertebrae 151 to 159.



Colour: generally light yellowish orange, a series of large brown spots with pale centres on dorsal half of body alternating with smaller pale ocellated spots on ventral side; head with or without small spots. Fins pale.

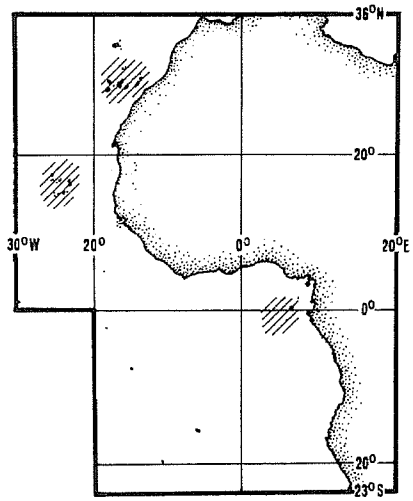
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Other species of Ophichthidae: none with colour pattern of bold spots with pale centres.

SIZE :

Maximum: to 65 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :



Found only at the offshore islands of the Canaries, Cape Verde and the Bay of Biafra.

Inhabits shallow waters over rock and sand bottom.

PRESENT FISHING GROUNDS :

Not sought as a commercial species but may be taken incidentally in shallow-water trawl hauls.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

May be taken incidentally by traps or trawls in shallow water.

Probably consumed occasionally, but not often seen in markets.

OPHICH Mystrio 1

1981

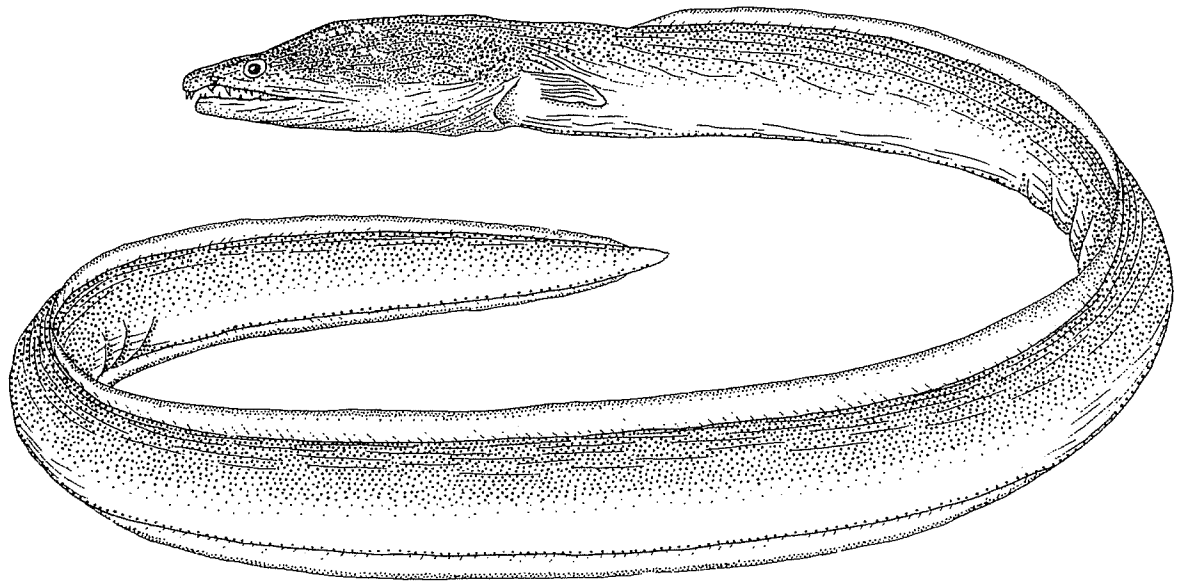
FAO SPECIES IDENTIFICATION SHEETS

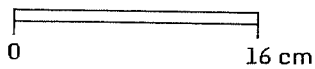
FAMILY : OPHICHTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Mystriophis rostellatus (Richardson, 1844)

OTHER SCIENTIFIC NAMES STILL IN USE : None





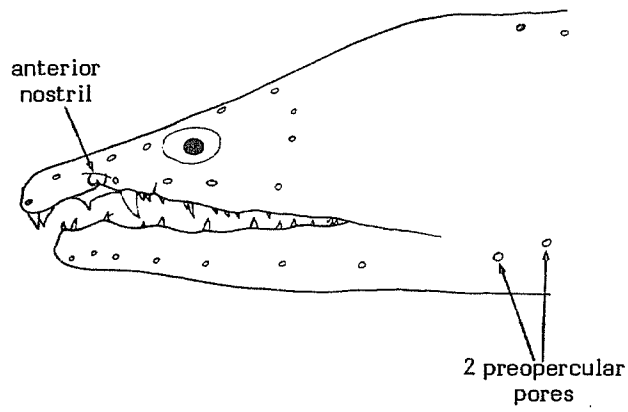
VERNACULAR NAMES:

FAO : En - African spoon-nose eel
Fr - Serpenton gris
Sp - Tieso gris

NATIONAL :

DISTINCTIVE CHARACTERS :

Body rounded in cross-section. Eye small, above middle of gape; anterior nostril tubular, about midway between snout tip and anterior margin of eye; posterior nostril in upper lip, visible in both ventral and lateral aspects; snout projecting beyond lower jaw; teeth strong, sharply pointed, in two rows on jaws and uniserial on roof of mouth; anterior upper jaw teeth and those on roof of mouth considerably enlarged and strong. Vertical fins discontinuous posteriorly, the tail tip stiff and finless; origin of dorsal fin shortly behind tip of pectoral fin; pectoral fins well developed, longer than snout. Median frontal and supratemporal pores present; two preopercular pores. Total number of vertebrae 154 to 158.

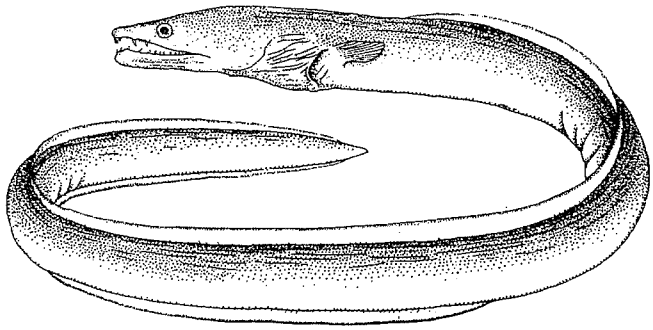


Colour: brownish grey dorsally, paler ventrally. Fins light grey, dorsal and anal fins with black margins.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Mystriophis crosnieri (136 to 144 vertebrae): coloration and overall appearance similar. Taken at depths from 90 to 300 m. Found off the West African Coast from Mauritania to Angola, always from deep water.

Echiophis creutzbergi and Brachysomophis atlanticus: spotted coloration.



Mystriophis crosnieri

SIZE:

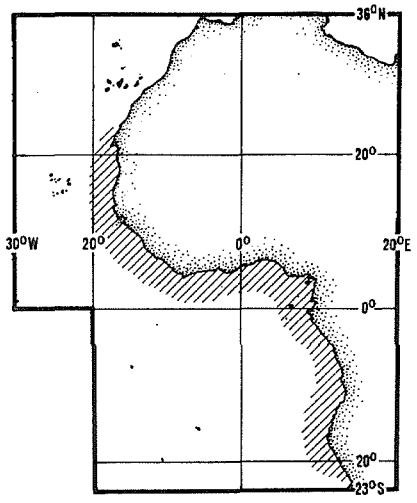
Maximum: 140 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Found only on the west coast of Africa from Mauritania to Angola; apparently locally abundant.

Lives in lagoons and waters less than 40 m in depth; seen buried in sand with only the head showing.

Stomach contents include pieces of small fishes, crabs and shrimps.



PRESENT FISHING GROUNDS:

Apparently taken incidental to fishing for other species and not specifically sought by commercial fishermen.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken by trawls and on hook and line.

Probably consumed occasionally, but not often seen in markets.

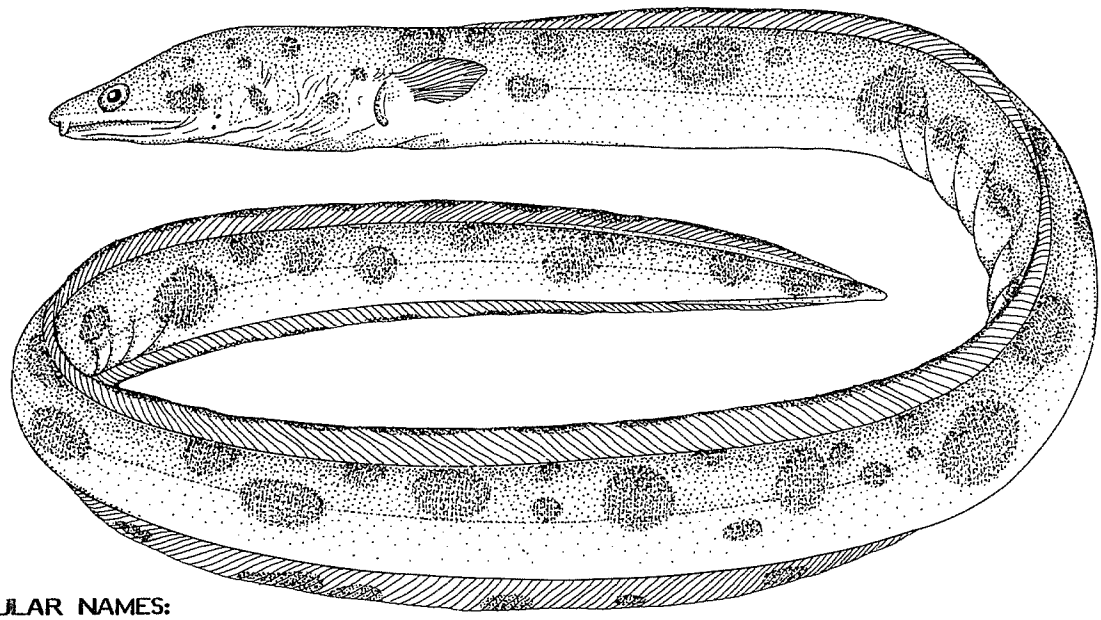
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : OPHICHTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Ophichthus ophis Linnaeus, 1758

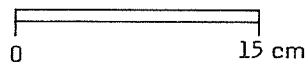
OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

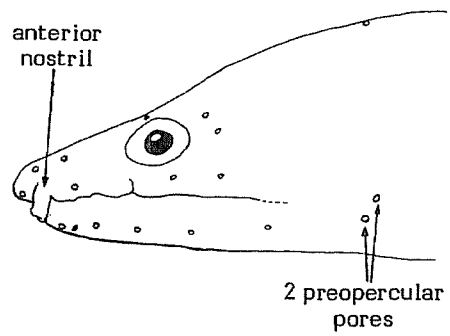
FAO : En - Spotted snake eel
Fr - Serpenton tacheté
Sp - Tieso pintado

NATIONAL :



DISTINCTIVE CHARACTERS :

Body rounded in cross-section. Eye moderate, placed above middle third of upper jaw; anterior nostril tubular; posterior nostril in upper lip, covered by flap of skin, visible both ventrally and laterally; snout projecting beyond lower jaw; teeth on jaws biserial, those on roof of mouth uniserial except for one or two pairs anteriorly. Vertical fins discontinuous posteriorly; the tail tip stiff and finless; origin of dorsal fin above posterior part of pectoral fin; pectoral fins well developed, longer than snout. Median frontal and supratemporal pores present; two preopercular pores. Total number of vertebrae 161 to 170.



Colour: large round black spots and blotches on a pale background, spots smaller posteriorly; head with smaller diffuse spots. Dorsal and anal fins pale with small dark marks on distal half; pectoral fins dusky. Eastern Atlantic specimens do not show the dark nuchal band that is characteristic of those taken in the Western Atlantic.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Ophichthus regius (157 to 161 vertebrae): similar colour pattern but spots diffuse with small spots scattered in interspaces; pointed papilla projecting from upper lip between anterior and posterior nostrils. From St. Helena.

Ophichthus leonensis (149 vertebrae): small dark spots sprinkled over head and body. Only specimen from Sierra Leone at 180 m.

Ophichthus karreri (165 vertebrae): coloration uniform, without spots. Only specimen from 26°S latitude at 390 m.

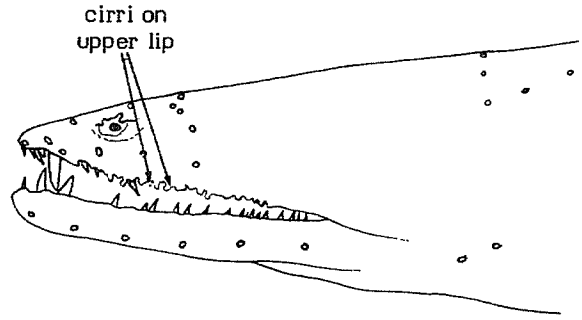
Brachysomophis atlanticus (114 to 117 vertebrae): coloration similar, but with upper lip fringed with cirri, upper and lower jaws equal anteriorly, and dorsal fin origin above gill opening. From Senegal.

Pisodonophis semicinctus: coloration with large dark spots, regular and saddle-like, with no additional smaller spots present; teeth molariform, dorsal fin origin on head well in front of gill opening.

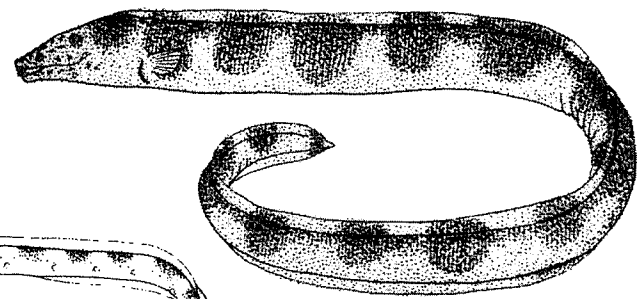
Echiophis creutzbergi: spots smaller and more numerous.

Myrichthys pardalis: spots with pale centres; dorsal fin origin far forward on head.

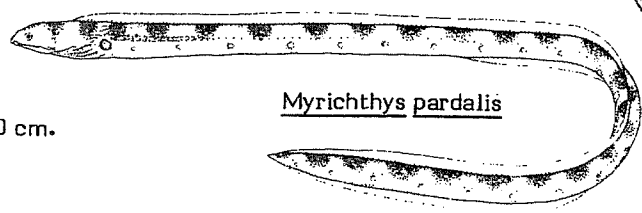
Other species of Ophichthidae: without prominent spots.



Brachysomophis atlanticus



Pisodonophis semicinctus



Myrichthys pardalis

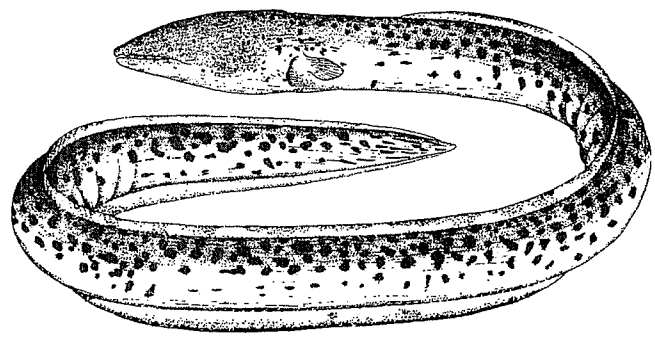
SIZE :

Maximum: 140 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

From the west coast of Africa from Senegal to Angola, and from the islands of Cape Verde and the Bay of Biafra. Also in the Western Atlantic from Bermuda, Florida, and the islands of the Caribbean and coast of South America to Brazil.

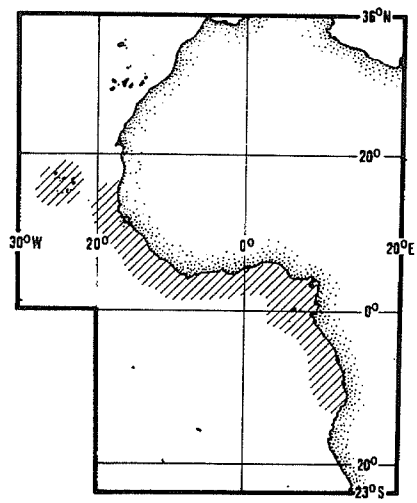
Taken from depths to 50 m. Have been seen with their heads protruding from the sand.



Echiophis creutzbergi

PRESENT FISHING GROUNDS :

Apparently taken incidental to fishing for other species and not specifically sought by commercial fishermen.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Taken with bottom trawls and on hook and line.

Probably consumed occasionally, but not often seen in markets.

OPHICH Ophis 1

1981

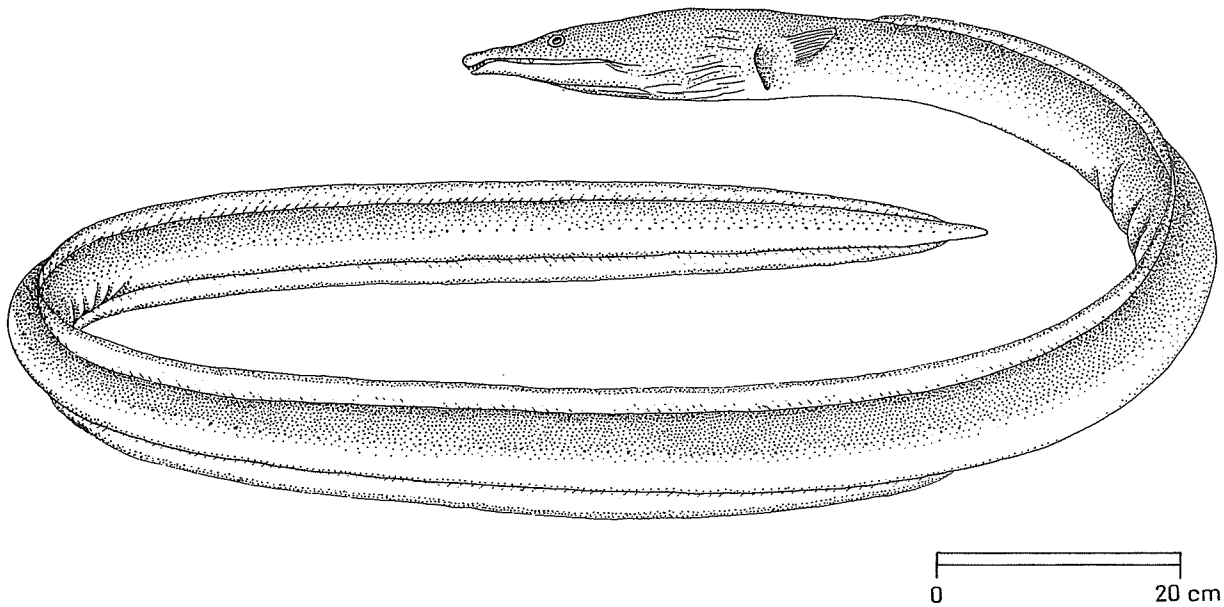
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : OPHICHTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Ophisurus serpens (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Serpent eel
Fr - Serpenton à nez long
Sp - Tieso trompudo

NATIONAL :

DISTINCTIVE CHARACTERS :

Body rounded in cross-section anteriorly, becoming moderately compressed posteriorly. Eye small, placed behind midpoint on long upper jaw; snout long, club-shaped, considerably longer than pectoral fin; mouth in adults incapable of being completely closed; anterior nostril lateral, placed at mid-snout; posterior nostril midway between anterior nostril and eye, on outer face of lip, covered by a flap; snout projecting beyond lower jaw; teeth in upper jaw in 1 to 3 rows, anterior teeth strong; teeth in lower jaw and on roof of mouth uniserial. Vertical fins discontinuous posteriorly, the tail tip stiff and finless; origin of dorsal fin a short distance behind tip of pectoral fin; pectoral fins well developed. Median frontal and supratemporal pores present; three preopercular pores. Total number of vertebrae 199 to 215.

Colour: brownish dorsally, yellowish white ventrally; lateral line pores dark. Distal edge of dorsal and anal fins dusky.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Ophisurus guineensis (194 to 199 vertebrae): spotted colour pattern, numerous rows of teeth on the upper jaw. From off Congo in 300 m.

Other species of Ophichthidae: snout shorter, not long and club-shaped and incapable of being completely closed.

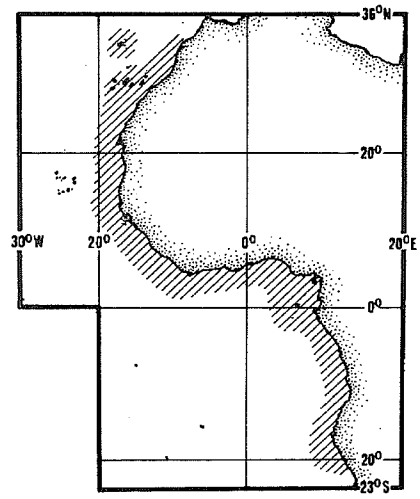
SIZE:

Maximum: at least 245 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Along the west coast of Africa from Morocco to Angola; also from the coast of Portugal. Elsewhere recorded from off South Africa and from the Indian and Pacific Oceans.

A common species living buried in sand with only its head exposed; from depths to 300 m.



PRESENT FISHING GROUNDS:

Apparently taken incidental to fishing for other species.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken with bottom trawls and on hook and line.

Probably consumed occasionally, but not often seen in markets.

OPHID

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

OPHIDIIDAE

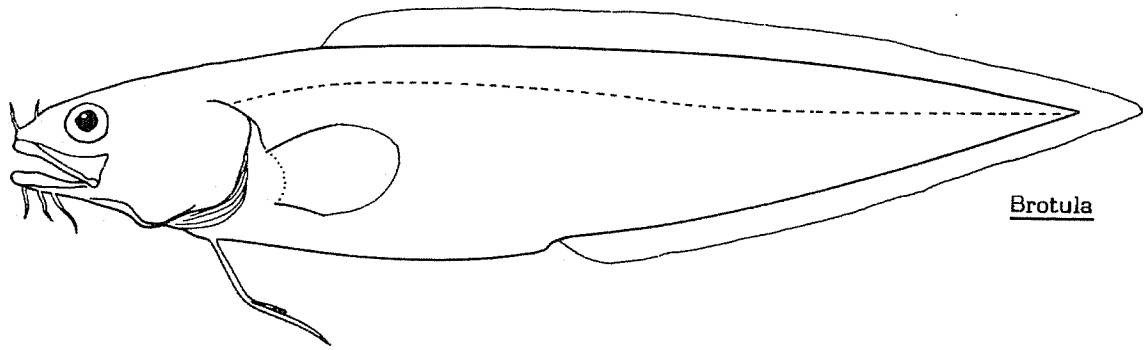
(also including the oviparous genera of the formerly recognized family Brotulidae)

Cusk eels and brotulas

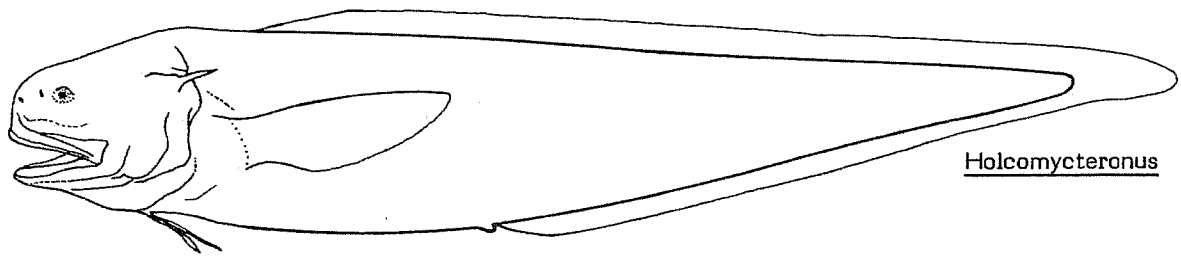
Body stubby to elongate, ranging in length from about 10 cm to more than 100 cm. Gill openings wide; rarely less than 7 developed rakers on the anterior gill arch. Many species with a sharp spine near upper angle of opercle; anterior nostril well above upper lip. Fins lacking spines; a single long dorsal fin and a single, somewhat shorter, anal fin always united with the caudal; pelvic fins 0 to 2 rays, placed close to each other under the gill opening or further anteriorly.

Colour: most species are brownish-whitish but some have black spots and bars or horizontal lines on body or fins.

Members of this family occur from shallow waters to over 8 000 m depth; except for a few, all are living on or near the bottom. In this area, only a single species attains a large enough size and is sufficiently abundant to be commercially important.

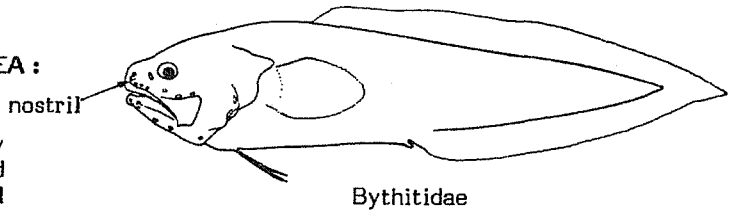


Brotula



Holcomycteronus

SIMILAR FAMILIES OCCURRING IN THE AREA:



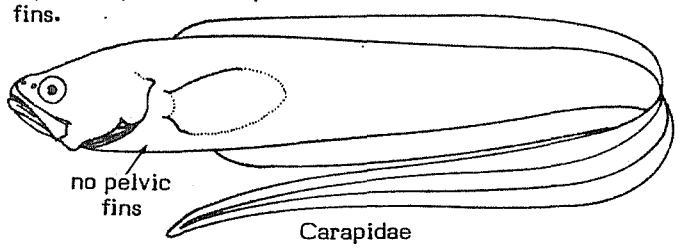
Bythitidae

Bythitidae: anterior nostril immediately above upper lip; males with variously developed external intromittent organ; developed gill rakers on anterior arch 6 or fewer.

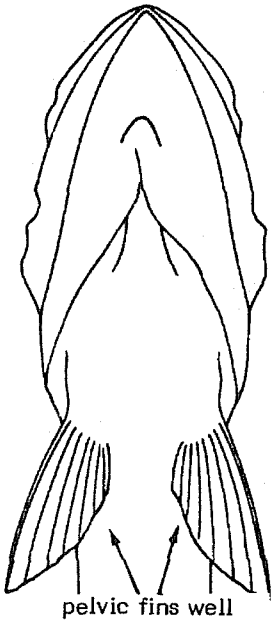
Carapidae: tail long and filamentous; no pelvic fins.

Macrouridae: pelvic fins well separated from each other, with more than two rays.

Gadidae and Moridae: pelvic fins widely separated; caudal separated from dorsal and anal fins.



Carapidae


pelvic fins well separated, with more than two rays

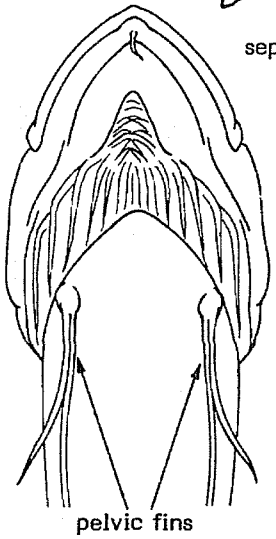
Macrouridae

GENERA AND SPECIES OCCURRING IN THE AREA:

A key to genera and a complete list of species are not practicable at this time because the systematics of this large family is not yet settled satisfactorily.

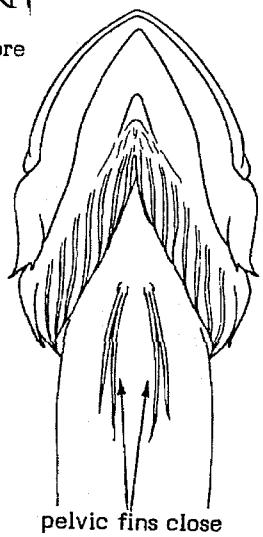
Twenty genera occur in the area. Most of them include very rare deep-sea species, and only few are likely to be caught by commercial trawlers.

The only species of real commercial importance in a considerable part of the area is Brotula barbata. However, it should be borne in mind that at least two other species seem to be more or less regularly taken by trawlers in the area. One is Ophidion barbatum occurring from Gibraltar southward at least to Senegal (size about 30 cm, depth range from shallow waters to at least 200 m, possibly to 400 m), and Genypterus capensis, a South African species entering the area from the south (size up to 180 cm, depth range to about 400 m) which is said to be exploited in southern Angola.

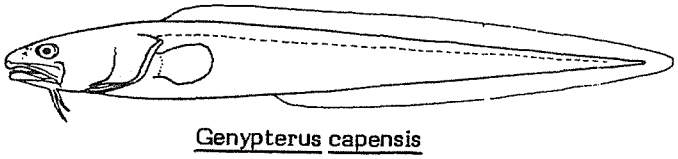

pelvic fins far apart

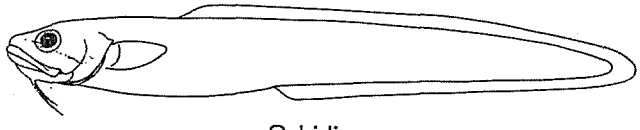
Gadidae (Urophycis)

underside of head


pelvic fins close together, with two or less rays

Ophidiidae (Dicrolene)


Genypterus capensis


Ophidion sp.

THE GENERA OCCURRING IN THE AREA ARE THE FOLLOWING:

Code numbers are given for those species for which Identification Sheets are included

Abyssobrotula
Acanthonus
Barathrites
Barathrodemus
Bassobythites
Bassozetus
Bathyonus
Brotula barbata (Bloch) in Bloch & Schneider, 1801 OPHID Brotul 1
Brotulataenia
Dicrolene
Genypterus
Holcomycteronus
Lamprogrammus
Luciobrotula
Monomitopus
Neobythites
Ophidion
Penopus
Porogadus
Xyelacyba

Prepared by J. Nielsen, Zoologisk Museum, Copenhagen, Denmark

OPHID Brotul 1

1981

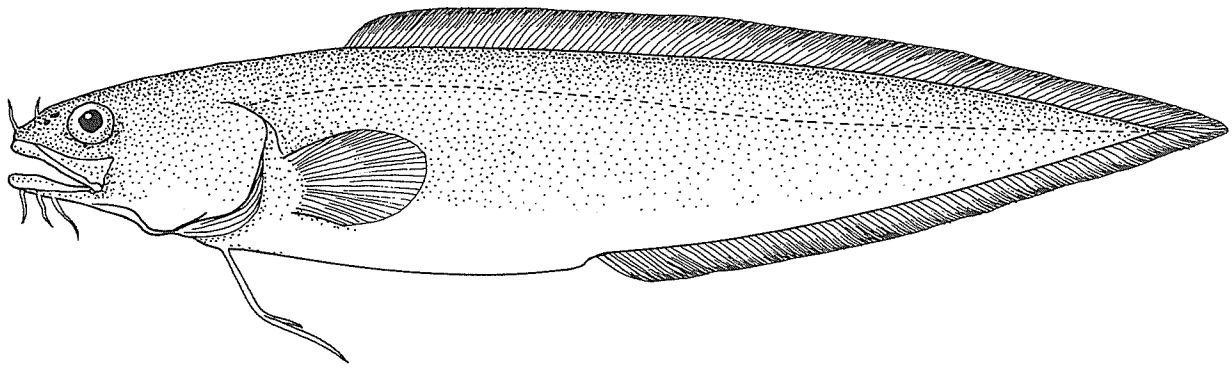
FAO SPECIES IDENTIFICATION SHEETS

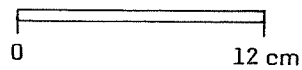
FAMILY : OPHIDIIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Brotula barbata (Bloch) in Bloch & Schneider, 1801

OTHER SCIENTIFIC NAMES STILL IN USE : None





VERNACULAR NAMES:

FAO : En - Bearded brotula
Fr - Brotule barbée
Sp - Brótula de barbas

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate with a tapering caudal part. A total of 12 barbels on snout and chin; teeth small and close-set; 4 or fewer well developed rakers on anterior gill arch. Fins spineless, the dorsal and anal long, continuous with caudal fin; pectoral fins short and rounded; pelvic fins with 2 rays united for more than half their length. Body completely covered with small, overlying, cycloid (smooth) scales.

Colour: reddish to brownish with a whitish ventral part; vertical fins with a black border; often more or less distinct rounded dark spots on body and dorsal fin, especially in juveniles.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

The combination of characters such as the barbels and the long dorsal and anal fins united with the caudal, readily distinguishes this species from other superficially similar fishes in the area.

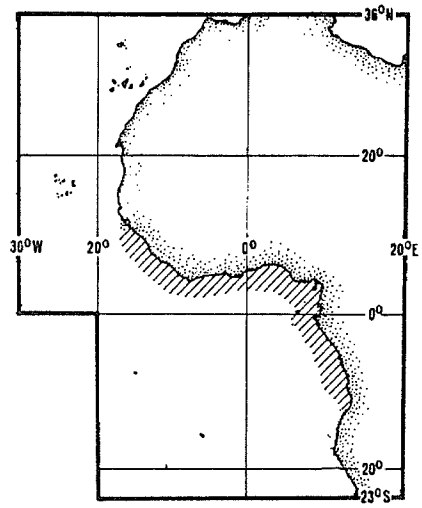
SIZE:

Maximum: about 75 cm and 4 kg.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, found from southern Senegal (12°N) to Angola (13°S). Adults are also known from the tropical western Atlantic.

Adults are benthic, occurring mainly on muddy bottoms, down to at least 650 m depth but most often on the continental shelf. Juveniles are pelagic and may occur further offshore.



PRESENT FISHING GROUNDS:

Taken throughout its range; a seasonal fishery (August/September) is reported from Ivory Coast.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls; occasionally also with purse seines and on line gear.

Marketed fresh, smoked and dried salted.

PARALEP

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

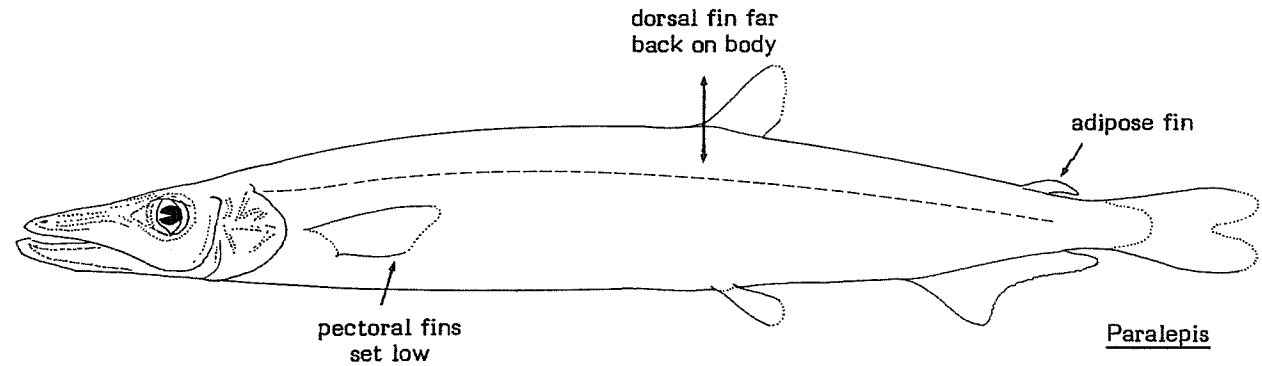
PARALEPIDIDAE

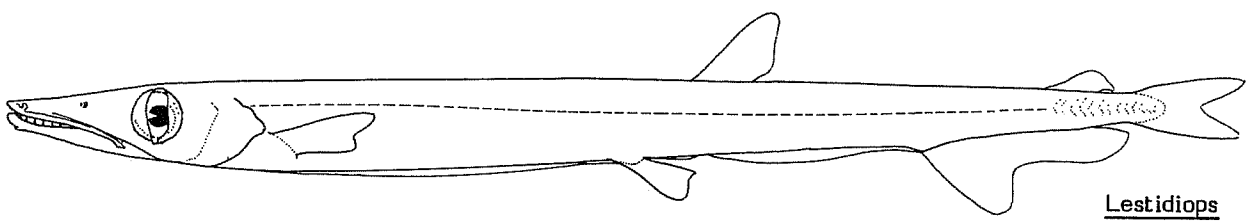
Barracudinas

Body elongate and slender, subcylindrical to laterally compressed. Snout pointed, mouth terminal, the lower jaw projecting by a non-ossified process; alternately fixed and depressible fang-like teeth on dentary (lower jaw) and palatines (roof of mouth); premaxilla of upper jaw with fangs at tip followed by small saw-like canines; gill rakers reduced to teeth or spines in multiple series on bony shields. No spiny rays in fins; the single short dorsal fin set behind midpoint of body; a dorsal adipose fin always present above last anal fin rays; a ventral adipose fin also present in some genera; anal fin long, with 20 to 50 rays, its origin well behind dorsal fin; pectoral fins set low on body, usually short, except in Sudis. Lateral line conspicuous. Scales, when present, cycloid (smooth to touch) and very easily shed. Light organs present in two genera (Lestidium and Lestrolepis). No swimbladder.

Colour: adults are either silvery with a brownish dorsal band or completely black, some species with saddle-like dark blotches; juveniles are yellowish transparent.

Small to medium-sized fishes ranging from about 15 to 50 cm in total length. They are meso- to bathypelagic and may occur in very large numbers from near the surface to mid-depths (over 800 m); some species are common over the continental shelf. They are swift swimmers and some have been observed to move in vertical position making abrupt full turns from head-up to head-down positions. Despite their abundance, many of the species are not well known, the adults being able to avoid nets and other collecting gear. A few species have been caught in sizeable quantities, but the possible interest of others as a potential resource in future mid-water fisheries operations is yet to be tested. In Fishing Area 34, barracudinas are taken as bycatch in offshore trawlfisheries (pelagic trawls) and are utilized for fishmeal and oil.



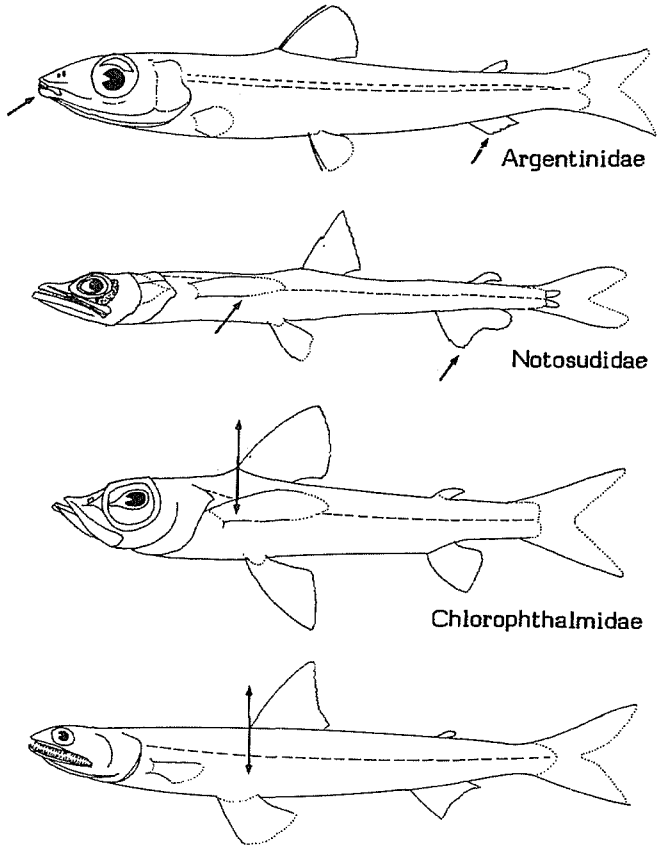


SIMILAR FAMILIES OCCURRING IN THE AREA:

Argentinidae: anal fin short, with less than 18 rays (20 to 50 rays in Paralepididae); mouth small; no teeth on premaxilla or maxilla; swimbladder present.

Notosudidae (Scopelosauridae): gill rakers lath-like, not in the form of teeth or spines; pectoral fins fully lateral in position, set higher on body than in Paralepididae; anal fin rather short, with 16 to 21 rays; branchiostegal rays 4 to 6 (8 in Paralepididae).

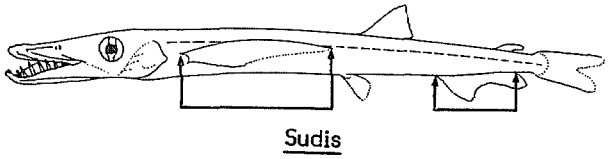
Chlorophthalmidae and Synodontidae: dorsal fin set on anterior half of body; anal fin short.



KEY TO GENERA OCCURRING IN THE AREA:

1 a. Pectoral fins elongate, longest finray distinctly longer than anal fin base; large fixed mandibular teeth with serrate edges (Fig. 1) ..... Sudis

1 b. Pecoral fins short, longest finray shorter than anal fin base (Fig. 3a); large fixed or flexible mandibular teeth with smooth edges (Fig. 2)



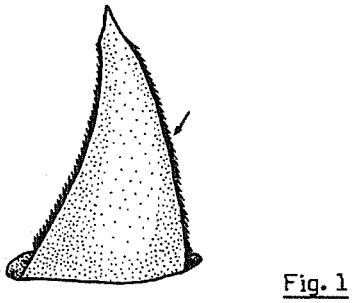


Fig. 1

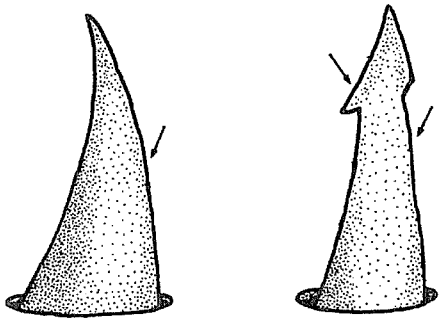


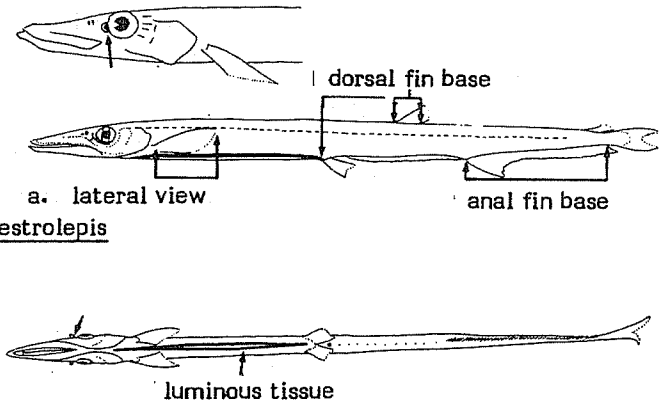
Fig. 2

2 a. Origin of pelvic fins well in front of a vertical from first dorsal fin ray (by at least one length of dorsal fin base) (Fig. 3a)

3 a. Two parallel ventral bands of luminous tissue on belly from between pelvic fins to isthmus (Fig. 3b); a prominent black spot immediately before eye (Fig. 3a) ..... Lestrolepis

3 b. No luminous organ on belly, no black spot before eye

4 a. Ventral adipose fin present between vent and anal fin (Fig. 4)



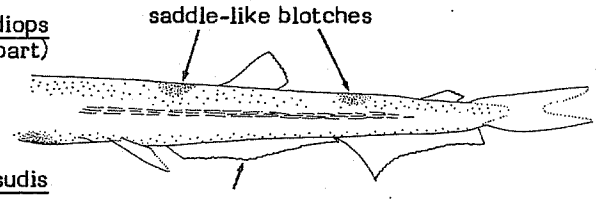
Lestrolepis Fig. 3

5 a. 32 anal fin rays or less ..... Lestidiops (in part)

5 b. 35 anal fin rays or more

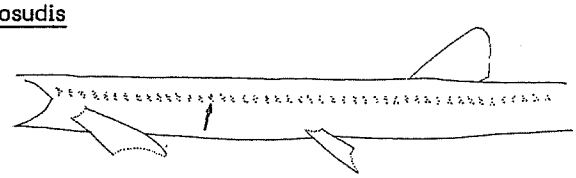
6 a. Colour deep black ..... Dolochosudis

6 b. Colour light, some with saddle-like blotches (Fig. 4) ..... Stemonosudis



Stemonosudis Fig. 4

4 b. No ventral adipose fin; lateral-line scales (at least in anterior part of trunk) marked by black spots if specimen not completely black (Fig. 5) ..... Macroparalepis (in part)



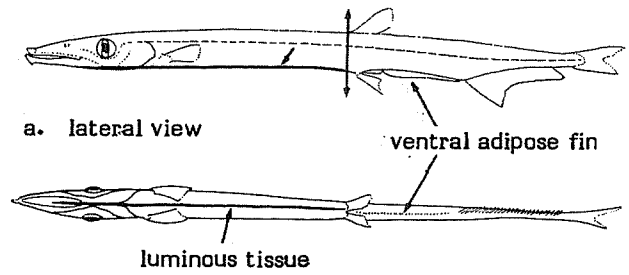
Macroparalepis Fig. 5

2 b. Origin of pelvic fins only slightly in front of a vertical from first dorsal fin ray (less than one length of dorsal fin base), or behind this vertical (Fig. 6a)

7 a. Ventral adipose fin present between vent and anal fin (Fig. 6a)

8 a. One band of luminous tissue on ventral midline from between pelvic fins to isthmus between opercles (Fig. 6 b) ..... Lestidium

8 b. No band of luminous tissue on ventral midline



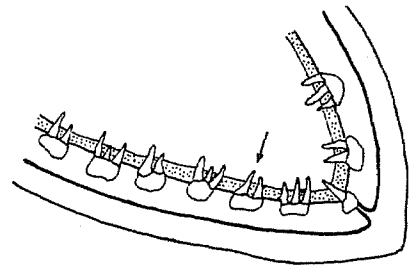
Lestidium Fig. 6

9 a. Pelvic fins heavily pigmented, some species with dorsal saddle-like blotches (as in Fig. 4) ..... Uncisudis

9 b. Pelvic fins slightly pigmented, no dorsal saddle-like blotch ..... Lestidiops (in part)

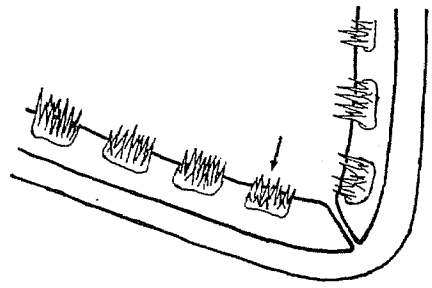
7 b. No ventral adipose fin between vent and anal fin

10 a. Body naked, except for lateral-line scales; either entirely black or dark dorsally and light ventrally; in the latter case, lateral line scales marked by black spots at least in anterior part of trunk (as in Fig. 5); gill rakers teeth-like on bony bases (Fig. 7) ..... Macroparalepis (in part)



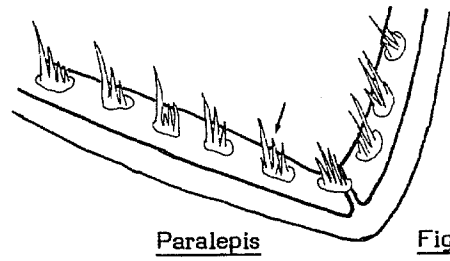
Macroparalepis Fig. 7
gill arch

10 b. Body scaled, but scales very delicate and easily shed; gill rakers needle-like on bony bases (Figs. 8 and 9)



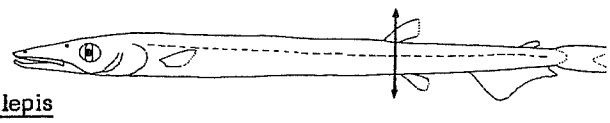
Notolepis Fig. 8
gill arch

11 a. Pelvic fin origins well behind a vertical from midpoint of dorsal fin base (Fig. 10); gill rakers forming numerous rows of short needle-like filaments (Fig. 8); more than 28 rays in anal fin ..... Notolepis

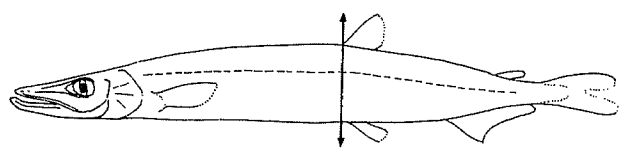


Paralepis Fig. 9
gill arch

11 b. Pelvic fin origins slightly before or behind a vertical from first dorsal ray (Fig. 11); gill rakers on first arch formed by 3 to 10 slender, flexible needle-like filaments (Fig. 9); less than 26 rays in anal fin ..... Paralepis



Notololepis Fig. 10



Paralepis Fig. 11

LIST OF SPECIES OCCURRING IN THE AREA:

Dolichosudis fuliginosa Post, 1969

Lestidiops affinis (Ege, 1930)
Lestidiops cadenati Maul, 1962
Lestidiops distans (Ege, 1953)
Lestidiops jayakari (Boulenger, 1889)
Lestidiops jayakari jayakari (Boulenger, 1889)
Lestidiops jayakari pseudosphyraenoides (Ege, 1918)
Lestidiops similis (Ege, 1933)
Lestidiops sphyrenoides (Risso, 1820)

Lestidium atlanticum Borodin, 1928

Lestrolepis intermedia (Poey, 1868)

Macroparalepis affinis Ege, 1933
Macroparalepis brevis Ege, 1933
Macroparalepis nigra (Maul, 1965)

Notolepis rissoi (Bonaparte, 1840)

Paralepis atlantica Krøyer, 1868
Paralepis brevirostris (Parr, 1928)
Paralepis coregonoides Risso, 1820
Paralepis elongata (Brauer, 1906)

Stemonosudis gracilis (Ege, 1933)
Stemonosudis intermedia (Ege, 1933)
Stemonosudis siliquiventer Post, 1970

Sudis atrox Rofen, 1963
Sudis hyalina Rafinesque, 1810

Uncisudis longirostra Maul, 1956
Uncisudis quadrimaculata (Post, 1969)

Prepared by A. Post, Aussenstelle Ichthyologie, Institut für Seefischerei, Zoologisches Institut und Zoologisches Museum, Martin-Luther-King Platz, Hamburg, Federal Republic of Germany

PERCOPH

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

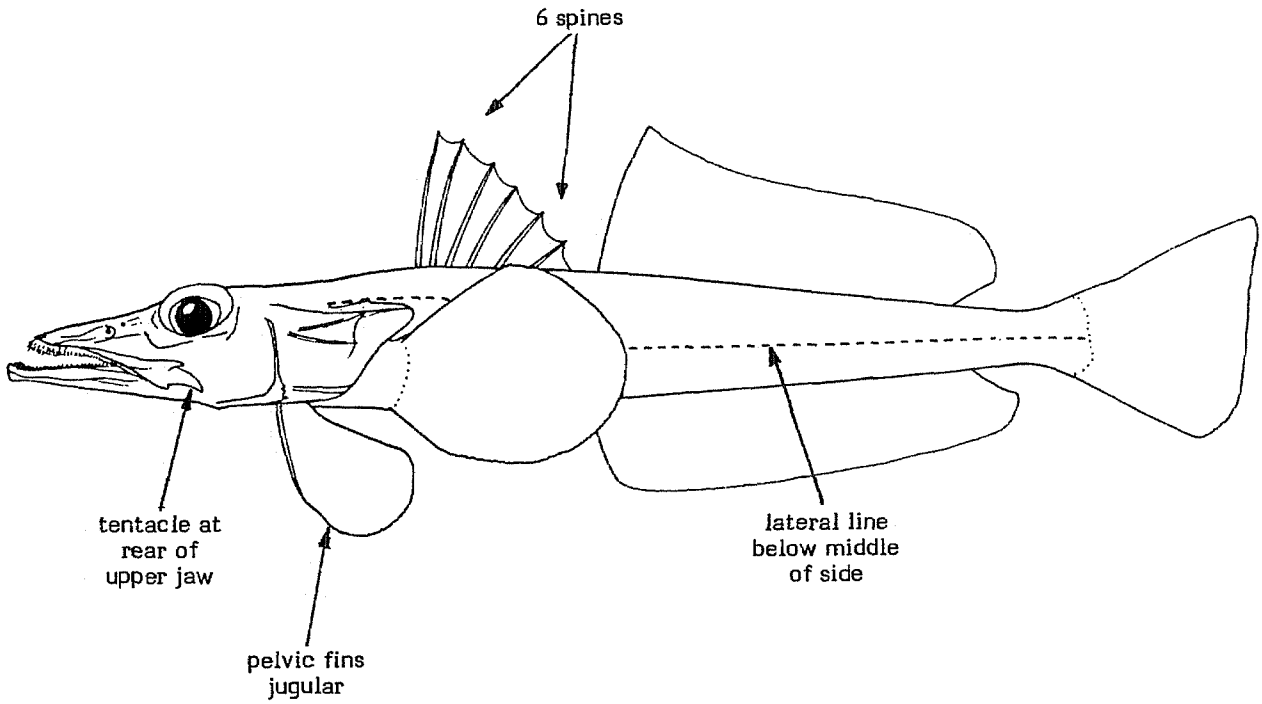
PERCOPHIDAE *

Duckbills

Elongate benthic fishes with head and anterior part of body depressed. Mouth large, lower jaw extending beyond upper; posterior edge of upper jaw with a well-developed tentacle; eyes large, the space between them narrow; snout flat and broad, somewhat like a duck's bill; small conical teeth in bands on roof of mouth (palatines, vomer) and in jaws. Two separate dorsal fins, the first with 6 spines and the second with 14 to 17 soft rays; anal fin lacking spines, with 17 to 19 soft rays; pectoral fins long, with 24 to 28 soft rays; pelvic fins jugular in position, with 1 spine and 5 soft rays. Scales on body ctenoid (rough to touch). Lateral line straight below middle of side except for flexure upward above pectoral fin. Pored lateral line scales 48 to 62.

Colour: brownish to yellowish above, light yellow below. Scale edges darkly outlined on upper part of body.

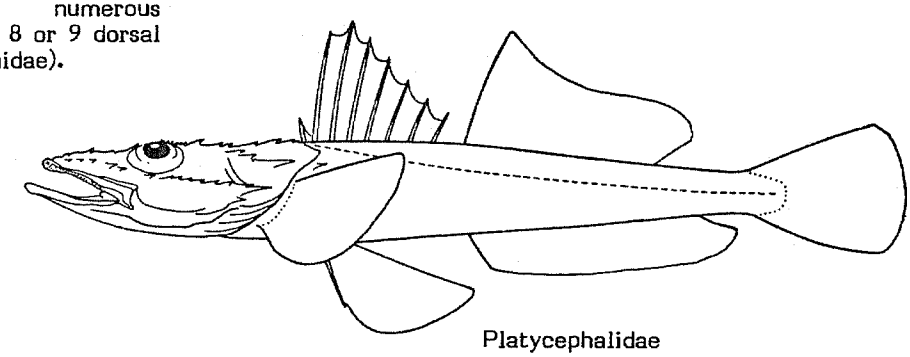
Bottom-living carnivorous fishes on the continental shelf at depths from 100 to 400 m. Of little commercial value in the Eastern Central Atlantic because of their relatively small size and limited abundance, but often taken in bottom trawls, mainly by offshore fishing fleets.



* Family diagnosis applies to Eastern Central Atlantic forms only

SIMILAR FAMILIES OCCURRING IN THE AREA:

Platycephalidae (Flatheads): numerous spines and bony ridges on head and 8 or 9 dorsal fin spines (6 dorsal spines in Percophidae).



Platycephalidae

GENERA IN THE AREA:

Bembrops only.

LIST OF SPECIES OCCURRING IN THE AREA:*

Code numbers are given for those species for which Identification Sheets are included

Bembrops greyi Poll, 1959	PERCOPH Bem 1
Bembrops heterurus (Miranda Ribeiro, 1915)	PERCOPH Bem 2

Prepared by L.W. Knapp, Smithsonian Oceanographic Sorting Center, Washington, D.C. U.S.A.

* Additional species of this family may be found in the area

PERCOPH Bem 1

1981

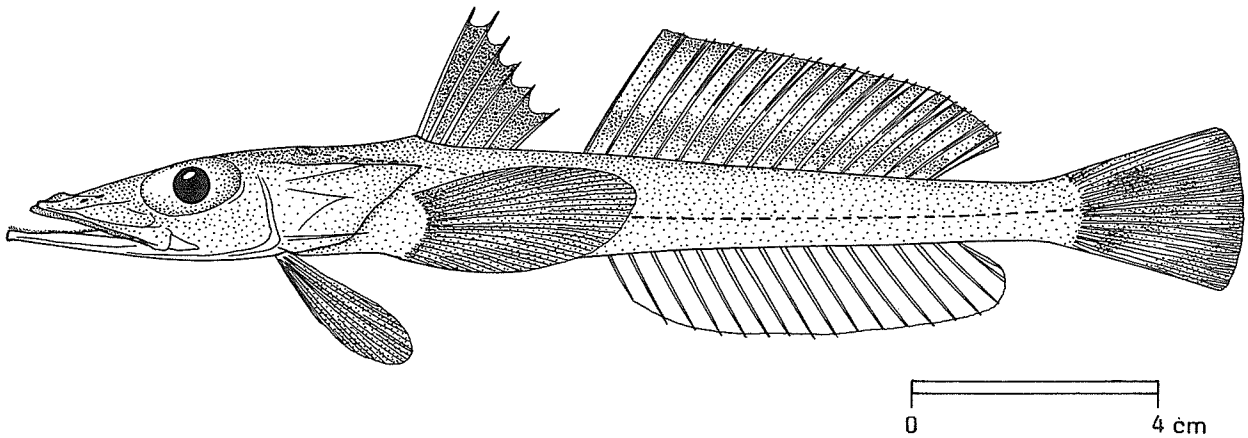
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : PERCOPHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Bembrops greyi Poll, 1959

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Roundtail duckbill
Fr - Platête de Guinée
Sp - Pez palo guineano

NATIONAL :

DISTINCTIVE CHARACTERS :

An elongate fish with head and anterior part of body depressed. Lower jaw protruding beyond upper jaw, the latter with a well developed tentacle at its rear end; anterior gill arch bearing 12 or 13 gillrakers. First dorsal fin with 6 spines; second dorsal fin with 15 to 17 soft rays; anal fin with 17 or 18 soft rays; pectoral fins with 24 to 27 soft rays; caudal fin rounded. Pored lateral line scales 48 to 52.

Colour: yellow with black edges on scales of the upper body. Spinous dorsal fin mostly black; second dorsal with a dusky basal band, a clear middle band and a dusky marginal band; anal fin clear; pectoral fins grey; pelvic fins grey, yellowish at base; caudal fin with black ocellus on upper fin near base, posterior margin dusky.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Bembrops heterurus: more gillrakers (14 or 15, against 12 or 13 in B. greyi), more lateral line scales (55 to 62, against 48 to 52 in B. greyi); caudal fin subtruncate, the uppermost rays longest; colour pattern different.

SIZE:

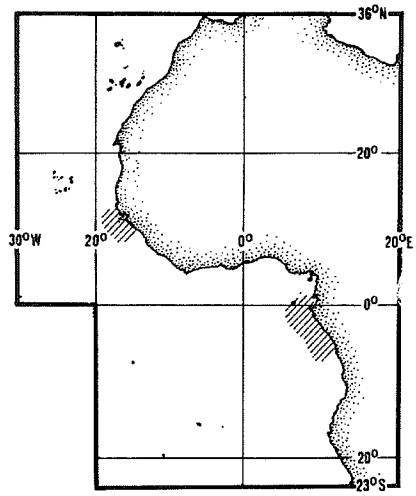
Maximum: about 23 cm; few specimens have been taken.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Positively recorded from off Guinea, Gabon, Congo and Angola, but probably distributed all along the coast of tropical West Africa.

Found on soft bottoms of the continental shelf from 250 to 420 m depth.

Feeds on fishes.



PRESENT FISHING GROUNDS:

Offshore trawling grounds throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistic are not reported for this species.

Caught with bottom trawls.

Not marketed in significant quantities along the coast, but taken as bycatch by offshore trawlers. Utilized fresh or reduced to fishmeal.

PERCOPH Bem 2

1981

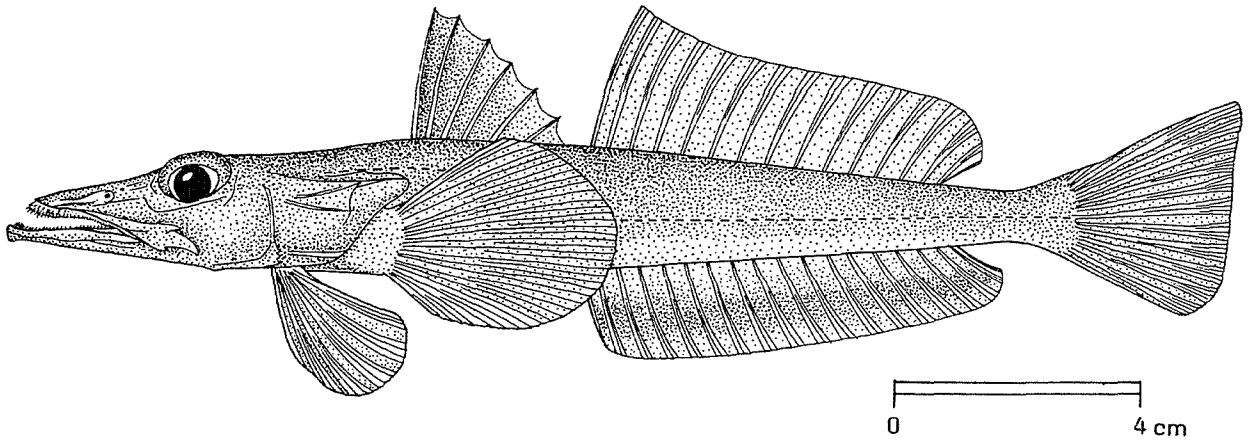
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : PERCOPHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Bembrops heterurus (Miranda Ribeiro, 1915)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Squaretail duckbill
Fr - Platête commun
Sp - Pez palo comun

NATIONAL :

DISTINCTIVE CHARACTERS :

An elongate fish with head and anterior part of body depressed. Lower jaw protruding beyond upper jaw, the latter with a well developed tentacle at its rear end; anterior gill arch bearing 14 or 15 gillrakers. First dorsal fin with 6 spines; second dorsal fin with 14 or 15 soft rays; anal fin with 17 to 19 soft rays; pectoral fins with 25 to 28 soft rays; caudal fin subtruncate, with the uppermost rays longest. Pored lateral line scales 55 to 62.

Colour: yellowish brown above, light yellow below; scales of upper body with dark edges. Spinous dorsal fin dusky anteriorly, becoming clear posteriorly; soft dorsal fin stippled with dusky; anal fin with a black submarginal band; pectoral and caudal fins greyish; pelvic fins dusky, with a yellowish outer edge.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Bembrops greyi: fewer gillrakers (12 or 13 against 14 or 15 in B. heterurus), fewer lateral line scales (48 to 52 against 55 to 62 in B. heterurus); caudal fin rounded; colour pattern different.

SIZE :

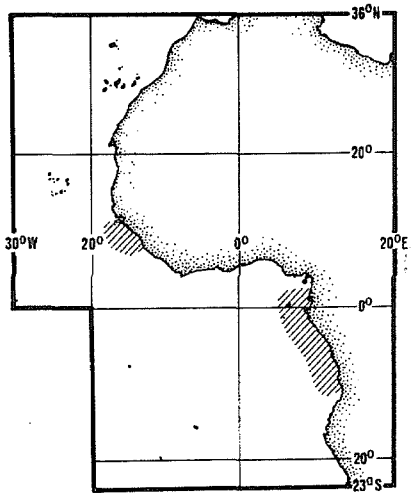
Maximum: about 28 cm; common to 22 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Positively recorded from off Guinea, Gabon, Congo and Angola, but probably distributed all along the coast of tropical West Africa.

Found on soft bottoms of the continental shelf from 100 to 390 m depth.

Feeds on crustaceans and fishes.



PRESENT FISHING GROUNDS :

Offshore trawling grounds throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with bottom trawls.

Marketed fresh in small quantities along the coast, but taken as bycatch by offshore trawlers. Utilized fresh or reduced to fishmeal.

PERIO

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

PERIOPHTHALMIDAE

Mudskippers

A single species in the area; see species sheet for:

Periophthalmus papilio Bloch & Schneider, 1801 PERIO Perio 1

Prepared by P.J. Miller, Zoology Department, The University, Bristol, BS8 1UG, U.K.

PERIO Perio 1

1981

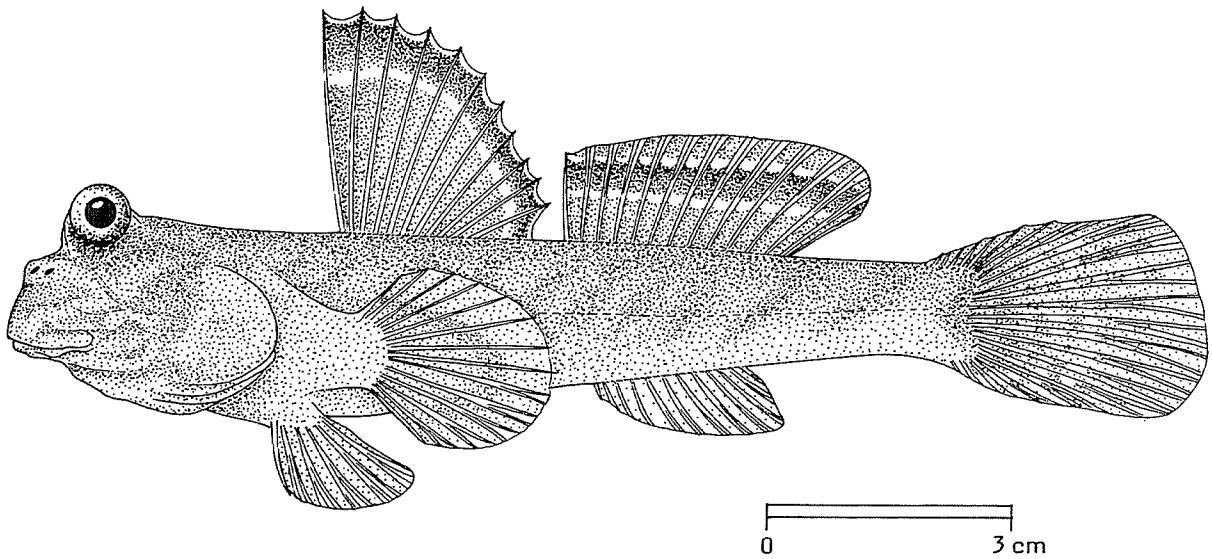
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : PERIOPHTHALMIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Periophthalmus papilio Bloch & Schneider, 1801

OTHER SCIENTIFIC NAMES STILL IN USE : Periophthalmus koelreuteri auct. (not Bloch & Schneider, 1801)



VERNACULAR NAMES:

FAO : En - Atlantic mudskipper
Fr - Sauteur de vase atlantique
Sp - Saltafango atlántico

NATIONAL :

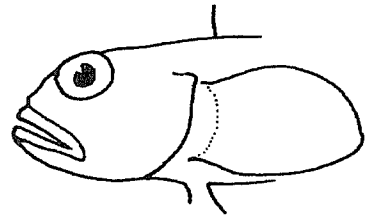
DISTINCTIVE CHARACTERS :

Body compressed, tapering. Eyes protruding and close together with lower eyelid fold; snout deep; mouth horizontal. Two separate dorsal fins, the first high, with 11 flexible spines, the second lower, its base longer than distance from end to caudal fin origin; pectoral fins with a long muscular lobe; pelvic fins united across bases; caudal fin with lower rays short, and stout.

Colour: brownish, with oblique dark bars, belly lighter; dorsal fins with a broad distal longitudinal dark band and pale edge.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Species of Gobiidae: eyes not protuberant, lacking lower eye-lid fold; pectoral fin lobe short.



Gobiidae

SIZE:

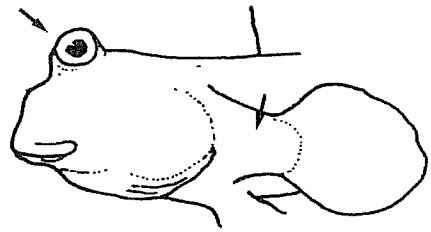
Maximum: 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Tropical West Africa, from Senegal (St. Louis) to Angola (Luanda, R. Quito), including Macias Nguema, Sao Tomé, and Principe islands.

Bottom-living, in brackish water; amphibious, in shallows and on exposed intertidal mud flats of estuarine mangrove swamps; spawns in burrows.

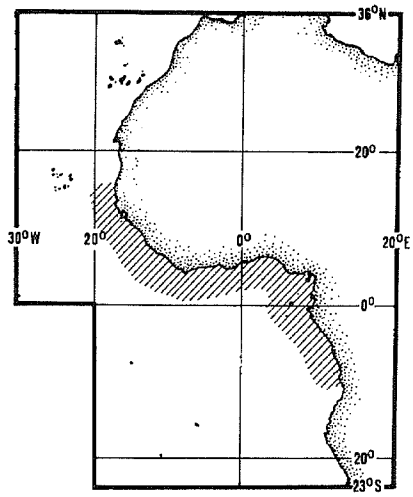
Feeds chiefly on arthropods (crabs, insects, etc.) of the mud surface.



Periophthalmidae

PRESENT FISHING GROUNDS:

Probably of local capture; not the object of a special fishery.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Probably taken by individual hunting.

May appear in local markets, but of no commercial importance.

PERIST

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

PERISTEDIIDAE

Armoured searobins

A single species in the area; see species sheet for:

Peristedion cataphractum Linnaeus, 1758 PERIST Perist 1

Prepared by G.C. Miller and W.J. Richards, NMFS Southeast Fisheries Center, Miami, Florida, U.S.A.

PERIST Perist 1

1981

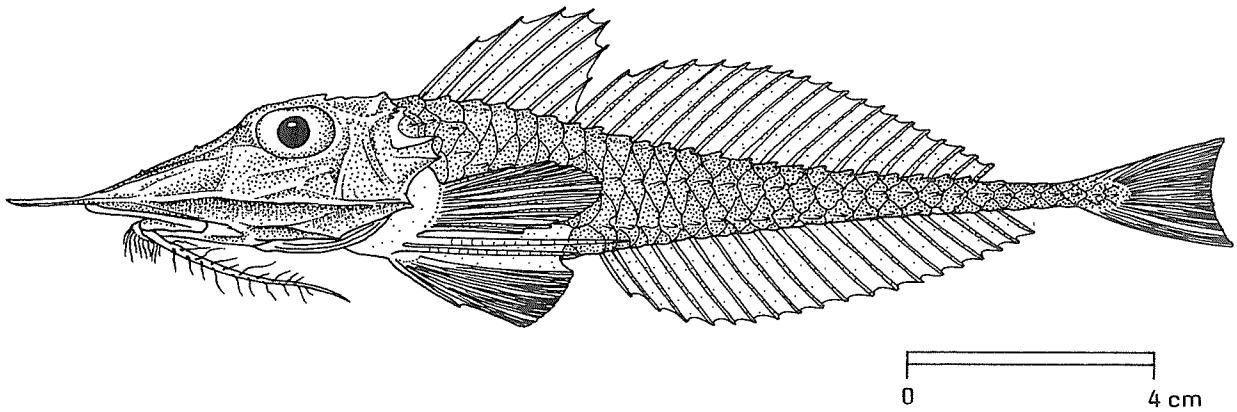
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : PERISTEDIIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Peristedion cataphractum Linnaeus, 1758

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

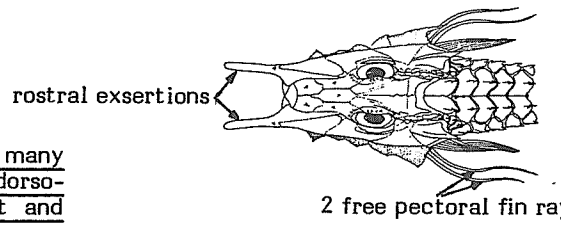
FAO : En - African armoured searobin
Fr - Malarmat africain
Sp - Malarmado africano

NATIONAL :

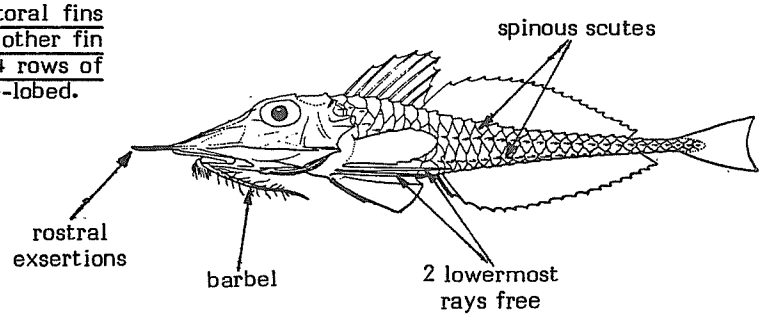
DISTINCTIVE CHARACTERS :

Body elongate. Head large, bony, with many ridges and spines; snout broad and flattened dorso--ventrally, flanked laterally by a pair of short and broad, or long and slender, projections (or rostral exsertions) of the suborbital (preorbital) bones; mouth inferior; mandibular lip and chin barbels present; no teeth in jaws or on roof of mouth; tongue absent. Two separate dorsal fins, the first with 7 spines and the second 18 or 19 segmented soft rays; pectoral fins with the 2 lowermost rays detached from the other fin rays. Body without scales but enclosed by 4 rows of spinous scutes on each side. Swimbladder single-lobed.

Colour: red above, pale below.



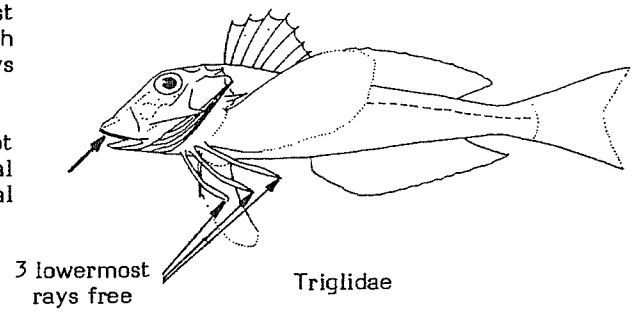
dorsal view
of head



DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Species of Triglidae: body scaled, not encased by scutes; no barbels of any kind; the 3 lowermost pectoral rays free (only 2 free in Peristediidae); mouth terminal (inferior in Peristediidae), teeth always present in jaws; tongue present.

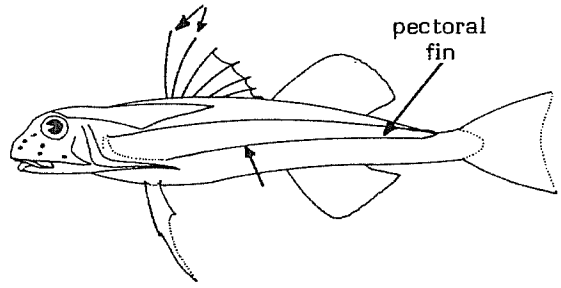
Species of Dactylopteridae: body scaled, not encased by scutes; no barbels of any kind; pectoral fins very long, without detached rays; first two dorsal spines detached.



Triglidae

SIZE :

Maximum: about 25 cm; common to 20 cm.



Dactylopteridae

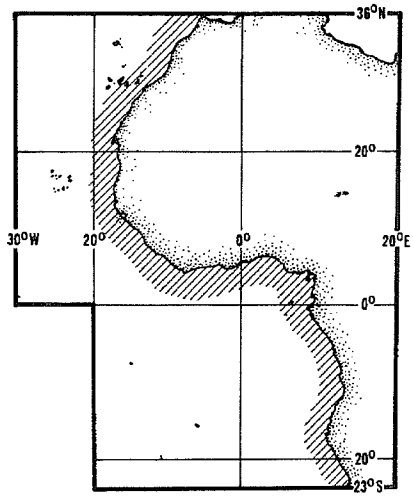
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Within the area, from Gibraltar to Angola; northward extending into the Mediterranean and along the Atlantic coast of Europe up to the British Isles.

Inhabits mud and rock bottoms, from 50 to 500 m depth.

PRESENT FISHING GROUNDS :

Continental shelf and upper slope throughout its range. Rather abundant in some localities.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Taken in bottom trawls.

Mainly used for fishmeal by offshore trawlers.

PLATYC

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

PLATYCEPHALIDAE

Flatheads

A single species in the area; see species sheet for:

Grammoplites gruveli (Pellegrin, 1905) PLATYC Gram 1

Prepared by L.W. Knapp, Smithsonian Oceanographic Sorting Center, Washington, D.C. U.S.A.

PLATYC Gram 1

1981

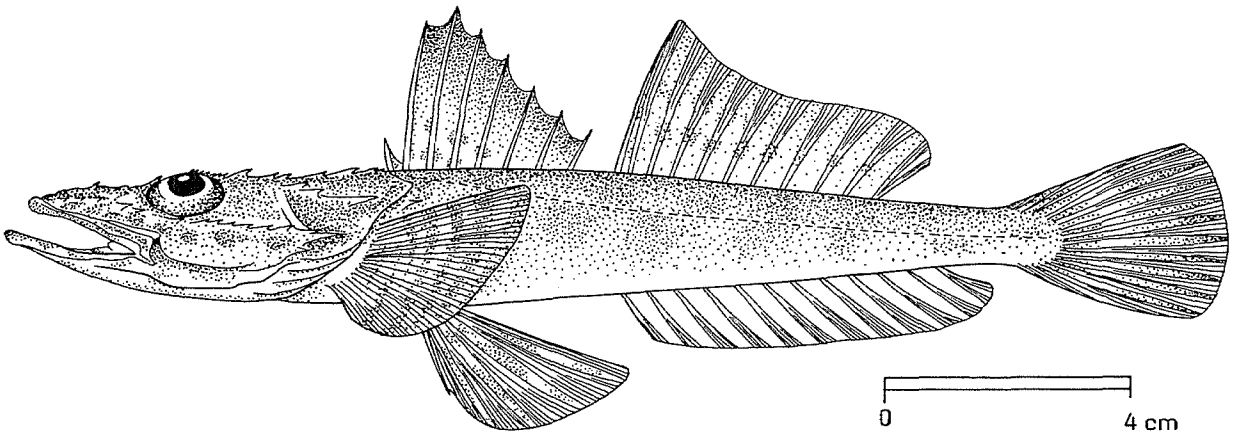
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : PLATYCEPHALIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Grammoplites gruveli (Pellegrin, 1905)

OTHER SCIENTIFIC NAMES STILL IN USE : Platycephalus gruveli Pellegrin, 1905



VERNACULAR NAMES:

FAO : En - Guinea flathead
Fr - Platycephale de Guinée
Sp - Chato de Guinea

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate and somewhat depressed anteriorly. Top of head with spines and bony ridges; a series of spines on cheek beneath eye; preopercle usually with 3 spines on posterior edge, the uppermost longest; mouth large; lower jaw longer than upper; jaws and roof of mouth (vomer and palatines) bearing small canine-like teeth; gillrakers short, usually 2 on upper limb and 5 or 6 on lower limb of anterior gill arch. Two dorsal fins, well separated; spinous dorsal fin with 8 or 9 spines, the first spine short and scarcely connected to the second; soft dorsal fin usually with 12 rays; anal fin usually with 12 rays; pectoral fins with 20 to 22 rays; pelvic fins thoracic in position, set far apart toward sides of body, with 1 spine and 5 soft rays. Pored lateral line scales about 51, each bearing a sharp spine. Vertebrae 27.

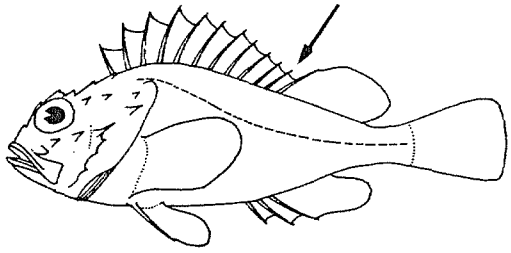
Colour: brownish above with 3 or 4 vague dark bands crossing the back. Spinous dorsal fin with a dark marginal band; rays of pectorals and soft dorsal fin spotted with dark; pelvic fins with a median dark band; anal fin pale; caudal fin with a broad dark band at base and several narrow dark bands on posterior half.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Family Scorpaenidae (Scorpionfishes): dorsal fin continuous and pelvic fins set closer together.

Family Triglidae (Searobins): *lower three pectoral fin rays free from each other.*

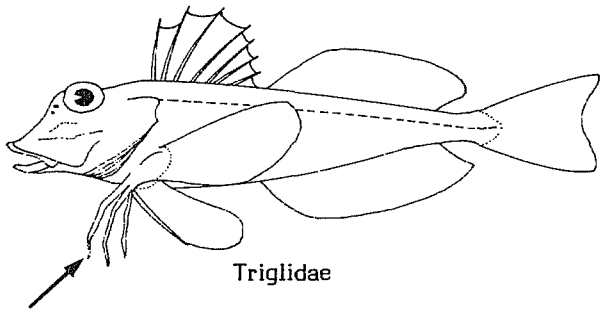
Family Percophidae (Duckbills): no spines on head or on the lateral line scales; lateral line low on body; pelvic fins set closer together.



Scorpaenidae

SIZE :

Maximum: about 20 cm; common to 18 cm.



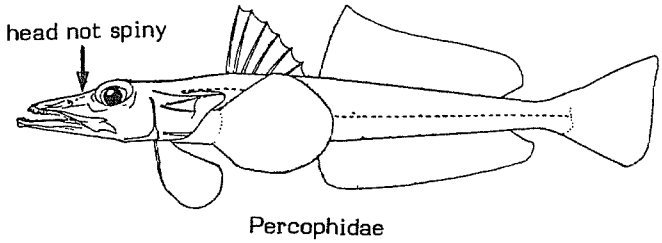
Triglidae

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Atlantic coast of Africa from Mauritania to Angola. Represents the only species of this Indo-Pacific family to be found in the Atlantic.

Found on soft bottoms of the continental shelf from 20 to 200 m depth.

Feeds on crustaceans and probably small fishes.



Percophidae

PRESENT FISHING GROUNDS :

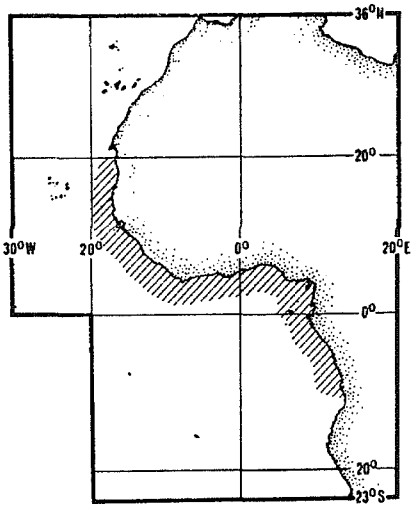
Relatively common throughout its range but of little commercial value.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught primarily with bottom trawls.

Marketed fresh and salted in limited quantities; also reduced to fishmeal (offshore fleets).



POLYM

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

POLYMIXIIDAE

Beardfishes

A single species in the area; see species sheet for:

Polymixia nobilis Lowe,1838 POLYM Polym 1

Prepared by J.C. Hureau, Muséum National d'Histoire Naturelle, Ichtyologie générale et appliquée, 43, rue Cuvier, 75231 Paris Cédex 03, France

POLYM Polym 1

1981

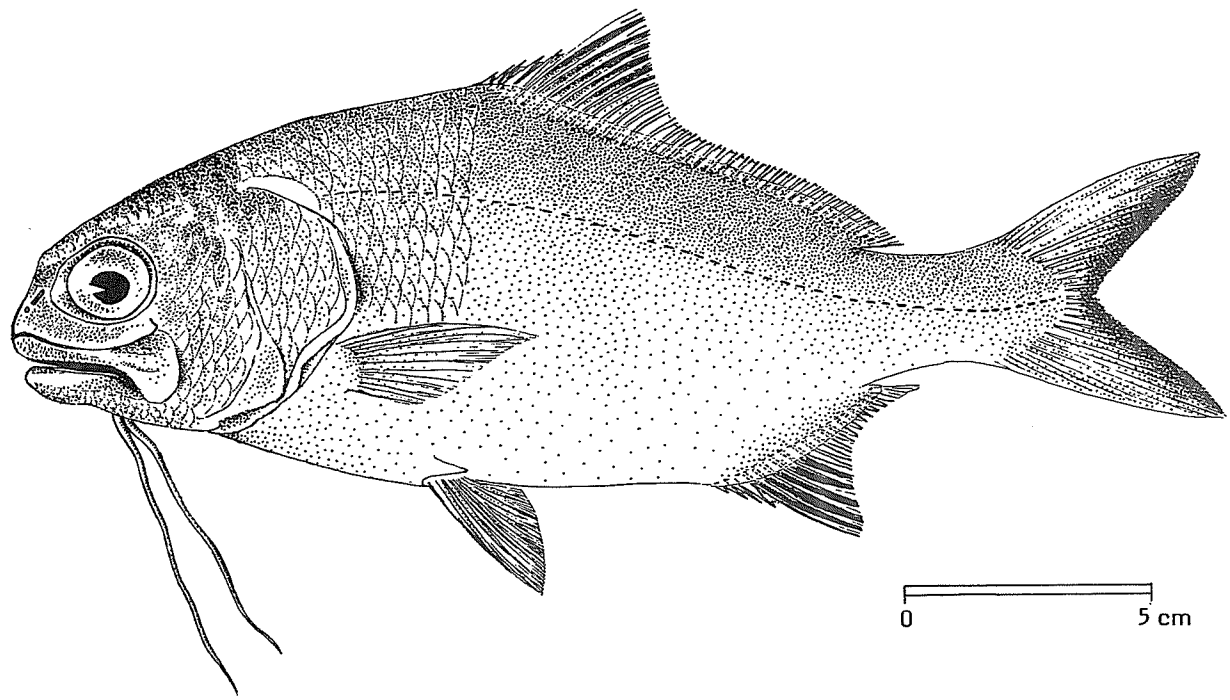
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : POLYMIXIIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Polymixia nobilis Lowe, 1838

OTHER SCIENTIFIC NAMES STILL IN USE : Nemobrama webbii Valenciennes, 1837



VERNACULAR NAMES:

FAO : En - Beardfish
Fr - Poisson à barbe
Sp - Salmon de lo alto

NATIONAL :

DISTINCTIVE CHARACTERS :

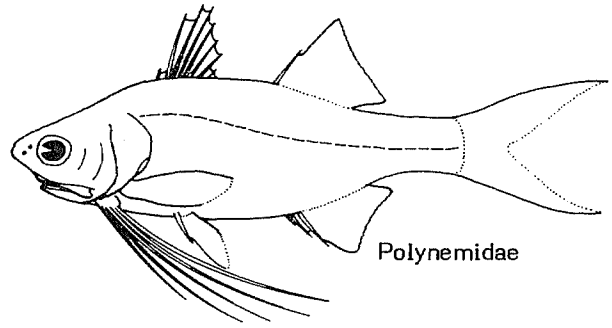
Body deep and compressed, deepest at level of dorsal fin origin (depth nearly one third of total length). Eye large; snout short and rounded; dorsal profile of head rounded; snout projecting beyond lower jaw; maxilla very broad posteriorly and extending backward beyond eye; mouth large, oblique; small teeth in villiform bands in both jaws, teeth also present on vomer and palatines (roof of mouth); margin of preopercle weakly serrated; a pair of long chin barbels inserted well behind symphysis of lower jaw. Gill rakers 3 on upper, and 8 on lower branch of first gill arch. Dorsal fin with 4 to 6 spines graduated in size and 30 to 38 soft rays, the anterior ones very long, forming an elevated lobe; anal fin with 3 or 4 short spines and 16 to 18 soft rays, beginning below the posterior portion of dorsal fin; pectoral fins with 15 to 18 rays; pelvic fins with 1 spine and 6 soft rays; caudal fin forked. Body covered with large, ctenoid scales; head scaled, except on the preopercle; scales on top of head extending forward almost to nostrils; lateral line scales 45 to 54.

Colour: greyish or greenish, the head darker; lobes of dorsal, anal and caudal fins margined with black.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Species of Polynemidae: two dorsal fins; no mental barbels; lower pectoral fin rays free and long.

Species of Mullidae: two dorsal fins; barbels inserted near to symphysis of lower jaw.



Polynemidae

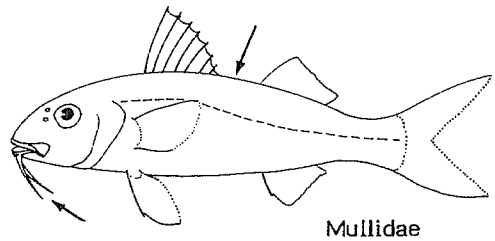
SIZE:

Maximum: 35 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Distribution within Fishing Area 34 rather restricted; it apparently occurs only off Madeira, the Canary Islands and St. Helena; however, according to some reports, it seems to be locally abundant. It also occurs in the Western Atlantic and in tropical and subtropical waters of the Indian and Pacific Oceans.

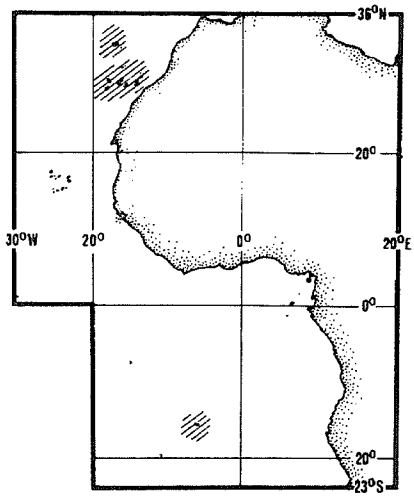
Inhabits the continental shelf and slope at depths ranging from 100 to 650 m.



Mullidae

PRESENT FISHING GROUNDS:

Usually fished wherever it occurs.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with longlines, traps and bottom trawls.

Marketed fresh and frozen (flesh highly esteemed).

POLYN

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

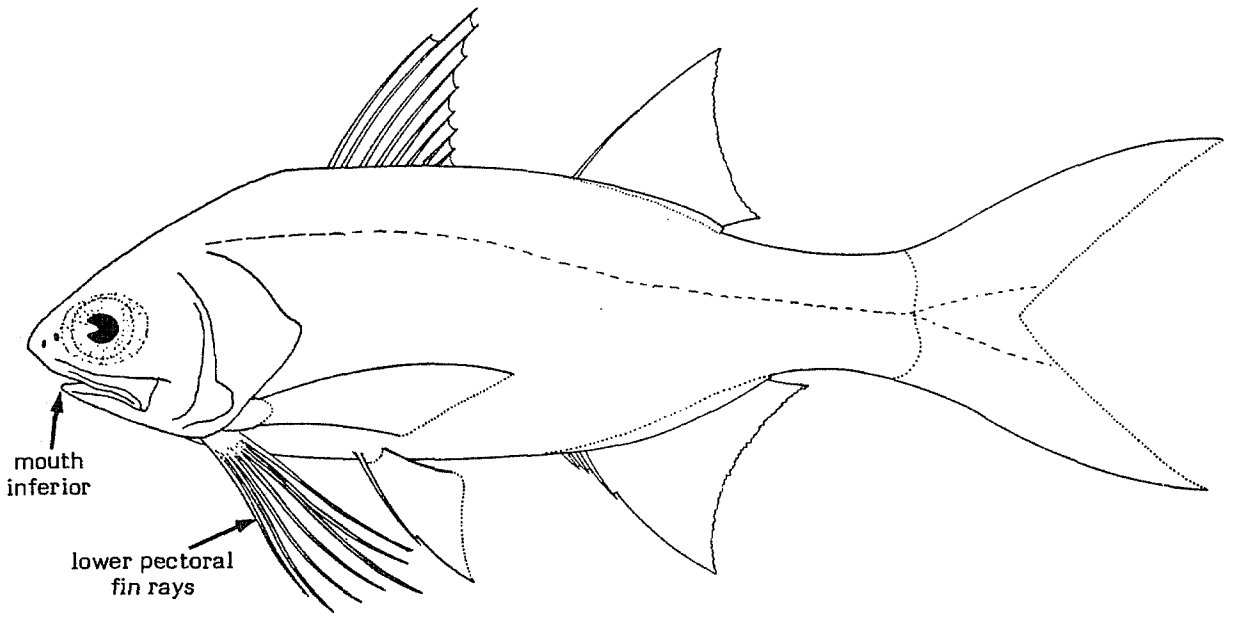
POLYNEMIDAE

Threadfins

Body moderately elongate, somewhat compressed. Adipose eyelid usually well developed, margin of preopercle serrate or smooth; mouth inferior, the overhanging snout blunt; maxilla broad posteriorly, reaching beyond level of eye. Two widely separated dorsal fins, the first with 8 flexible spines and the second with a single flexible spine and 9 to 13 soft rays; anal fin originating below level of second dorsal fin origin, with 3 flexible spines and about 13 to 30 soft rays; pectoral fins low on body in 2 parts, the lower 4 to 10 rays separate and threadlike; pelvic fins with 1 spine and 5 soft rays, abdominal in position; caudal fin large, deeply forked. Lateral line complete, usually forked at base of caudal, with a branch on each fin lobe. Scales of moderate size, ctenoid (rough to touch), the head nearly fully scaled; median fins largely covered with small scales.

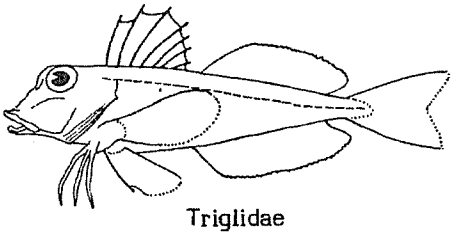
Colour: normally dull silvery, somewhat brownish or greenish dorsally; fins generally dusky, sometimes blackish.

A shallow-water group dwelling on sand or mud bottoms, frequently in turbid water. Common in brackish environments; some species enter rivers. The detached pectoral fin rays probably serve both tactile and sensory functions. They are carnivorous fishes which feed on a variety of benthic invertebrates. Within this area, threadfins are important commercial fishes and the combined catch of the 3 species reported from the area in 1978 exceeded 62 000 t.



SIMILAR FAMILIES OCCURRING IN THE AREA:

None. The Polynemidae, with their 4 to 10 detached lower thread-like pectoral fin rays cannot be confused with any other family. The Triglidae (searobins) have 3 lower pectoral fin rays free from the membranes and directed ventrally, but these rays are fleshy and claw-like; in other respects, the searobins bear no resemblance to the threadfins.



Triglidae

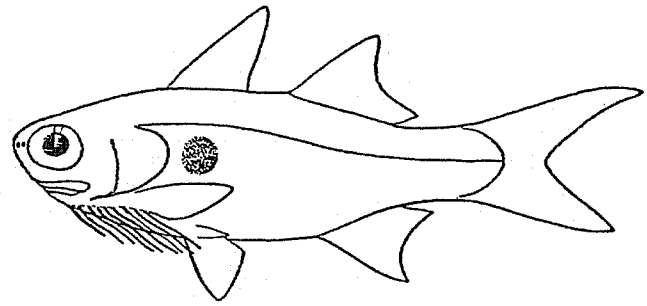
KEY TO GENERA OCCURRING IN THE AREA:

1 a. Maxilla little expanded posteriorly; detached pectoral filaments short, usually not exceeding length of upper pectoral fin rays, 9 or 10 in number (Fig. 1) ..... Galeoides

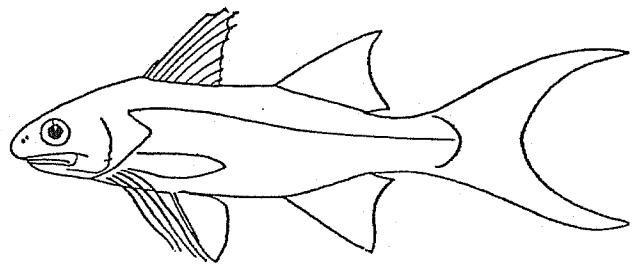
1 b. Maxilla well expanded posteriorly; detached pectoral filaments usually exceeding length of upper pectoral fin, 4 or 5 in number (Figs. 2,3)

2 a. Preopercle edge denticulated; base of anal fin as long as base of second dorsal fin; detached pectoral filaments short, only slightly longer than upper pectoral fin rays (Fig. 2) ..... Polydactylus

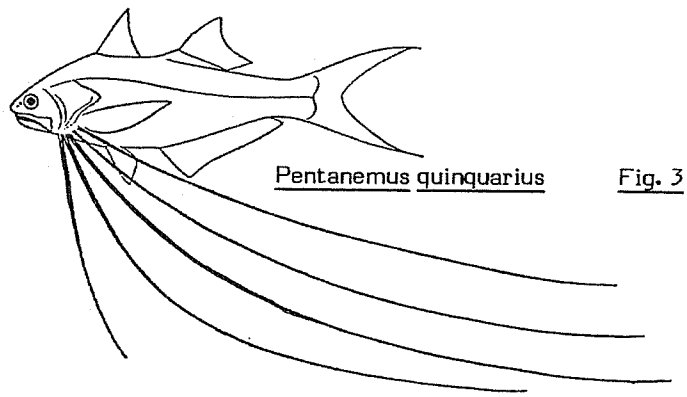
2 b. Preopercle edge entire; base of anal fin much longer than base of second dorsal fin; detached pectoral filaments very long, exceeding length of body (Fig. 3) .. Pentanemus



Galeoides decadactylus Fig. 1



Polydactylus quadrifilis Fig. 2



Pentanemus quinquarius Fig. 3

LIST OF SPECIES OCCURRING IN THE AREA:

Code numbers are given for those species for which Identification Sheets are included

Galeoides decadactylus (Bloch, 1795)	POLYN Gal 1
Pentanemus quinquarius (Linnaeus, 1758)	POLYN Pent 1
Polydactylus quadrifilis (Cuvier, 1829)	POLYN Polyd 4

Prepared by G.R. Allen, Western Australian Museum, Perth, Australia

POLYN Gal 1

1981

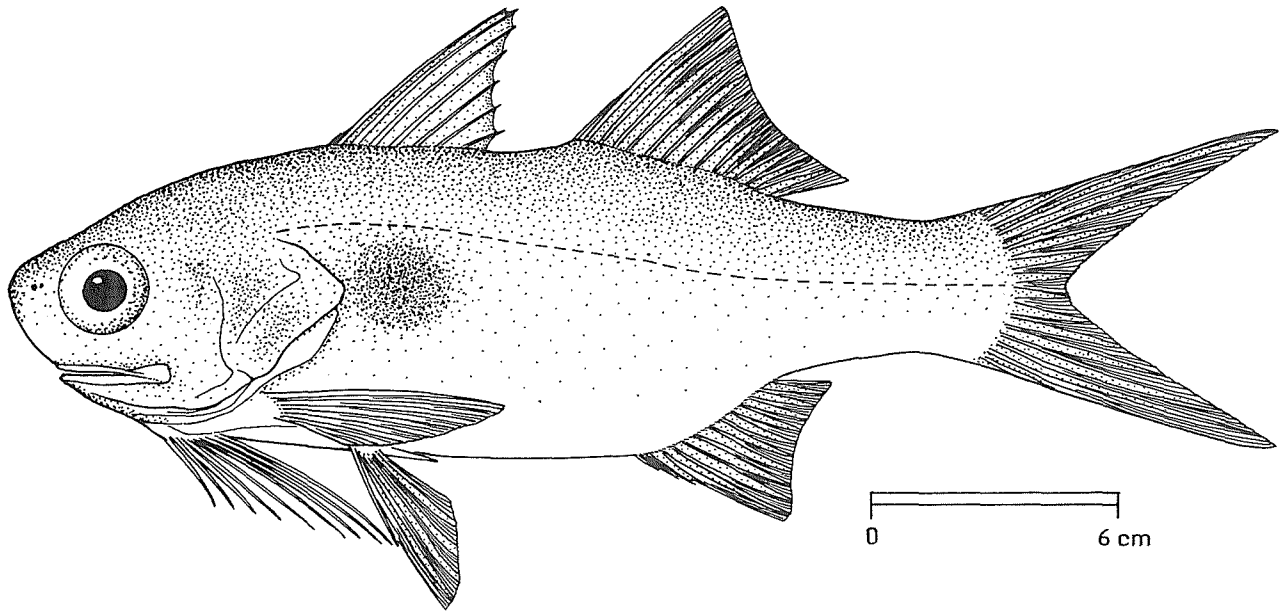
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : POLYNEMIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Galeoides decadactylus (Bloch, 1795)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Lesser African threadfin
Fr - Petit capitaine
Sp - Barbudo de diez barbas

NATIONAL :

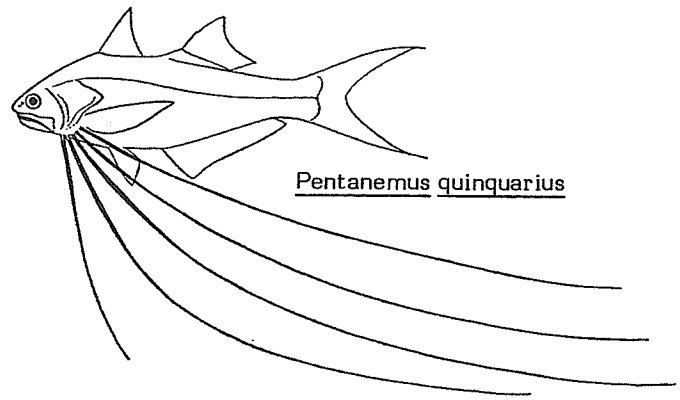
DISTINCTIVE CHARACTERS :

A moderately elongate fish, somewhat compressed, the body depth contained about 2.9 to 3.4 times in standard length. Mouth inferior, the overhanging snout blunt; maxilla barely reaching past eye, its posterior edge only slightly expanded. Two widely separated dorsal fins, the first with 8 feeble spines and the second with 1 spine and 13 or 14 soft rays; anal fin with 3 spines and 11 or 12 soft rays; length of 2nd dorsal and anal fin bases about equal; pectoral fins low on body, with 9 or 10 detached thread-like lower rays. Scales on lateral line (to caudal fin base) 45 or 46.

Colour: dull silvery, brownish to green on back shading to whitish ventrally; large round dusky spot, about size of eye, often present below lateral line at level of first dorsal fin.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Pentanemus quinquarius and Polydactylus quadrifilis: pectoral fins with 4 or 5 detached thread-like lower rays (9 or 10 in G. decadactylus). Also, anal fin base longer than second dorsal fin base in P. quinquarius.



Pentanemus quinquarius

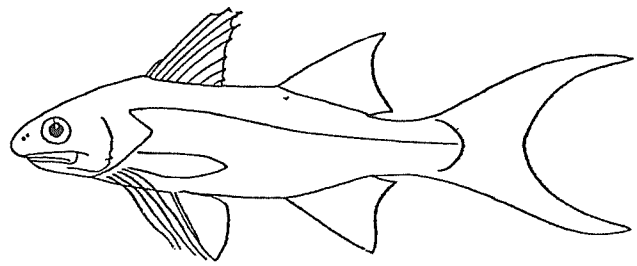
SIZE:

Maximum: 45 cm; common to 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Known only from the West African coast and associated islands. Occurs between the Canary Islands and Angola.

Found on sand bottoms.



Polydactylus quadrifilis

PRESENT FISHING GROUNDS:

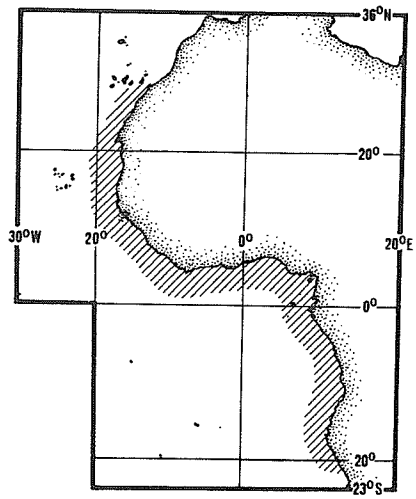
Inshore adjacent to sandy beaches.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The combined catch of threadfins reported from the area in 1978 exceeded 62 000 t.

Caught with beach seines, gillnets, and in shallow trawl hauls.

Marketed fresh, dried salted or smoked; flesh very good eating and highly regarded.



POLYN Pent 1

1981

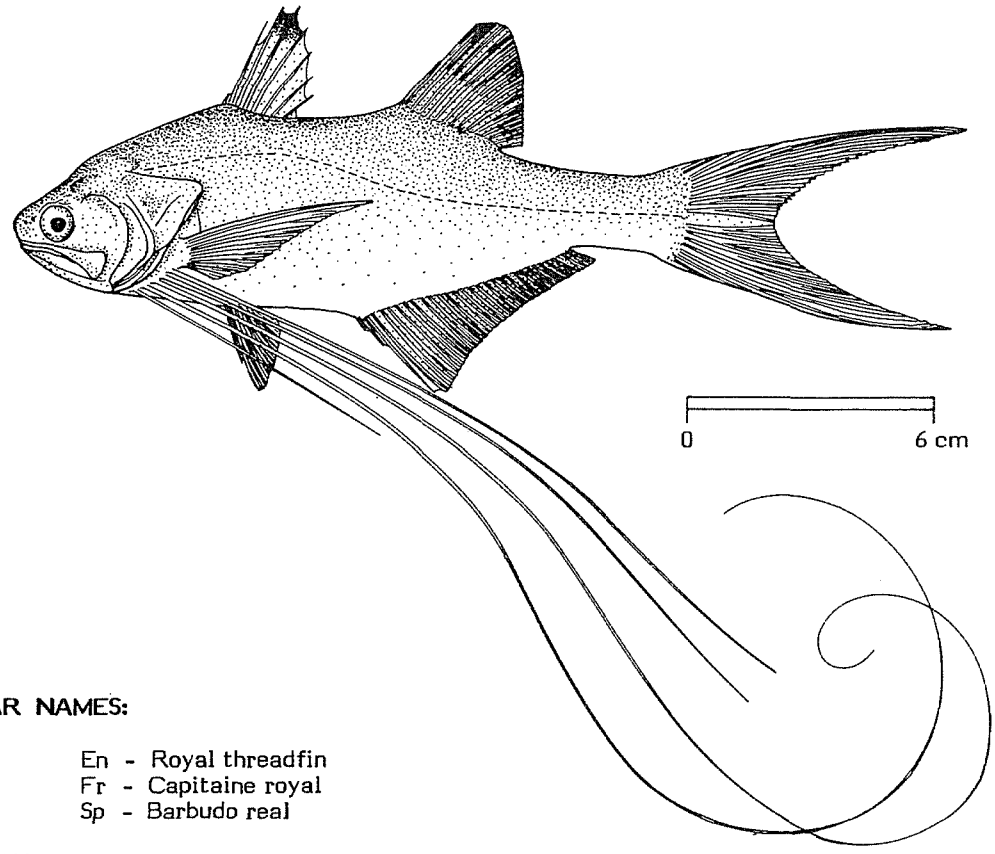
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : POLYNEMIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Pentanemus quinquarius (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Royal threadfin
Fr - Capitaine royal
Sp - Barbudo real

NATIONAL :

DISTINCTIVE CHARACTERS :

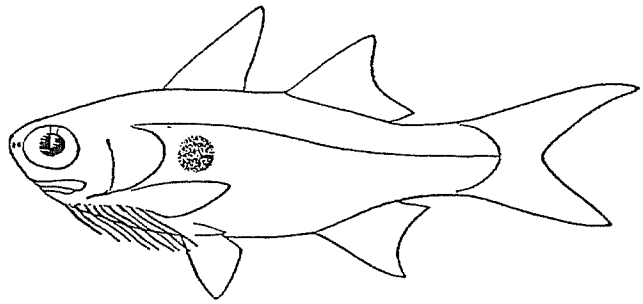
A moderately elongate fish, somewhat compressed, the body depth contained about 3.0 to 3.4 times in standard length. Mouth inferior, the overhanging snout blunt; maxilla reaching well past eye, its posterior edge truncate and greatly expanded. Two widely separated dorsal fins, the first with 8 feeble spines and the second with 1 spine and 14 to 18 soft rays; anal fin with 3 spines and 28 to 30 soft rays; length of anal fin base considerably greater than length of 2nd dorsal fin base; pectoral fins low on body, with 5 long, detached thread-like lower rays, 4 of which, frequently exceed the entire body length. Scales on lateral line (to caudal fin base) 68 to 75.

Colour: dull silvery, brownish to green on back shading to whitish ventrally.

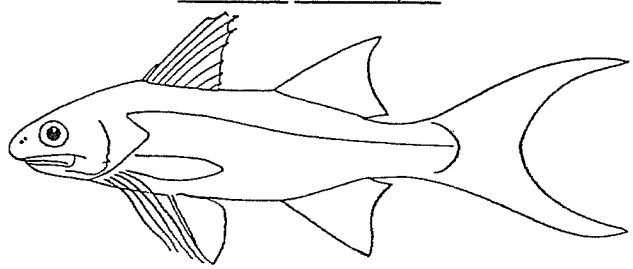
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Galeoides decadactylus: pectoral fins with 9 or 10 very short detached thread-like lower rays; anal and second dorsal fin bases about equal in length.

Polydactylus quadrifilis: detached rays of lower pectoral fin very short, only slightly longer than upper pectoral fin rays; length of dorsal and anal fin bases about equal.



Galeoides decadactylus



Polydactylus quadrifilis

SIZE :

Maximum: 35 cm; common to 25 cm.

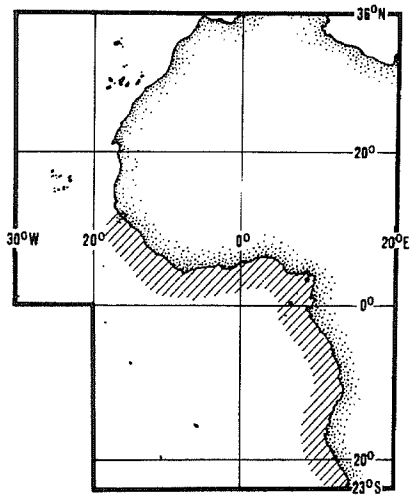
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Known only from the West African coast and associated islands. Occurs between Senegal and Angola.

Found on sand bottoms to depths of about 50 m.

PRESENT FISHING GROUNDS :

Near shore and offshore trawling grounds.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species. The combined catch of threadfins reported from the area exceeded 62 000 t in 1978.

Caught with beach seines, gillnets, and trawling gear.

Marketed fresh, dried salted or smoked.

POLYN Polyd 4

1981

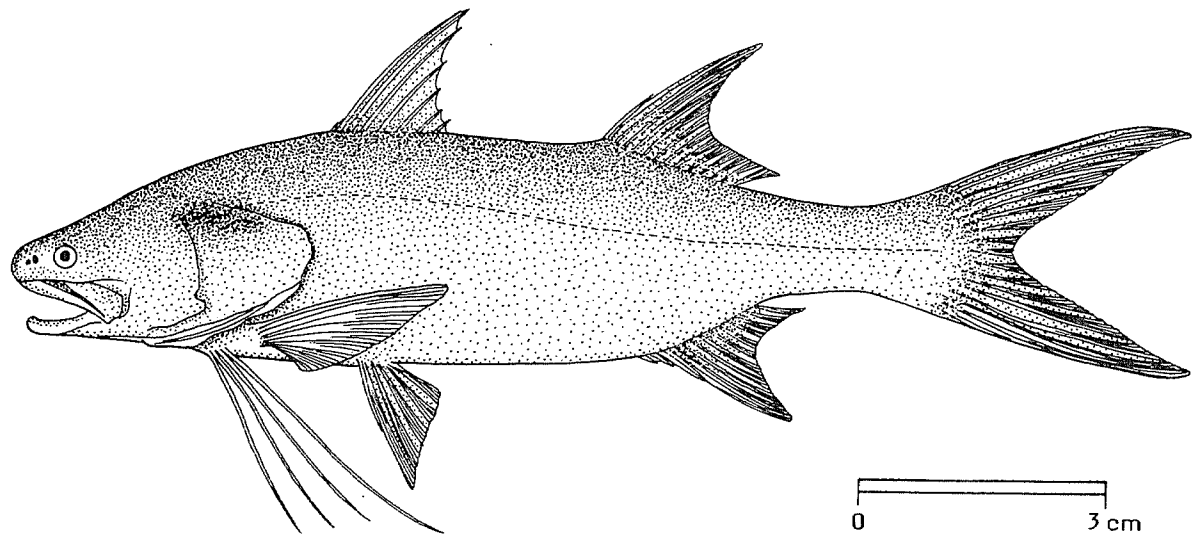
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : POLYNEMIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Polydactylus quadrifilis (Cuvier, 1829)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Giant African threadfin
Fr - Gros capitaine
Sp - Barbudo gigante africano

NATIONAL :

DISTINCTIVE CHARACTERS :

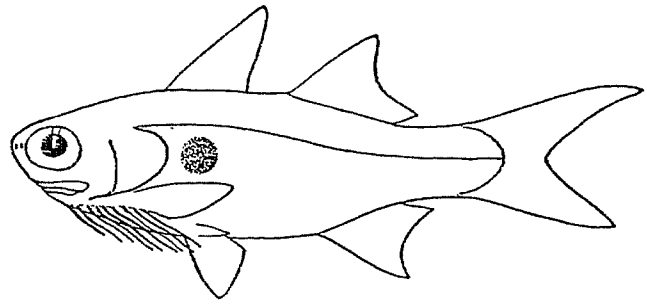
A relatively elongate fish, somewhat compressed, the body depth contained about 4 to 4.5 times in standard length. Mouth inferior, the overhanging snout blunt; maxilla reaching past eye, its posterior edge greatly expanded. Two widely separated dorsal fins, the first with 8 feeble spines and the second with 1 spine and 12 or 13 soft rays; anal fin with 3 spines and 11 or 12 soft rays; length of 2nd dorsal and anal fin bases about equal; pectoral fins low on body, with 4 or 5 detached threadlike lower rays, only slightly longer than upper pectoral rays. Scales on lateral line about 70 to 75.

Colour: dull silvery, grey or brownish on back shading to whitish ventrally; a dark smudge sometimes present on gill cover.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Galeoides decadactylus: pectoral fins with 9 or 10 detached threadlike lower rays.

Pentanemus quinquarius: detached rays of lower pectoral fin extremely long, frequently exceeding entire body length; length of anal fin base much longer than dorsal fin base.



Galeoides decadactylus

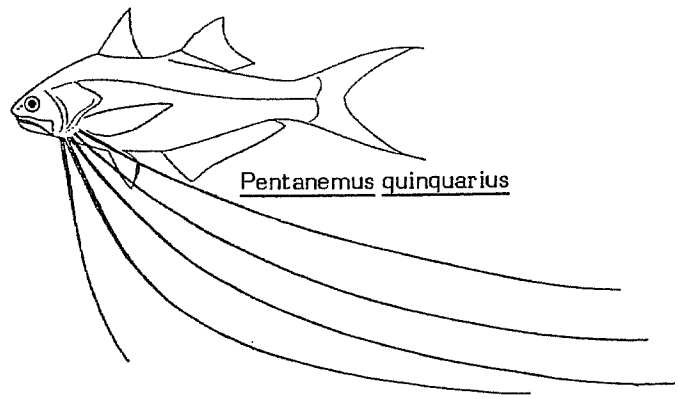
SIZE:

Maximum: 200 cm; common to 150 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Known only from the West African coast between Senegal and Angola.

Found on sand bottoms to depths of about 50 m.



Pentanemus quinquarius

PRESENT FISHING GROUNDS:

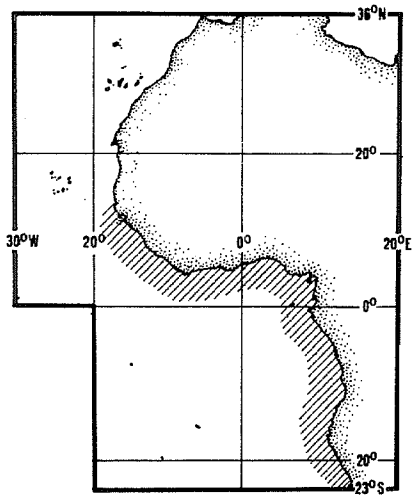
Near shore and offshore trawling grounds.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The combined catch of threadfins reported from the area in 1978 exceeded 62 000 t.

Caught with beach seines, gillnets, and trawling gear.

Marketed mainly fresh; also dried salted and smoked.



POMAC

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

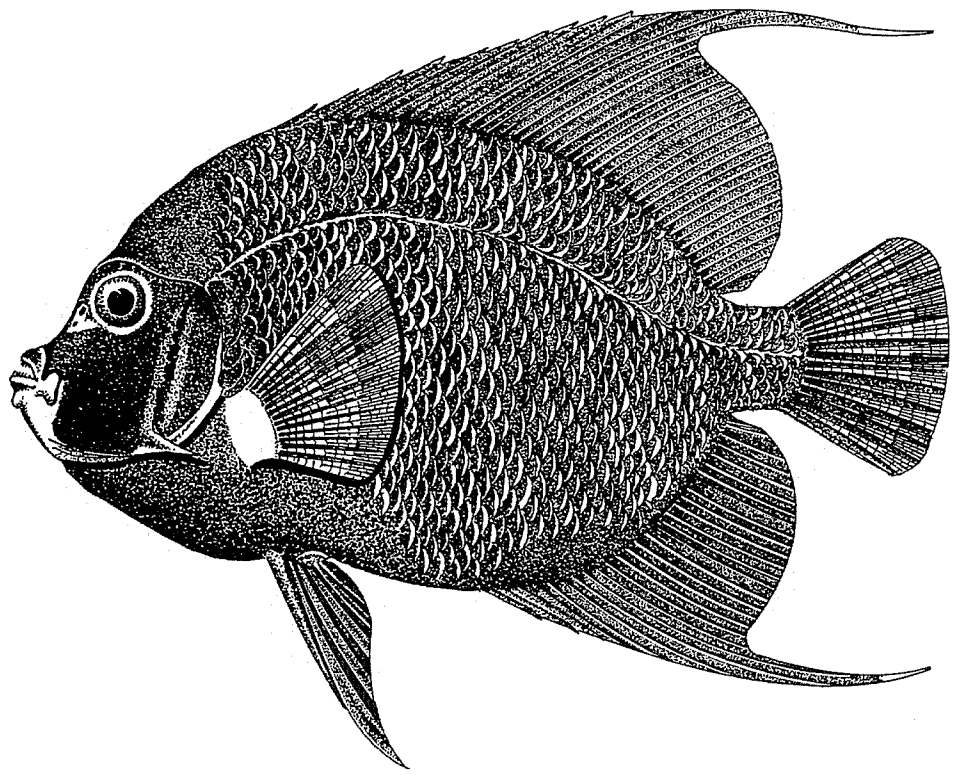
POMACANTHIDAE

Angelfishes

Body deep and strongly compressed, ovoid to orbicular in shape, rather robust. Mout very small, terminal, protrusible, its gape not reaching to front of eye; snout never tube-like or produced; teeth long, slender, flexible, bristlelike, usually disposed in a brushlike band in both jaws; hind edge of preopercle serrated and with a strong spine or angle below, which is often grooved. Dorsal fin continuous, with 8 to 15 strong spines graduated to the last which is longest (8 to 10 spines in described Eastern Atlantic species); soft part of fin sometimes pointed and ending in filaments posteriorly; anal fin with 3 spines; pelvics usually a little longer than pectorals; caudal fin truncate. Scales ctenoid, roughened, moderately small to very small, usually many small (auxillary) scales intermixed; normal scales in 50 to 90 series transversally on body, extending onto soft parts of vertical fins; no axillary process at base of pelvic fins. Lateral line complete to caudal fin base or nearly so, often concurrent with profile of back and mostly inconspicuous.

Colour: among the most handsome of the coral reef fishes noteworthy for the richness of their colours, predominantly black, yellow and/or deep blue with orange and light blue hues; eye band normally absent in adults; colour pattern usually changing with age.

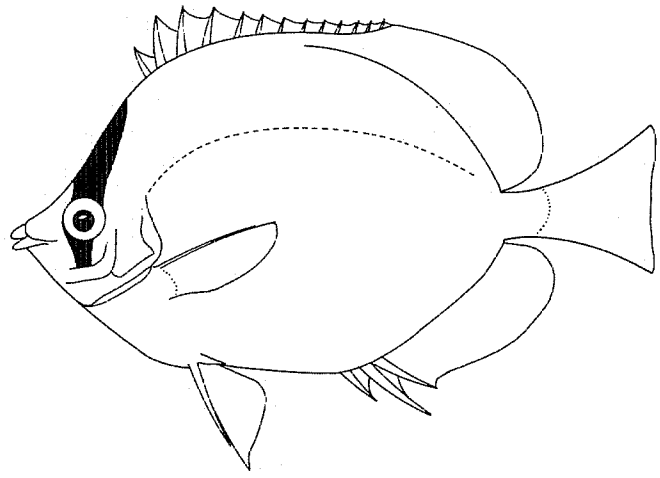
Small to medium-sized fishes (up to about 37 cm in length); generally found on coral reefs in the shallows, but may occur in 40 m depth and deeper. The juveniles feed mainly on algae, while the adults predate chiefly on sponges; juveniles are said to remove ectoparasites from other fishes. Although angelfishes have very little commercial value, they are often caught in traps and may also occur in trawl catches. They are consumed locally and their flesh is quite palatable.



Pomacanthus paru

SIMILAR FAMILIES OCCURRING IN THE AREA :

Chaetodontidae: smaller, with an axillary process present at base of pelvic fins and without any spine at angle of preopercle.



Chaetodontidae

KEY TO GENERA OCCURRING IN THE AREA :

Pomacanthus only.

LIST OF SPECIES OCCURRING IN THE AREA :

* Pomacanthus paru (Bloch, 1787)

Another species from the area is to be described by W.E. Burgess

Prepared by A. Maugé, Muséum National d'Histoire Naturelle, Ichtyologie générale et appliquée, Paris, France

Illustrations provided by author

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* Ascension Island

POMACEN

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

POMACENTRIDAE

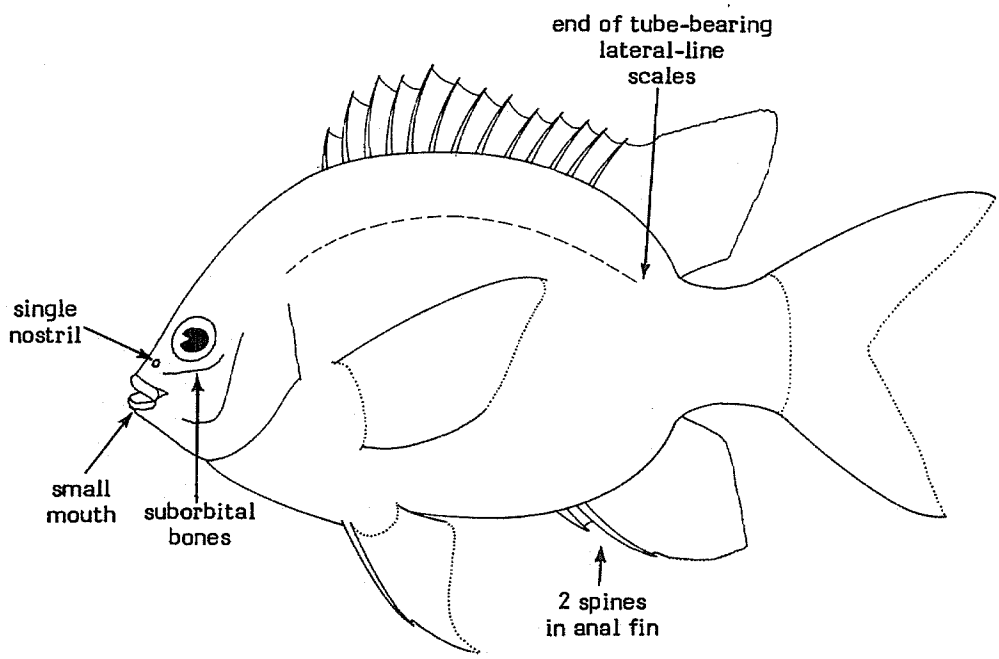
(including Chromidae, Abudufidae, etc., of other authors)

Damselfishes, chromis, gregories, majors, sergeants

Small fishes, usually less than 15 cm in total length. Most are deep-bodied and laterally compressed, with a small mouth and highly protrusible jaws. Teeth in jaws conical, incisiform or brush-like, but never molar-like or fang-like; a single pair of nostrils in Atlantic species; preorbital and usually suborbitals (a ring of bones below the eye) not attached to the cheek; gill rakers small, rarely more numerous than 35 to 40 on first arch; lower pharyngeals (throat-teeth) completely fused into a plate. Dorsal fin with 10 to 14 spines (usually 12 or 13); anal fin always with 2 spines. Scales ctenoid (rough to touch), in Atlantic species fewer than 35 in a longitudinal row from behind gill cover to base of caudal fin. Lateral line with tube-bearing scales which extend to below end of dorsal fin, then continuing as a row of tiny pits to middle of caudal fin base.

Colour: constant in some genera, highly variable in others. Many damselfishes are brightly coloured; adults are often less brilliant than juveniles and frequently there is a gradual transition from a specific juvenile colour pattern to a different adult pattern; temporary spawning colouration can be assumed or discarded in seconds.

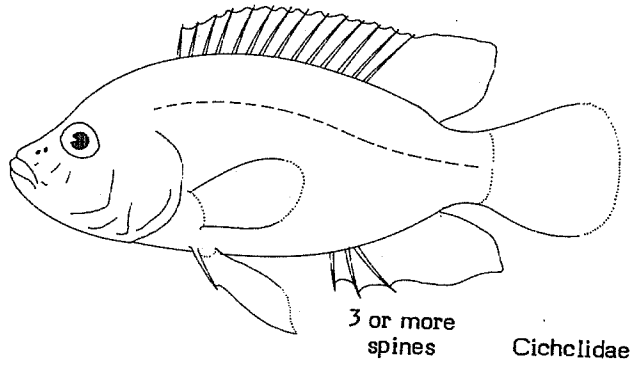
Most species of damselfishes are restricted to shallow coral reefs at depths less than 15 m; a few species enter lagoons, estuaries and the lower reaches of freshwater streams. The larger species may be caught with small hooks; also taken in traps and with castnets and seines; a small number occur in deeper water (down to several hundred metres) and are incidentally taken in trawls. Most damselfishes are commercially unimportant, but several are a component of artisanal subsistence fisheries.



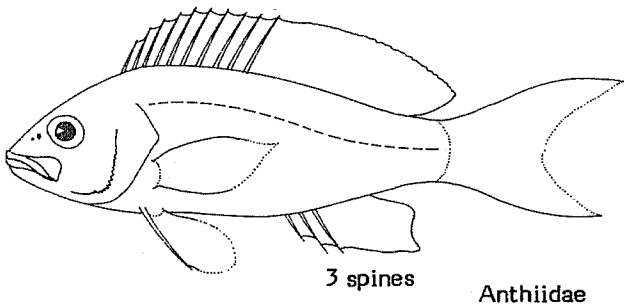
SIMILAR FAMILIES OCCURRING IN THE AREA:

Cichlidae: similar in general appearance, but usually with more than 2 spines in anal fin; preorbital and suborbitals attached to cheek. Normally confined to fresh or brackish water.

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



Cichclidae



Anthiidae

KEY TO GENERA OCCURRING IN THE AREA:

1 a. Teeth in upper jaw conical (Fig. 1a) or incisiform (Fig. 1b), but never flexible or brushlike; no notch in preorbital bone bordering the jaw (Fig. 2a)

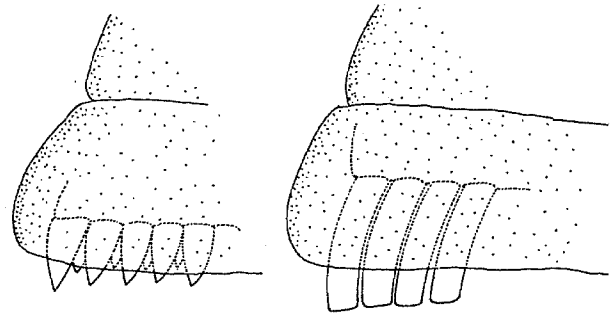
2 a. Dorsal fin spines 12 or 13, preopercular margin entire (Fig. 2b)

3 a. Teeth conical (Fig. 1a) in 2 to 4 rows; upper and lower edges of caudal fin base with 2 or 3 projecting spines (Fig. 3) ..... Chromis

3 b. Teeth incisiform (Fig. 1b) in a single row; upper and lower edges of caudal fin base without projecting spines ..... Abudefduf

2 b. Dorsal fin spines 12, preopercle serrated (Fig. 2a) ..... Stegastes

1 b. Teeth in upper jaw flexible, brushlike; a pronounced notch in preorbital bone bordering the jaw (Fig. 2b) ..... Microspathodon



a b Fig. 1

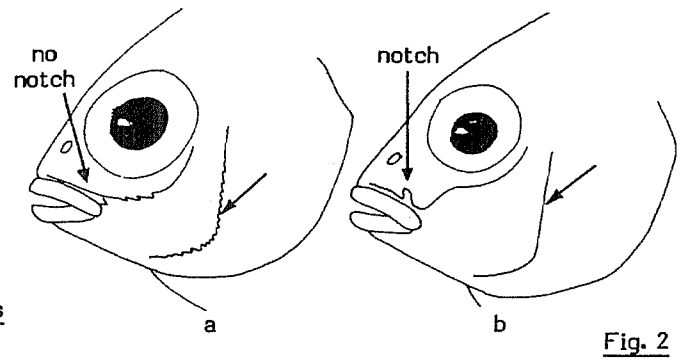


Fig. 2

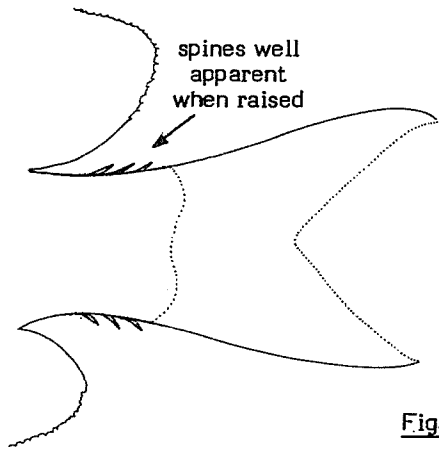


Fig. 3

LIST OF SPECIES OCCURRING IN THE AREA*:

Code numbers are given for those species for which Identification Sheets are included

** Abudefduf analogus (Gill, 1863)
** Abudefduf hoefleri Steindachner
** Abudefduf luridus (Cuvier)
** Abudefduf saxatilis (Linnaeus, 1758)

Chromis bicolor (Rochebrune) (may be insolata)
Chromis sp. "cadenati" Cadenat, 1949 (Ms. replacement name for lineatus) POMACEN Chrom 2
Chromis cauta (Troschel) (may be multilineata)
*** Chromis chromis (Linnaeus, 1758)
Chromis limbatus (Valenciennes, in Cuv. & Val., 1833) POMACEN Chrom 3

Microspathodon frontatus Emery

Stegastes imbricata Jenyns

Prepared by A.R. Emery, Royal Ontario Museum, Toronto, Ontario, Canada

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*The taxonomy of West African and Mediterranean damselfishes is currently confused. The genera Chromis, Stegastes, and Abudefduf are in the process of being revised, thus even the number of species, to say nothing of the correct names is an unknown. The species list and identification sheets should therefore be regarded as provisional at best

**Status uncertain, therefore identification sheets pending

***Probably not occurring in the area; available records for the West African coast are based on C. limbatus

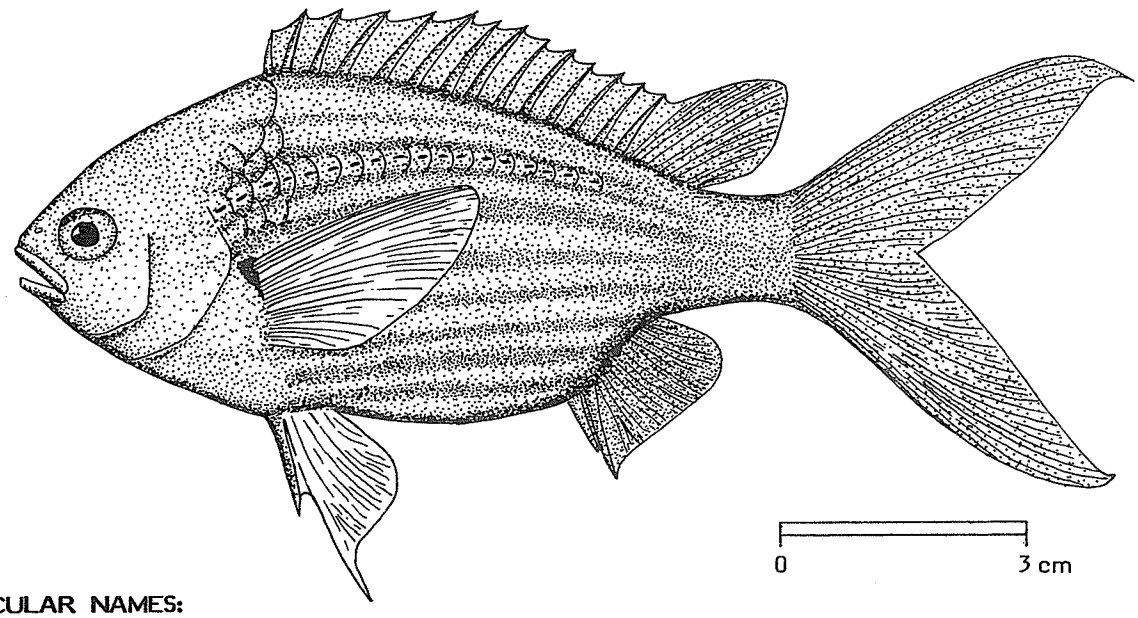
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : POMACENTRIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Chromis sp. ("cadenati") Cadenat, 1949

OTHER SCIENTIFIC NAMES STILL IN USE : Originally named C. lineatus by Cadenat, 1949, but this name is preoccupied. A manuscript name "cadenati" has been proposed, but could be confusing and has not yet been published



VERNACULAR NAMES:

FAO : En - Striped chromis
Fr - Sergeant africain
Sp - Castañeta rayada

NATIONAL :

DISTINCTIVE CHARACTERS :

Body relatively elongate, the depth contained 2.4 to 2.6 times in standard length. Dorsal fin with 14 spines and usually 11 (10 or 11) soft rays; anal fin with 2 spines and 11 (rarely 12) soft rays; pectoral fins with usually 20 (20 or 21) rays; caudal fin forked. Scales in lateral line usually 19 (18 or 19).

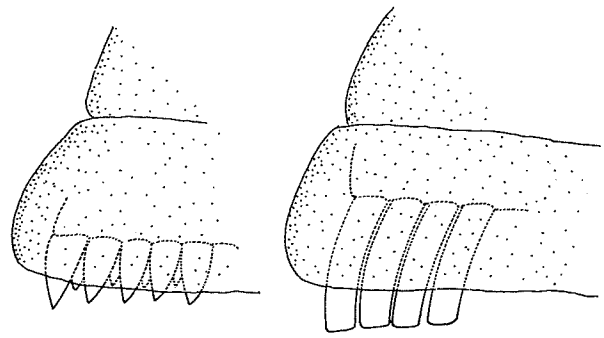
Colour: golden brown or yellow, slightly darker on the back. Each scale dark-edged, centrally pale, imparting an overall appearance of longitudinal stripes (5 to 7 below the lateral line); fins tinged with yellow; caudal fin uniform dusky to dark; a dark blotch present in pectoral fin axil extending only to upper part of pectoral fin base.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Chromis limbatus: body deeper, the depth contained 1.8 to 2.2 times in standard length (2.4 to 2.6 times in C. cadenati); no longitudinal pale stripes on body; caudal fin dark on outer part of each lobe, but sharply changing to orange or white on middle rays.

Other Chromis species: only 12 or 13 dorsal fin spines (14 in C. cadenati).

Abudefduf species: teeth incisiform in a single row (conical, in several rows in Chromis); upper and lower edges of caudal fin base without projecting spines (such spines present in Chromis).

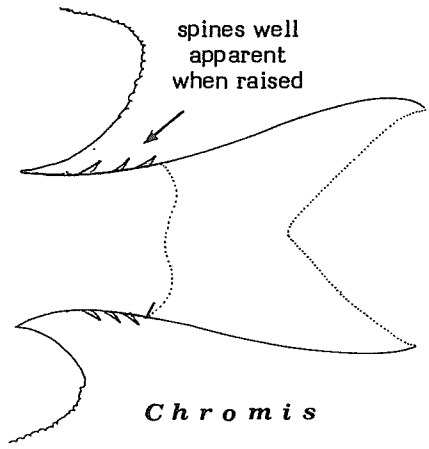


Chromis Abudefduf

teeth in upper jaw

SIZE:

Maximum: 19 cm; common to 15 cm.



Chromis

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

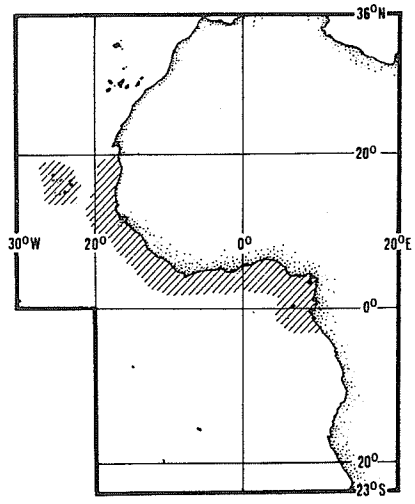
Primarily distributed along the coast from Senegal to the Gulf of Guinea; not common around islands.

Inhabits shallow coastal waters (to about 60 m depth).

A schooling fish feeding on plankton and probably small benthic crustaceans; builds nests guarded by the male.

PRESENT FISHING GROUNDS:

Shallow waters, apparently only in Senegal and Ghana.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught incidentally on hook and line, and in purse seines and trawls.

Marketed mostly fresh, smoked or dried salted.

POMACEN Chrom 3

1981

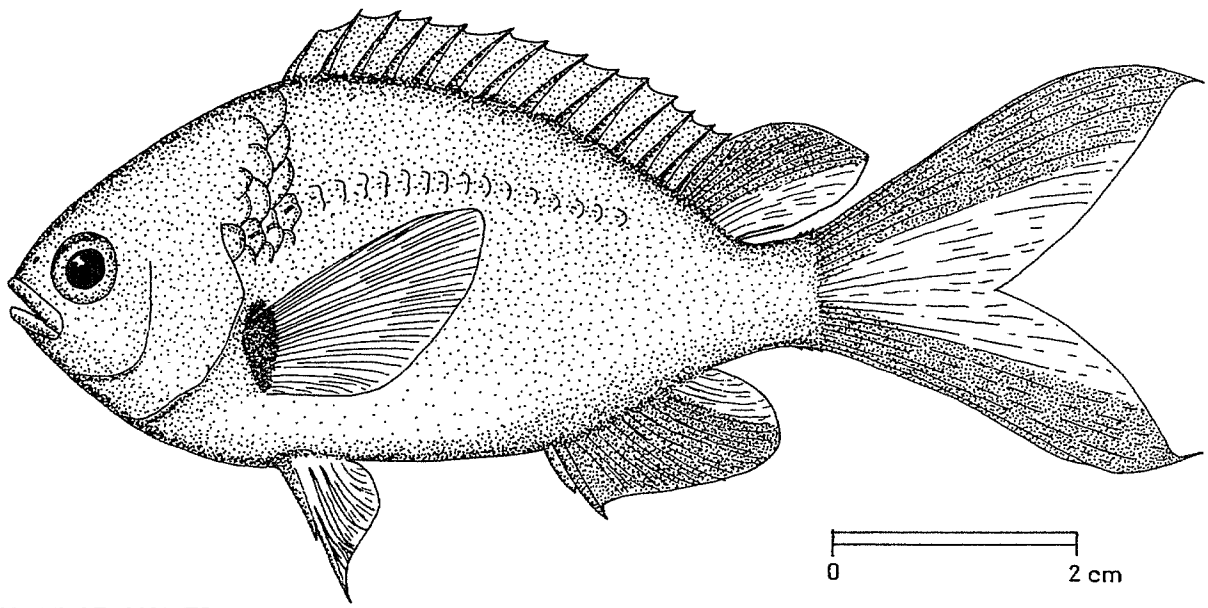
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : POMACENTRIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Chromis limbatus (Valenciennes, in Cuv. & Val., 1833)

OTHER SCIENTIFIC NAMES STILL IN USE : None, but usually misidentified as Chromis chromis along the West African coast



VERNACULAR NAMES:

FAO : En - Bandtail chromis
Fr - Sergeant à queue rayée
Sp - Castaneta rabo-cinta

NATIONAL :

DISTINCTIVE CHARACTERS :

Body somewhat elongate, the depth contained 1.8 to 2.2 times in standard length. Dorsal fin with 14 spines and usually 11 (11 or 12) soft rays; anal fin with 2 spines and usually 11 (10 to 12) soft rays; pectoral fins with usually 19 (18 to 20) rays; caudal fin forked. Scales in lateral line usually 18 (17 to 20).

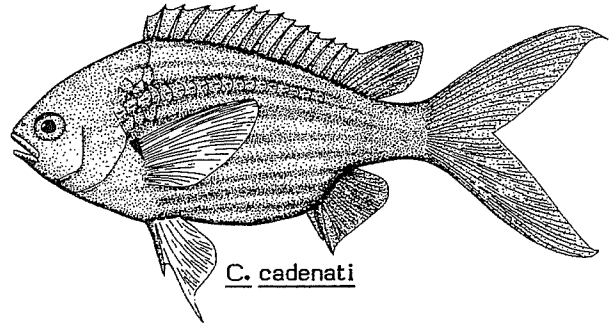
Colour: golden brown, slightly darker on back. Each scale dark-edged posteriorly and darkly pigmented centrally; dorsal and anal fins dark throughout most of their length, but bright orange or white on posterior fin rays and membranes; caudal fin dark on outer parts of each lobe, but sharply changing to orange or white on middle rays; a dark blotch present on pectoral fin axil and covering entire outer face of fin base. The males show a distinctively different colour than the females while guarding the nests (sky blue to purple with an almost white belly); the darker colouration of the fins, characteristic of the species, disappears in breeding males. Once preserved, the dark pigmentation reappears.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Chromis cadenati: body more elongate, the depth contained 2.4 to 2.6 times in standard length (1.8 to 2.2 times in C. limbatus); pale longitudinal stripes on sides of body; caudal fin uniform dusky to dark.

Other Chromis species: only 12 or 13 dorsal fin spines (14 in C. cadenati).

Abudefduf species: teeth incisiform in a single row (conical, in several rows in Chromis); upper and lower edges of caudal fin base without projecting spines (such spines present in Chromis).



C. cadenati

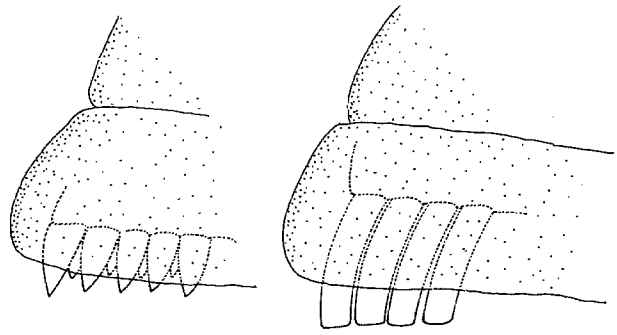
SIZE:

Maximum: 12 cm; common to 8 cm.

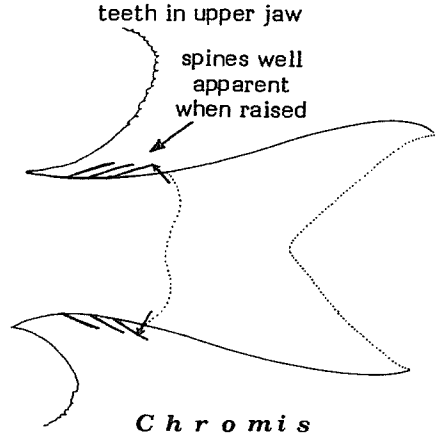
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Distributed primarily around the islands in the northern part of the area, extending southward into the Gulf of Guinea, possibly even further.

Because of the confusion with C. chromis the available information on habits of this fish may be somewhat doubtful, but it is probably a schooling species, feeding on plankton and benthic crustaceans. It is known to build nests which are guarded by the males.



Chromis Abudefduf



Chromis

PRESENT FISHING GROUNDS:

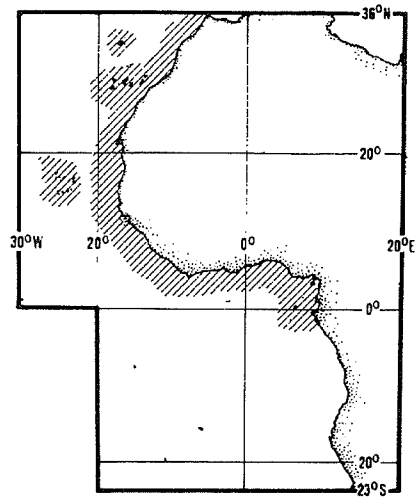
Presently recorded in catches from many areas as C. chromis but this may be a mix of species. Reliable records are available from the islands and the Gulf of Guinea.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught regularly on line, in purse seines and trawls.

Marketed mostly fresh, smoked or dried salted.



POMAD

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

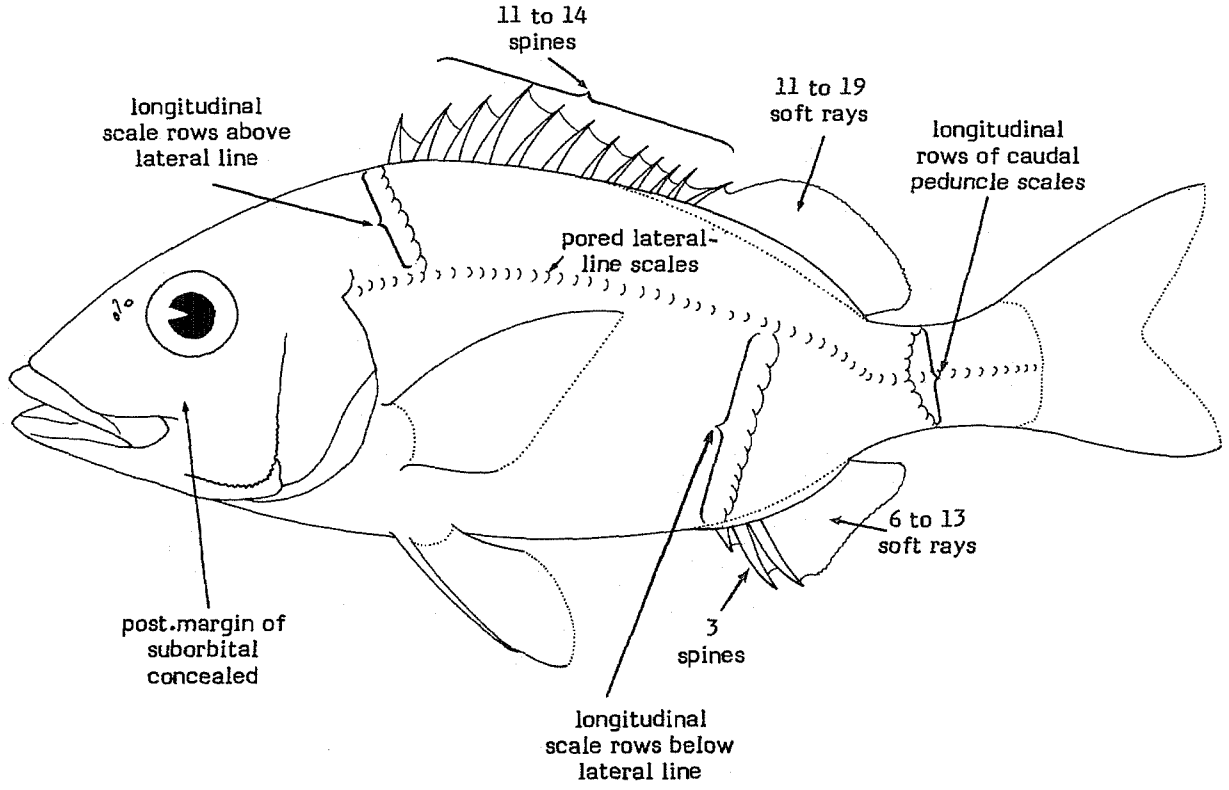
POMADASYIDAE

Grunts, margates, pigfishes and porkfishes

Oblong, compressed, perch-like fishes. Head profile more or less convex in most species; mouth small to moderate, lips sometimes thick; chin with 2 to 6 pores anteriorly, sometimes followed by a median groove; teeth conical, in narrow bands in each jaw, the outer series enlarged, but no strong canines; roof of mouth toothless; posterior margin of suborbital not exposed; preopercle with posterior margin slightly concave and serrated; opercle with or without a spine. Dorsal fin single, with 10 to 14 strong spines and generally 11 to 19 soft rays; pelvic fins below pectoral fin bases, with 1 spine and 5 soft rays; anal fin with 3 spines, the second often very prominent, and 6 to 13 soft rays; caudal fin emarginate to forked. Scales ctenoid (rough to touch), extending onto entire head (except front of snout, lips and chin).

Colour: highly variable, ranging from uniformly coloured to striped, banded, blotched and spotted.

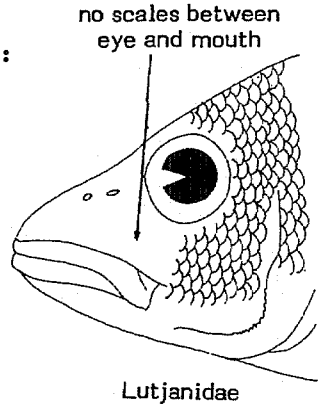
Small to medium-sized fishes, nearly all from shallow coastal waters in tropical and subtropical regions. All of the species occurring in Fishing Area 34 are more or less regularly exploited by local artisanal fisheries or taken as bycatch in inshore trawling operations. At present, the most important commercial species is Brachydeuterus auritus, with annual catches exceeding 20 000 t. The reported catch of grunts from the area totalled 33 500 t in 1977. They are good foodfishes, often consumed fresh, but also dried salted.



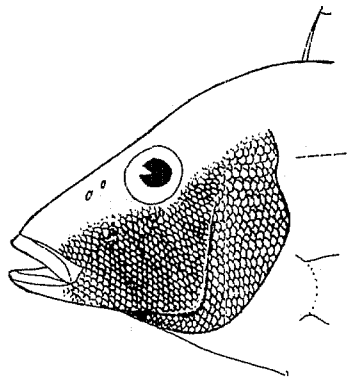
SIMILAR FAMILIES OCCURRING IN THE AREA:

Lutjanidae: no pores on chin; teeth present on roof of mouth; strong canine teeth frequently present in jaws; no scales between eye and mouth; spines of dorsal and anal fins weaker.

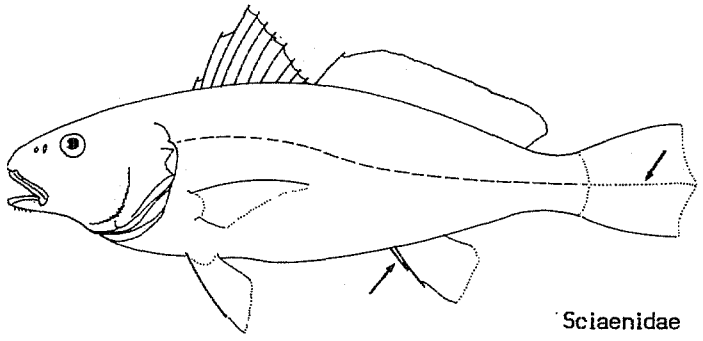
Sciaenidae: anal fin with never more than two spines (3 in Pomadasyidae); lateral-line scales extending to hind margin of caudal fin; swimbladder usually large and complicated (except in Menticirrhus where it is rudimentary), or absent; canine-like teeth sometimes present.



Lutjanidae



Pomadasyidae



Sciaenidae

KEY TO GENERA OCCURRING IN THE AREA:

1 a. No median groove behind pores on chin

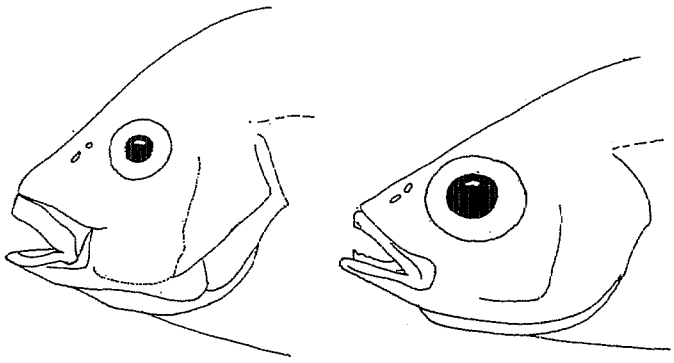
2 a. Lips thick (Fig. 1a); dorsal fin with 16 or 19 soft rays.. Plectorhynchus

2 b. Lips thin to moderate (Fig. 1 b); dorsal fin with 14 or 15 soft rays ..... Parapristipoma

1 b. Median groove present behind pores on chin (Fig. 2)

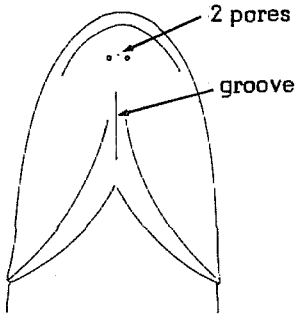
3 a. 10 to 15 gillrakers on first arch ..... Pomadasys

3 b. 18 to 22 gillrakers on first arch ..... Brachydeuterus



a. Plectorhynchus b. Parapristipoma

Fig. 1



underside of head

Fig. 2

LIST OF SPECIES OCCURRING IN THE AREA*:

Code numbers are given for those species for which Identification Sheets are included

Brachydeuterus auritus (Valenciennes, 1831)	POMAD Brach 1
Parapristipoma humile (Bowdich, 1825)	POMAD Para 1
Parapristipoma octolineatum (Valenciennes, 1833)	POMAD Para 2
Plectorhynchus macrolepis (Boulenger, 1899)	POMAD Plect 2
Plectorhynchus mediterraneus (Guichenot, 1850)	POMAD Plect 3
Pomadasys incisus (Bowdich, 1825)	POMAD Pomad 5
Pomadasys jubelini (Cuvier, 1830)	POMAD Pomad 6
Pomadasys peroteti (Cuvier, 1830)	POMAD Pomad 7
Pomadasys rogeri (Cuvier, 1830)	POMAD Pomad 8

Prepared by C. Roux, Museum National d'Histoire Naturelle, Paris, France

Draft material reviewed by W.R. Courtenay, Jr., Florida Atlantic University, Boca Raton, Florida, U.S.A.

Species illustrations partially provided by author

*The nomenclature and taxonomic status of some of the West African species in this family are still doubtful. Parapristipoma humile and P. octolineatum should be subjected to a comparative study in order to establish more clearly their specific characters. Pomadasys peroteti is considered invalid by some authors since it is very close to P. jubelini; however, it has been proven that it can be easily and clearly distinguished from that species at all stages by the shape of the maxilla

POMAD Brach 1

1981

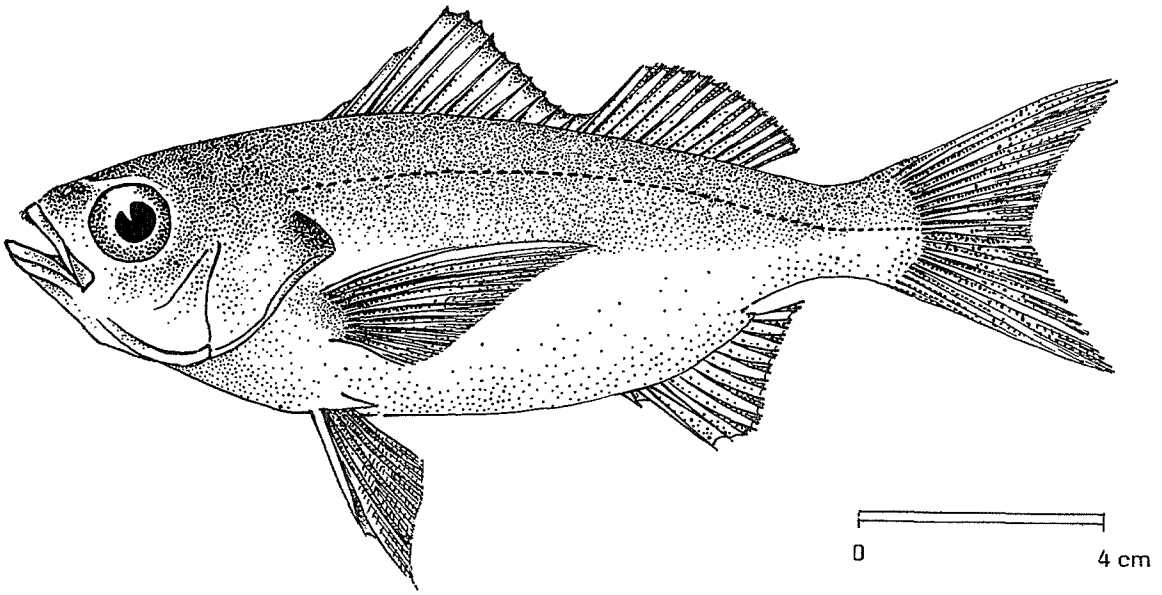
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : POMADASYIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Brachydeuterus auritus (Valenciennes, 1831)

OTHER SCIENTIFIC NAMES STILL IN USE : Otoperca aurita Valenciennes, 1831



VERNACULAR NAMES:

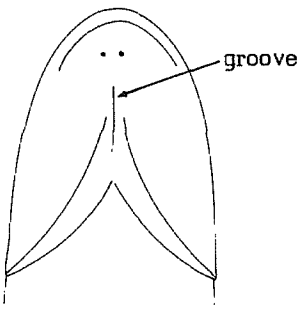
FAO : En - Bigeye grunt
Fr - Lippu pelon
Sp - Burro ojón

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oblong and compressed, its depth contained 2.6 to 3 times in standard length. Eye large, 2.5 (juveniles) to 3.5 times in head length; mouth large and protrusible; snout shorter than eye diameter; chin with 2 pores, on each side of symphysis, very close to each other (thus easily mistaken as one pore only) and followed by a median groove; gill rakers on first arch 18 to 22. Dorsal fin with 12 moderately strong spines and 11 to 13 soft rays; the third and sometimes also the fourth spine, longer than the others; anal fin with 3 spines and 9 or 10 (rarely 8) soft rays; caudal fin deeply emarginate. Lateral-line scales 48 to 52; 4 or 5 scale rows above and 11 or 12 below lateral line.

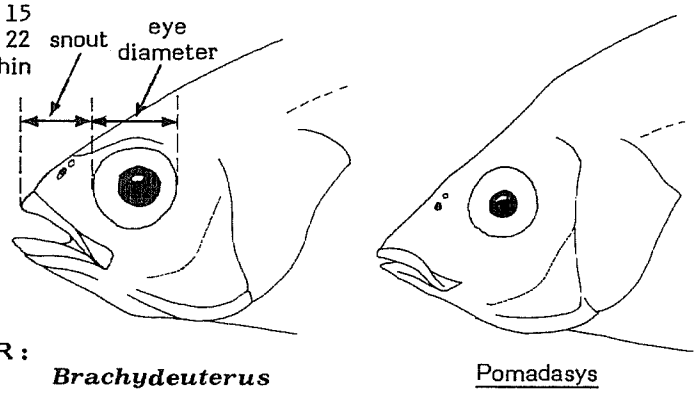
Colour: back olive, sides and belly silvery to white; a dark blotch on upper margin of opercle; sometimes small dark spots present on dorsal fin base.



underside
of head

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Pomadasyidae: snout as long as, or longer than, eye diameter (except in Parapristipoma octolineatum, which is easily recognizable by the blue horizontal stripes on body). Furthermore, only 10 to 15 gill rakers on first arch in Pomadasys species (18 to 22 in B. auritus) and no median groove behind pores on chin in Plectorhynchus and Parapristipoma species.



Brachydeuterus Pomadasys

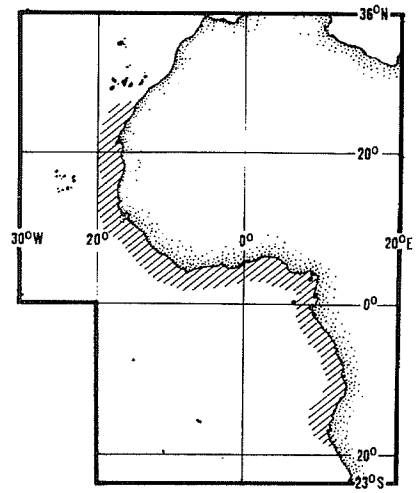
SIZE:

Maximum: 30 cm; common to 23 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Along the West African coast from Mauritania (exceptionally Morocco) to Angola.

Inhabits coastal waters between 10 and 100 m depth, but is more common between 50 and 80 m.



PRESENT FISHING GROUNDS:

Inner shelf waters throughout its range. This is the most heavily exploited of the pomadasyid species in the area.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catches reported from Fishing Area 34 in 1977 totalled about 21 000 t.

Caught with bottom trawls, gillnets, set nets and purse seines.

Marketed fresh, smoked, dried salted and reduced to fishmeal. However, reported to be discarded in some countries (i.e. Senegal) in the northern part of the area.

POMAD Para 1

1981

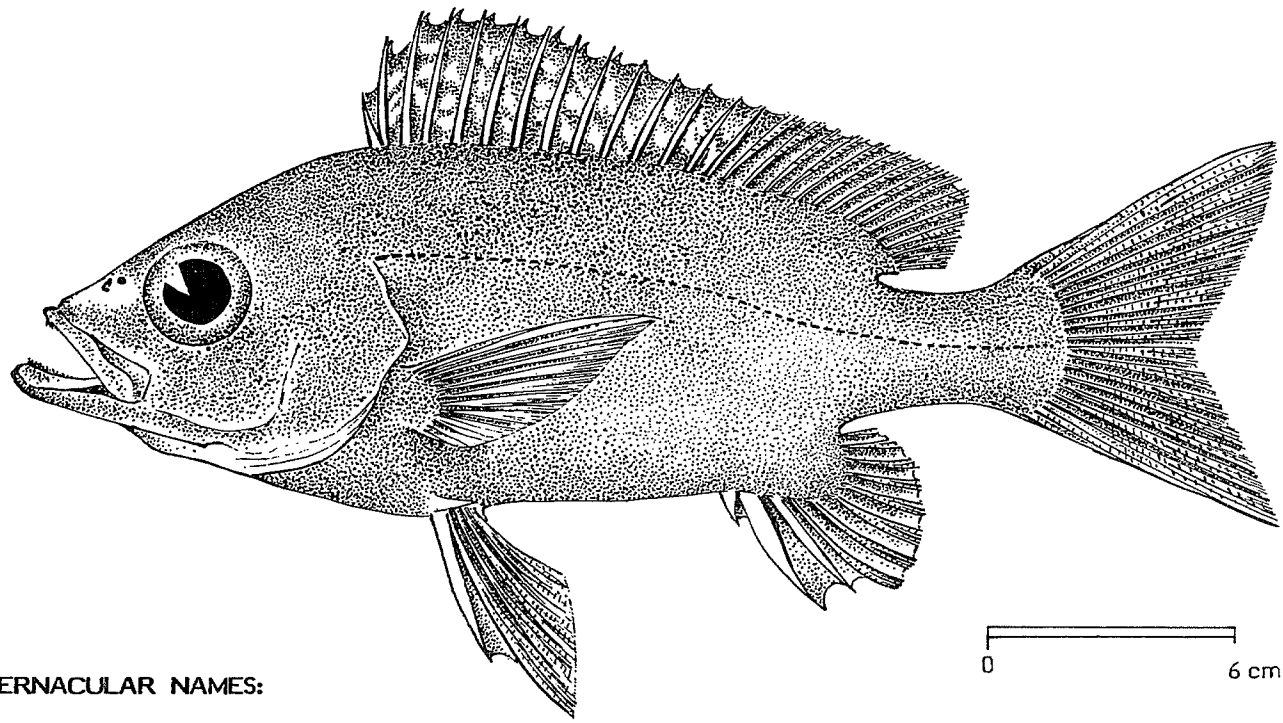
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : POMADASYIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Parapristipoma humile (Bowdich, 1825)

OTHER SCIENTIFIC NAMES STILL IN USE : Pristipoma humilis (Bowdich, 1825)
Pristipoma viridens Cuvier, 1830
Diagramma citrinellum Gunther, 1864
Diagramma aeneum Peters, 1869
Diagramma (Diagramella) macrops Pellegrin, 1912
Genyatremus latifrons Troschel, 1866
Genyatremus angustifrons Troschel, 1866
Parapristipoma latrifrons Fowler, 1936
Parapristipoma macrops Poll, 1954



VERNACULAR NAMES:

FAO : En - Guinea grunt
Fr - Grondeur bouche d'or
Sp - Burro boca de oro

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate and compressed. Head contained 3 times in standard length; snout rounded and almost as long as eye diameter; mouth slightly oblique, the lower jaw projecting; lips rather thin; chin with 6 pores (2 smaller than the others), but without a median groove; teeth conical, in several bands; preopercle serrated; 22 gillrakers on first arch. Dorsal fin with 13 spines and 15 soft rays; anal fin with 3 spines and 7 or 8 soft rays. Scales ctenoid (rough to touch), 52 in lateral line and 104 vertical rows along body.

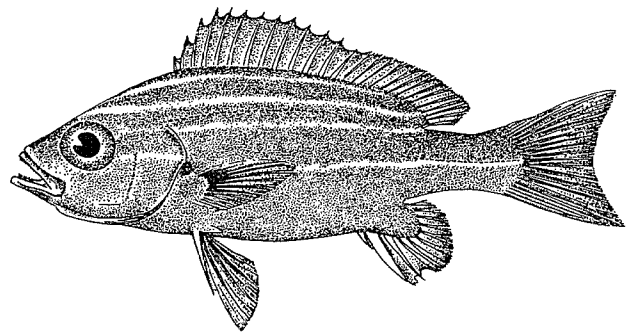
Colour: almost uniform violet brown; fins dark grey.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Parapristipoma octolineatum: 4 longitudinal blue lines along back and sides, beginning on head; otherwise difficult to distinguish from P. humile.

Plectorhynchus species: lips thick; dorsal fin with 16 or 17 soft rays (14 or 15 in P. humile).

Other species of Pomadasyidae: a median groove present behind pores on chin; also, only 2 or 3 pores on chin in Pomadasys species.



P. octolineatum

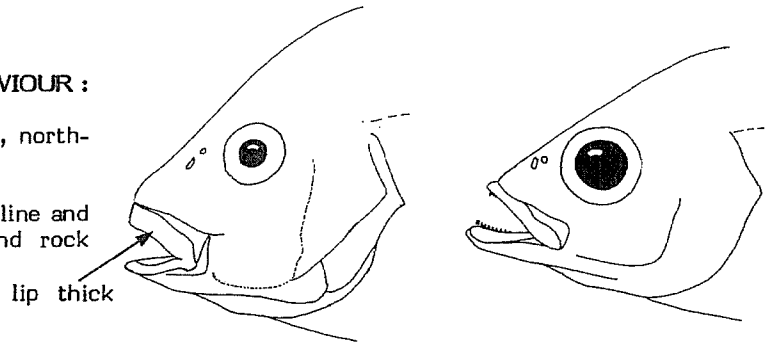
SIZE :

Maximum: 36 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

From the Straits of Gibraltar to Angola, northward extending into the Mediterranean.

Inhabits shallow waters between the coastline and about 100 m depth on sand, muddy sand and rock bottoms.



Plectorhynchus *Parapristipoma*

PRESENT FISHING GROUNDS :

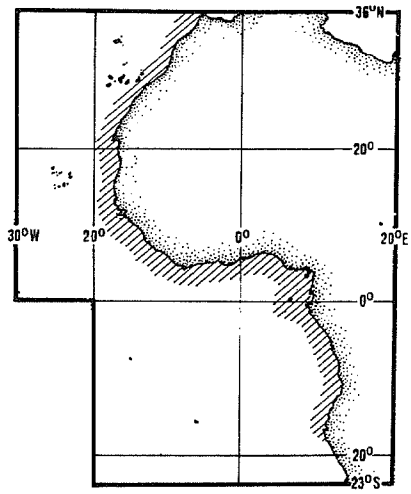
Continental shelf throughout its range but apparently not abundant.

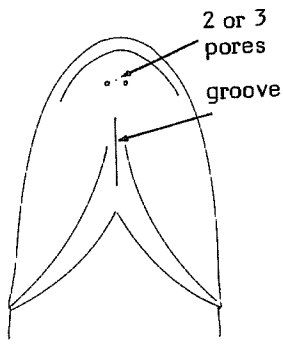
CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught mainly with bottom trawls.

Marketed mostly fresh.





underside of h
Pomadasys
(schematic)

POMAD Para 2

1981

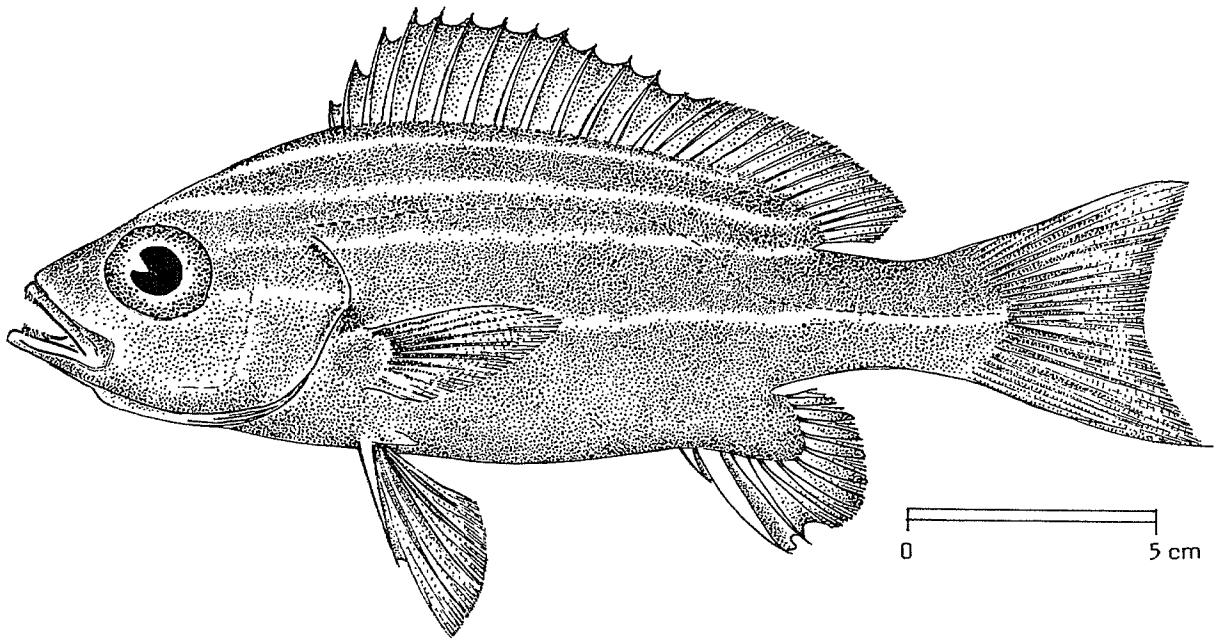
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : POMADASYIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Parapristipoma octolineatum (Valenciennes, 1833)

OTHER SCIENTIFIC NAMES STILL IN USE : Pristipoma octolineatum (Valenciennes, 1833)
Diagramma octolineatum Valenciennes, 1833



VERNACULAR NAMES:

FAO : En - African striped grunt
Fr - Grondeur rayé
Sp - Burro listado

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate and compressed. Head contained 3 to 3.15 times in standard length; snout rounded, shorter than eye diameter; mouth slightly oblique; the maxilla extending to anterior eye margin; lips rather thin; chin with 6 pores, but without a median groove; preopercle serrated; 21 to 23 gillrakers on first arch. Dorsal fin with 13 spines and 14 or 15 soft rays; anal fin with 3 spines and 7 soft rays. Scales ctenoid (rough to touch); 54 in lateral line.

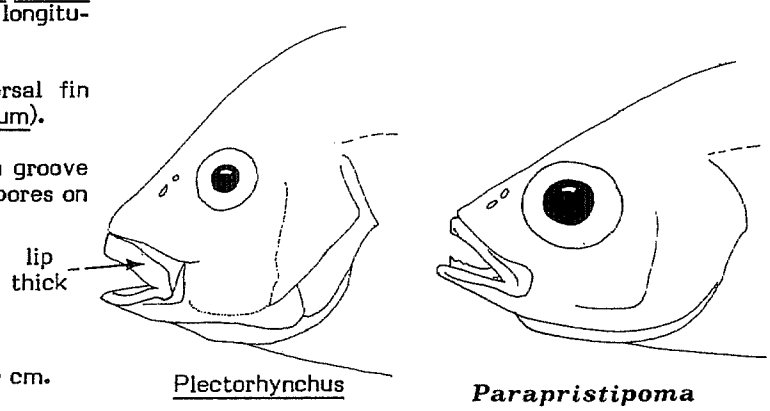
Colour: violet brown with 4 longitudinal blue stripes along back and sides beginning on head; fins dark grey.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Parapristipoma humile: very similar to P. octolineatum; differs from it by the absence of the longitudinal blue stripes on back and sides.

Plectorhynchus species: lips thick; dorsal fin with 16 or 17 soft rays (14 or 15 in P. octolineatum).

Other species of Pomadasyidae: a median groove present behind pores on chin; also only 2 or 3 pores on chin in Pomadasys species.



Plectorhynchus

Parapristipoma

SIZE :

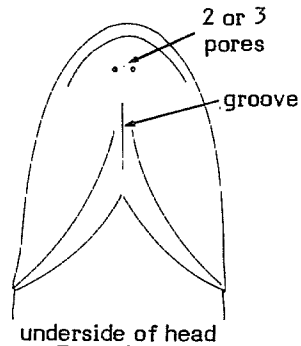
Maximum: possibly 40 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

West African coast including islands, from the Straits of Gilbraltar to Angola; northward extending into the Western Mediterranean and along the coasts of Portugal and Spain.

Inhabits sand and rock bottoms in shallow waters from the shoreline to about 50 m depth.

Feeds on crustaceans and molluscs.



underside of head
Pomadasys
(schematic)

PRESENT FISHING GROUNDS :

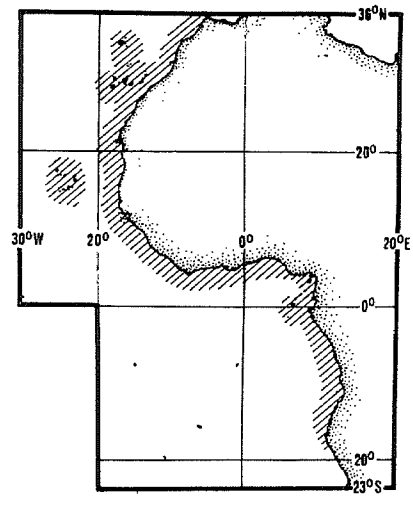
Taken occasionally throughout its range, but apparently not abundant.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with trammel nets, bottom trawls and on line gear.

Marketed mostly fresh.



POMAD Plect 2

1981

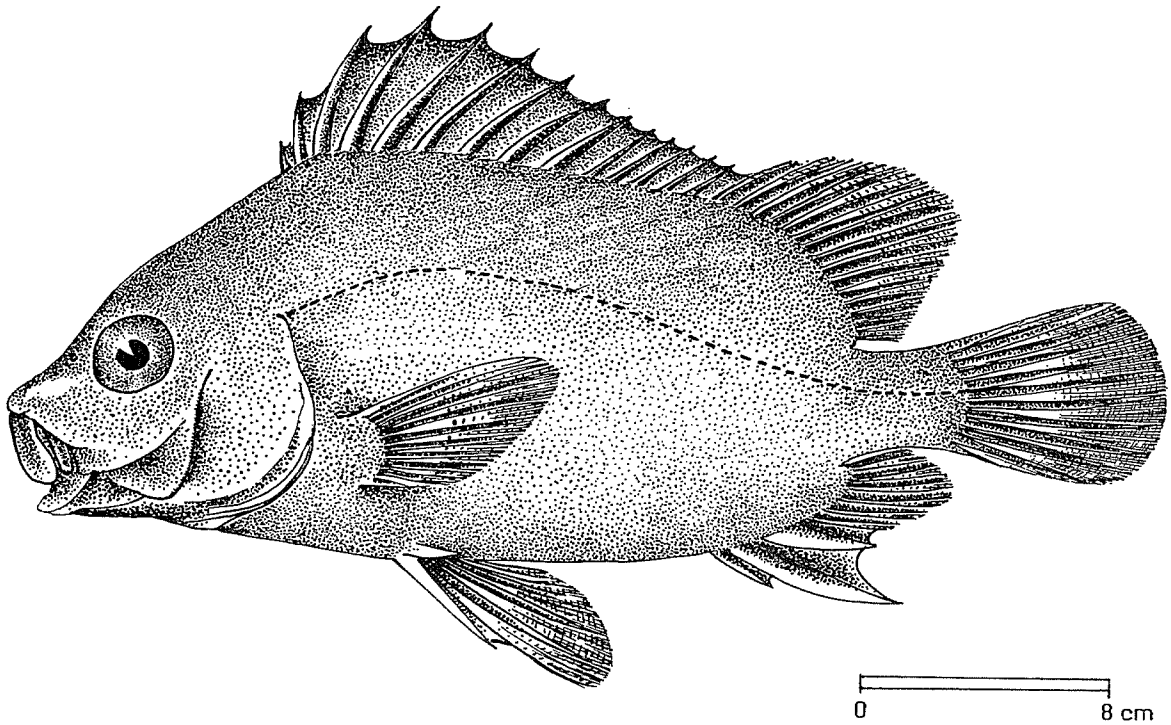
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : POMADASYIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Plectorhynchus macrolepis (Boulenger, 1899)

OTHER SCIENTIFIC NAMES STILL IN USE : Diagramma macrolepis Boulenger, 1899



VERNACULAR NAMES:

FAO : En - Biglip grunt
Fr - Diagramme à grosses lèvres
Sp - Burro labiogrueso

NATIONAL :

DISTINCTIVE CHARACTERS :

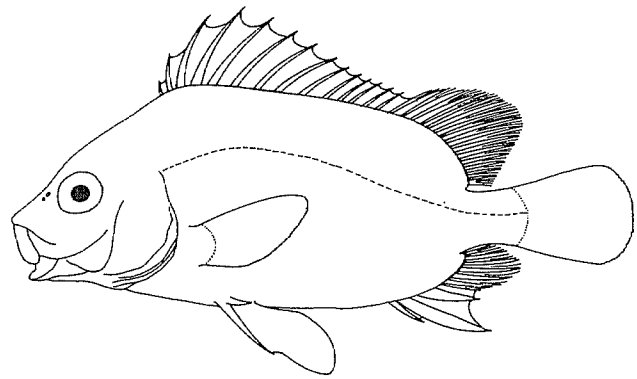
Body oblong and compressed, rather deep (depth contained about 3 times in standard length). Snout equal to, or slightly longer than, eye diameter; eye large (3.5 times in head length); mouth oblique, the maxilla not reaching to level of anterior eye margin; lips very thick; teeth sparse in number, small, conical, arranged in several bands; 4 pores, but no median groove on chin; preopercle strongly serrated; 15 to 18 (usually 16) gillrakers on first arch. Dorsal fin with 14 strong spines, the fifth longest, and 16 soft rays; anal fin with 3 spines and 7 soft rays; caudal fin rounded. Scales ctenoid (rough to touch), 46 in lateral line.

Colour: uniform dark brown with light blotches on sides in young individuals.

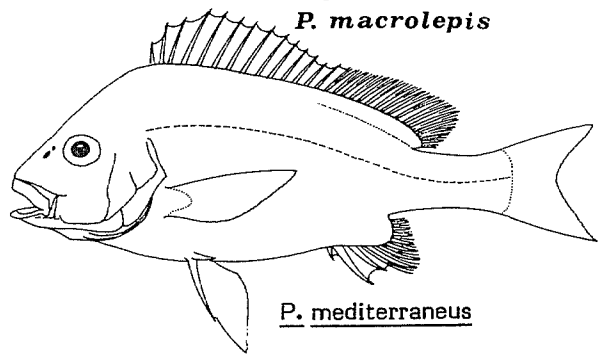
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Plectorhynchus mediterraneus: body much less deep, its depth 2.4 to 2.5 times in standard length (about 3 times in P. macrolepis); 8 or 9 soft anal fin rays (7 in P. macrolepis and 19 or 20 gillrakers on first arch (15 to 18 in P. macrolepis).

Other species of Pomadasyidae: body not as deep. Furthermore, lips thin to moderate in Parapristipoma and a median groove present behind pores on chin in Pomadasys and Brachydeuterus.



P. macrolepis



P. mediterraneus

SIZE:

Maximum: 40 cm.

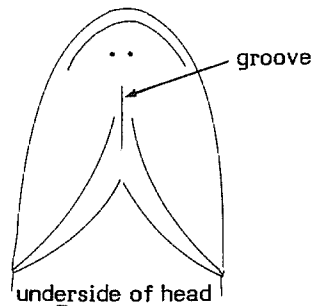
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

West African coast, from Senegal to Congo.

Inhabits coastal waters; may also occur in brackish waters.

PRESENT FISHING GROUNDS:

Occasionally taken throughout its range, but apparently never abundant.



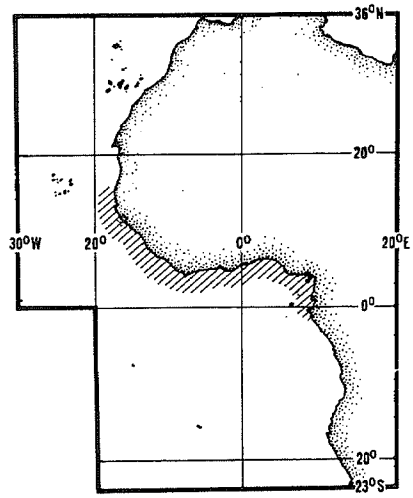
underside of head
Pomadasys
(schematic)

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls and several types of artisanal gear.

Probably marketed fresh.



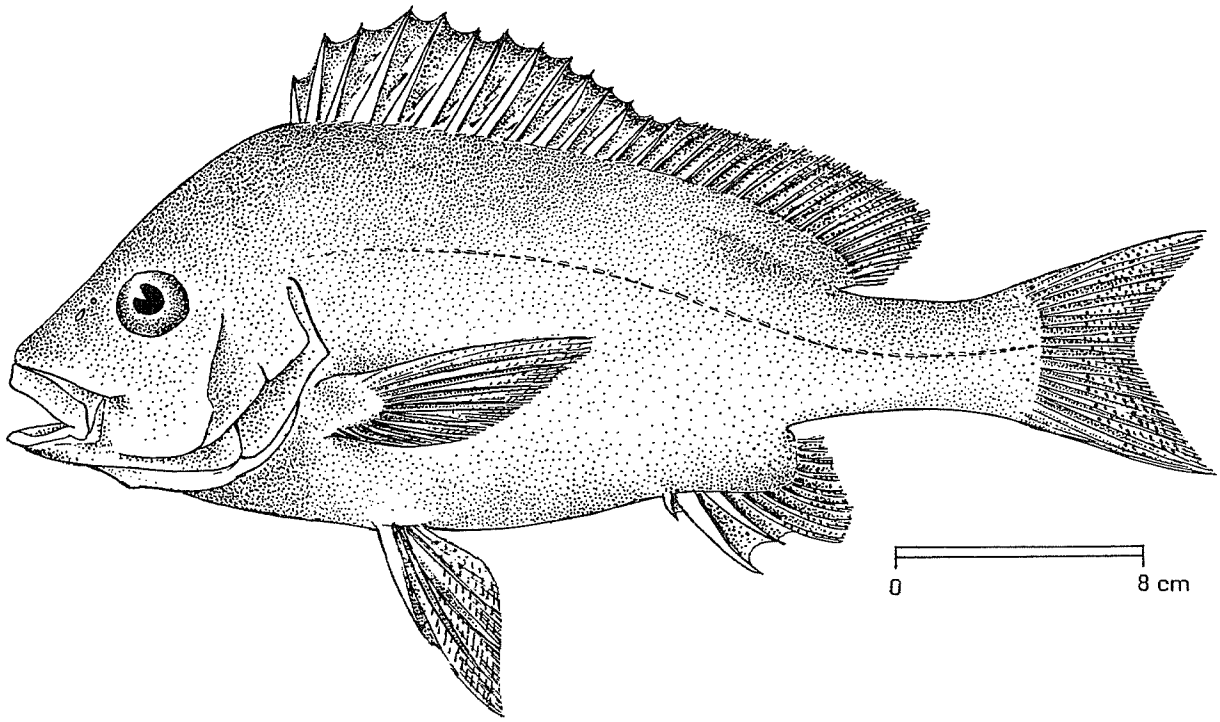
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : POMADASYIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Plectorhynchus mediterraneus (Guichenot, 1850)

OTHER SCIENTIFIC NAMES STILL IN USE : Diagramma mediterraneum Guichenot, 1850
Parapristipoma mediterraneum (Guichenot, 1850)



VERNACULAR NAMES:

FAO : En - Rubberlip grunt
Fr - Diagramme gris
Sp - Burro chiclero

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oblong and compressed, its depth contained 2.4 to 2.5 times in standard length. Snout 1.3 to 1.8 times the eye diameter; eye medium-sized (3.5 to 5 times in head length); mouth oblique, the maxilla reaching to anterior eye margin; lips relatively thick; teeth conical, set in several bands in jaws; chin with 6 pores (the two smallest anterior in position) but without a median groove; preopercle serrated; 19 or 20 gillrakers on first arch. Dorsal fin with 12 spines and 18 or 19 soft rays; anal fin with 3 spines and 8 or 9 soft rays; caudal fin emarginate with pointed lobes. Scales ctenoid (rough to touch) 54 in lateral line.

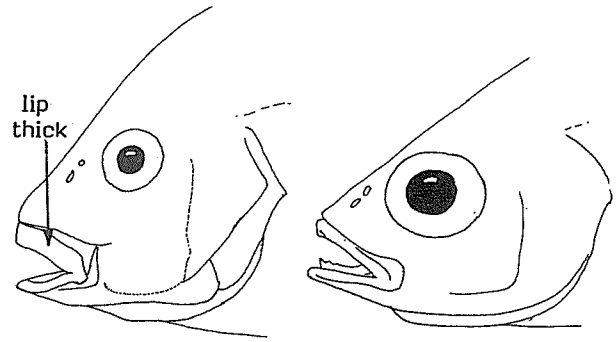
Colour: brown with violet reflections, lighter on belly.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

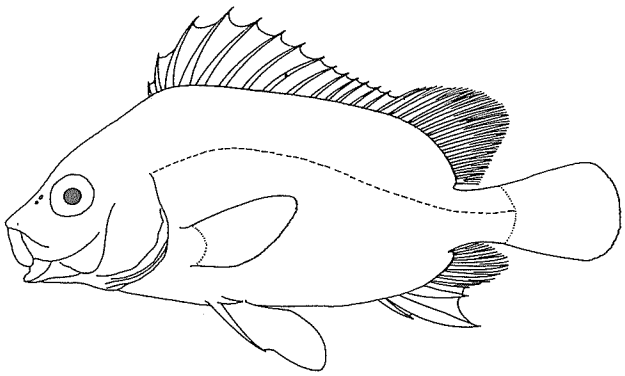
Plectorhynchus macrolepis: body deeper, its depth about 3 times in standard length (2.4 to 2.5 times in P. mediterraneus); 7 anal fin rays (8 or 9 in P. mediterraneus) and 15 to 18 gillrakers on first arch (19 or 20 in P. mediterraneus)

Parapristipoma species: lips thin to moderate; only 14 or 15 soft rays in dorsal fin (18 or 19 in P. mediterraneus).

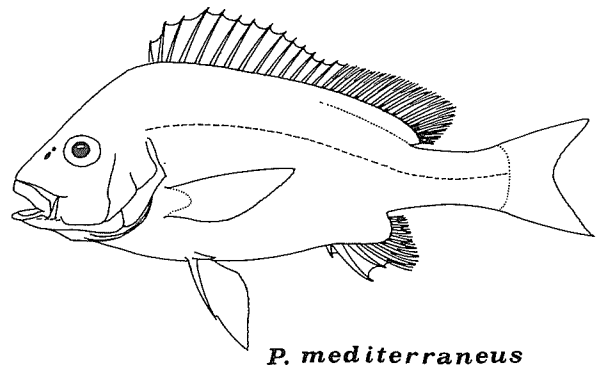
Pomadasys and Brachydeuterus species: a median groove present behind pores on chin.



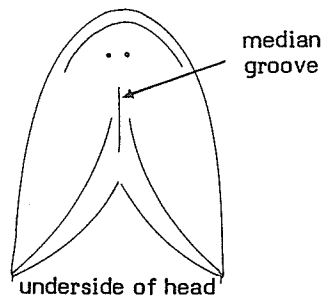
P. mediterraneus Parapristipoma



P. macrolepis



P. mediterraneus



underside of head
Pomadasys
(schematic)

SIZE:

Maximum: 60 cm (a specimen of 58 cm weighed 2.73 kg, and one of 54 cm, 2 kg).

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from the Straits of Gibraltar to Angola; northward extending into the Mediterranean and along the coasts of Spain and Portugal.

Inhabits sand and muddy sand bottoms from the coastline to about 180 m depth.

Feeds on benthic and planktonic crustaceans and molluscs.

PRESENT FISHING GROUNDS:

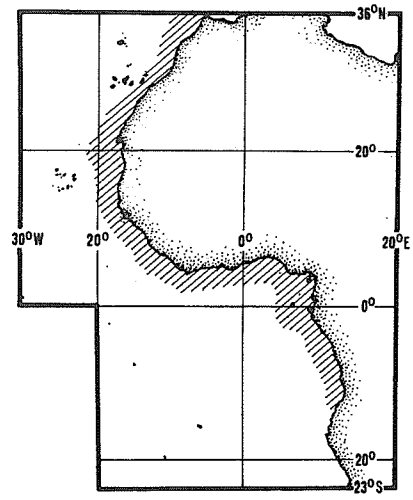
Coastal waters throughout its range. Reported to be quite abundant in some localities (occasionally making up over 40% of trawl catches), especially in winter.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with pelagic and bottom trawls, fixed bottom nets and on line gear.

Marketed fresh and dried salted.



POMAD Pomad 5
1981

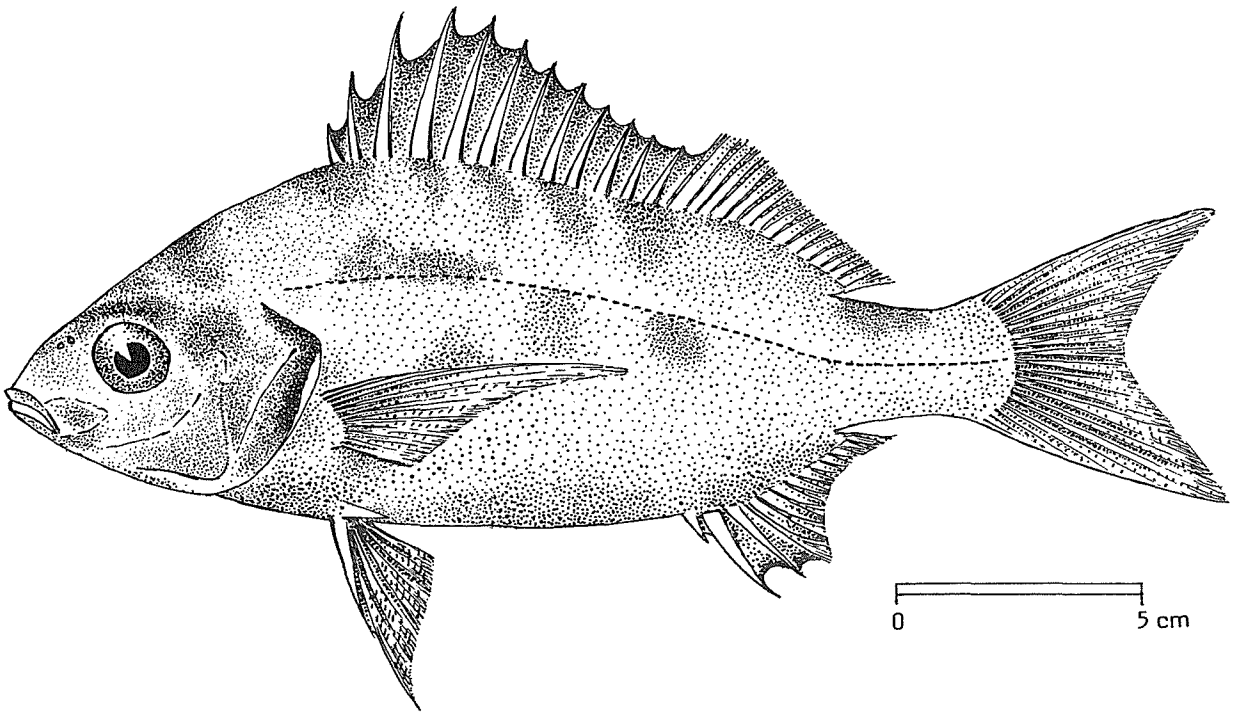
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : POMADASYIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Pomadasys incisus (Bowdich, 1825)

OTHER SCIENTIFIC NAMES STILL IN USE : Pomadasys bennetti Lowe, 1841



VERNACULAR NAMES:

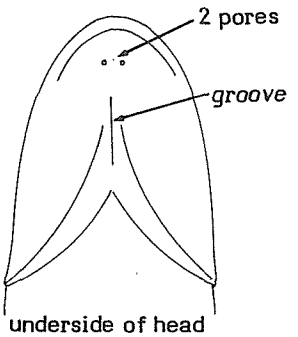
FAO : En - Bastard grunt
Fr - Grondeur métis
Sp - Ronco mestizo

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oblong and compressed, more convex dorsally, its depth contained 2.5 to 2.7 times in standard length. Head 2.9 to 3.2 times in standard length; snout conical, its length up to 1.4 times the eye diameter (but 1.1 in juveniles); eye 3.4 (juveniles) to 4.3 times (large adults) in head length; mouth slightly oblique, the maxilla not reaching to level of anterior eye margin and entirely concealed beneath the preorbital bones; chin with 2 pores followed by a median groove; teeth villiform, arranged in bands in both jaws; 12 to 14 gillrakers on first arch. Dorsal fin with 12 spines and 16 soft rays; anal fin with 3 spines and 12 or 13 soft rays, the second spine strongest; caudal fin deeply emarginate. Scales moderately ctenoid, 52 or 53 in lateral line.

Colour: background silvery grey, with a dark blotch on posterior edge of opercle. Sometimes with large blotches, but never with spots or stripes.



underside of head

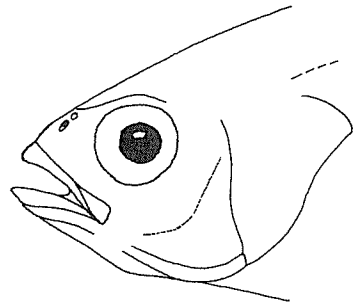
(schematic)

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other Pomadasys species: only 8 to 10 anal fin rays (12 or 13 in P. incisus); body usually with spots or stripes.

Brachydeuterus auritus: snout shorter than eye diameter; gillrakers on first arch 18 to 22 (12 to 14 in P. incisus).

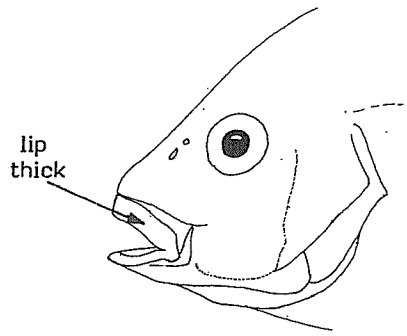
Plectorhynchus and Parapristipoma species: no median groove behind pores on chin; also lips thick in Plectorhynchus.



Brachydeuterus auritus

SIZE:

Maximum: at least 30 cm, but field reports give total lengths of up to 50 cm; common to 25 cm.



Plectorhynchus

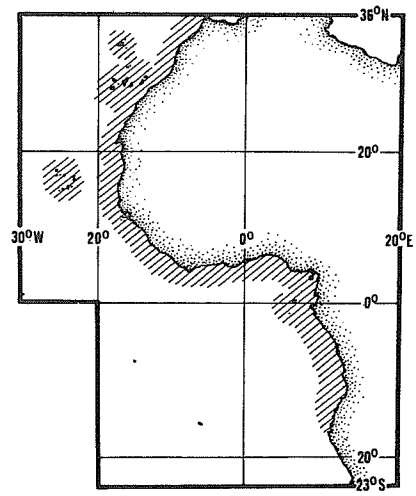
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from the Straits of Gibraltar to Angola including Madeira, the Canaries and Cape Verde Islands. Northward extending into the Western Mediterranean and to the coast of Spain.

Inhabits mainly rocky bottoms in coastal waters from 10 to about 90 m depth.

PRESENT FISHING GROUNDS:

Coastal waters throughout its range; apparently rather abundant locally.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls, purse seines and set nets.

Marketed fresh and dried salted.

POMAD Pomad 6

1981

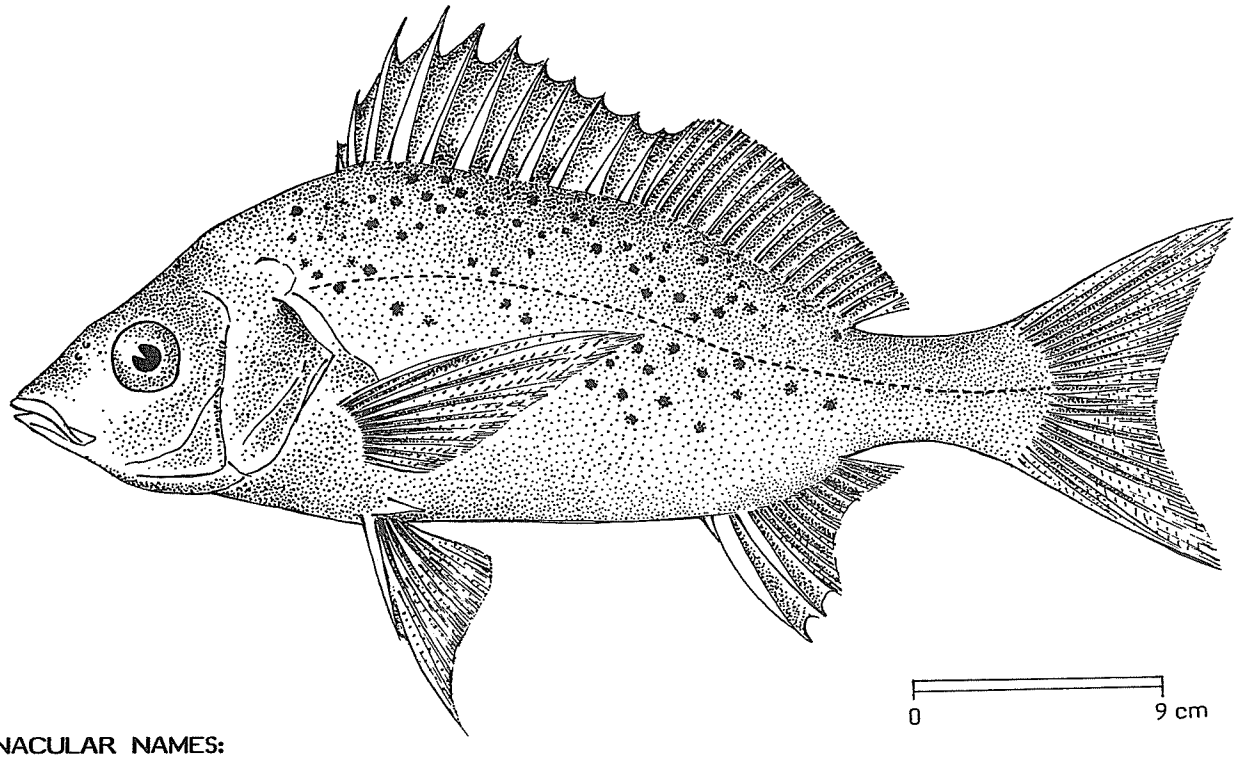
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : POMADASYIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Pomadasys jubelini (Cuvier, 1830)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

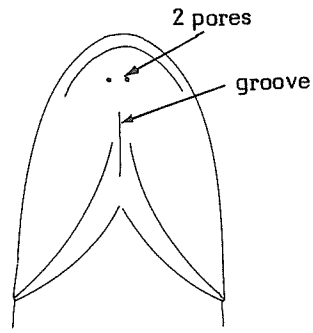
FAO : En - Sompat grunt
Fr - Grondeur sompat
Sp - Ronco sompat

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oblong and compressed, its depth contained 2.4 to 2.8 times (juveniles) in standard length. Snout long and pointed, its length up to twice the eye diameter (but equal to eye diameter in juveniles); eye rather small, about 5 times in head length (3 times in juveniles); mouth slightly oblique, the maxilla very broad (length/width ratio 2 or less) and not reaching to anterior eye margin; 2 pores on chin followed by a median groove; teeth conical, set in bands in both jaws, those in outer band strongest; preopercle serrated posteriorly, the serrations strongest at angle; 11 to 15 gill rakers on first arch. Dorsal fin with 11 or 12 spines and 15 to 17 soft rays, the first soft ray longer than the last spine; anal fin with 3 spines, and 8 or 9 soft rays, first spine very short, the second long; caudal fin emarginate. Scales slightly ctenoid, 45 in lateral line.

Colour: background silvery, with dark brown rounded spots irregularly spread on back and sides; dorsal and caudal fins grey.



underside of head

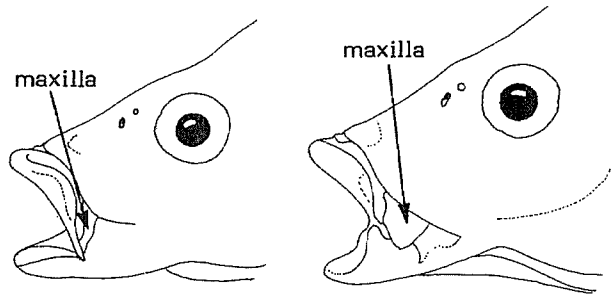
(schematic)

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Pomadasys peroteti: maxilla elongated and sickle-shaped its length/width ratio 3 to 4 (2 or less in P. jubelini); spots on body beige (rather than dark brown) in living adults.

P. rogeri: body spots mainly arranged in oblique or horizontal rows; a yellow golden blotch present on snout; 2 small pores followed by a larger one on chin (only 2 pores in P. jubelini).

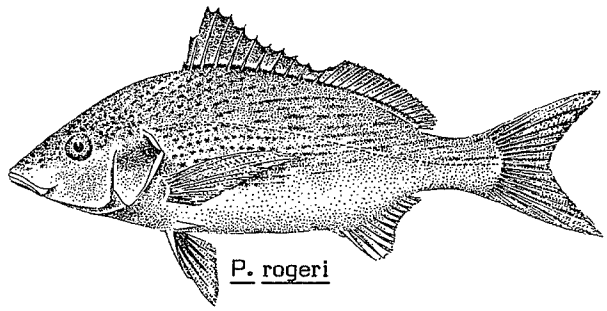
Other species of Pomadasyidae: body without small, rounded, dark brown spots. Furthermore, 12 or 13 anal soft rays in P. incisus (8 or 9 in P. jubelini); snout shorter than eye diameter in Brachydeuterus auritus and no median groove behind the pores on chin in Plectorhynchus and Parapristipoma species.



P. peroteti *P. jubelini*

SIZE:

Maximum: 60 cm; common to 45 cm.

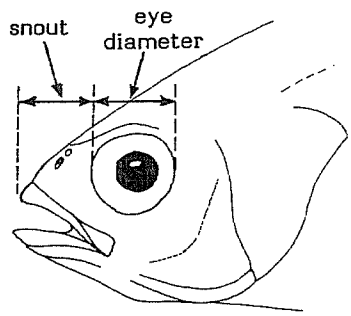

P. rogeri

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

West African coast from Mauritania to Angola.

Inhabits coastal waters to depths of about 100 m, but is most common between 25 and 50 m.

Feeds on crustaceans, molluscs and worms.



B. auritus

PRESENT FISHING GROUNDS:

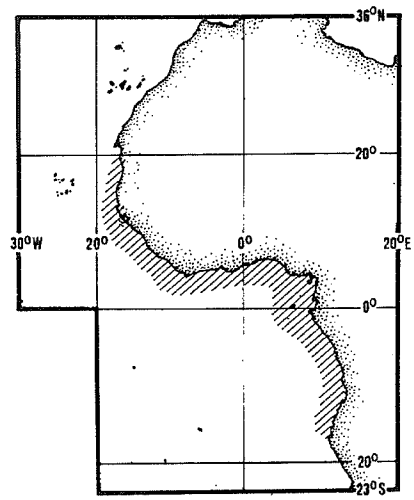
Coastal waters throughout its range; apparently rather abundant.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catch reported for this species from the area was less than 200 t in 1977 (Mauritania and Sierra Leone).

Caught with bottom tawls, purse seines and on line gear.

Marketed fresh and dried salted.



POMAD Pomad 7

1981

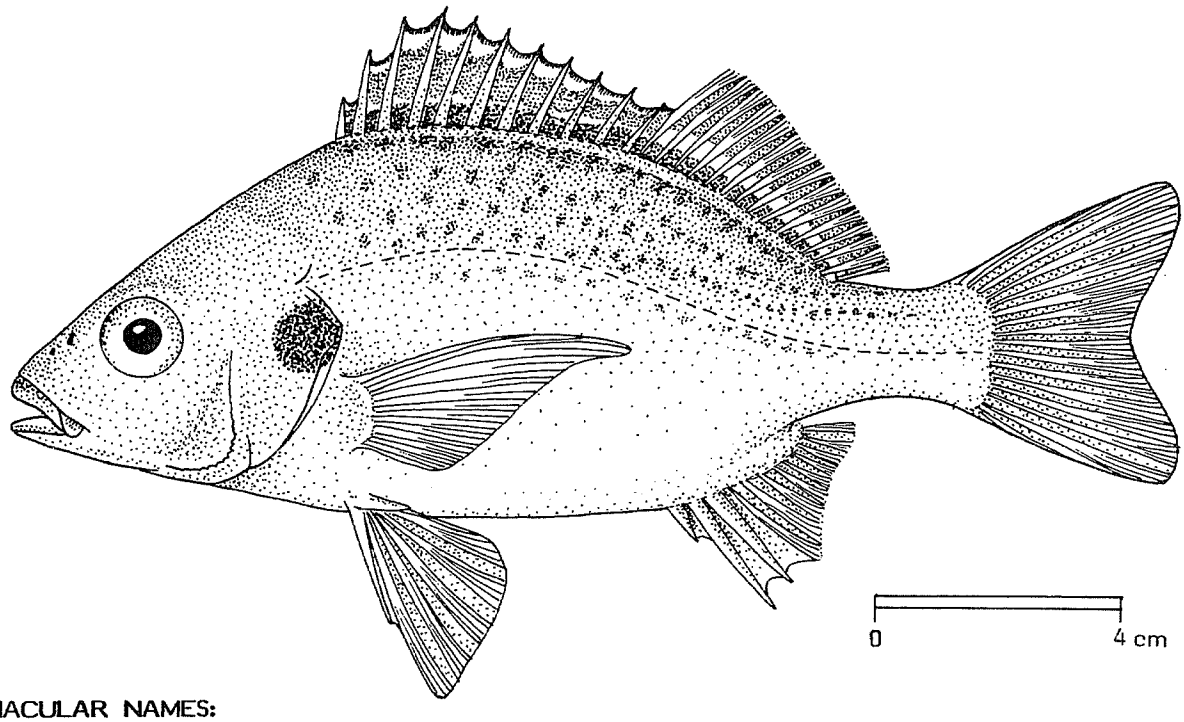
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : POMADASYIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Pomadasys peroteti (Cuvier, 1830)

OTHER SCIENTIFIC NAMES STILL IN USE : Pomadasys perotoei (Cuvier, 1830)



VERNACULAR NAMES:

FAO : En - Parrot grunt
Fr - Grondeur perroquet
Sp - Ronco loro

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oblong and compressed, its depth contained 2.6 to 2.8 times in standard length. Head contained about 2.9 times in standard length; snout conical, its length about equal to eye diameter; eye large, about 4 times in head length; mouth rather small, maxilla elongated and sickle-shaped, its length/width ratio 3 to 4, not reaching to anterior eye margin; teeth conical, set in bands in both jaws; preopercle serrated at its hind edge; 15 to 17 gillrakers on first arch. Dorsal fin with 10 to 12 spines and 16 to 17 soft rays (rarely 15), with a scaly sheath at its base; anal fin with 3 spines and 9 or 10 soft rays, first spine very short, the second long; pectoral fin very long, almost reaching level of anus.

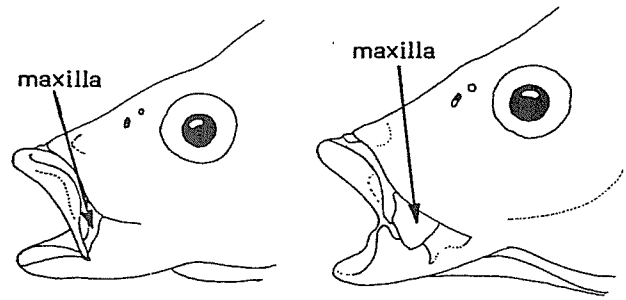
Colour: back silvery grey with a bluish cast, belly silvery; light brown spots (darker in preserved specimens) irregularly spread on back and sides. A dark blotch always present on upper angle of opercle. Dorsal fin membranes brown, darker along fin base and upper edge of spinous portion, with a light band running along midline of fin.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

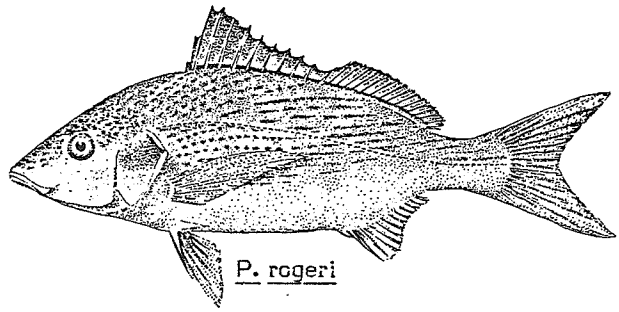
Pomadasys jubelini: maxilla very broad, its length/width ratio about 2 or less (3 to 4 in P. peroteti); spots on body dark brown (rather then beige) in living adults.

P. rogeri: body spots mainly arranged in oblique or horizontal rows; a yellow golden blotch present on snout; 2 small pores followed by a larger one on chin (only 2 pores in P. peroteti).

Other species of Pomadasyidae: body without small, rounded, dark brown spots. Furthermore, 12 or 13 anal soft rays in P. incisus (8 or 9 in P. peroteti); snout shorter than eye diameter in Brachydeuterus auritus and no median groove behind the pores on chin in Plectorhynchus and Parapristipoma species.



P. peroteti P. jubelini



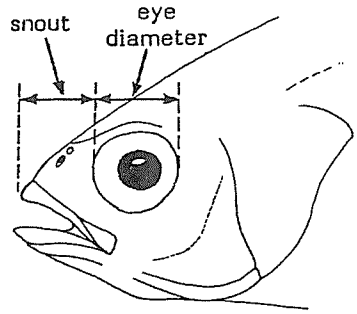
P. rogeri

SIZE:

Maximum: 23 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Common from Senegal to Angola. Inhabits coastal waters including brackishwater habitats.



B. auritus

PRESENT FISHING GROUNDS:

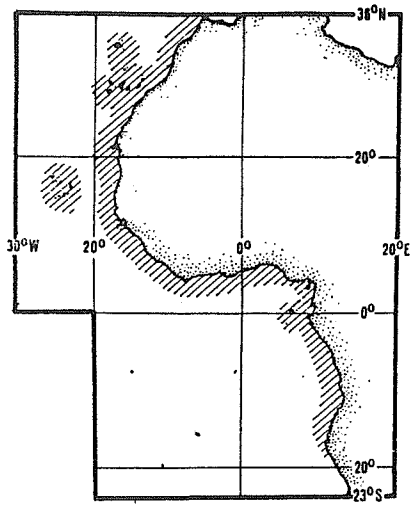
Coastal waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species; probably often confused with other Pomadasys species.

Caught with bottom trawls, purse seines and on line gear.

Marketed fresh and dried salted.



POMAD Pomad 8

1981

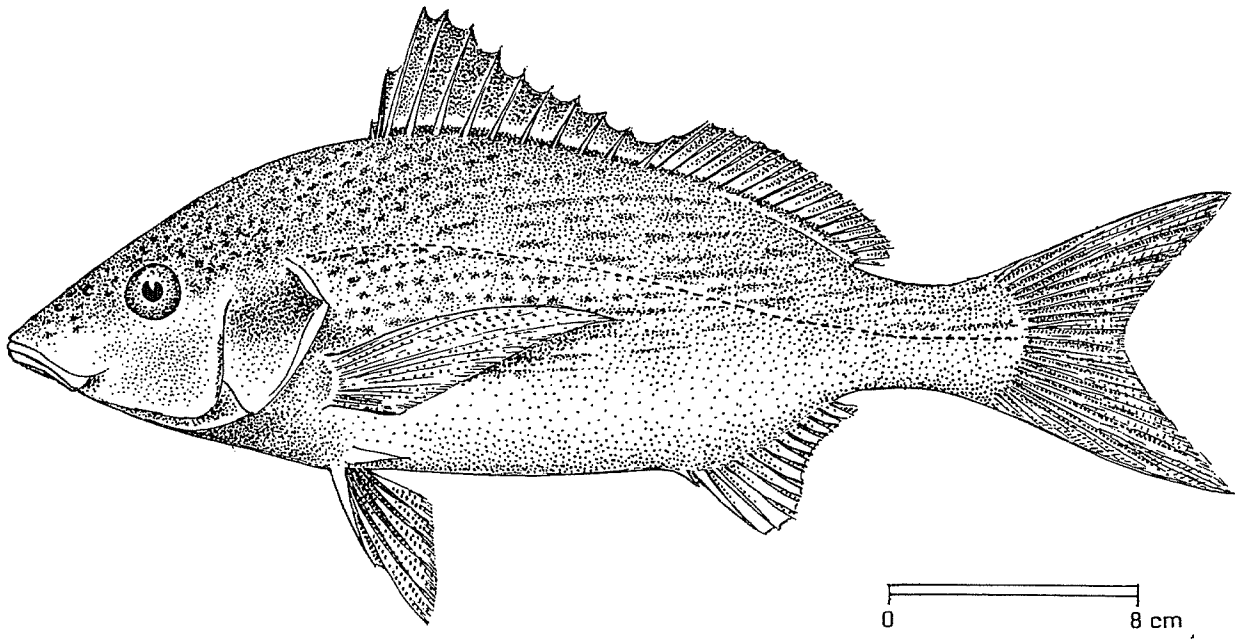
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : POMADASYIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Pomadasys rogeri (Cuvier, 1830)

OTHER SCIENTIFIC NAMES STILL IN USE : Pomadasys suillus (or P. suillum) (Valenciennes, 1833)



VERNACULAR NAMES:

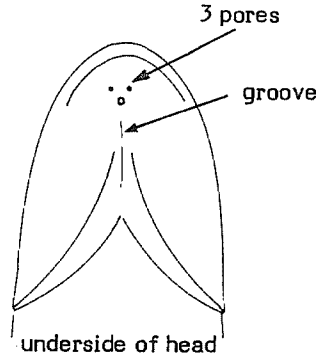
FAO : En - Pigsnout grunt
Fr - Grondeur nez de cochon
Sp - Ronco trompudo

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oblong and compressed, its depth contained 2.8 to 3 times in standard length. Head length about 3 times in standard length; snout long and pointed (its length 2 to 2.25 times the eye diameter); eye rather small (5 to 5.4 times in head length); mouth almost horizontal; chin with 3 pores (a pair of small pores preceding a larger median one) followed by a median groove; teeth conical, arranged in bands, those in outer band slithly larger; preopercle serrated posteriorly, the serrations stronger at angle; 14 or 15 gillrakers on first arch. Dorsal fin with 12 spines and 15 soft rays; anal fin with 3 spines, and 10 soft rays, the first spine very short, the second longer; caudal fin strongly emarginate. Scales ctenoid (rough to touch), 55 in lateral line.

Colour: background silvery; back and sides with small dark spots arranged in sinuous oblique or horizontal lines; fins grey, the dorsal with a light longitudinal band; a golden yellow blotch on snout.

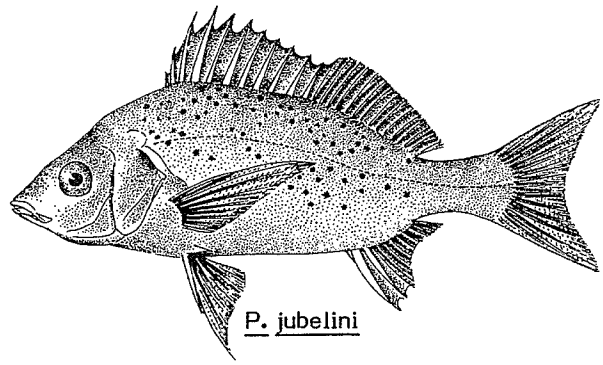


(schematic)

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Pomadasys jubelini and P. peroteti: spots on body arranged in an irregular pattern; no yellow blotch on snout.

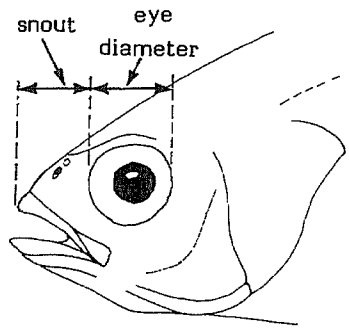
Other species of Pomadasyidae: small distinct spots on body and yellow blotch on snout absent. Furthermore, 12 or 13 soft anal fin rays in P. incisus (10 in P. rogeri), snout shorter than eye diameter in Brachydeuterus auritus, and no median groove behind the pores on chin in Plectorhynchus and Parapristipoma species.



P. jubelini

SIZE:

Maximum: 60 cm; common to 40 cm (about 0.9 kg).



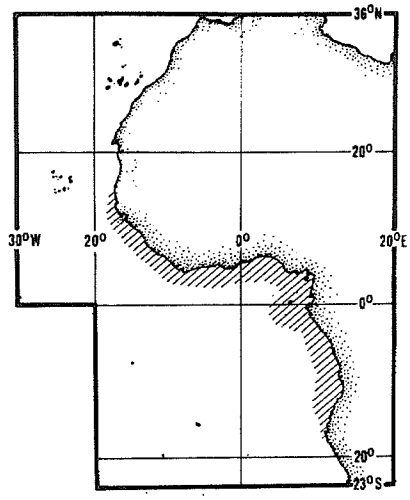
B. auritus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

West African coast from Senegal to Angola.

A bottom-living, but periodically pelagic species usually inhabiting littoral waters to about 25 m depth, but has been reported to extend down to about 90 m.

Feeds on crustaceans, worms and molluscs.



PRESENT FISHING GROUNDS:

Shallow waters throughout its range; locally abundant.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with pelagic and bottom trawls, beach seines and set nets.

Marketed mainly fresh; also dried salted.

POMAT

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

POMATOMIDAE

Bluefishes

A single species in the area*; see species sheet for:

Pomatomus saltatrix (Linnaeus, 1766) POMAT Pomat 1

Prepared by B.B. Collette, NMFS Systematics Laboratory, NOAA, National Museum of Natural History, Washington, D.C., U.S.A.

*Scombrops, Neoscombrops and Howella have been placed in this family by some authors (i.e. FAO Species Identification Sheets, Area 31) but are here considered under separate families

POMAT Pomat 1

1981

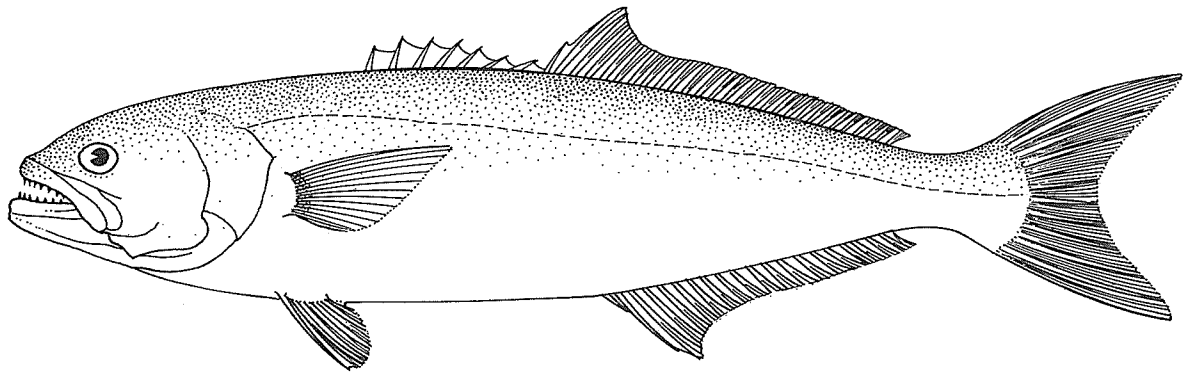
FAO SPECIES IDENTIFICATION SHEETS

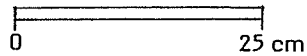
FAMILY : POMATOMIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Pomatomus saltatrix (Linnaeus, 1766)

OTHER SCIENTIFIC NAMES STILL IN USE : Pomatomus saltator (Linnaeus, 1766)
Temnodon saltator (Valenciennes, 1833)





VERNACULAR NAMES:

FAO : En - Bluefish
Fr - Tassergal
Sp - Anchova de banco

NATIONAL :

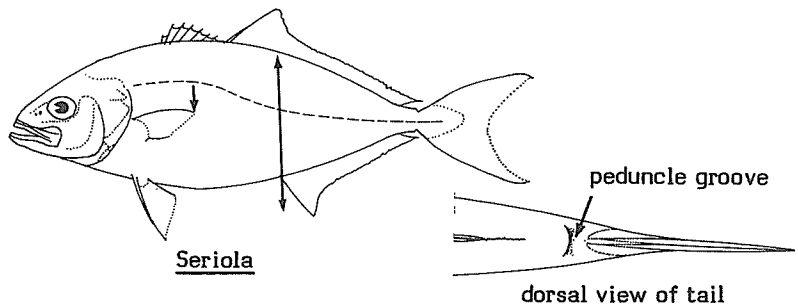
DISTINCTIVE CHARACTERS :

A large species with a sturdy, compressed body and large head. Mouth large, terminal, lower jaw sometimes slightly projecting; jaw teeth prominent, sharp, compressed, in a single series. Two dorsal fins, the first short and low, with 7 or 8 feeble spines connected by a membrane, the second long with 1 spine and 23 to 28 soft rays; pectoral fins short, not reaching to origin of soft dorsal fin; anal fin a little shorter than soft dorsal fin, with 2 spines and 23 to 27 soft fin rays; caudal fin forked, but not deeply so. Scales small, covering head and body and bases of fins; lateral line almost straight.

Colour: back greenish blue, sides and belly silvery; dorsal and anal fins pale green tinged with yellow; pectoral fins bluish at base; caudal fin dull greenish tinged with yellow.

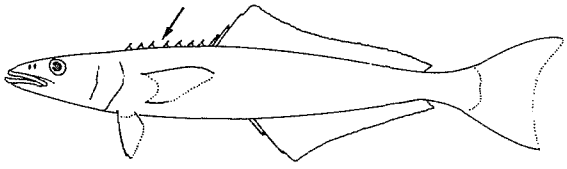
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Species of Carangidae: 2 detached spines in front of anal fin; teeth in jaws usually small to minute. Seriola is superficially similar but has dorsal and ventral grooves on caudal peduncle. Many other carangid species have scutes on lateral line and some (Decapterus, Elagatis, Oligoplites) have detached finlets behind dorsal and anal fins.

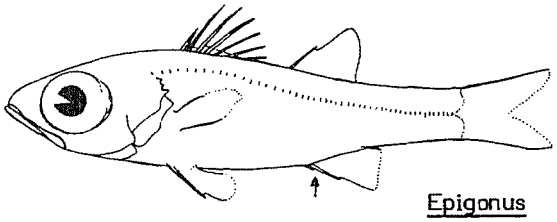


Rachycentron canadus: spines of dorsal fin short, isolated, not connected by a membrane; 2 silvery longitudinal stripes on sides.

Species of Apogonidae (specifically members of the genus Epigonus): anal fin with 2 spines and 9 soft rays; jaws lacking caniniform teeth.



Rachycentron



Epigonus

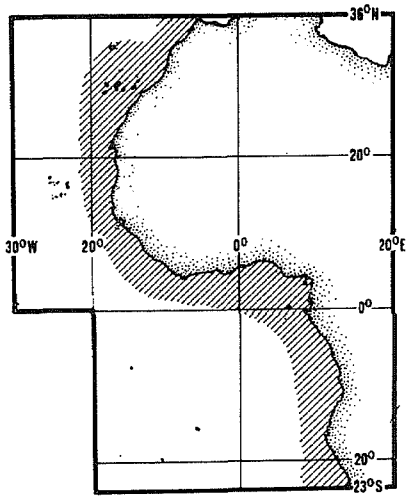
SIZE :

Maximum: 110 cm; common to 60 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the Eastern Atlantic found from Madeira, the Canary Islands, and Morocco; southward throughout the Gulf of Guinea to South Africa. Also found in the Western Atlantic, in the Mediterranean and in the Indo-West Pacific.

A powerful, swift fish, the young hunting in schools, the adults in loose groups, often attacking shoals of mullet or other fishes and destroying numbers apparently far in excess of feeding requirements.



PRESENT FISHING GROUNDS :

Coastal waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

The catch reported from Fishing Area 34 was 14 444 t in 1977 (Senegal: 10 577 t; U.S.S.R.: 3 051 t; Mauritania: 600 t).

Caught mainly with gillnets, lines and purse seines.

Marketed mostly fresh

PRIAC

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

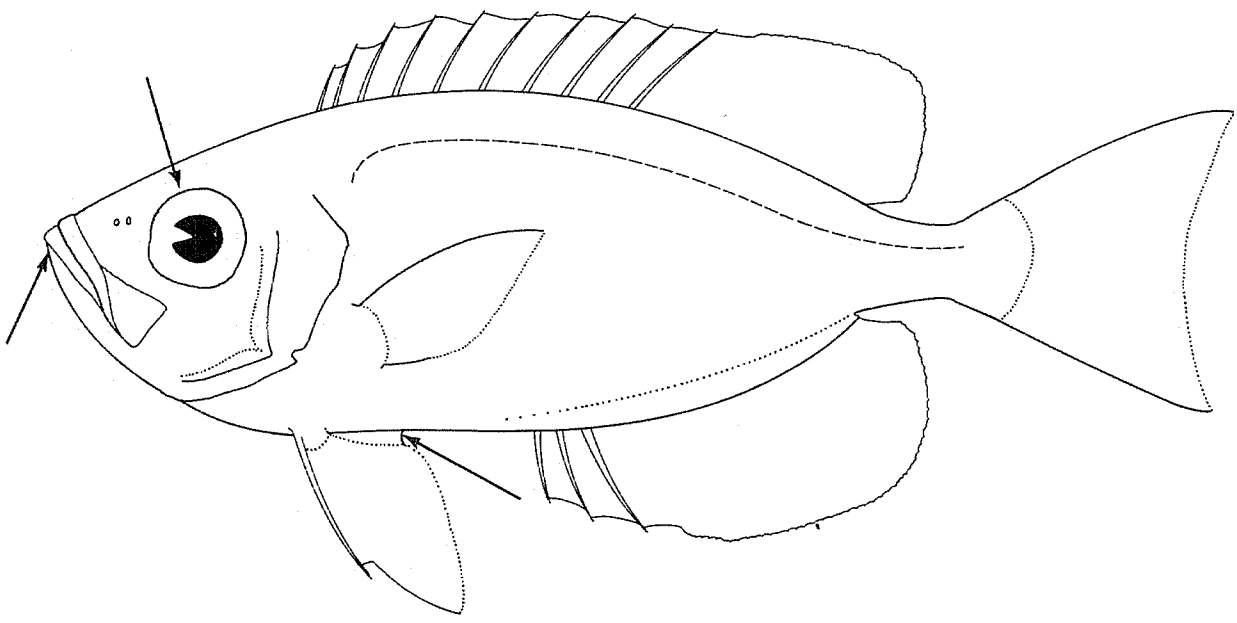
PRIACANTHIDAE

Bigeyes and glasseyes

Small to moderate-sized fishes with relatively deep, compressed bodies. Eyes very large, near dorsal profile of head; mouth large, strongly oblique, the lower jaw projecting; small conical teeth in a narrow band in jaws. A continuous dorsal fin of 10 spines and 10 to 15 soft rays, without a notch or only slightly notched between spinous and soft portions; anal fin with 3 spines and 9 to 16 soft rays; pelvic fins large, with 1 spine and 5 rays, inserted anterior to pectoral fins, and broadly joined to the body by a membrane; caudal fin with 16 principal rays (14 branched) varying from slightly emarginate to rounded. Scales small, ctenoid (rough to touch), completely covering head (including maxilla).

Colour: generally bright red, but some species can vary from pinkish silver through mottled red to solid red.

Bigeyes are bottom-dwelling, carnivorous fishes, primarily nocturnal but may feed by day. They eat mainly the larger elements of the zooplankton such as small fishes, crustaceans and polychaete worms. They are excellent foodfishes.

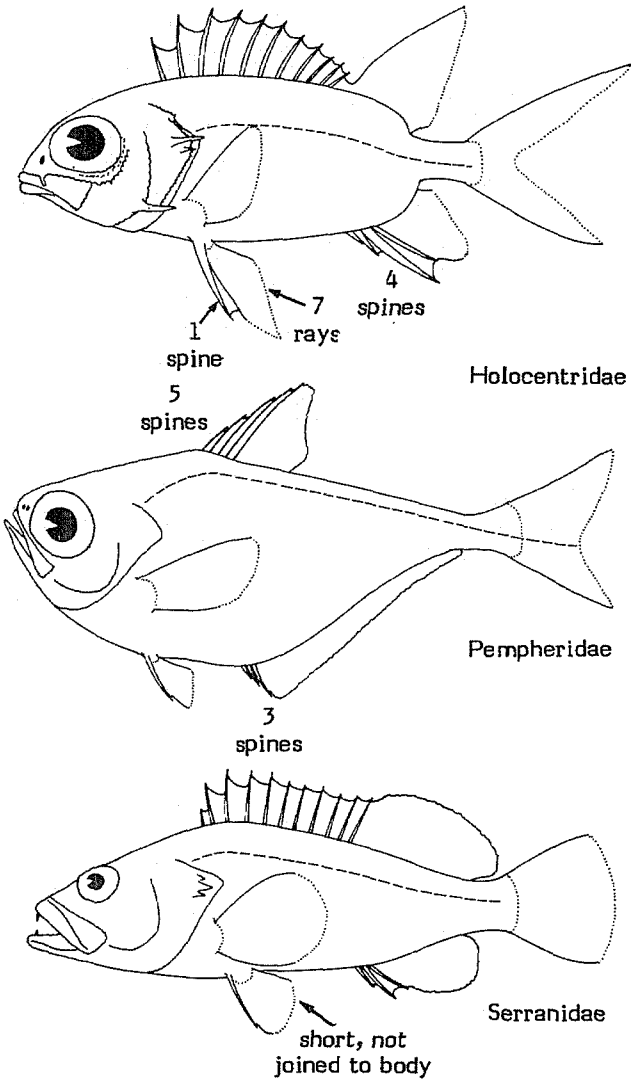


SIMILAR FAMILIES OCCURRING IN THE AREA:

Holocentridae: also red in colour and with large eyes, but readily distinguished from the Priacanthidae by their more coarsely ctenoid scales, their spinous head bones (except Myripristis) and the deeply forked caudal fin; also, pelvic fins with 1 spine and 7 rays (1 spine and 5 rays in Priacanthidae) and anal fin with 4 spines (3 in Priacanthidae).

Pempheridae: moderately compressed fishes with large eyes and coppery in colour, but dorsal fin short, with 4 or 5 spines and 8 or 9 soft rays (10 spines and 10 to 15 soft rays in Priacanthidae) and anal fin very long, with 3 spines and 22 to 35 soft rays (9 to 16 soft rays in Priacanthidae).

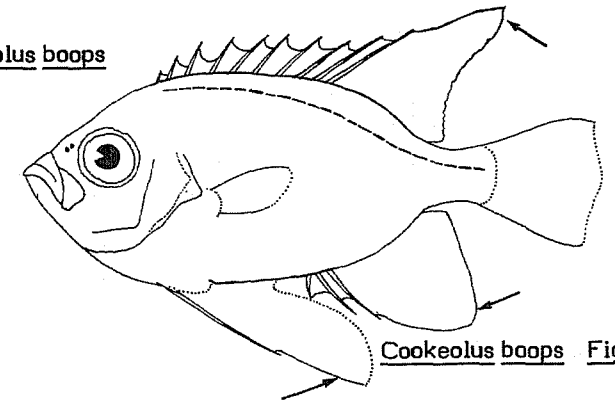
Serranidae: pelvic fins not very long (not reaching anal fin origin) and not joined by a membrane, the whole length of the inner ray, to the body; some teeth more or less developed as canines; body rarely as deep and compressed as in Priacanthidae; colour not bright red.



KEY TO SPECIES OCCURRING IN THE AREA:

1 a. Pelvic fins very large, notably longer than head; soft portions of dorsal and anal fins elevated (Fig. 1); dorsal soft rays 12 or 13; anal soft rays 12 or 13 ..... Cookeolus boops

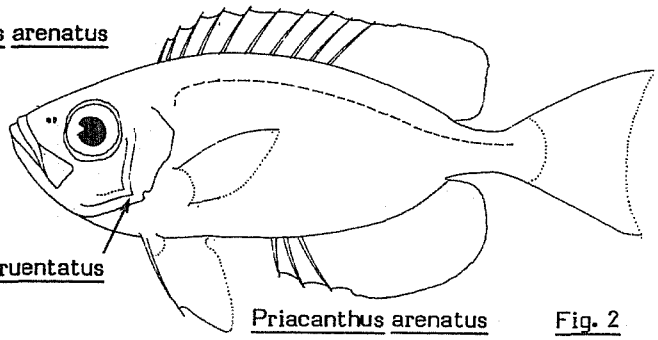
1 b. Pelvic fins shorter than head; soft portions of dorsal and anal fins not elevated (Figs 2,3); dorsal soft rays 13 or 14; anal soft rays 13 to 16



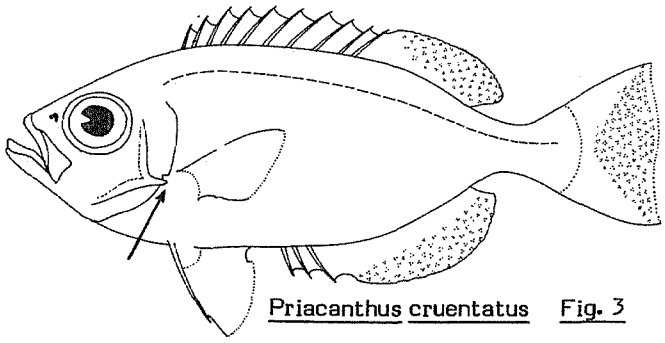
Cookeolus boops Fig.

2 a. Preopercular spine rudimentary in adults; striate portion of preopercle above and below base of spine scaled; pelvic fins about 1.1 to 1.3 times in head (Fig. 2); lateral-line scales 72 to 86; fins plain-coloured, except for a basal spot on pelvic fins ..... Priacanthus arenatus

2 b. Preopercular spine well developed in adults, striate portion of preopercle above and below base of spine scaleless or nearly so; pelvic fins about 1.5 or more times in head (Fig. 3); lateral-line scales 75 to 85; soft portions of dorsal, anal and caudal fins usually with small dusky spots ..... Priacanthus cruentatus



Priacanthus arenatus Fig. 2



Priacanthus cruentatus Fig. 3

LIST OF SPECIES OCCURRING IN THE AREA :

Code numbers are given for those species for which Identification Sheets are included

Cookeolus boops (Bloch & Schneider)

Priacanthus arenatus Cuvier, in Cuv. & Val., 1829	PRIAC Priac 1
Priacanthus cruentatus (Lacepède, 1802)	PRIAC Priac 2

Prepared by W.C. Starnes, Department of Zoology, University of Tennessee, Knoxville, Tennessee, U.S.A. (based on W.C. Atlantic identification sheets prepared by J.E. Randall)

PRIAC Priac 1

1981

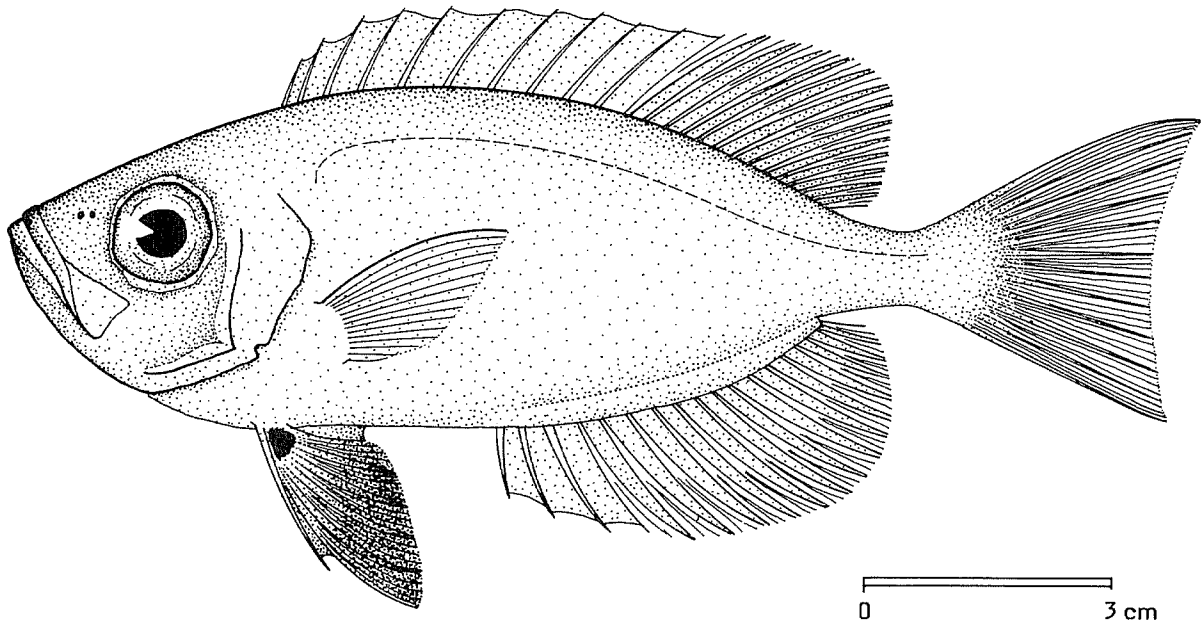
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : PRIACANTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Priacanthus arenatus Cuvier, in Cuv. & Val., 1829

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Atlantic bigeye
Fr - Beauclaire soleil
Sp - Catalufa toro

NATIONAL :

DISTINCTIVE CHARACTERS :

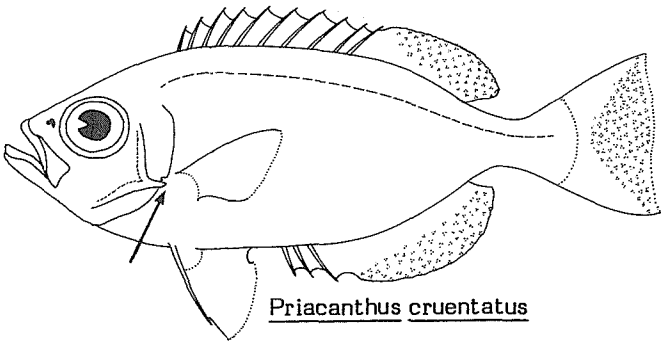
Body relatively deep (the depth contained 2.8 to 3.2 times in standard length) and compressed. Eyes very large; mouth large and oblique, the lower jaw strongly projecting, the maxilla nearly reaching a vertical at front edge of pupil; gill rakers on lower limb of first arch 21 to 23; spine at corner of preopercle very short in adults, variable in young; striate portion of preopercle above and below base of spine scaled; teeth small, conical, in a narrow band in jaws. Dorsal fin continuous, with 10 spines and 13 or 14 soft rays; pelvic fins moderately long, contained about 1.1 to 1.3 times in head length and broadly joined to the body by a membrane; caudal fin slightly emarginate. Scales small, ctenoid (rough to touch), 72 to 86 on lateral line.

Colour: uniform bright scarlet, the membranes of pelvic fins dusky to blackish, especially distally; a black spot present on dorsal side of pelvic fin near base.

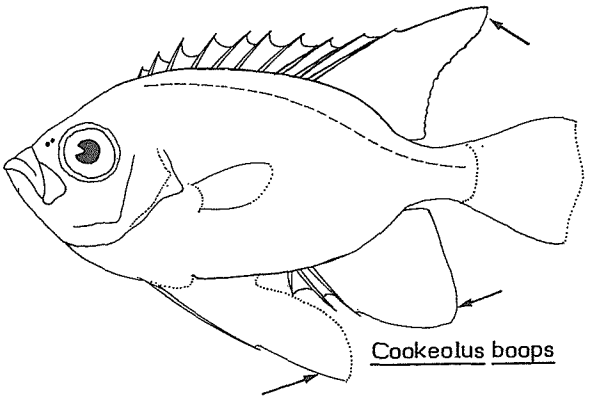
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Priacanthus cruentatus: pelvic fins lighter and shorter, contained 1.5 or more times in head (1.1 to 1.3 times in P. arenatus); spine at corner of preopercle well developed, reaching to vicinity of border of opercle; posterior portion of preopercle above and below spine scaleless or nearly so; lateral-line scales 75 to 85 (72 to 86 in P. arenatus); spots present on soft portions of dorsal and anal fins and on caudal fin.

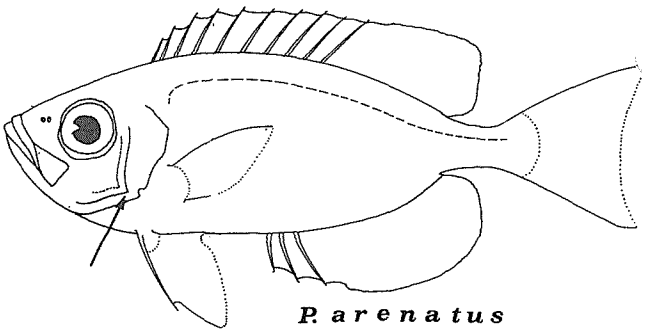
Cookeolus boops: body deeper, depth contained 2.1 or more times in standard length; soft portions of dorsal and anal fins very elevated; anal soft rays 12 or 13; pelvic fins very long, the head contained about 1.4 times in pelvic fin length; membranes of these fins blackish; caudal fin slightly rounded; occurs at depths of 180 m or more.



Priacanthus cruentatus



Cookeolus boops



P. arenatus

SIZE:

Maximum: 40 cm; common to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

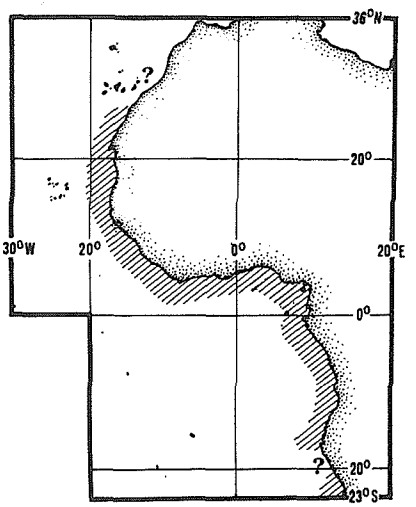
Presumably of at least sporadic occurrence throughout the coastal regions of Fishing Area 34, being common in some areas. Also occurs in the Western Atlantic and perhaps in the southwestern Indian oceans.

Common in tropical waters and straying into temperate regions. A denizen of coral reefs and rocky bottoms generally occurring at depths of 15 to 75 m (exceptionally to 200 m) in small aggregations near the bottom; primarily nocturnal.

Feeds mainly on small fishes, crustaceans and polychaetes.

PRESENT FISHING GROUNDS:

Central west coast of Africa *and perhaps incidentally throughout coastal regions of the area.*



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught on hook and line, in bottom trawls, set nets and traps.

Marketed mostly fresh, smoked or dried salted. An excellent food fish.

PRIAC Priac 2

1981

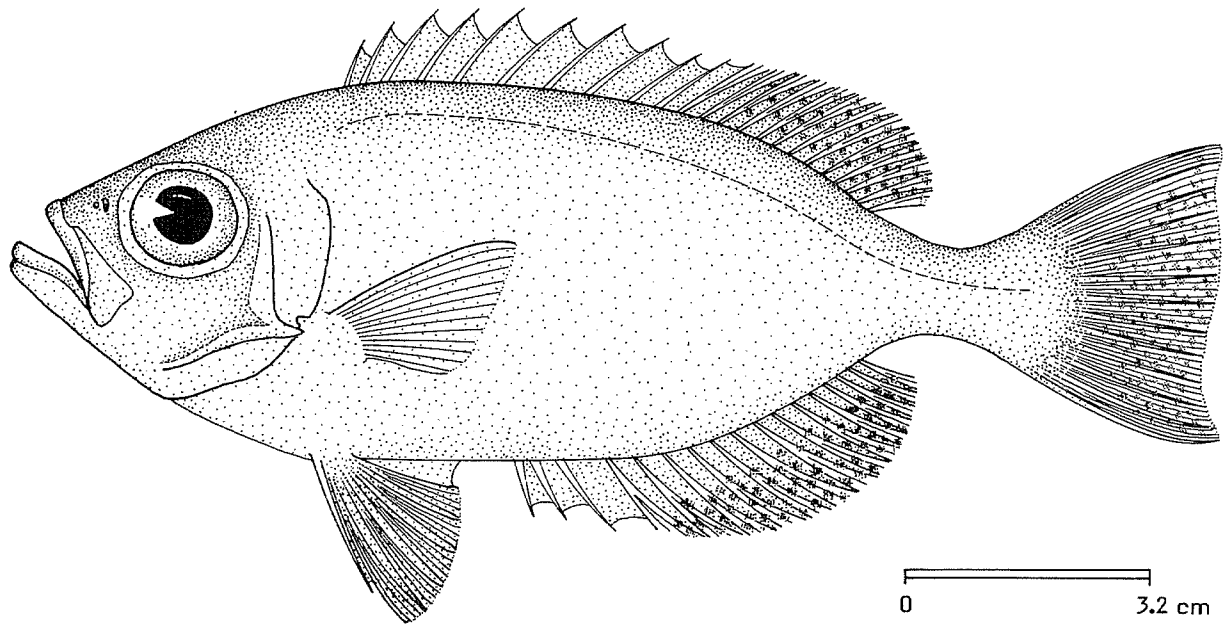
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : PRIACANTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Priacanthus cruentatus (Lacepède, 1802)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Glasseye
Fr - Beauclaire de roche
Sp - Catalufa de roca

NATIONAL :

DISTINCTIVE CHARACTERS :

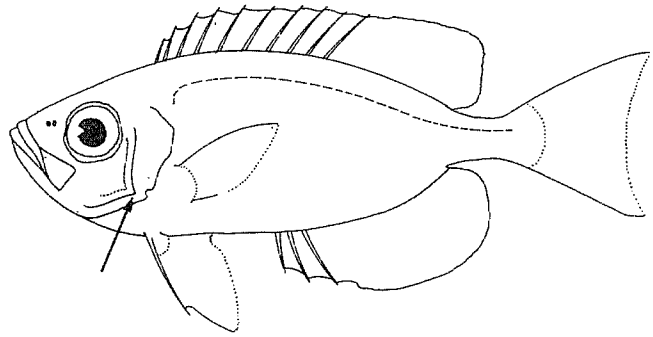
Body relatively deep (the depth contained 2.5 to 2.9 times in standard length) and compressed. Eyes very large; mouth large and oblique, the lower jaw strongly projecting, the maxilla reaching approximately to below front margin of pupil; gill rakers on lower limb of first arch 16 to 20; a well developed spine at corner of preopercle which nearly reaches the margin of opercle; striate posterior portion of preopercle above and below base of spine scaleless or nearly so; teeth small, conical, in a narrow band in jaws. Dorsal fin continuous, with 10 spines and 13 soft rays; anal fin with 3 spines and 13 or 14 soft rays; pelvic fins relatively short, contained about 1.5 times or more in head length and broadly joined to the body by a membrane; caudal fin may be slightly double emarginated in larger specimens. Scales small, ctenoid (rough to touch), 75 to 85 on lateral line.

Colour: varying from red to mottled silvery pink; small dusky spots usually appear on membranes of soft portions of dorsal and anal fins, and dash-like spots often appear on the caudal fin membrane.

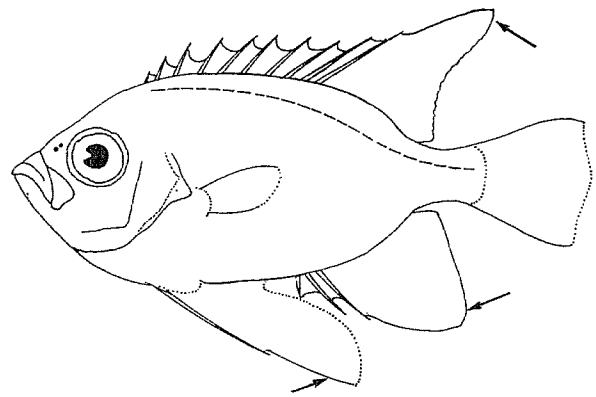
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Priacanthus arenatus: pelvic fins darker and longer, contained 1.1 to 1.3 times in head (1.5 times or more in P. cruentatus); spine at corner of preopercle very short in adults, variable in young; posterior portion of preopercle above and below spine well scaled; lateral-line scales 72 to 86 (75 to 85 in P. cruentatus); spots lacking on fins except for a basal dark spot on pelvic fins.

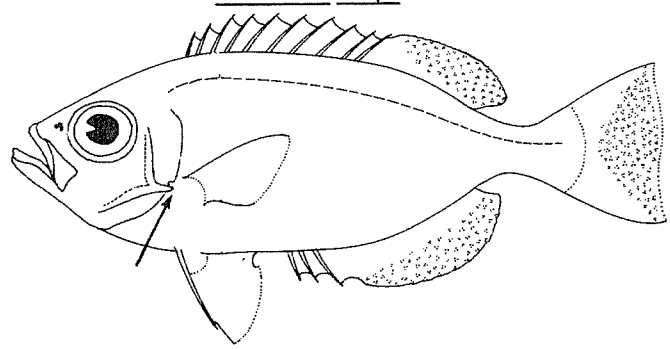
Cookeolus boops: body deeper, contained 2.1 or more times in standard length; soft portions of dorsal and anal fins very elevated; pelvic fins very long, the head contained about 1.4 times in pelvic fin length, membranes of these fins blackish; anal soft rays 12 or 13; caudal fin slightly rounded. Occurs at depths of 180 m or more.



Priacanthus arenatus



Cookeolus boops



SIZE:

Maximum: 30 cm; common to 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

A circumtropical species; presumably of at least sporadic occurrence throughout most of the coastal regions of Fishing Area 34.

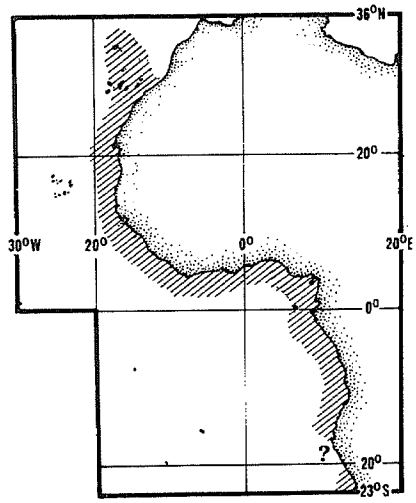
A shallow water species found on coral reefs and rocky bottoms, but reported to range to depths of 300 m. Solitary and primarily nocturnal.

Feeds mainly on small fishes (especially post-larvae) and the larger planktonic crustaceans and molluscs.

PRESENT FISHING GROUNDS:

Caught incidentally throughout its range.

P. cruentatus



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught primarily on hook and line, also in traps.

Marketed mostly fresh. Flesh of good quality.

PSET

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

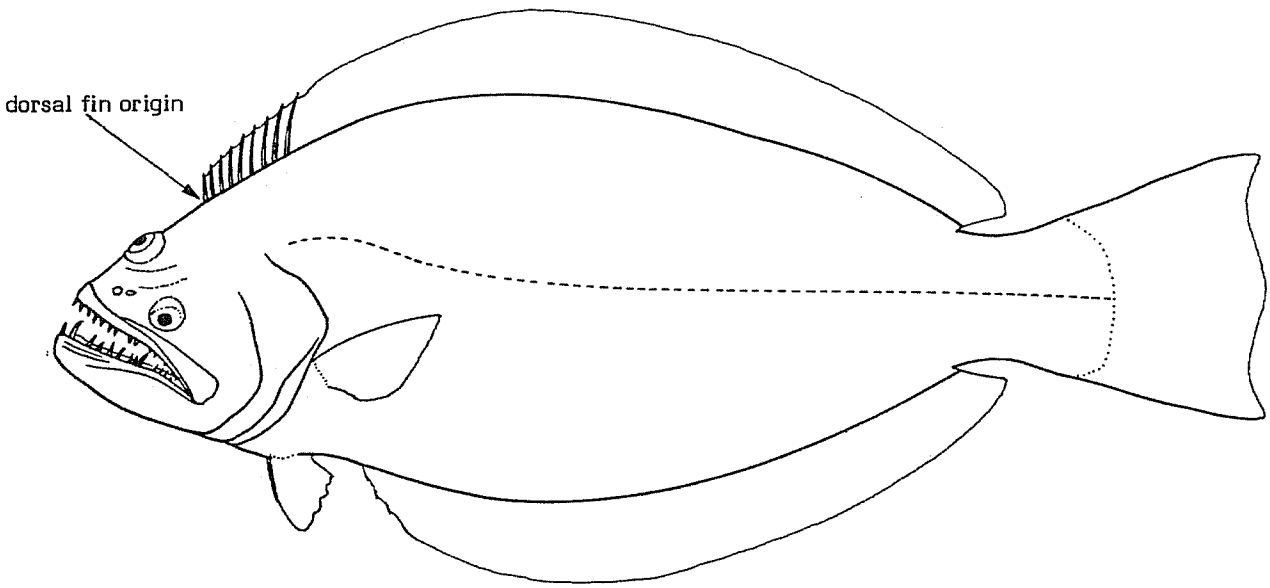
PSETTODIDAE

Spiny turbots

Flatfishes with both eyes either on left or on right side. Upper eye very close to dorsal edge; mouth large, with strong teeth. Dorsal fin origin well behind eyes; anterior dorsal fin rays spinous; pelvic fins with 1 spine and 5 soft rays.

Colour: eyed side brownish, often with irregular darker spots and blotches. Blind side usually pale.

These bottom-living flatfishes are voracious predators. They are caught mainly in trawls on the continental shelf and often seen in markets, but do not seem to be abundant enough to support a special fishery.



SIMILAR FAMILIES OCCURRING IN THE AREA:

Other flatfish families: dorsal fin always without spiny rays and beginning at or before level of eyes. Furthermore, no pelvic fin spines in Bothidae, Cynoglossidae, Pleuronectidae and Soleidae.

GENERA AND SPECIES OCCURRING IN THE AREA:

The Psettodidae include only one genus, Psettodes, with three species, two of which occur in the area:

Psettodes belcheri Bennett, 1831	PSET Pset 2
Psettodes bennetti Steindachner, 1870	PSET Pset 3

Prepared by J. Nielsen, Zoologisk Museum, Copenhagen, Denmark

PSET Pset 2

1981

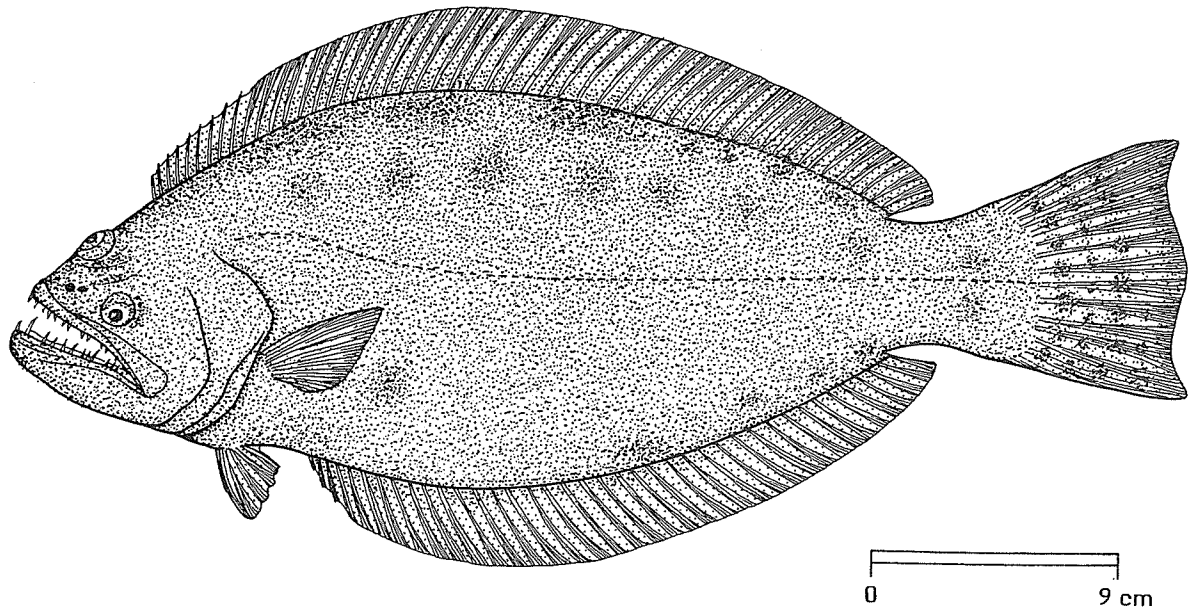
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : PSETTODIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Psettodes belcheri Bennett, 1831

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Spottail spiny turbot
Fr - Turbot épineux tacheté
Sp - Lenguado espinudo de altura

NATIONAL :

DISTINCTIVE CHARACTERS :

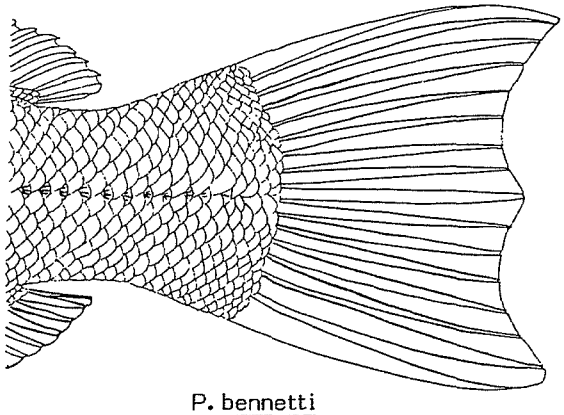
Body oval and flat, but thicker than in most other flatfishes. Upper eye very close to dorsal edge; mouth large with strong teeth. Dorsal fin originating well behind eyes; pelvic fins with 1 spine and 5 soft rays. Lateral line almost straight. Scales 28 to 32 around caudal peduncle.

Colour: eyed side brownish with spots and blotches; blind side most often pale. Many large, dark spots on caudal fin.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Psettodes bennetti: no large, dark spots on caudal fin; 34 to 43 scales around caudal peduncle (28 to 32 in P. belcheri).

Species of other flatfish families: dorsal fin always without spinous rays and beginning at or before level of eye. Furthermore, no pelvic fin spine in Bothidae, Cynoglossidae, Pleuronectidae and Soleidae.



P. bennetti

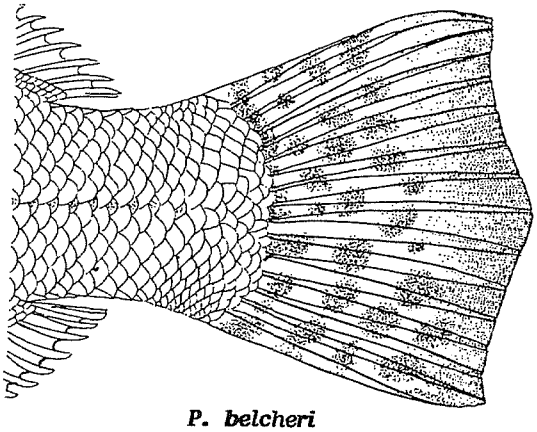
SIZE:

Maximum: 60 cm; common to 45 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

West African coast from Guinea (about 10°N) to Angola (about 17°S) (but possibly extending further north, including the Canary Islands).

Inhabits sand and rock bottoms from the coastline to at least 150 m depth.



P. belcheri

PRESENT FISHING GROUNDS:

Caught throughout its range, but apparently nowhere abundant.

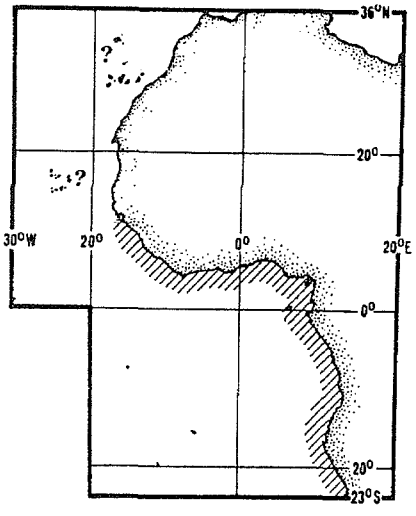
CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls, castnets and other artisanal gear.

Marketed fresh, smoked, and dried salted; also used occasionally for fishmeal and oil.

caudal fin



PSET Pset 3

1981

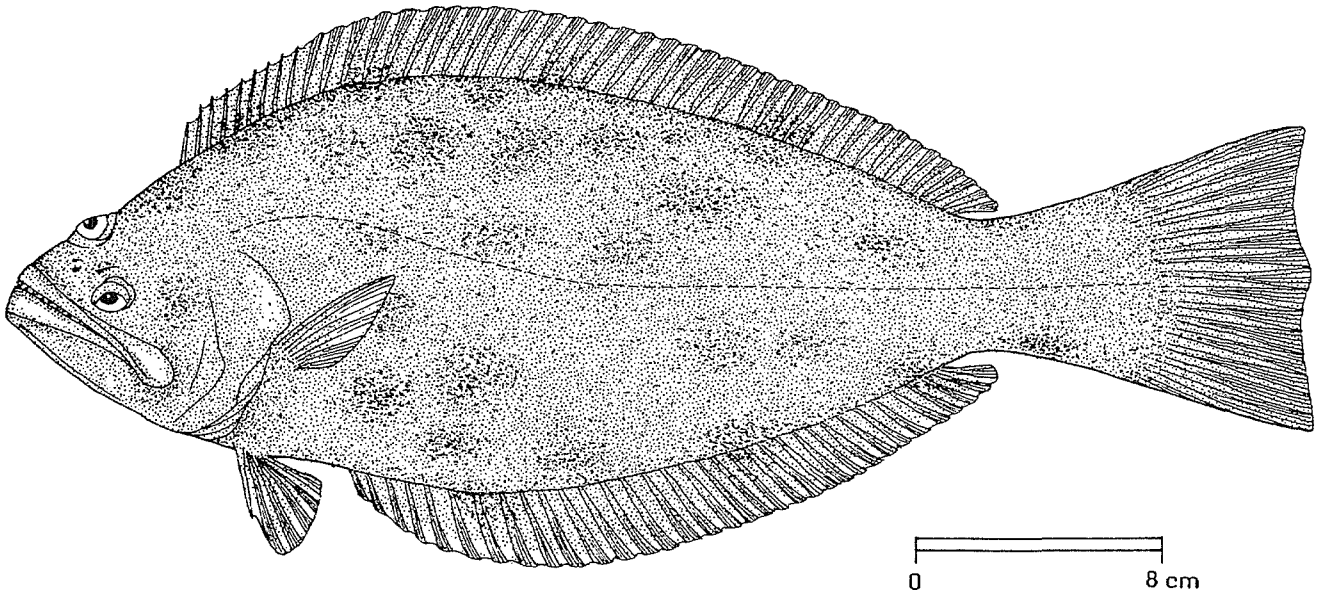
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : PSETTODIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Psettodes bennetti Steindachner, 1870

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Spiny turbot
Fr - Turbot épineux
Sp - Lenguado espinudo

NATIONAL :

DISTINCTIVE CHARACTERS :

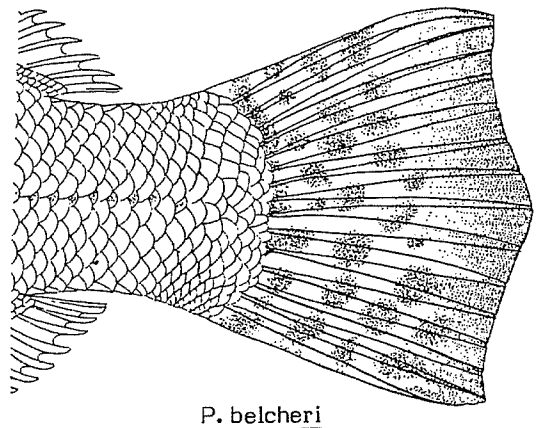
Body oval and flat, but thicker than in most other flatfishes. Upper eye very close to dorsal edge; mouth large, with strong teeth. Dorsal fin originating well behind eyes; pelvic fins with 1 spine and 5 soft rays. Lateral line almost straight. Scales 34 to 43 around caudal peduncle.

Colour: eyed side brownish with spots and blotches; blind side usually uniformly pale. Caudal fin without dark spots.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Psettodes belcheri: many large, dark spots on caudal fin; 28 to 32 scales around caudal peduncle (34 to 43 in P. bennetti).

Species of other flatfish families: dorsal fin always without spinous rays and beginning at or before level of eye. Furthermore, no pelvic fin spine in Bothidae, Cynoglossidae, Pleuronectidae and Soleidae.



P. belcheri

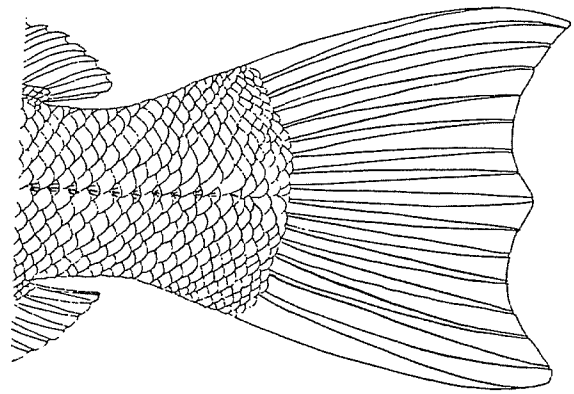
SIZE:

Maximum: 50 cm; common to 40 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

West African coast from Sahara (about 25°N) to Guinea (about 10°N), possibly including the Canary Islands.

Inhabits sand and rock bottoms from about 15 to at least 50 m depth.



P. bennetti

caudal fin

PRESENT FISHING GROUNDS:

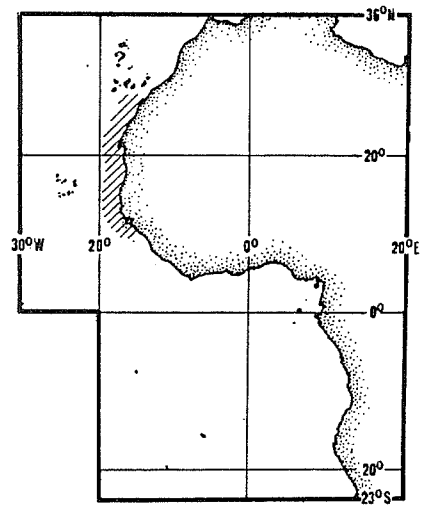
Caught throughout its range but apparently nowhere abundant.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls and several types of artisanal gear.

Marketed fresh, smoked and dried salted; also used for fishmeal and oil.



RACH

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

RACHYCENTRIDAE

Cobias

A single species in the area; see species sheet for:

Rachycentron canadum (Linnaeus, 1766) RACH Rach 1

Prepared by B.B. Collette, NMFS Systematics Laboratory, NOAA, National Museum of Natural History, Washington, D.C., U.S.A.

RACH Rach 1

1981

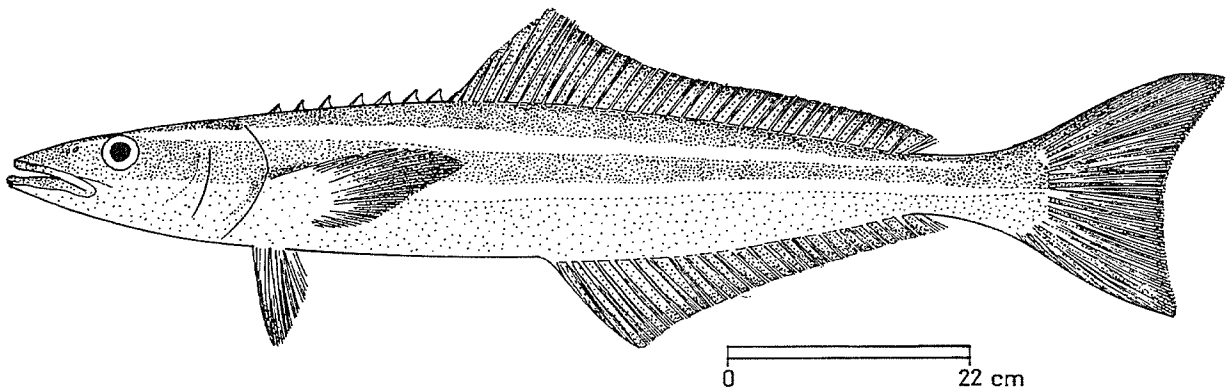
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : RACHYCENTRIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Rachycentron canadum (Linnaeus, 1766)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Cobia
Fr - Mafou
Sp - Cobia

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate, subcylindrical; head broad and depressed. Mouth large, terminal, with projecting lower jaw; villiform teeth in jaws and on roof of mouth and tongue. First dorsal fin with 7 to 9 (usually 8) short but strong isolated spines, not connected by a membrane; second dorsal fin long, anterior rays somewhat elevated in adults; pectoral fins pointed, becoming more falcate with age; anal fin similar to dorsal, but shorter; caudal fin lunate in adults, upper lobe longer than lower (caudal fin rounded in young, the central rays much prolonged). Scales small, embedded in thick skin; lateral line slightly wavy anteriorly.

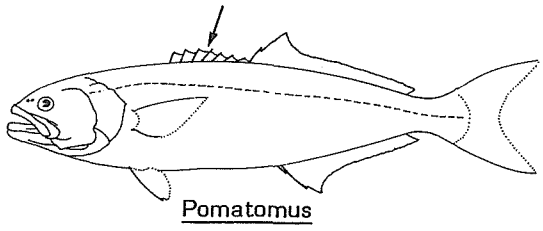
Colour: back and sides dark brown, with 2 sharply defined narrow light bands; belly yellowish.

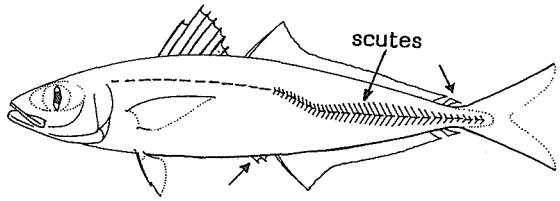
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Pomatomus saltator: spines of dorsal fin connected by a membrane; also, body and head deeper and no stripes on sides; teeth large and very sharp.

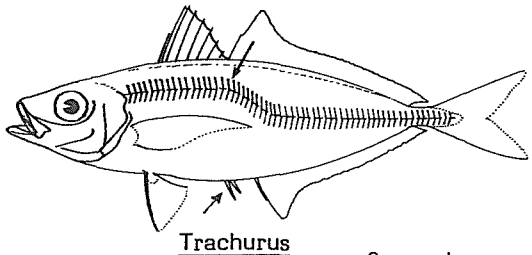
Echeneidae species: first dorsal fin modified into a sucking disc of 9 to 28 lamellae.

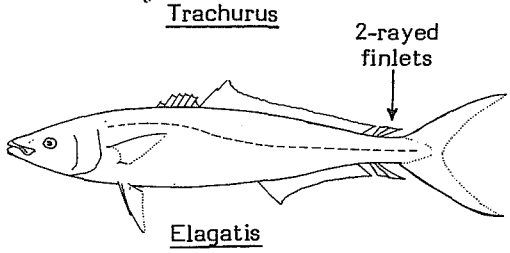
Species of Carangidae: usually, 2 detached spines visible in front of anal fin; also, distinctly elongate carangid species have either scutes on lateral line (Decapterus, Trachurus) or detached finlets behind dorsal and anal fins (Decapterus, Elagatis).


Pomatomus



Decapterus


Trachurus



Elagatis

SIZE:

Maximum: 200 cm; common to 110 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Throughout the area. Worldwide in warm seas except for the Eastern Pacific.

Pelagic, but also found over shallow coral reefs and off rocky shores, occasionally in estuaries.

Feeds on crabs, squids and fishes.

PRESENT FISHING GROUNDS:

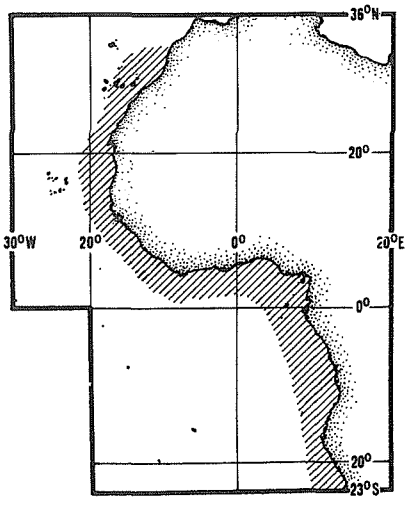
Throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with handlines and bottom trawls.

Marketed mostly fresh, flesh wholesome.



SCAR

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

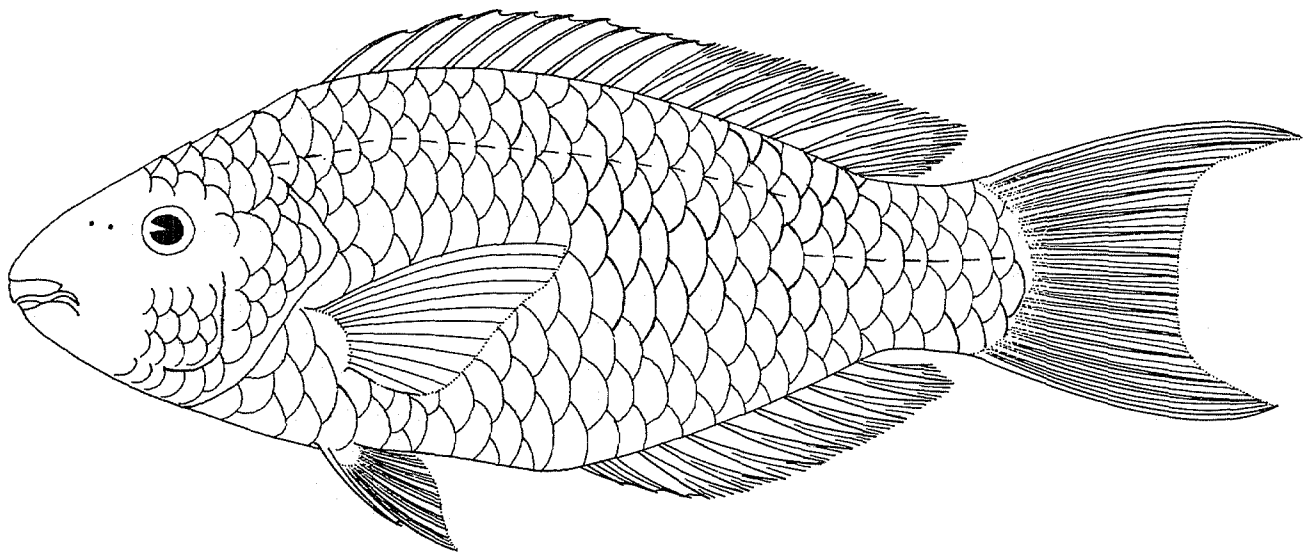
SCARIDAE

Parrotfishes

Body oblong, moderately compressed, the head generally bluntly rounded anteriorly. Teeth partially or completely fused to form a pair of beak-like plates in each jaw; upper pharyngeal bone with rows of molariform teeth on a convex surface which bear against comparable teeth on the concave surface of lower pharyngeal bone. A continuous dorsal fin with 9 slender spines and 10 soft rays; anal fin with 3 spines and 9 soft rays; caudal fin varying from rounded to lunate, the shape often changing with age. Scales large, cycloid (smooth to touch), 22 to 24 in lateral line; fins without scales except for a basal row on median fins of most species.

Colour: most species are very colourful and many exhibit striking sexual dichromatism. Initial-phase fish (only females in some species but either sex for others) are generally more drab (usually brown, reddish or grey). Terminal fish are males, usually the result of sex reversal; they are often more gaudily coloured, often with green the dominant hue.

Small to medium-sized (maximum size in the Eastern Central Atlantic about 60 cm) herbivorous fishes. They are found in relatively shallow water, their depth distribution being restricted by the occurrence of the various benthic algae or seagrass that comprise their food. They are caught mainly in traps and gillnets. The family is of relatively little commercial importance in the Eastern Atlantic.



SIMILAR FAMILIES OCCURRING IN THE AREA:

None. The beak-like jaws of the Scaridae, coupled with other features such as their large cycloid scales, preclude their being confused with any other family. They bear some resemblance to the Labridae from which they have evolved, but the individual canine teeth of labrid fishes readily separates them from the parrotfish family.

an example of labrid dentition

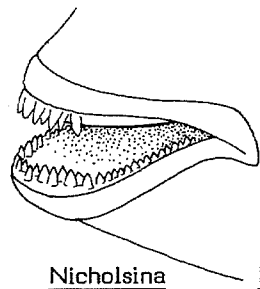
KEY TO GENERA OCCURRING IN THE AREA:

1 a. Teeth united only basally (incisor-like teeth evident outside at front of jaws) (Fig. 1), the jaws not overlapping at front when closed ..... Nicholsina

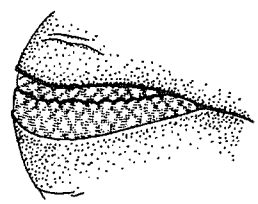
1 b. Teeth fully coalesced to form beak-like jaws (Figs. 2 and 3) which overlap anteriorly when closed

2 a. Upper dental plates included within the lower when mouth is closed (Fig. 2); edge of dental plates crenulate and outer surface nodular; dorsal spines pungent (sharp-tipped); one row of scales on cheek ..... Sparisoma

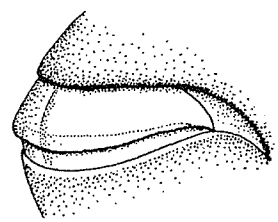
2 b. Lower dental plates included within the upper when mouth is closed (Fig. 3); edge and outer surface of dental plates relatively smooth; dorsal spines flexible; three rows of scales on cheek ..... Scarus



Nicholsina Fig. 1



Sparisoma Fig. 2



Scarus Fig. 3

LIST OF SPECIES OCCURRING IN THE AREA:

Code numbers are given for those species for which Identification Sheets are included

Nicholsina usta (Valenciennes, in Cuv. & Val., 1839)	SCAR Nich 1
Scarus hoefleri (Steindachner, 1882)	SCAR Scar 7
Sparisoma cretense (Linnaeus, 1758)	SCAR Spari 5
Sparisoma rubripinne (Valenciennes, in Cuv. & Val., 1839)	SCAR Spari 3
Sparisoma strigatum (Günther, 1862)	

Prepared by J.E. Randall, B.P. Bishop Museum, Honolulu, Hawaii, U.S.A.

Pellegrin (1913, 1914) listed Scarus guacamaia from Conakry, Guinea. His specimen was sent on loan from the Museum National d'Histoire Naturelle in Paris: it proved to be Scarus hoefleri. Osorio (1895, 1898) recorded Sparisoma radians from Annobon Island. His descriptive data are not diagnostic for this species. None of his material is extant (see account of distruction of fish collection by fire at Museum Bocage, Lisbon, Copeia, 1978, No. 4, p. 739). Until specimens of this Western Atlantic species are positively identified from the Eastern Atlantic, Osorio's record must be regarded as doubtful. Blache, et al. (1970) listed the scarid genus Cryptotomus from the tropical African Atlantic. For the Scaridae they state that they follow Bauchot & Blanc (1961); however, these authors do not report Cryptotomus from the area. Probably the Blache record was from Cadenat (1950) who listed Cryptotomus sp. from Senegal and Sierra Leone. Cadenat noted that the teeth of this species are united only basally. He stated that it has probably been called Sparisoma radians in error. Actually, it is more likely that the Eastern Atlantic records of both S. radians and Cryptotomus represent misidentifications of Nicholsina usta

SCAR Nich 1

1981

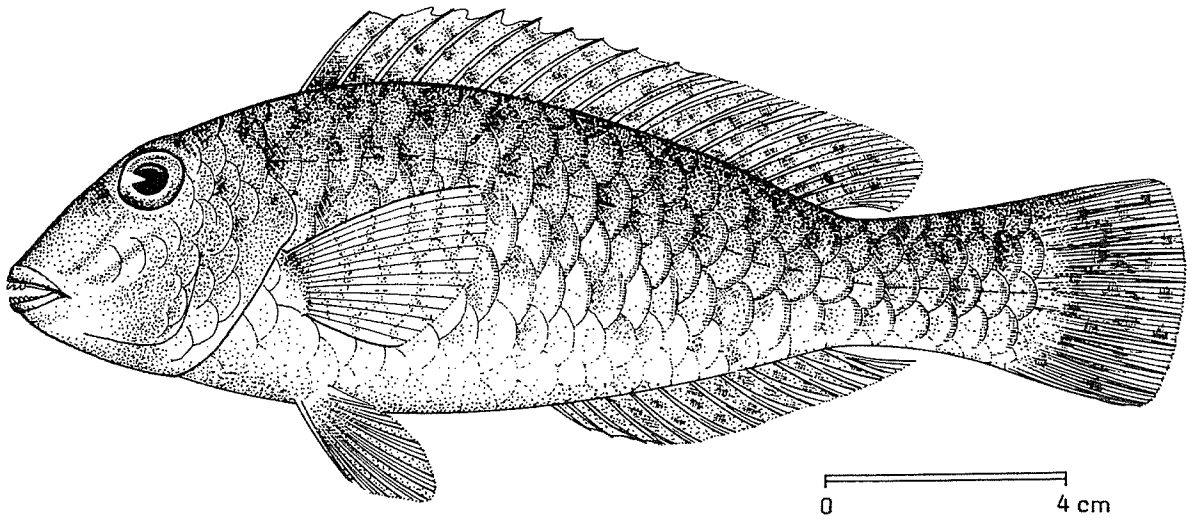
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCARIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Nicholsina usta (Valenciennes, in Cuv. & Val., 1839)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Emerald parrotfish
Fr - Perroquet émeraude
Sp - Loro jabonero

NATIONAL :

DISTINCTIVE CHARACTERS :

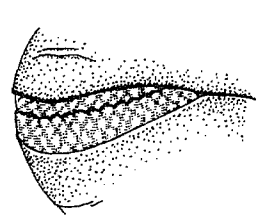
Body somewhat elongate, the depth contained 3 to 3.2 times in standard length. Interorbital space slightly convex; a small dermal cirrus at edge of anterior nostril; snout somewhat pointed; teeth fused only basally, thus not fully coalesced to form dental plates (external incisiform teeth visible at front of jaws); gill membranes with a free fold across isthmus. Dorsal fin spines flexible; pectoral fin rays 13; caudal fin slightly rounded. Median predorsal scales 4; one row of scales on cheek.

Colour: mottled brown on back, shading to paler on sides and ventrally, the scales darker at edges than in centres; some dark pigment basally on first two interspinous rays of dorsal fin. Colour in life of Eastern Atlantic subspecies, Nicholsina usta colletti Schultz, not recorded.

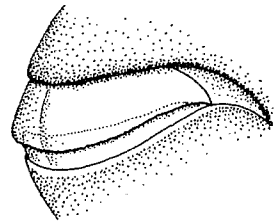
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Sparisoma species: teeth fully fused to form dental plates; gill membranes without a free fold across isthmus (free fold present on Nicholsina); dorsal spines pungent.

Scarus hoefleri: teeth fully fused to form dental plates; three rows of scales on cheek; 7 median predorsal scales (4 on Nicholsina).



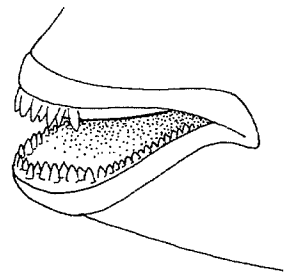
Sparisoma species



Scarus species

SIZE:

Maximum: possibly to 28 cm; common to 18 cm.



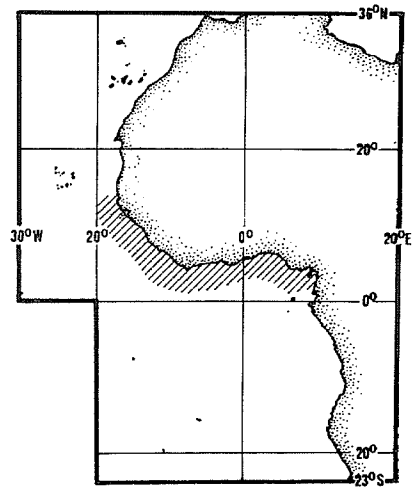
Nicholsina

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Recorded so far only from the coast of Guinea. However, records of Cryptotomus species from Senegal and Sierra Leone and of Sparisoma radians from Annobon Island were probably this species.

The preferred habitat of the Western Atlantic subspecies appears to be seagrass beds. The specimens from Guinea were collected from 20 to 50 m.

Probably herbivorous.



PRESENT FISHING GROUNDS:

Probably taken in artisanal fisheries.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

The only known specimens in museums were taken by trawling, but traps and gillnets would also be effective means of capture.

Local utilization as food probable but no data available.

SCAR Scar 7

1981

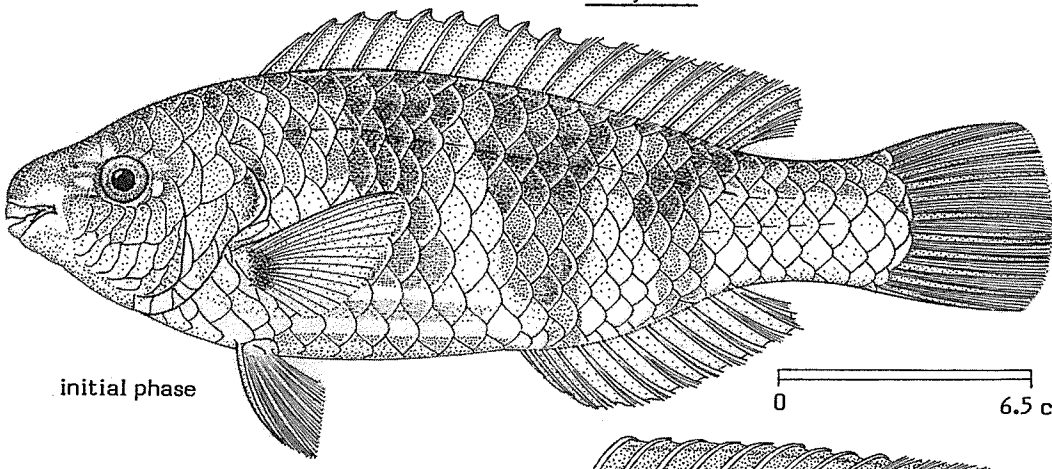
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCARIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

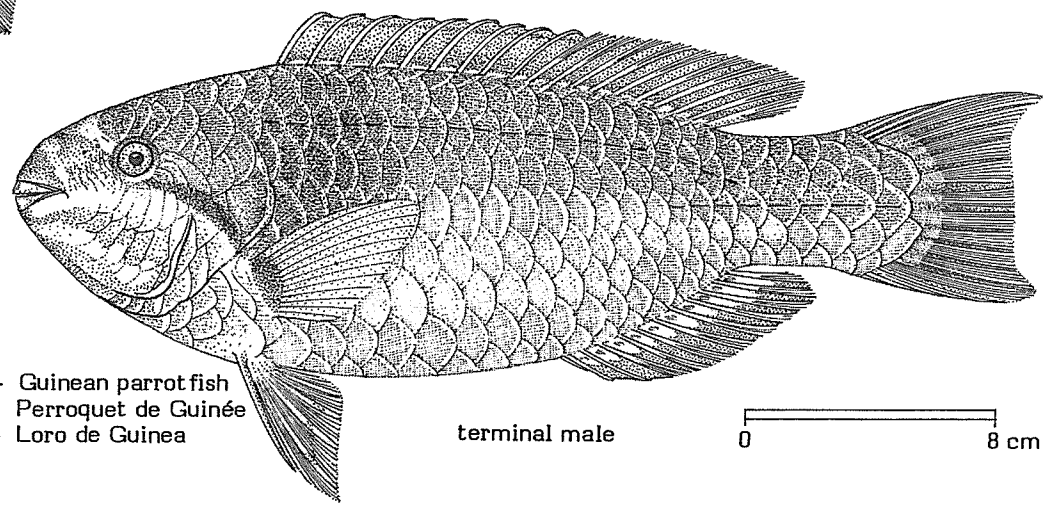
Scarus hoefleri (Steindachner, 1882)

OTHER SCIENTIFIC NAMES STILL IN USE : None, but sometimes in the invalid genera Pseudoscarus or Callyodon



initial phase

0 6.5 cm



terminal male

0 8 cm

VERNACULAR NAMES:

FAO : En - Guinean parrotfish
Fr - Perroquet de Guinée
Sp - Loro de Guinea

NATIONAL :

DISTINCTIVE CHARACTERS :

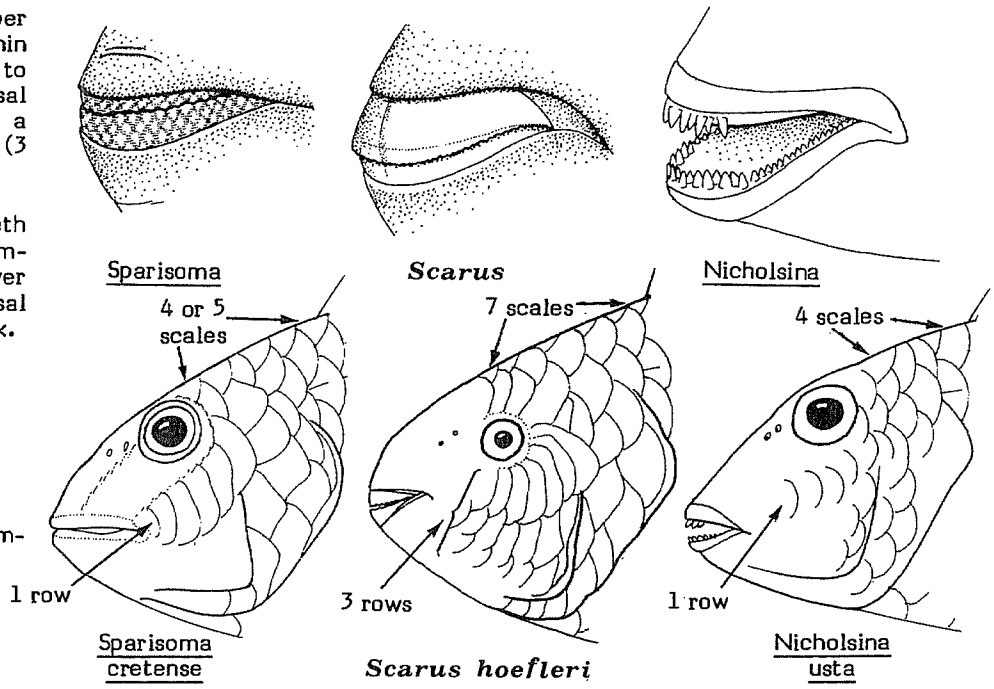
Depth of body contained about 2.7 to 3 times in standard length. Interorbital space very convex. Teeth fully fused to form a pair of beak-like plates in each jaw, the upper plates slightly overlapping the lower when mouth is closed. Dorsal spines flexible; pectoral fin rays 14; caudal fin of initial phase rounded, of terminal phase emarginate. Median predorsal scales 7; 3 rows of scales on cheek, the lowermost consisting of 2 or 3 (usually 2) scales.

Colour: initial-phase fish have three irregular dark bars on the body, two faint pale stripes on abdomen, and a dark spot at pectoral base. Terminal males are greenish, the bases of most of the scales light rose red; snout deep grass-green crossed dorsally by 2 diagonal red bands, one passing from eye to eye and the other nearly linking corners of mouth; upper lip yellowish; dental plates blue-green; a transverse red band on chin; cheeks red; a blackish violet streak passing from eye to pectoral base; dorsal fin reddish; anal fin light grey-green basally, the outer half reddish; caudal dark greenish grey with a reddish yellow medial bar.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Sparisoma species: upper dental plates included within lower when jaws are closed; 4 to 5 (rarely 6) median predorsal scales (7 in Scarus hoefleri); a single row of scales on cheek (3 in Scarus hoefleri).

Nicholsina usta: teeth fused only basally; gill membranes with a free fold over isthmus; 4 median predorsal scales; 1 row of scales on cheek.



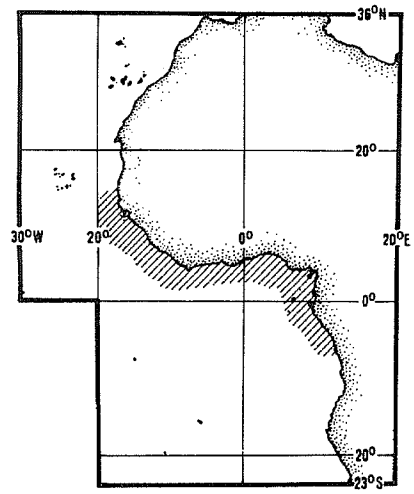
SIZE:

Maximum: 60 cm; common to 40 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Tropical Eastern Atlantic from Senegal through the Gulf of Guinea to Pointe Noire, Congo.

Occurs in rocky areas along the coast.



PRESENT FISHING GROUNDS:

Caught incidentally throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Evidently not often caught; probably taken mainly in traps and by gill netting, but also in trawls and drift nets.

Probably marketed fresh. Consumption of this species reported to be forbidden in Nigeria and Ivory Coast.

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1981

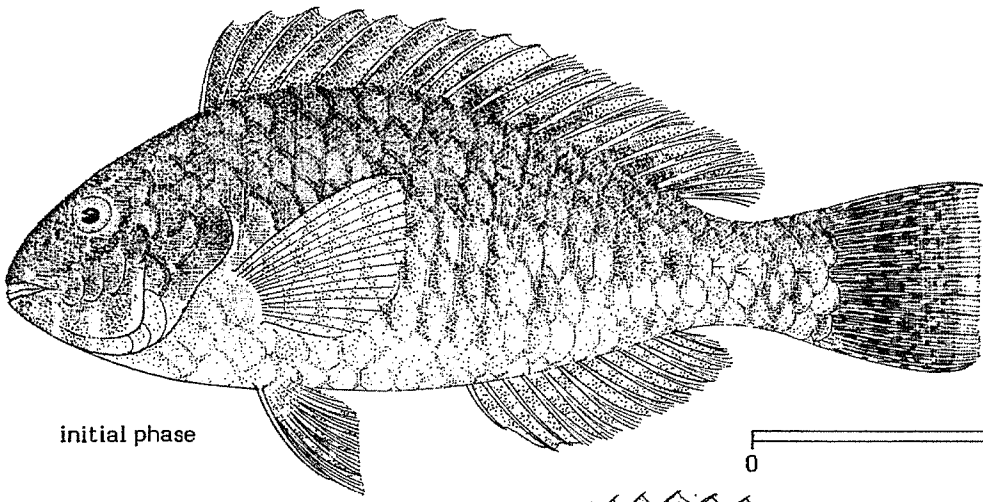
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCARIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

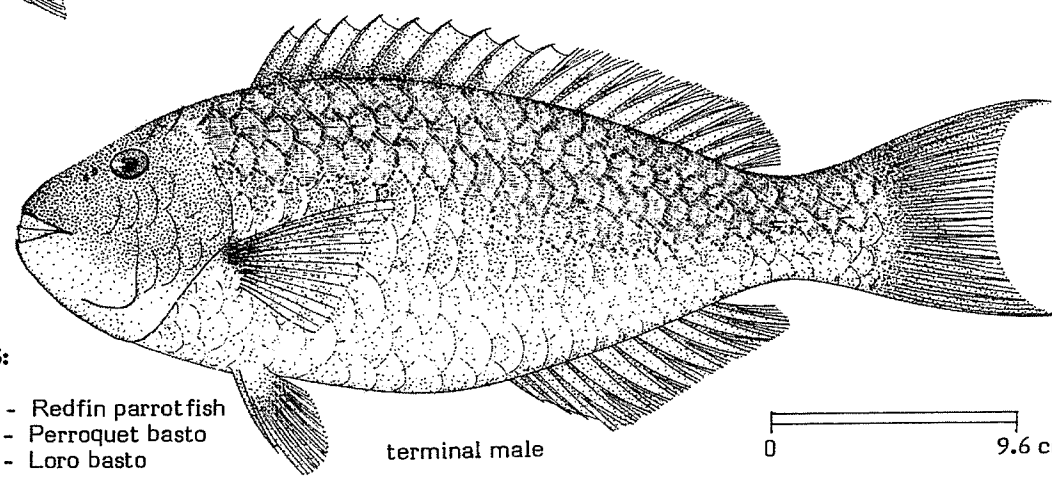
Sparisoma rubripinne Valenciennes, in Cuv. & Val., 1839

OTHER SCIENTIFIC NAMES STILL IN USE : None



initial phase

0 4.2 cm



terminal male

0 9.6 cm

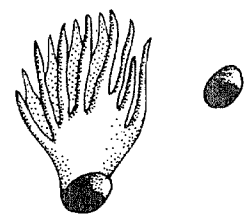
VERNACULAR NAMES:

FAO : En - Redfin parrotfish
Fr - Perroquet basto
Sp - Loro basto

NATIONAL :

DISTINCTIVE CHARACTERS :

Depth of body contained 2.5 to 2.7 times in standard length. Interorbital space slightly convex; a membranous flap on anterior nostril, palmate, with 12 to 20 cirri (except in juveniles); teeth fused to form a pair of beak-like plates in each jaw, the lower slightly overlapping the upper when mouth is closed. Membranes at tips of dorsal fin spines with numerous cirri (may be reduced to one in large adults); pectoral fin rays 12; caudal fin slightly rounded in young, truncate to slightly emarginate in intermediate-size fish, and deeply emarginate in terminal males. Median predorsal scales 4; one row of scales on cheek.



nasal flap

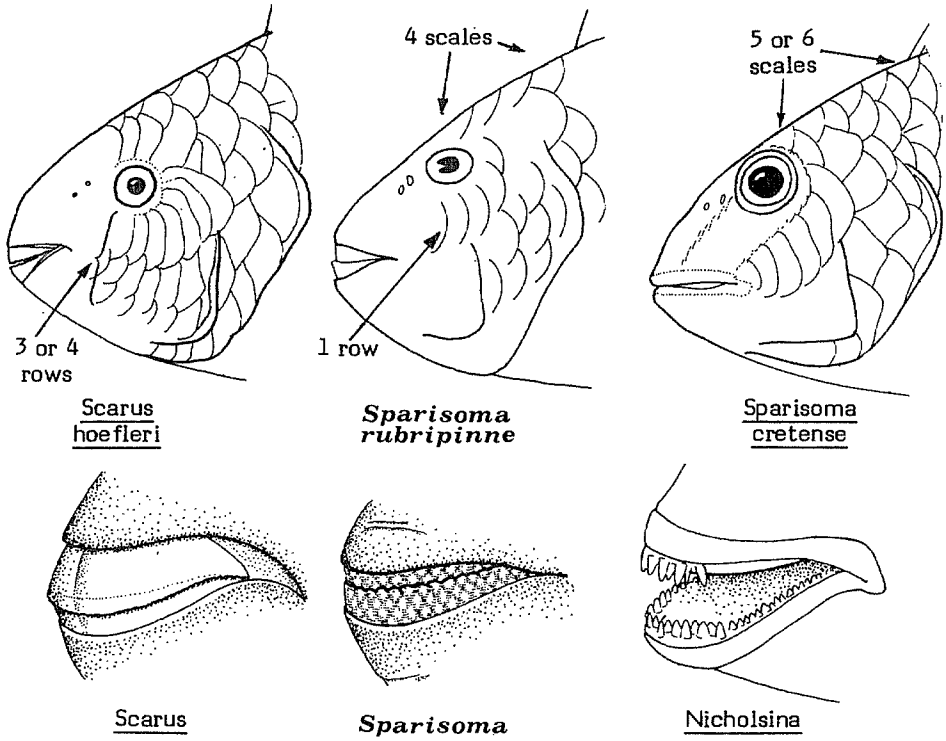
Colour: initial-phase fish mottled light greyish brown, the edges of the scales darker than the centres; 2 narrow pale bands alternate with broader dark ones across chin; caudal peduncle and fin yellow (more evident in life); pelvic and anal fins light red. Terminal males are primarily dull green with a black spot on upper half of pectoral fin base.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Nicholsina usta: teeth fused only basally; gill membranes with a free fold across isthmus; dorsal spines flexible.

Sparisoma cretense: 5 (sometimes 6) median predorsal scales (4 in S. rubripinne); caudal fin rounded (truncate to emarginate in adults of S. rubripinne).

Scarus hoefleri: lower dental plates included within the upper when jaws closed; 7 median predorsal scales; 3 rows of scales on cheek (1 in species of Sparisoma).

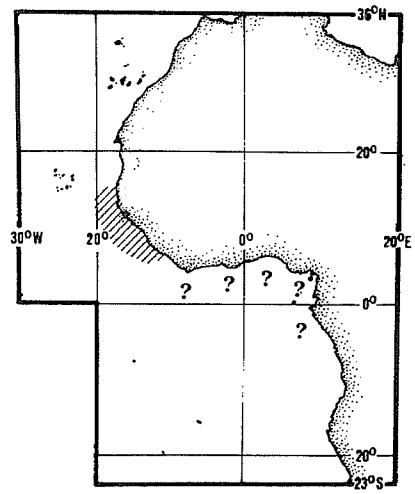


SIZE:

Maximum: 45 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Recorded in the Eastern Atlantic from Senegal and the Cape Verde Islands; probably ranges into the Gulf of Guinea, where suitable habitat is present. Also found in the Western Atlantic from Florida, throughout the Caribbean Sea, to Brazil.



An inshore species of coral reefs and rocky substratum. Initial-phase fish can rapidly assume a mottled pattern when coming to rest on the bottom. Spawning has been observed by aggregations of initial-phase fish and by pairs of the two different colour phases.

Feeds mainly on benthic algae and sea-grasses.

PRESENT FISHING GROUNDS:

Inshore areas of hard substratum, but apparently at present only of slight, if any, interest to fisheries.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

No information on fisheries available.

SCAR Spari 5

1981

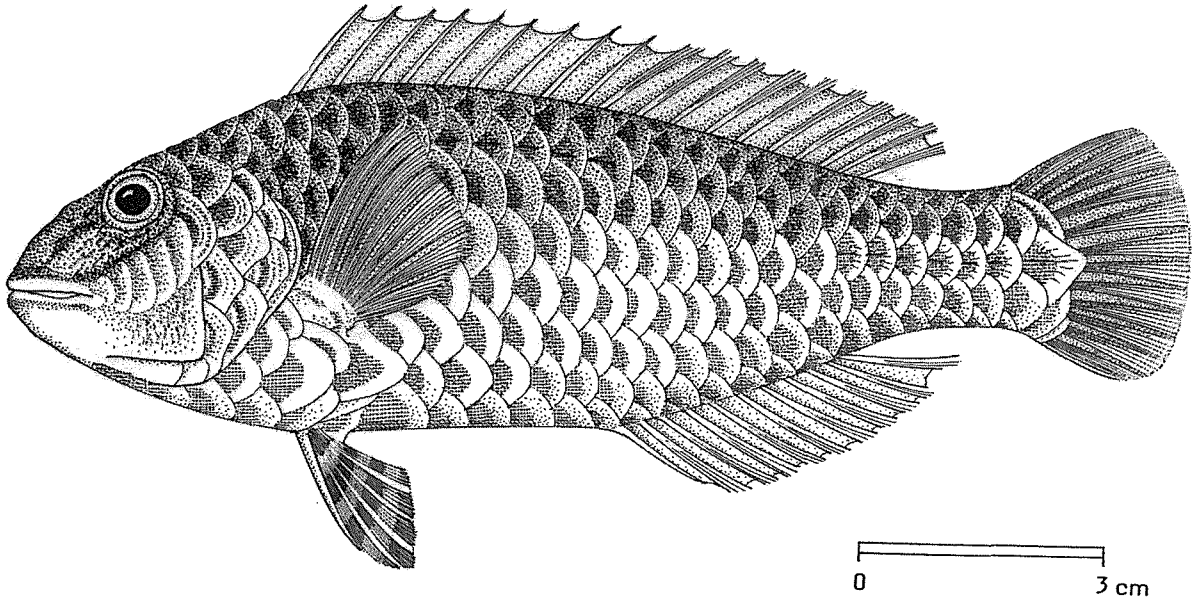
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCARIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Sparisoma cretense (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Euscarius cretensis (Linnaeus, 1758)



VERNACULAR NAMES:

FAO : En - Parrotfish
Fr - Perroquet vieillard
Sp - Loro viejo

NATIONAL :

DISTINCTIVE CHARACTERS :

Depth of body contained about 3 to 3.2 times in standard length. Interorbital space nearly flat; teeth fully fused to form a pair of beak-like plates in each jaw, the upper plates included within the lower when mouth is closed; gill membranes without a free fold over isthmus. Dorsal spines pungent; caudal fin rounded; median predorsal scales 5 (occasionally 6); one row of scales on cheek.

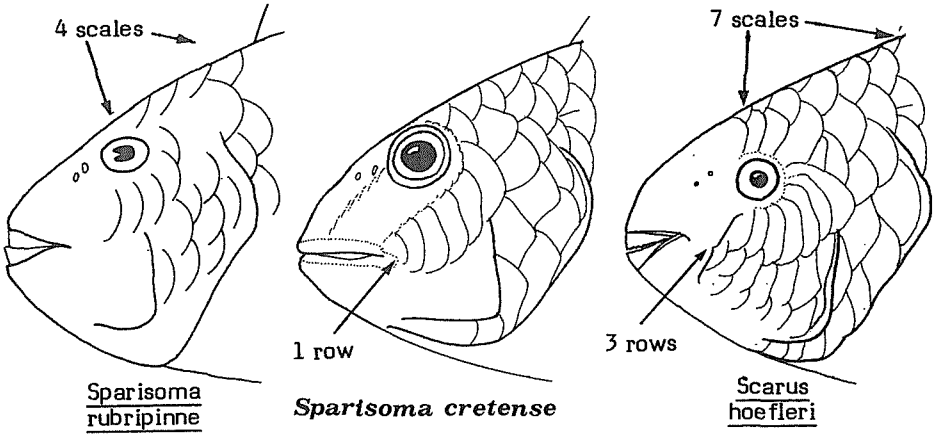
Colour: variable, the ground colour reported as purplish brown, greyish brown, olive, red, and mixtures of these; adults with a dark spot between pectoral fin and lateral line; scattered small whitish spots may be present on back and sides, some of which tend to form longitudinal series; posterior end of opercular flap blackish; posterior border of caudal fin pale.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

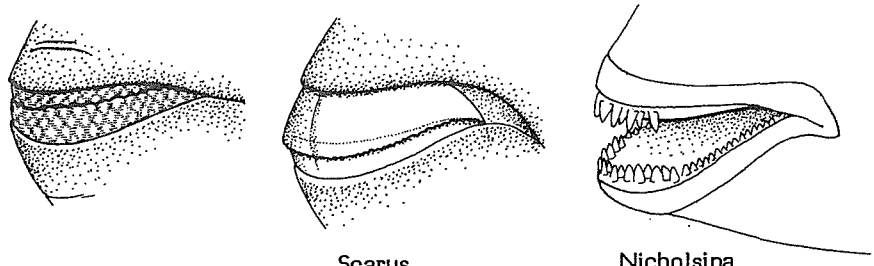
Sparisoma rubripinne: 4 median predorsal scales (5 to 6 in *S. cretense*); caudal fin truncate to emarginate in adults.

Scarus hoefleri: lower dental plates included within the uppers when jaws are closed; 7 median predorsal scales; 3 rows of scales on cheek (1 in S. cretense).

Nicholsina usta: teeth fused only basally; gill membranes with a free fold across isthmus; dorsal spines flexible.



Sparisoma rubripinne — *Sparisoma cretense* — Scarus hoefleri



Sparisoma — Scarus — Nicholsina

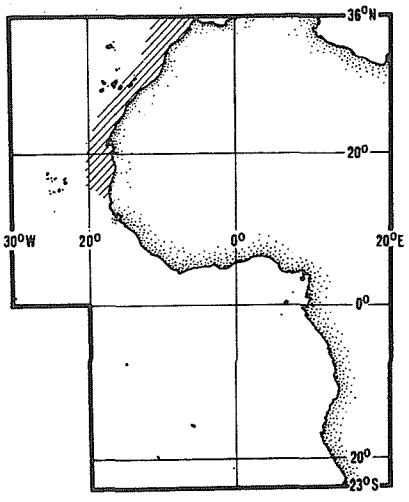
SIZE:

Maximum: 50 cm; common to 15 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Occurs around the Azores, Madeira and Canary Islands, as well as along the west coast of Africa to at least Senegal. Also, northward into the Mediterranean and to Portugal. The related S. strigatum is known only from St. Helena and Ascension Islands.

A shallow-water species of rocky shores.



PRESENT FISHING GROUNDS:

Caught incidentally throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Marketed fresh.

Under consideration for mariculture in the Canary Islands.

SCIAEN

1981

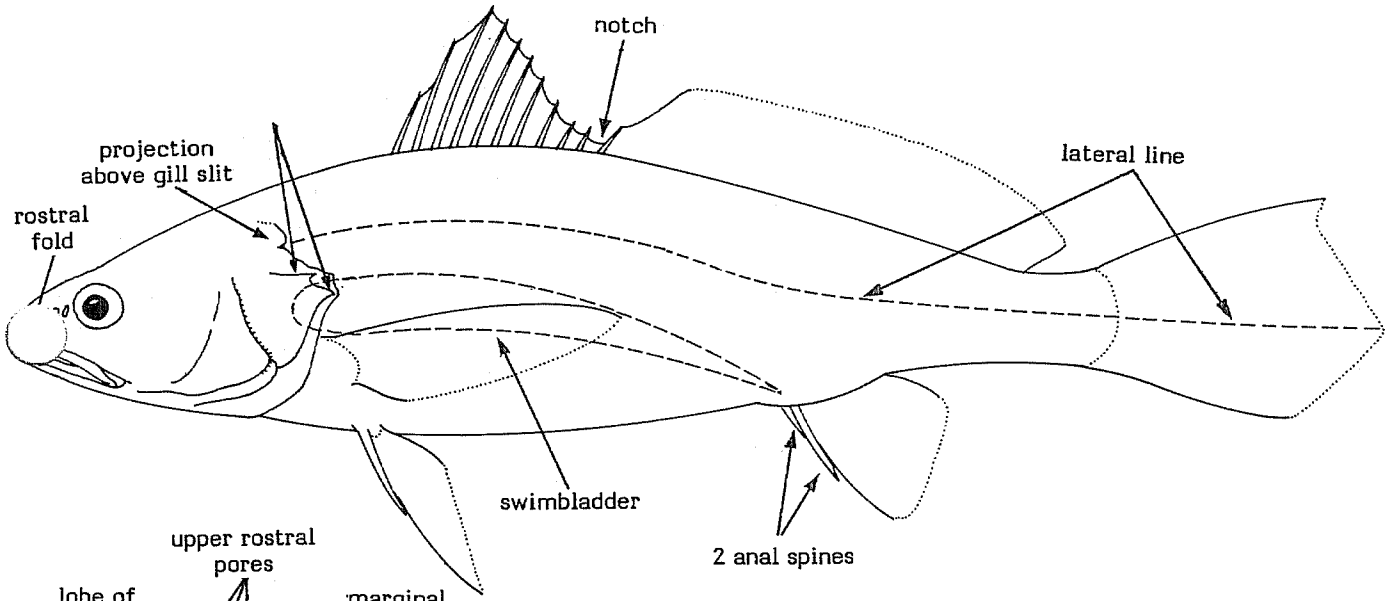
FAO SPECIES IDENTIFICATION SHEETS

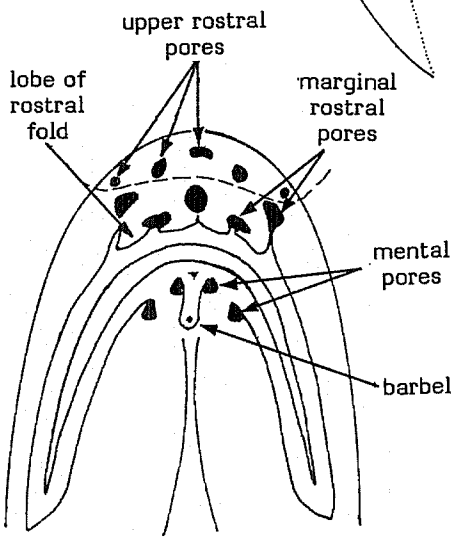
FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

SCIAENIDAE *

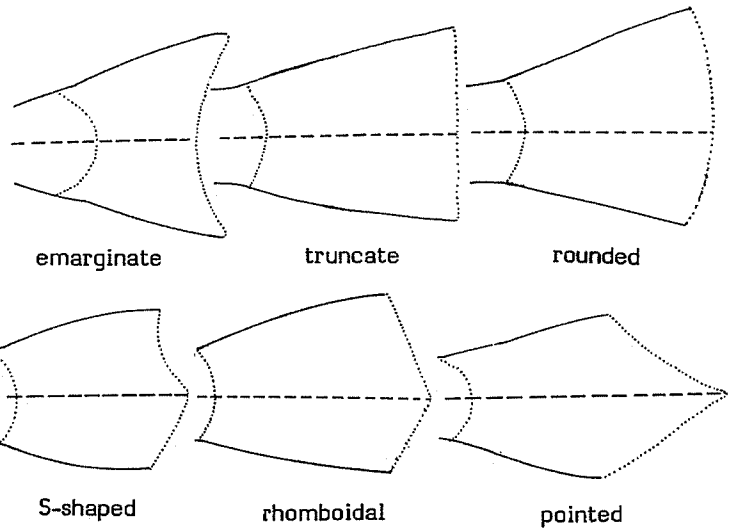
Croakers, drums, meagres, weakfishes

Usually elongate and moderately compressed fishes, completely scaled, except at tip of snout where scales are often absent or obscured by skin. Entire head with cavernous canals visible externally in some species (i.e. Pteroscion peli); eye small to rather large, its diameter usually less than 1/4 of head length; snout rounded or bluntly pointed; mouth large, oblique, terminal or with lower jaw projecting (Argyrosomus, Atractoscion, Miracorvina, Pentheroscion, Pteroscion and 2 subgenera of Pseudotolithus), or smaller, nearly horizontal and





Underside of head (Umbrina sp.)



Shapes of caudal fin

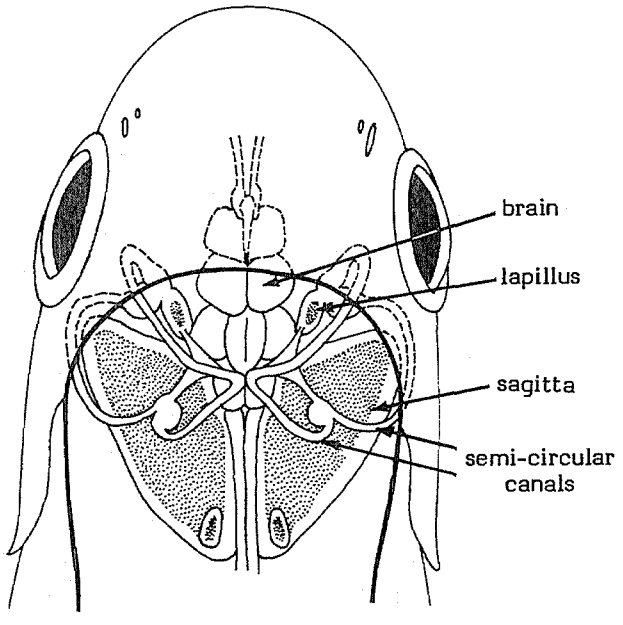
Description applies to E.C. Atlantic representatives only

inferior (typical bottom feeders such as Sciaena, Umbrina and 2 subgenera of Pseudotolithus); lower jaw with a short barbel in one genus (Umbrina); several conspicuous pores often present on tip and lower edge of snout (rostral pores) and on chin (mental pores); the rostral pores comprise a series of 3 or 5 upper pores located near tip of snout (absent in several species) and 5 marginal ones, placed along the edge of the rostral fold (which is often divided into lobes); the mental pores are 4 to 6 (1 or a pair in the midline, and the remaining ones in 1 or 2 lateral pairs); teeth generally small, villiform, set in bands, outer row in upper jaw and inner row in lower jaw often enlarged; in a few cases there are enlarged canine-like teeth at tip of upper jaw (Miracorvina, Pseudotolithus (Pseudotolithus)); roof of mouth (vomer and palatine bones) toothless; bony edge of opercle forked at its upper angle, appearing as a pair of distinct spines connected by a ridge; a rounded, scaled bony projection present above upper end of gill slit. Dorsal fin long, continuous, with a deep notch in between anterior (spinous) and posterior (soft) portions; anterior portion with 7 to 11 (usually 10) spines, posterior portion with one spine and 22 to 37 (usually 25 to 32) soft rays, its base much longer than that of anterior portion; pectoral fins with 15 to 19 rays; pelvic fins always with 1 spine and 5 soft rays; anal fin with 2 spines and 6 to 9 (usually 7) soft rays, some species with a large (stout) second anal spine; caudal fin emarginate, truncate, rounded or variously pointed (see figures on page 1), usually long and tapering in juveniles, never deeply forked. Scales ctenoid (rough to touch, comblike) or cycloid (smooth), some species with ctenoid scales on body and cycloid scales on head and breast; lateral line scales extending to hind margin of caudal fin, usually with small scales wedged between them; dorsal and anal fins often with scaly sheaths.

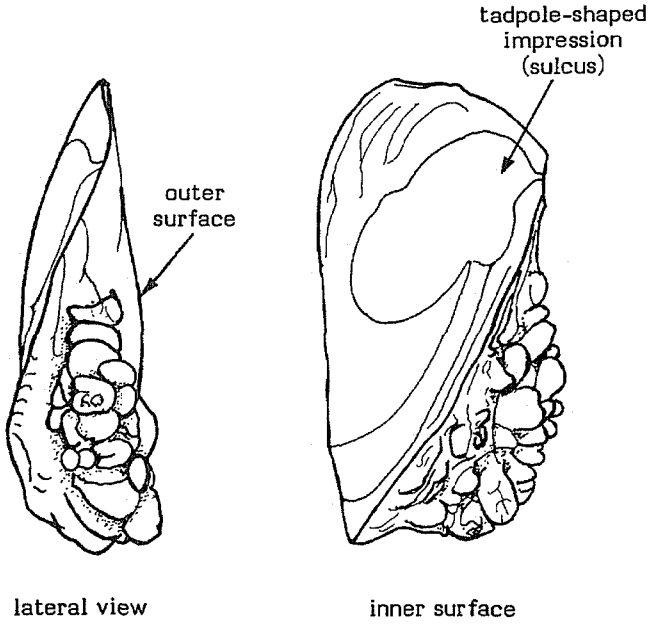
Colour: variable from silvery to dark brown, either uniform or with darker markings; dorsal and caudal fins usually dark grey; pelvics and anal fins often yellowish; a dark blotch often present at pectoral fin bases; in many species, the lining of the gill cavity is very dark and may show through the faint opercle as a diffuse, dark blotch.

Note:

Internal characters such as shape and size of otoliths and swimbladder are often particularly helpful in the identification of genera, and sometimes of species in this family. Since the examination of these characters is rather simple, field workers are encouraged to make use of them in case of doubt.



head view from the top



lateral view inner surface

sagitta
Pseudotolithus (P.) typus

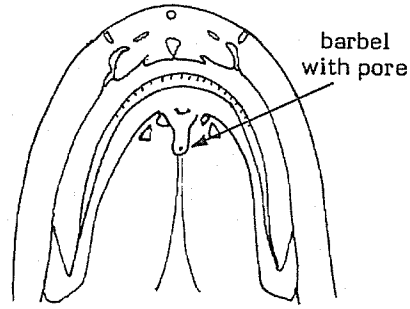
(i) Otoliths (earstones) are located in the ear capsules on each side of the head (see figures on page 2); one pair (sagitta) is always large, while the other two pairs are rudimentary. The sagitta is characterized in this family by the presence of a tadpole-shaped impression (or sulcus) on its inner surface. To examine the otoliths it is necessary to remove them from the ear capsules by one of the following methods: (1) remove floor of skull at upper end of first gill arch from one side; the sagitta may be vaguely visible through the thin wall of the bony ear capsule; (2) cut head from the top above preopercular margin (hold knife at angle of 45^{0}). remove roof of skull and extract otoliths from ear capsules.

(ii) The swimbladder is located between the viscera and the vertebral column, separated from the head by a transverse membrane or septum. It is well developed, but consists of a single chamber in all Eastern Atlantic sciaenids. The organ is usually oval, or carrot-shaped, with or without appendages or diverticula (Figs. 6,11,12). Drumming muscles (part of the sound-producing mechanism) are usually developed in males. The body of the swimbladder is readily exposed after gutting the fish; in some genera (i.e. Argyrosomous, Atractoscion, Miracorvina and Pentheroscion) it becomes necessary to also remove organs further ahead, in order to examine the anterior appendages.

Medium-sized to large fishes (about 20 to 200 cm in total length), primarily marine, but many found at least seasonally in brackish waters. While the large majority live over sandy or muddy bottoms in coastal areas with large river run-offs. a few species (e.g. Miracorvina and Pentheroscion) are found in deeper water, to about 350 m. Many croakers use estuarine environments seasonally as nursery grounds during their juvenile phase (especially young-of-the-year), and as feeding grounds during their adult phase. They are mostly demersal fishes, randomly scattered or in small patches, but sometimes forming larger aggregates during the spawning and feeding migrations. This group of fishes represents a major component of demersal catches (i.e. in the Gulf of Guinea, croakers are reported to account for more than 30 percent of total demersal landings, and catch rates are also high on trawling grounds off Angola). The total catch of croakers reported from Fishing Area 34 in 1978 exceeded 86,000 tons. Actual landings are probably still higher, since available statistics only cover a few species. They are usually taken with bottom trawls, but also with several types of artisanal gear, especially gill nets, set nets, seines and lines. Most croakers are valuable foodfish, especially the larger species.

SIMILAR FAMILIES OCCURRING IN THE AREA:

All other perch-like fishes: lateral line not extending to hind margin of caudal fin; anal fin with 3 spines (2 spines in E.C. Atlantic Sciaenidae).



underside of head
(Umbrina)

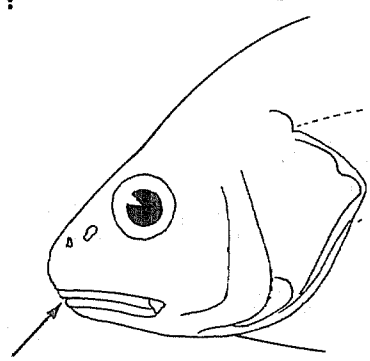
Fig. 1

KEY TO GENERA AND SUBGENERA OCCURRING IN THE AREA*:

1a. Tip of lower jaw with a small, rigid barbel perforated by a pore at tip (Fig. 1) ..... Umbrina

1b. Lower jaw without barbel

2a. Mouth rather small, inferior, nearly horizontal, lower jaw never projecting beyond upper jaw (Fig. 2); teeth in jaws villiform, in bands, one or more rows may be slightly enlarged, but never canine-like



Sciaena

Fig. 2

* Morphometric comparisons are most useful for specimens of common sizes (approximately 30 to 50 cm total length); users are encouraged to examine diagnostic characters of swimbladder

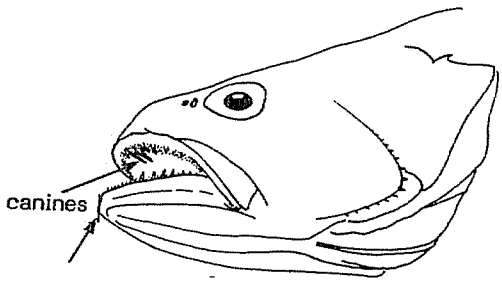
3a. Back slightly arched, body somewhat rounded in cross section; snout conspicuously blunt; eye small, contained more than 7 times in head length; caudal fin pointed; anterior portion of dorsal fin with 7 or 8 spines (Fig. 3)..... Pseudotolithus (Hostia)

3b. Back strongly arched, body compressed; snout conical; eye moderately large, contained less than 5.5 times in head length; caudal fin truncate to slightly rounded or S-shaped but never pointed; anterior portion of dorsal fin with 9 or more spines (Figs. 4,5)

4a. Anterior portion of dorsal fin low, with 9 spines, tip of longest spine falling short of first soft ray when depressed, posterior portion of fin long (Fig. 4), with 35 to 39 soft rays; swimbladder with many tubular appendages on main chamber (Fig. 6a) ..... Pseudotolithus (Pinnacorvina)

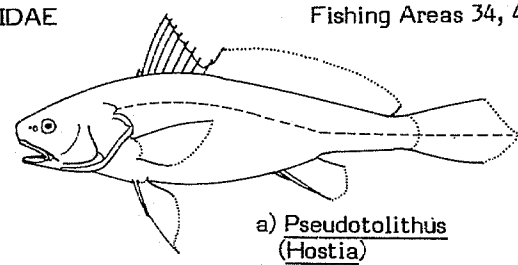
4b. Anterior portion of dorsal fin high, with 10 to 12 spines, tip of longest spine reaching beyond first soft ray when depressed, posterior portion of fin short (Fig. 5), with 23 to 25 soft rays; swimbladder simple, carrot-shaped, without appendages (Fig. 6b)..... Sciaena

2b. Mouth large, terminal, strongly oblique; lower jaw often projecting beyond upper jaw; large canine-like teeth often present in jaws (Fig. 7)

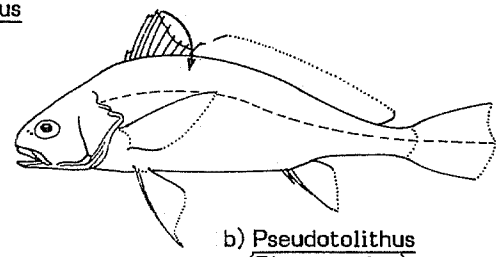


Pseudotolithus (Pseudotolithus)

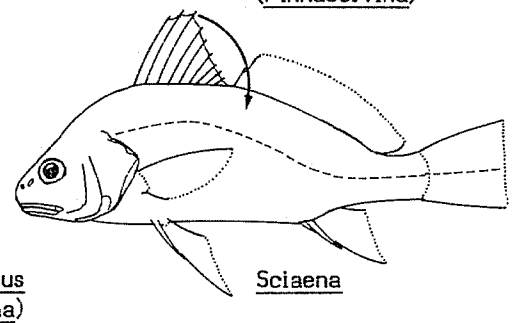
Fig. 7



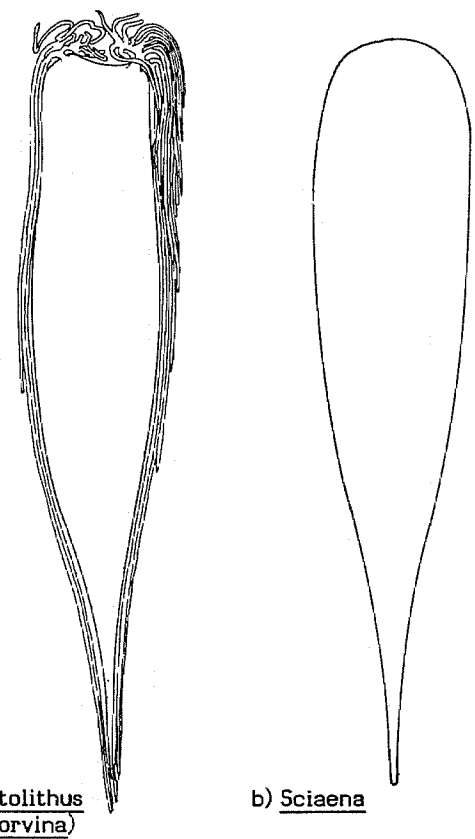
a) Pseudotolithus (Hostia) Fig. 3



b) Pseudotolithus (Pinnacorvina) Fig. 4



Sciaena Fig. 5



a) Pseudotolithus (Pinnacorvina) b) Sciaena

Swimbladder Fig. 6

5a. Body short and robust, its depth contained less than 3.6 times in total length (Fig. 8); total number of gill rakers on first gill arch 23 or more; lower jaw with 4 minute pores ..... Pteroscion

5b. Body elongate or fusiform, its depth contained more than 4 times in total length (Fig. 9); total number of gill rakers on first gill arch 22 or less

6a. Second anal fin spine very long and sturdy, about equal in length to first soft ray (Fig. 10a) and less than twice in head length; 6 anal soft rays..... Pseudotolithus (Fonticulus)

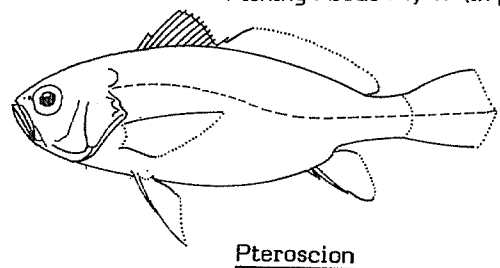
6b. Second anal fin spine short and thin, less than 2/3 of first soft ray and more than 3 times in head length (Fig. 10b,c); 7 or more anal soft rays

7a. 9 soft rays in anal fin; second anal fin spine more than 5 times in head length

8a. Caudal fin emarginate; interorbital width more than twice the eye diameter; gill rakers rudimentary; swimbladder with a pair of short, unbranched, hornlike appendages (Fig. 11a)..... Atractoscion

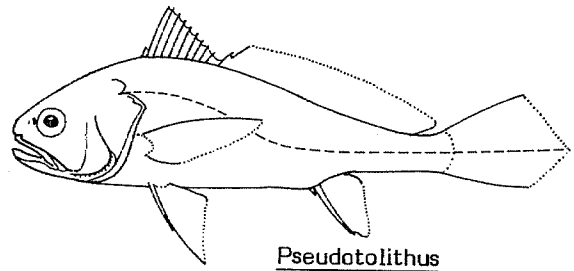
8b. Caudal fin rhomboidal; interorbital width smaller than eye diameter; gill rakers long and slender; swimbladder with a pair of branched, tubelike appendages (Fig. 11b)..... Pentheroscion

7b. Usually 7 (rarely 6 or 8) soft rays in anal fin; second anal fin spine less than 5 times in head length



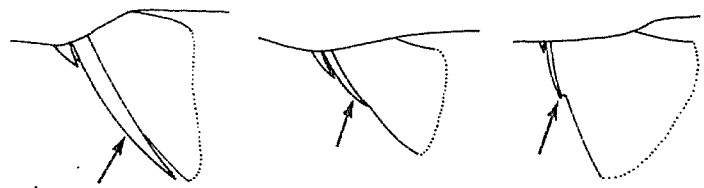
Pteroscion

Fig. 8



Pseudotolithus (Fonticulus)

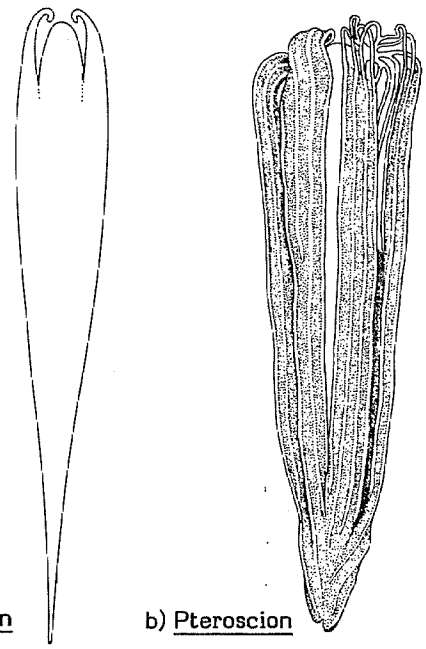
Fig. 9



a) Pseudotolithus (Fonticulus) b) Miracorvina c) Pentheroscion

anal fin

Fig. 10



a) Atractoscion b) Pteroscion

swimbladder

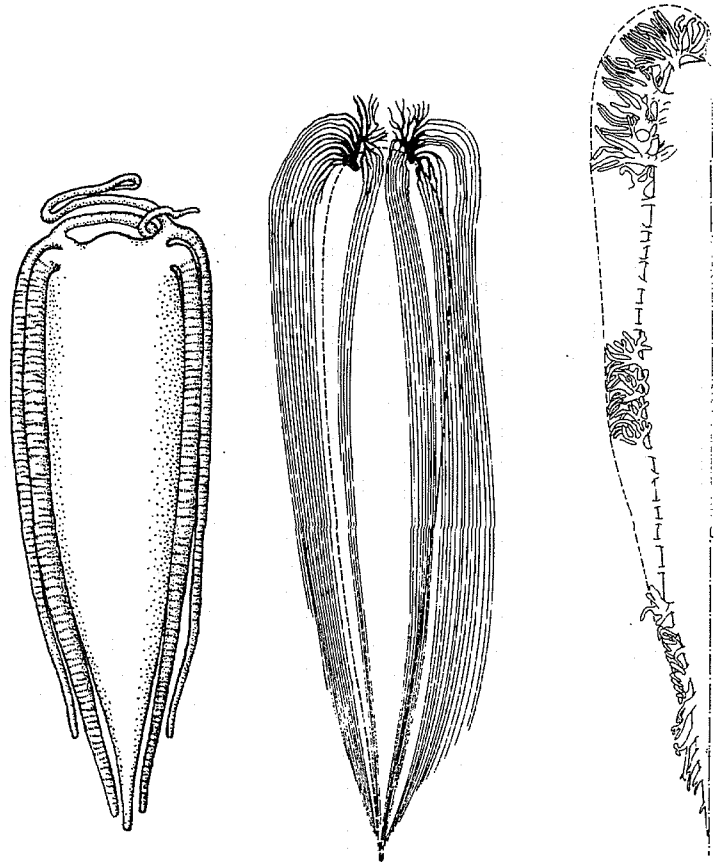
Fig. 11

9a. Eye rather large, its diameter contained 3.6 to 3.8 times in head length; mouth darkish; inside of gill cover jet black; swimbladder with two anterior appendages, each divided into 1 anterior short, and 2 posterior long tubes (Fig. 12a) ..... Miracorvina

9b. Eye rather small, its diameter contained 4.1 or more times in head length; mouth pale to yellowish orange; inside of gill cover slightly dark but never jet black; swimbladder either with many pairs of arborescent appendages or with a single pair of anterior appendages divided into numerous long tubes (Figs. 12b,c)

10a. No upper pores on snout; gill rakers longer than gill filaments at angle of gill arch (Fig. 13a); swimbladder with 1 pair of anterior appendages divided into numerous long, tube-like branches (Fig. 12b) ..... Pseudotolithus (Pseudotolithus)

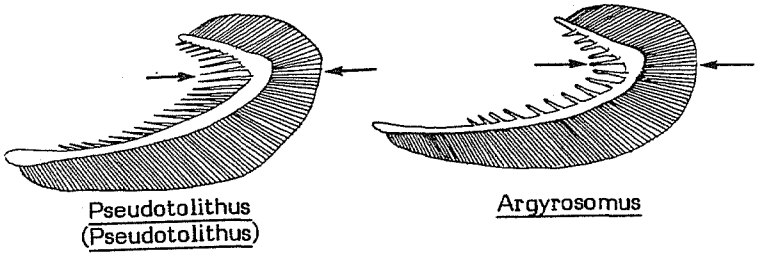
10b. 3 or 5 upper pores present on tip of snout (Fig. 14); gill rakers usually shorter than gill filaments at angle of gill arch (Fig. 13b)*; swimbladder with 25 to 42 pairs of arborescent appendages (Fig. 12c) ..... Argyrosomus



a) Miracorvina b) Pseudotolithus (Pseudotolithus) c) Argyrosom

swimbladder

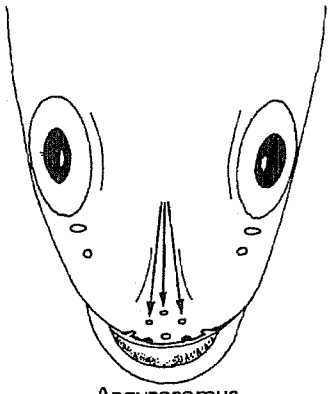
Fig. 12



Pseudotolithus (Pseudotolithus) Argyrosomus

first gill arch

Fig. 13



Argyrosomus top of head

Fig. 14

* May be rarely equal to, or slightly longer than, filaments in A. hololepidotus

LIST OF SPECIES OCCURRING IN THE AREA :

	Argyrosomus hololepidotus (Lacepède, 1802)	SCIAEN Argyr 3
	Argyrosomus regius (Asso, 1801)	SCIAEN Argyr 1
	Atractoscion aequidens (Cuvier, 1830)	SCIAEN Atrac 1
	Miracorvina angolensis (Norman, 1935)	SCIAEN Mira 1
	Pentheroscion mbizi (Poll, 1950)	SCIAEN Pent 1
*	Pseudotolithus (Fonticulus) elongatus (Bowdich, 1825)	SCIAEN Pseud 1
*	Pseudotolithus (Hostia) moorii (Gunther, 1865)	SCIAEN Pseud 2
*	Pseudotolithus (Pinnacorvina) epipercus Bleeker, 1863	SCIAEN Pseud 3
*	Pseudotolithus (Pseudotolithus) brachygnathus Bleeker, 1863	SCIAEN Pseud 4
*	Pseudotolithus (Pseudotolithus) senegalensis (Valenciennes, 1833)	SCIAEN Pseud 5
*	Pseudotolithus (Pseudotolithus) typus Bleeker, 1863	SCIAEN Pseud 6
	Pteroscion peli (Bleeker, 1863)	SCIAEN Ptero 1
	Sciaena umbra Linnaeus, 1758	SCIAEN Sciaen 1
	Umbrina canariensis Valenciennes, 1843	SCIAEN Umbr 3
	Umbrina cirrosa (Linnaeus, 1758)	SCIAEN Umbr 4
	Umbrina ronchus Valenciennes, 1843	SCIAEN Umbr 5
?	Umbrina steindachneri Cadenat, 1950	

Prepared by L.N. Chao, Universidade do Rio Grande, B.O.A., Rio Grande, R.S., Brazil, in collaboration with E. Trewavas, British Museum (Natural History), London, U.K.

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* Present subgenus likely to gain its generic status in the future

? Possibly a synonym of U. canariensis

SCIAEN Argyr 1

1981

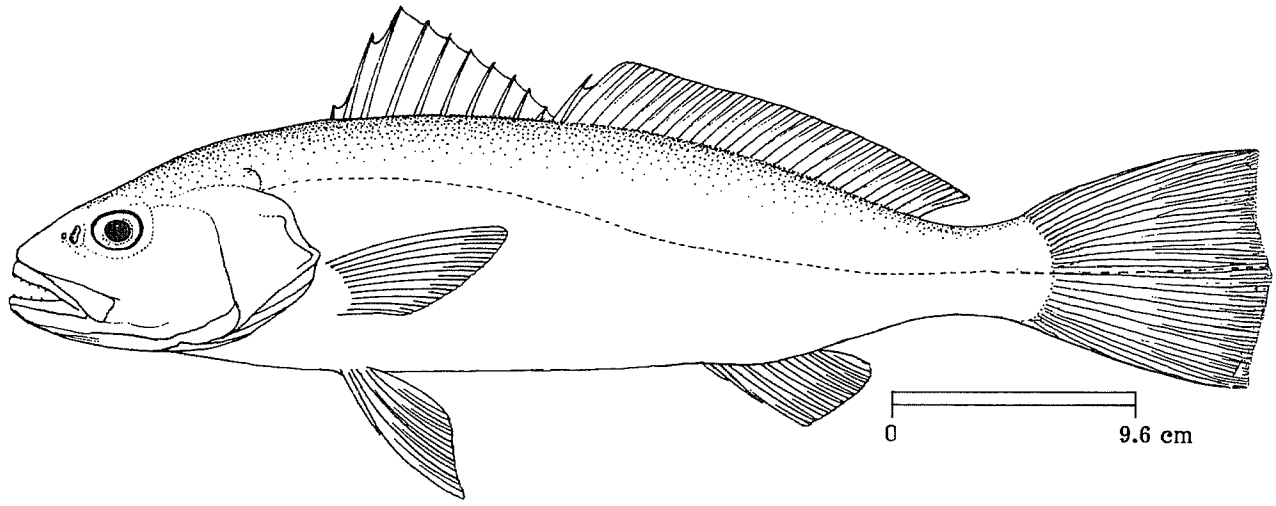
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCIAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Argyrosomus regius (Asso, 1801)

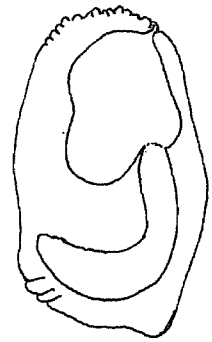
OTHER SCIENTIFIC NAMES STILL IN USE : Sciaena aquila (Lacepède, 1803)
Argyrosomus regium (Asso, 1801)



VERNACULAR NAMES :

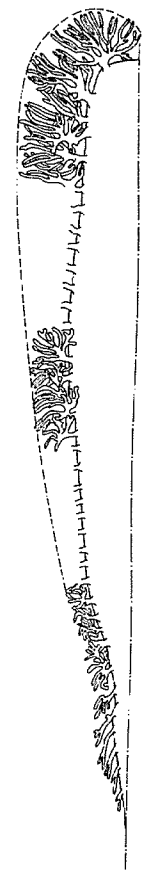
FAO : En - Meagre
Fr - Maigre commun
Sp - Corvina

NATIONAL :



inner surface

lateral view
sagitta



swimbladder
(half)

DISTINCTIVE CHARACTERS :

A large fish, elongate and moderately compressed. Eye diameter less than interorbital width and contained 5.7 to 7.1 times in head length; mouth large, oblique and terminal, the maxilla extending to posterior half of eye; teeth in upper jaw villiform in narrow bands, the outer row slightly enlarged; lower jaw teeth in 2 or 3 rows, the inner row slightly enlarged; chin without barbel but with 6 pores; snout with 8 to 10 pores (3 to 5 upper and 5 marginal); gill rakers slender, shorter than gill filaments at angle of arch, 11 to 14 on first gill arch; preopercular margin serrated, sometimes with spines at angle. Anterior portion of dorsal fin with 9 or 10 spines, posterior portion with 1 spine and 26 to 29 soft rays; pectoral fins short, 18 to 20% of standard length; anal fin with 2 spines and 7 (rarely 8) soft rays; second anal fin spine weak, less than half the length of first soft ray; caudal fin truncate or slightly S-shaped. Swimbladder with 36 to 42 pairs of arborescent appendages. Sagitta (earstone) ovoid, its outer surface covered with thick granules. Scales ctenoid (comblike), except for some cycloid scales on chest, snout and below eyes. Lateral line extending to hind margin of caudal fin.

Colour: silvery, darker on back, with bronze reflections on sides; inside of mouth yellowish orange; fins greyish.

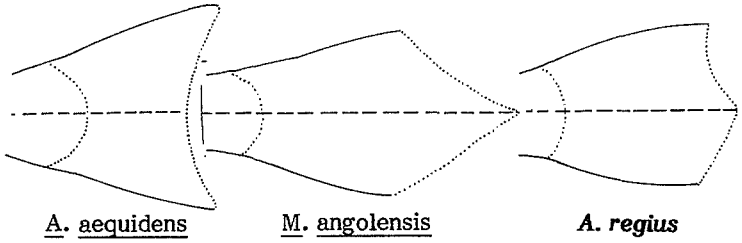
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Argyrosomus hololepidotus (very similar, difficult to distinguish, especially in the northern part of area where both species occur): swimbladder with 25 to 35 pairs of arborescent appendages (36 to 42 pairs in A. regius); eye equal to, or larger than interorbital width and contained 5.1 to 5.5 times in head length (smaller than interorbital width and 5.7 to 7.1 times in head length in A. regius); second anal fin spine longer, 3.8 to 4 times in head length (4.1 to 4.6 times in A. regius).

Other species of Sciaenidae: appendages on swimbladder, when present, not arborescent. Furthermore:

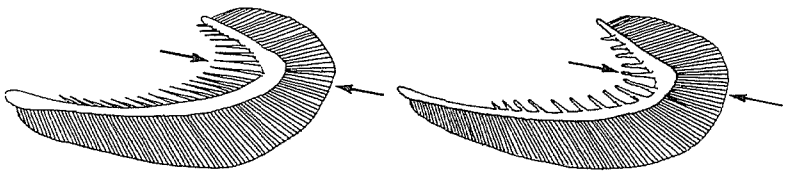
Atractoscion aequidens: caudal fin emarginate; anal fin with 9 soft rays (6 or 7 in A. regius); maxilla extending to or beyond hind margin of eye.

Miracorvina angolensis: caudal fin long, pointed; eye large, 3.6 to 3.8 times in head length; anterior portion of dorsal fin with 9 spines (10 in A. regius).



caudal fin

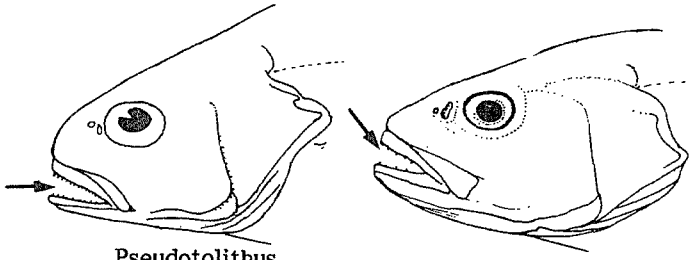
Pentheroscion mbizi, Pseudotolithus (Fonticulus) elongatus and Pseudotolithus (Pseudolithus) species: gill rakers at angle of first gill arch distinctly longer than gill filaments; caudal fin rhomboidal to pointed.



first gill arch

Pteroscion peli: body short, robust; eye very large, less than 4 times in head length; anal fin with 8 or 9 soft rays.

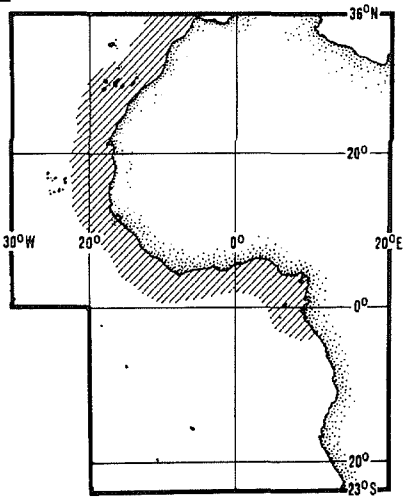
Remaining species of Sciaenidae: body not as elongate, with a smaller, inferior and horizontal mouth. Also, a short barbel in Umbrina species.



SIZE:

Maximum: at least 140 cm, but possibly 200 cm; common to 50 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:



Within the area, from Gibraltar to Congo. Also present throughout the Mediterranean and the Black Sea and extending northward along the Atlantic coast of Europe to the British Isles.

Inhabits shelf waters from 15 to about 200 m depth (unconfirmed records to 400 m); also enters estuaries and coastal lagoons. Found near the bottom as well as in surface- and midwaters.

PRESENT FISHING GROUNDS:

Particularly in the northern part of the area, and around the Canary Islands from Gibraltar to Senegal, but becoming more scarce further south.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are reported only in the northern part of the area (about 270 tons in 1978 taken by Portugal and Morocco).

Caught with bottom trawls, purse seines and on line gear.

Marketed fresh and dried salted; occasionally reduced to fish meal and oil (offshore fishing fleets).

SCIAEN Argyr 3

1981

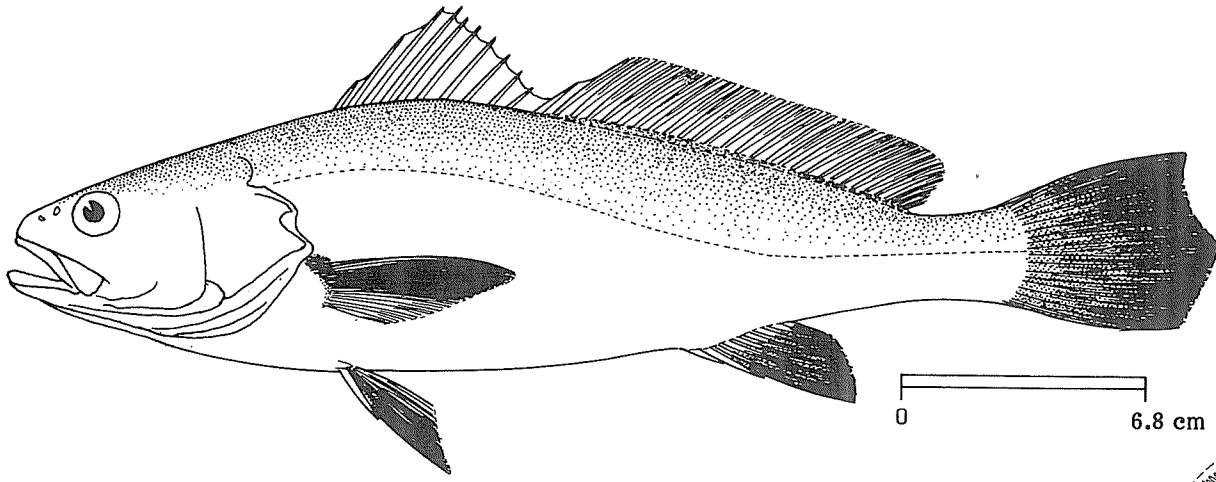
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCIAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Argyrosomus hololepidotus (Lacepède, 1802)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES :

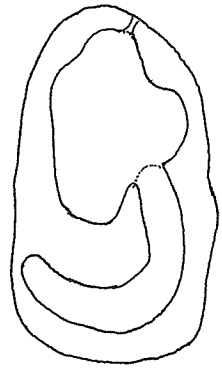
FAO : En - Southern meagre
Fr - Maigre africain
Sp - Corvina africana

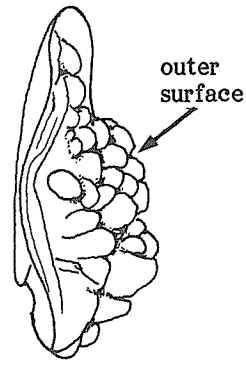
NATIONAL :

DISTINCTIVE CHARACTERS :

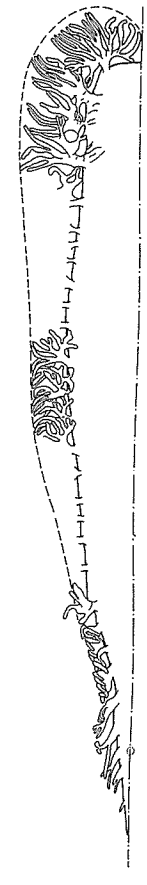
A large fish, elongate and moderately compressed. Eye diameter equal to, or larger than interorbital width and contained 5.1 to 5.5 times in head length; mouth large, oblique, the lower jaw slightly projecting; maxilla extending to posterior half of eye; teeth in upper jaw villiform in narrow bands, the outer row enlarged; lower jaw teeth in 2 or 3 rows, the inner row enlarged; chin without barbel, but with 6 pores; snout with 8 pores (3 upper and 5 marginal); gill rakers slender, usually shorter than gill filaments at angle of arch, 12 to 17 on first gill arch; preopercular margin finely serrated. Anterior portion of dorsal fin with 10 spines, posterior portion with 1 spine and 26 to 29 soft rays; pectoral fins short, 20 to 22% of standard length; anal fin with 2 spines and 7 soft rays; second anal fin spine rather weak, less than half the length of first soft ray; caudal fin S-shaped. Swimbladder with 25 to 35 pairs of arborescent appendages. Sagitta (earstone) ovoid, its outer surface covered with thick granules. Scales ctenoid (comblike) except on snout and below eyes; lateral line extending to hind margin of caudal fin.

Colour: silvery, slightly darker on back; inside of mouth yellowish orange in fresh specimens; a black spot on pectoral fin axil; fins greyish, pelvics, anal and caudal slightly darker than others.


inner surface



lateral view
sagitta


swimbladder
(half)

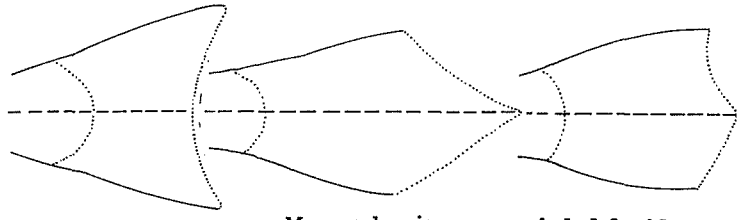
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Argyrosomus regius (very similar, difficult to distinguish, especially in the nothern part of area where both species occur); swimbladder with 36 to 42 pairs of arborescent appendages (25 to 35 pairs in A. hololepidotus); eye much smaller than interorbital width and contained 5.7 to 7.1 times in head length (equal to, or larger than interorbital width, and 5.1 to 5.5 times in head length in A. hololepidotus); second anal fin spine shorter, 4.1 to 4.6 times in head length (3.8 to 4 times in A. hololepidotus).

Other species of Sciaenidae: appendages on swimbladder, when present, not aborescent. Furthermore:

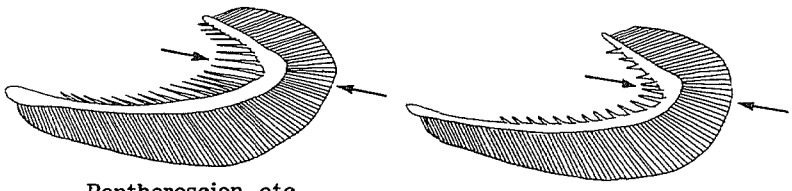
Atractoscion aequidens: caudal fin emarginate; anal fin with 9 soft rays (7 in A. hololepidotus); maxilla extending to or beyond hind margin of eye.

Miracorvina angolensis: caudal fin long, pointed; eye larger, 3.6 to 3.8 times in head length; anterior portion of dorsal fin with 9 spines (10 in A. hololepidotus).



Caudal fin

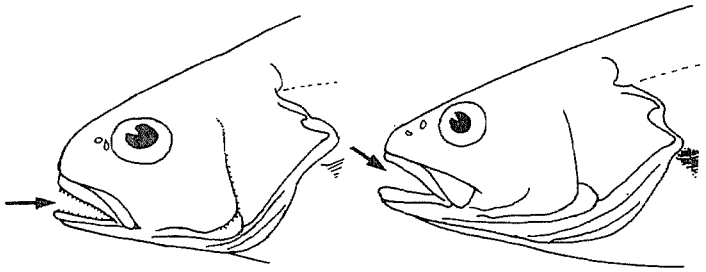
Pentheroscion mbizi, Pseudotolithus (Fonticulus) elongatus and Pseudotolithus (Pseudotolithus) species: gill rakers at angle of first gill arch distinctly longer than gill filaments; caudal fin rhomboidal to pointed.



first gill arch

Pteroscion peli: body short, robust; eye very large, less than 4 times in head length; anal fin with 8 or 9 soft rays.

Remaining species of Sciaenidae: body not as elongate, with a smaller, inferior and horizontal mouth. Also, a short barbel in Umbrina species.

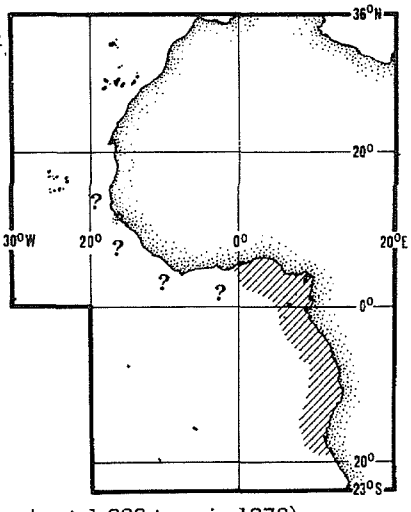


SIZE:

Maximum: 200 cm; common to about 50 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Pseudotolithus (Pinnacorvina) epipercus



Within the area, confirmed records for this species are known from Ghana to Namibia, but possibly it extends further north to Senegal. Also present off South Africa, and in the Indo-Pacific region from East Africa to Australia.

Primarily a coastal species living over mud bottoms from 15 to about 150 m depth. Spawning occurs from spring to autumn. Found near the bottom and in midwaters between 13 and 24°C, but more common at 16 or 17°C.

PRESENT FISHING GROUNDS:

Coastal waters of the continental shelf; particularly common in the southern part of the area, off Angola.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are reported only in the southern part of the area (roughly about 1,000 tons in 1978).

Caught with bottom trawls and various types of artisanal gear (set nets, ring nets, beach seines, etc.)

Marketed fresh, dried salted, smoked and frozen; swimbladder and ovaries also apparently used in certain localities.

SCIAEN Atrac 1

1981

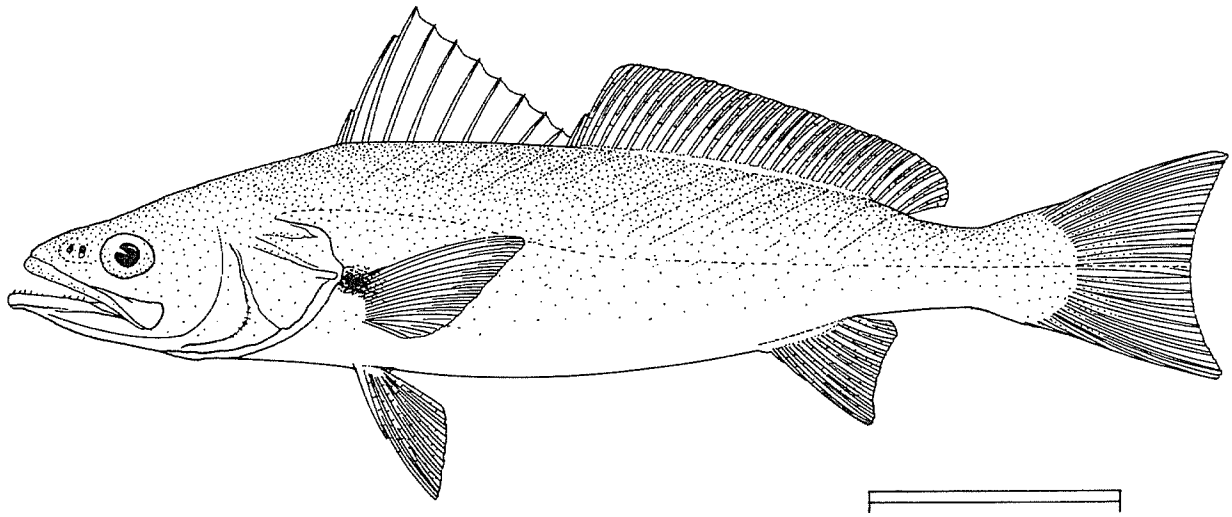
FAO SPECIES IDENTIFICATION SHEETS

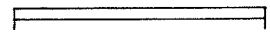
FAMILY : SCIAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Atractoscion aequidens (Cuvier, 1830)

OTHER SCIENTIFIC NAMES STILL IN USE : None





VERNACULAR NAMES :

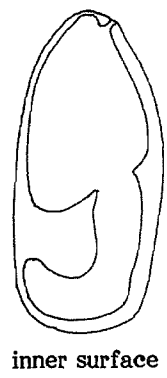
FAO : En - African weakfish
Fr - Teraglin
Sp - Corvinata prieta

NATIONAL :

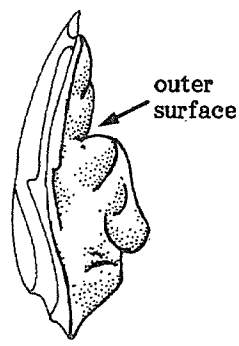
DISTINCTIVE CHARACTERS :

A large, elongate fish. Eye rather small, its diameter less than interorbital width and contained 5.3 to 6.9 times in head length; mouth large, oblique, the lower jaw projecting and the maxilla extending to or beyond hind margin of eye; teeth in jaws sharp, needle-like; upper jaw with 4 to 6 anterior rows becoming reduced to 2 rows posteriorly; lower jaw with 3 or 4 anterior rows, reduced to a single row behind; chin without barbel or distinct pores; snout with 5 minute marginal pores; no upper pores; gill rakers very short, tubercular, 12 to 16 on first gill arch; preopercular margin weakly serrated. Anterior portion of dorsal fin with 10 spines, posterior portion with 1 spine and 26 to 31 soft rays; anal fin with 2 slender spines and 9 soft rays, the second spine tightly bound to first ray; caudal fin truncate to emarginate in adults. Swimbladder elongate, with a pair of horn-like anterior appendages extending forward to transverse septum or curving backward just behind septum. Sagitta (earstone) ovoid, slightly elongate, with a thick middle portion. Scales rather small (more than 70 in lateral line), ctenoid (comblike) on body and head; several rows of scales on soft portion of dorsal fin. Lateral line extending to hind margin of caudal fin.

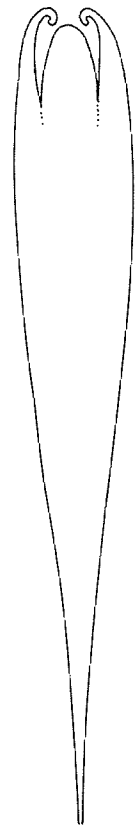
Colour: silvery grey, with bluish, purplish or coppery reflections and often with faint oblique lines on back and sides; fins pale to yellowish; a black blotch on pectoral fin axil; edges of jaws and inside of gill cover bright yellow.



inner surface



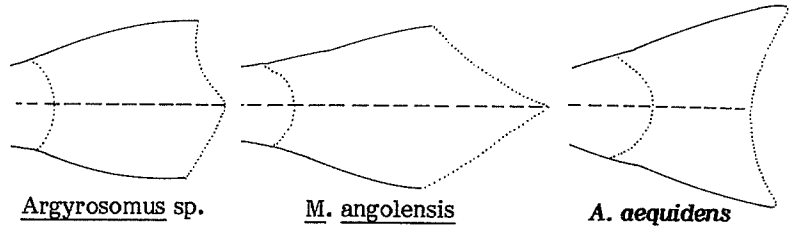
lateral view
sagitta



swimbladder

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

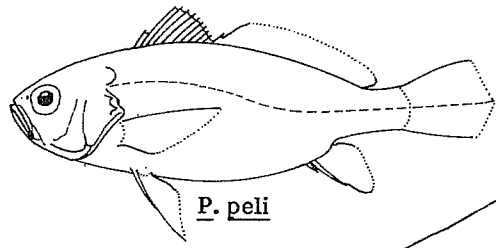
Argyrosomus species: caudal fin truncate to S-shaped; maxilla not extending to hind margin of eye; anal fin with 6 or 7 soft rays (9 in A. aequidens); swimbladder with 25 or more pairs of arborescent appendages.



Argyrosomus sp. M. angolensis *A. aequidens*

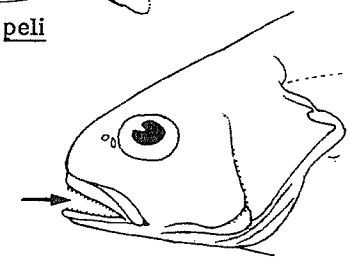
caudal fin

Pteroscion peli: body short and robust; eye larger than interorbital width and contained less than 4 times in head length (much smaller than interorbital width and more than 5 times in head length in A. aequidens).



P. peli

Remaining species of Sciaenidae: either caudal fin pointed, or (and) mouth inferior and horizontal.



Pseudotolithus (Pinnacorvina) epipercus

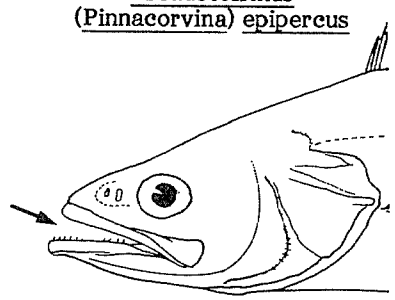
SIZE:

Maximum: 120 cm; common to 50 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Within the area, from the Gulf of Guinea southward; possibly extending further north (a single record from Mauritania). Also present off South Africa and off southern and eastern Australia.

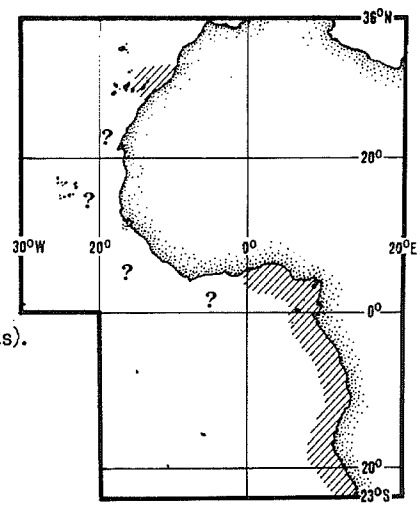
Inhabits mud and sandy mud bottoms in coastal waters, from about 15 to 200 m depth; more abundant between 100 and 200 m.



A. aequidens

PRESENT FISHING GROUNDS:

The most important grounds are off Angola, where it accounts for almost 40 percent of the total sciaenid catch. Abundant in all seasons, except from December to March. Often taken together with Umbrina canariensis.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species

Caught mainly with bottom trawls and on line gear.

Marketed fresh; also reduced to fishmeal and oil (industrial offshore fleets).

SCIAEN Mira 1

1981

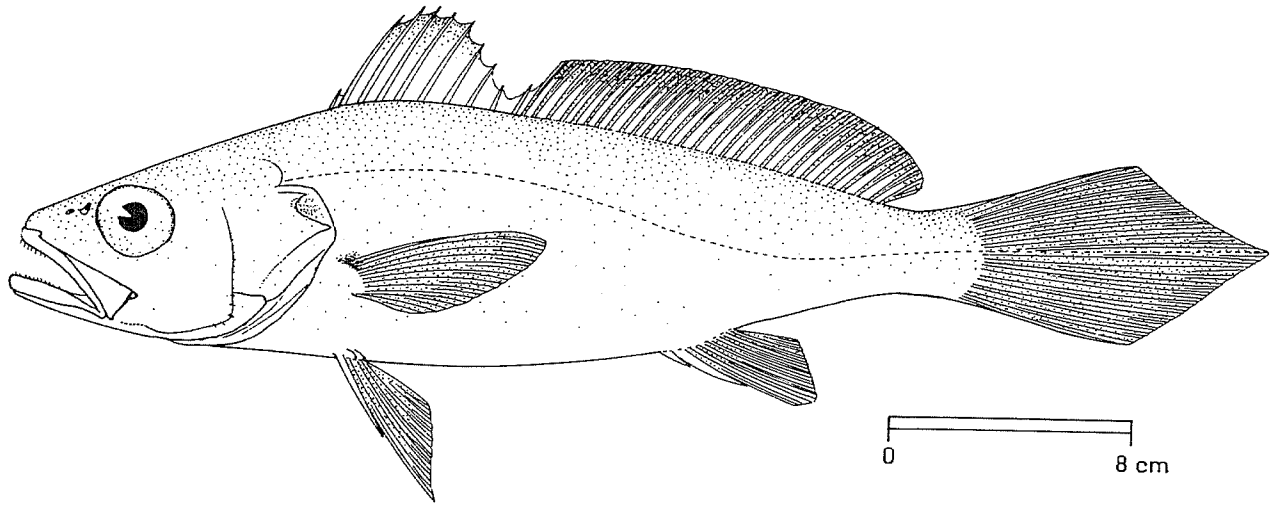
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCIAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Miracorvina angolensis (Norman, 1935)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES :

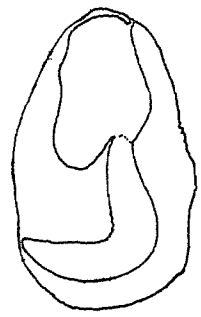
FAO : En - Angola croaker
Fr - Courbine de l'Angola
Sp - Corvina de Angola

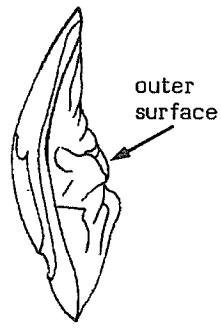
NATIONAL :

DISTINCTIVE CHARACTERS :

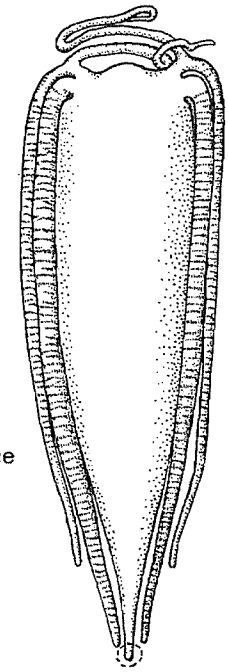
A rather large fish, moderately elongate and compressed. Eye large, about 3.6 to 3.8 times in head length; mouth large, oblique, terminal, the maxilla extending to below middle of eye; teeth villiform, set in bands in both jaws, outer row in upper jaw sharp and slightly enlarged; chin without barbel, but with 6 conspicuous pores; snout with 5 pores on lower margin; gill rakers moderately long and slender (but shorter than gill filaments at angle of arch), 14 to 19 on first gill arch; preopercular margin weakly serrated, with several large, blunt spines at angle. Anterior portion of dorsal fin with 9 spines, posterior portion with 1 spine and 30 soft rays; pectoral fins 20 to 24 percent of standard length; anal fin with 2 spines and 7 soft rays, the second spine moderately long and strong, about 2/3 of first soft ray and contained about 3 times in head length; caudal fin acutely rhomboidal to pointed. Swimbladder with 2 anterior appendages, each divided into 3 tubes, the anterior pair coiled in front of the main chamber, the other pairs extending backward along sides of bladder. Sagitta (earstone) ovoid and thick. Scales large and ctenoid (comblike), except for some cycloid scales on cheek and snout; 2 or 3 rows of small scales on base of posterior portion of dorsal fin and on anal fin. Lateral line extending to tip of caudal fin.

Colour: silvery, darker on back, inside of gill cover jet black; a dark blotch on pectoral fin axil; dorsal fin edged with black, other fins dusky.


inner surface



lateral view
sagitta


swimbladder

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Pentheroscion mbizi: anal fin with 9 soft rays (7 in M. angolensis); second anal fin spine short and slender, 6.7 to 7.5 times in head length (rather strong, about 3 times in head length in M. angolensis).

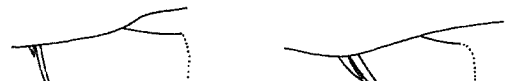
Petroscion peli: mouth more strongly oblique; gill rakers longer, 23 to 25 on first gill arch (14 to 19 in M. angolensis); caudal fin bluntly rhomboid.

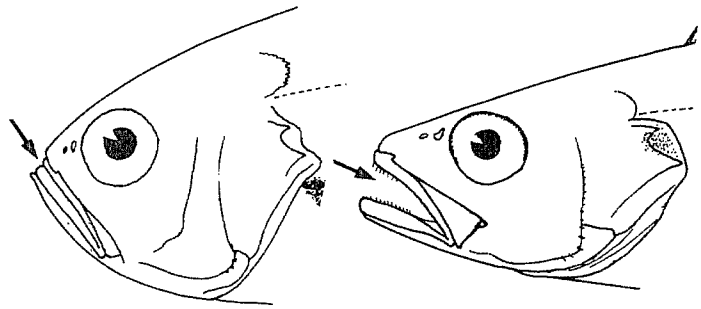
Argyrosomus species: eye much smaller, more than 5 times in head length (less than 4 times in M. angolensis); snout with 3 or 5 upper pores (no upper pores in M. angolensis); caudal fin truncate to S-shaped.

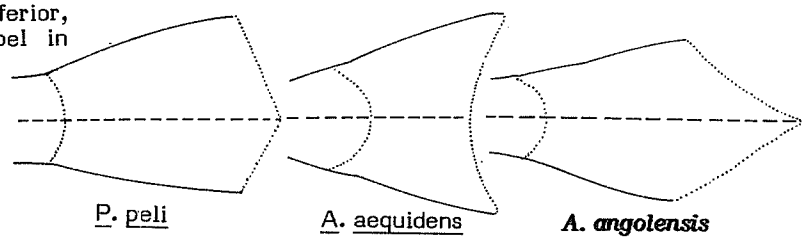
Atractoscion aequidens: caudal fin emarginate; anal fin with 9 soft rays.

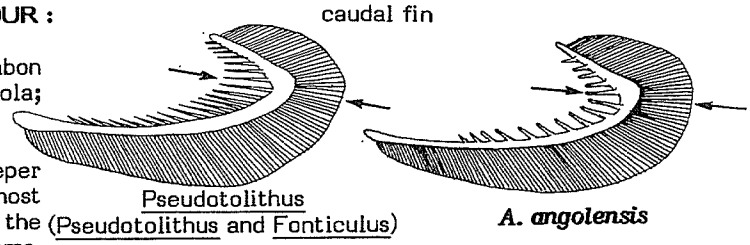
Pseudotolithus (subgenera Pseudotolithus and Fonticulus): gill rakers at angle of first gill arch distinctly longer than gill filaments; swimbladder with numerous, long, tubelike appendages.

Other species of Sciaenidae: mouth inferior, horizontal; furthermore, a short, rigid barbel in Umbrina species.









SIZE:

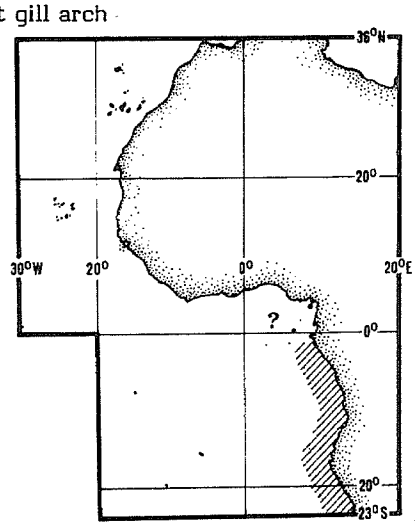
Maximum: 75 cm; common to 40 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Only along the West African coast, from Gabon southward at least to the southern border of Angola; possibly found further north in deeper waters.

One of the few sciaenids inhabiting deeper waters, ranging from 50 to at least 300 m; most common between 200 and 300 m, always below the thermocline. Found on sand and rock bottoms. Spawning occurs from August to November in waters of 15 or 16°C.

Feeds on small fishes and shrimps.



PRESENT FISHING GROUNDS:

Deeper shelf and upper slope regions, mainly in the southern part of the area; constitutes about 2.5 percent of the total sciaenid catch off Angola.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls.

Marketed usually fresh; also reduced to fishmeal and oil (industrial offshore fleets).

SCIAEN Pent 1

1981

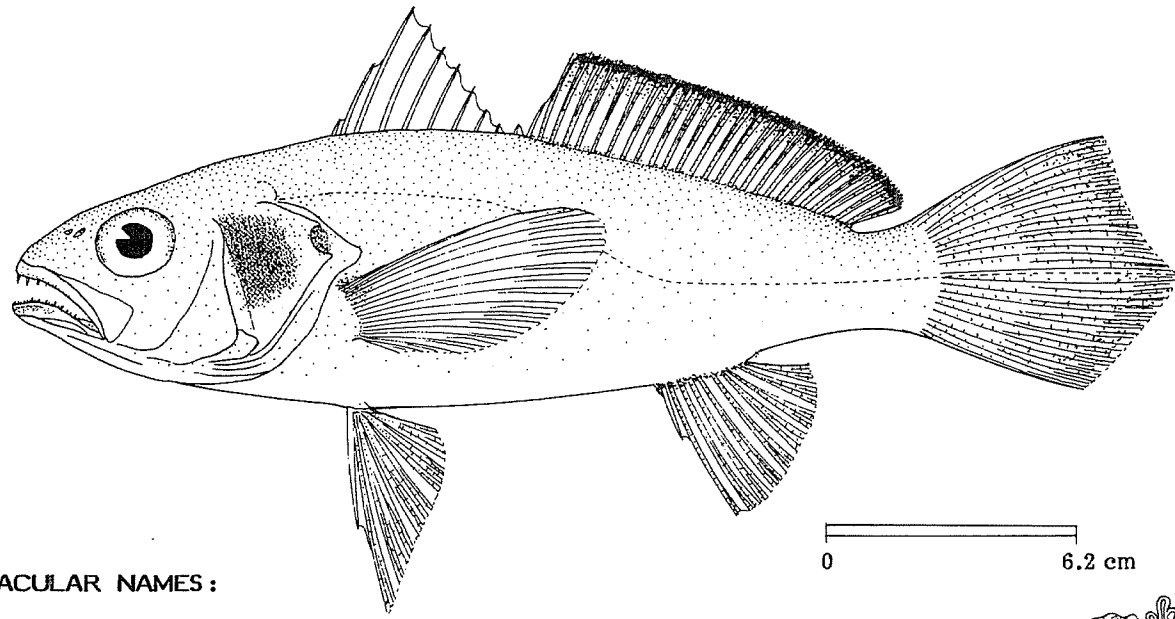
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCIAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Pentheroscion mbizi (Poll, 1950)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES :

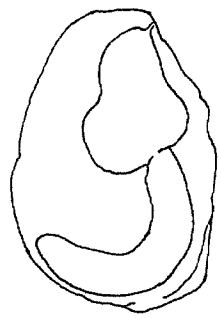
FAO : En - Blackmouth croaker
Fr - Courbine à bouche noire
Sp - Corvina bocanegra

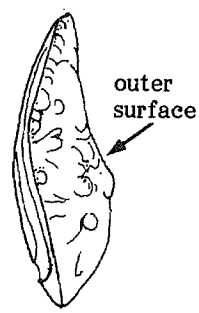
NATIONAL :

DISTINCTIVE CHARACTERS :

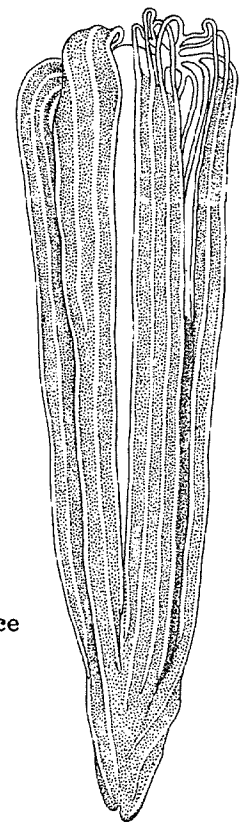
A medium-sized fish, rather elongate and compressed. Eye diameter greater than interorbital width and contained 4.2 to 5 times in head length; mouth large, oblique, terminal; teeth villiform, set in narrow bands in jaws; outer row of upper jaw enlarged, with anterior teeth canine-like; lower jaw with inner row sharp and distinctly enlarged; chin without barbel, but with 6 pores; snout with 10 pores (5 upper and 5 marginal); gill rakers long and slender, equal to or larger than gill filaments at angle of arch, 12 to 14 on first gill arch; preopercular margin smooth. Anterior portion of dorsal fin with 10 spines, posterior portion with 1 spine and 24 to 26 soft rays; pectoral fins long, 27 to 29 percent of standard length; anal fin with 2 spines and 9 soft rays, the second spine short and slender, less than half the length of first soft ray; caudal fin rhomboidal or double-emarginate. Anterior end of swimbladder with 2 complicately branched appendages, dividing into more than 10 very long tubes running backward along bladder and imbedded in a sheet of brown, fatty tissue envelopping the bladder like a mantle. Sagitta (earstone) ovoid, rather thick, its outer surface covered with large granules. Scales ctenoid (comblike) on body, cycloid on head. Lateral line extending to tip of caudal fin.

Colour: greyish silver, darker above; inside of mouth and of gill cover jet black; soft portion of dorsal fin dark-edged; pelvic and anal fins yellowish orange.


inner surface

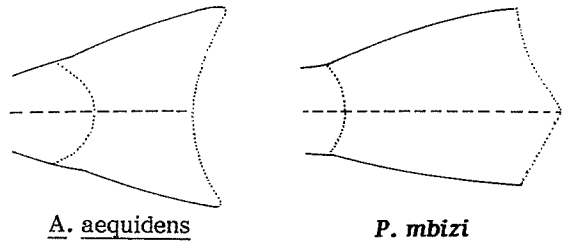


lateral view
sagitta


swimbladder

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Atractoscion aequidens: caudal fin emarginate; gill rakers rudimentary; eye small, its diameter much shorter than interorbital width and contained 5.3 to 6.9 times in head length (larger than interorbital width and 4.2 to 5 times in head length in P. mbizi); swimbladder with a pair of simple, unbranched appendages.

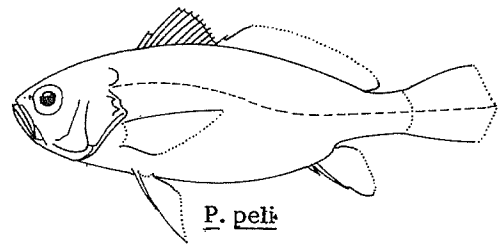


A. aequidens *P. mbizi*

caudal fin

Pteroscion peli: body short and robust; second anal fin spine long, more than 3/4 of first soft ray (short and less than 1/2 of first soft ray in P. mbizi); 4 pores at tip of chin (6 in P. mbizi).

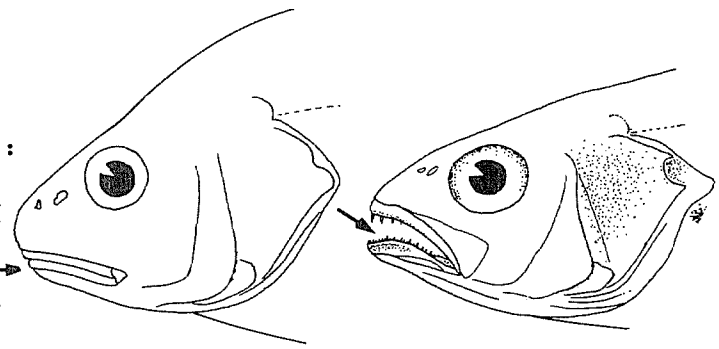
Other species of Sciaenidae: anal fin with 6 or rarely 8 (Pseudotolithus (P.) typus) soft rays (9 in P. mbizi); second anal fin spine longer, less than 4 times in head length (6.7 to 7.5 times in P. mbizi). Furthermore, mouth horizontal, inferior in Sciaena, Umbrina and the Pseudotolithus, subgenera Pinnacorvina and Hostia.



P. peli

SIZE:

Maximum: 40 cm; common to 25 cm.



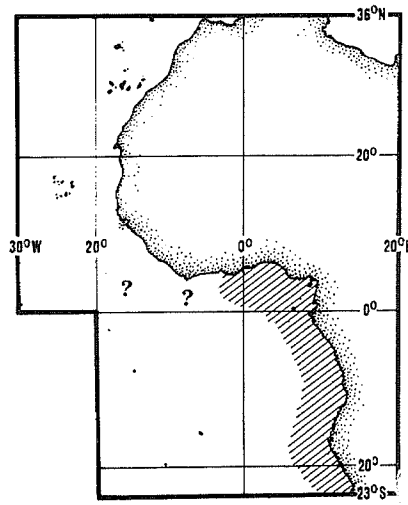
S. umbra *P. mbizi*

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Only along the West African coast, from Ghana at least to the southern border of Angola; possibly extending further north and south in deeper waters.

Inhabits the deeper shelf and upper slope regions from 50 to at least 350 m depth; most abundant between 80 and 160 m, near the bottom (mud, sand and rock) as well as in midwaters.

Feeds on fishes and shrimps.



PRESENT FISHING GROUNDS:

Taken as by-catch in trawl fisheries throughout its range; it constitutes about 4 percent of the total sciaenid catch off Angola.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls.

Marketed mostly fresh.

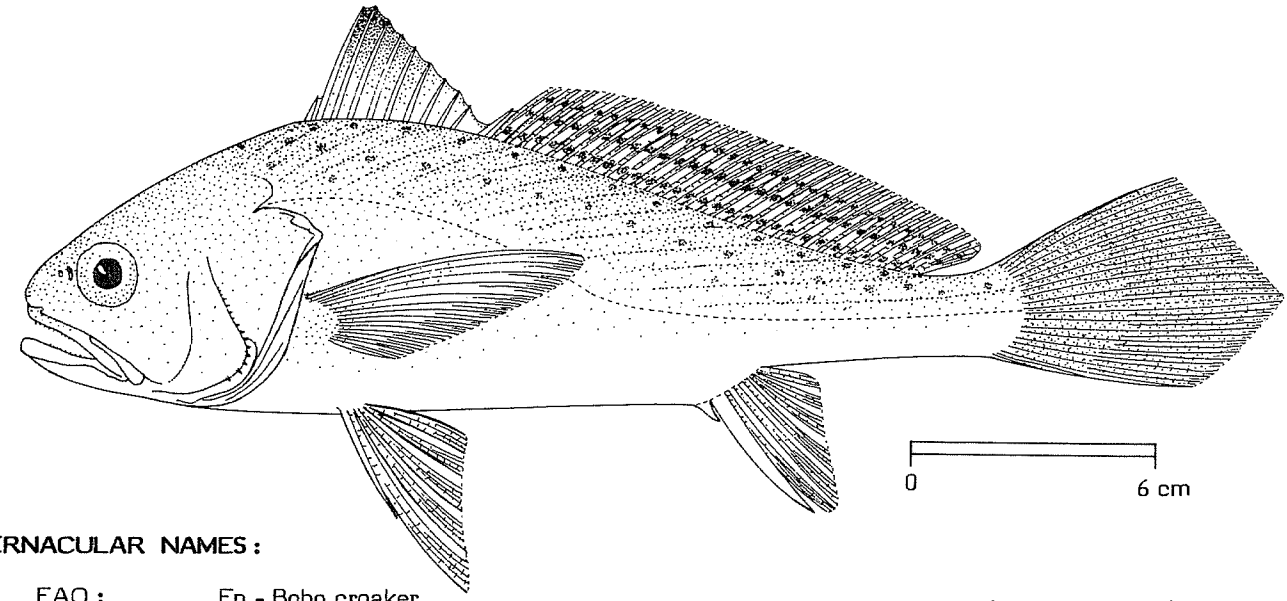
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCIAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Pseudotolithus (Fonticulus) elongatus (Bowdich, 1825)

OTHER SCIENTIFIC NAMES STILL IN USE : Corvina nigrita Cuvier, 1830



VERNACULAR NAMES :

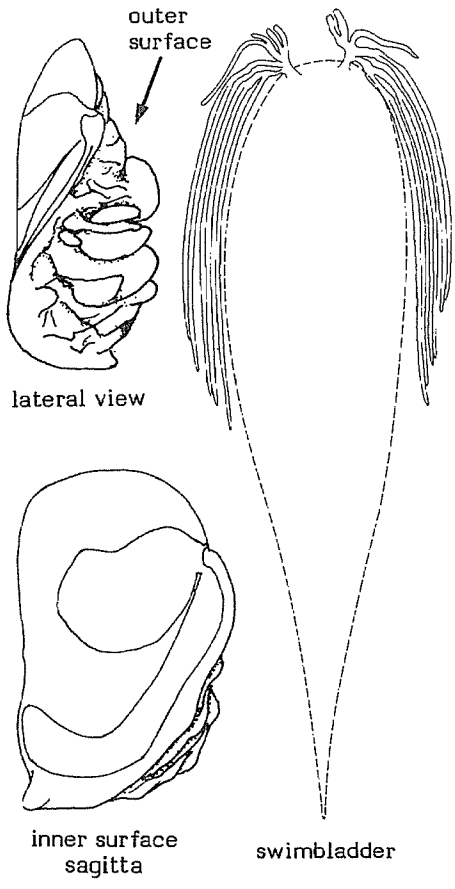
FAO : En - Bobo croaker
Fr - Otolithe bobo
Sp - Corvina bobó

NATIONAL :

DISTINCTIVE CHARACTERS :

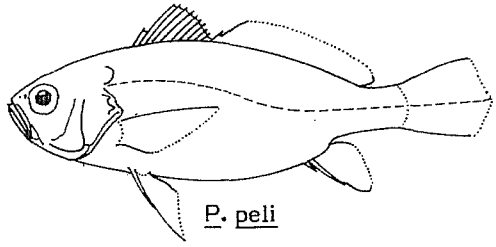
A medium-sized fish, its body elongate and compressed. Head short; eye rather large, its diameter contained 3.6 to 4.6 times in head length; mouth large, strongly oblique, either terminal or lower jaw slightly projecting; maxilla extending beyond hind margin of eye; teeth small, set in narrow bands in jaws; outer row in upper jaw, and inner row in lower jaw slightly enlarged; chin without barbel but with 6 pores, the medial pair located at tip of lower jaw; snout with 5 marginal pores only; gill rakers long and slender, longer than gill filaments at angle of arch, 19 to 22 on first gill arch; preopercular margin serrated, with a few strong spines at angle. Anterior portion of dorsal fin with 10 spines, posterior portion with 1 spine and 29 to 34 (usually 31 or 32) soft rays; anal fin with 2 spines and 6 soft rays, the second spine very strong, about equal in length to first soft ray; caudal fin pointed (juveniles) to rhomboidal (adults). Anterior end of swimbladder with one pair of appendages dividing into a group of short anterior branches and a series of 5 or 6 long tubes running backward for about half the length of bladder. Sagitta (earstone) ovoid, thick, twisted around longitudinal axis, its outer surface covered with large granules. Scales on body mostly ctenoid (comb-like); scales on breast and head smaller and cycloid. Lateral line extending to tip of caudal fin.

Colour: silvery grey with a reddish tint often with oblique lines and scattered dark spots on back; belly yellowish during breeding season; fins greyish; dark spots on soft part of dorsal fin forming 2 or 3 longitudinal rows; tip of first dorsal fin dusky, pelvic and anal fins yellowish.



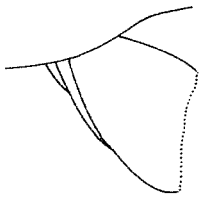
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Pteroscion peli: body short and robust; anal fin with 8 or 9 soft rays (6 in P. (F.) elongatus).

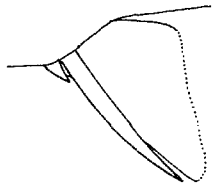


P. peli

Other species of Sciaenidae: second anal fin spine shorter, less than 2/3 of first soft ray (nearly as long as first soft ray in P. (F.) elongatus); all species, except Argyrosomus regius, Pseudotolithus (Hostia) moorii and Umbrina cirrosa with 7 or more anal fin rays. Furthermore, mouth inferior, horizontal, in Sciaena, Umbrina, and the Pseudotolithus subgenera Pinnacorvina and Hostia.



Pseudotolithus (Hostia) moorii



P. (Fonticulus) elongatus

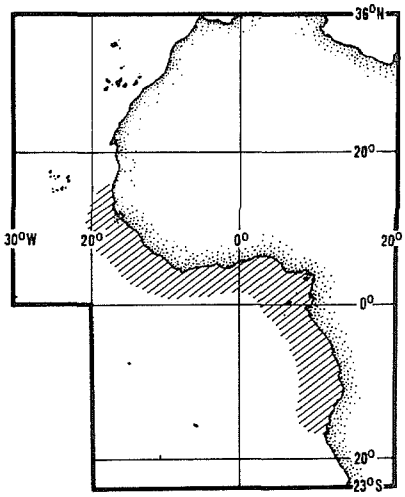
anal fin

SIZE:

Maximum: 45 cm; common to 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Only along the West African coast, from Senegal to Angola; possibly extending further north.



Inhabits mud bottoms in coastal waters, normally from the shoreline to about 50 m depth; also enters estuaries and coastal lagoons; moves further offshore (to about 100 m depth) for spawning during the rainy season.

Feeds chiefly on shrimps and other small crustaceans.

PRESENT FISHING GROUNDS:

Throughout its range (artisanal and trawl fisheries).

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The combined catch of Pseudotolithus species reported from the area totalled 64,745 tons in 1978.

Caught with bottom trawls, set nets, beach seines and on line gear.

Marketed fresh, dried salted and smoked.

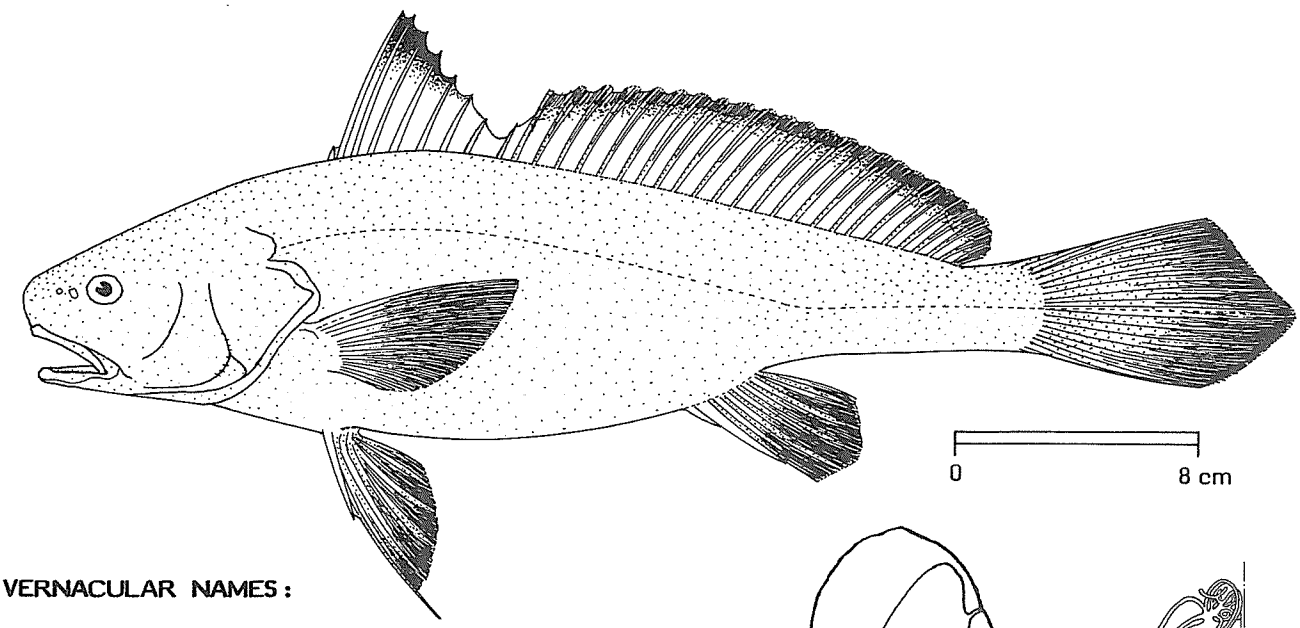
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCIAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Pseudotolithus (Hostia) moorii (Günther, 1865) .

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES :

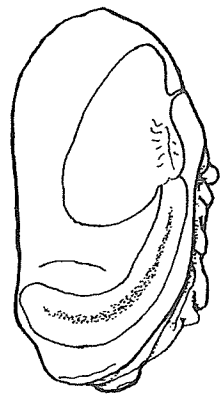
FAO : En - Cameroon croaker
Fr - Otolithe camerounais
Sp - Corvina del Camerún

NATIONAL :

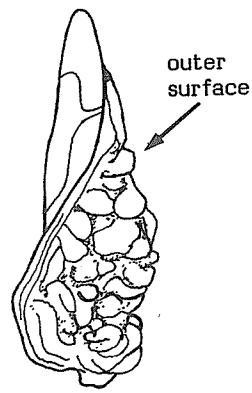
DISTINCTIVE CHARACTERS :

A medium-sized fish, its body elongate and rounded in cross section. Eye small, 7 to 8 times in head length; mouth rather small, inferior, horizontal, the maxilla extending beyond hind margin of eye; teeth villiform, set in bands in both jaws, those in outer row of upper jaw close-set and distinctly enlarged; chin with 6 pores, the medial pair minute; snout conspicuously blunt, with 5 close-set marginal pores, but without upper pores; gill rakers short and stout, 14 to 17 on first gill arch. Anterior portion of dorsal fin with 8 (rarely 7) spines, posterior portion with 1 spine and 25 to 27 soft rays; anal fin with 2 spines and 7 (rarely 6) soft rays; pectoral fins short and broad; caudal fin asymmetrically pointed. Anterior end of swimbladder with 1 pair of appendages dividing into a group of short anterior branches and a series of very long tubes running backward to well beyond end of bladder. Sagitta (earstone) ovoid, thick, twisted around longitudinal axis, its outer surface covered with large granules. Scales cycloid (smooth to touch). Lateral line extending to tip of caudal fin.

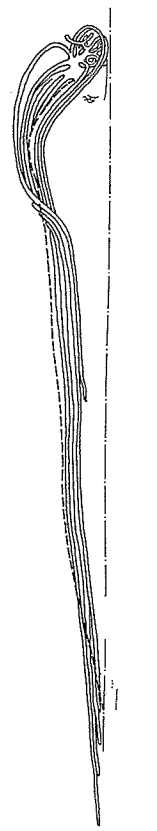
Colour: more or less uniform dark grey; pectoral fins, tips of pelvics and anal fins jet-black; tip of spinous portion and edge of soft portion of dorsal fin black; caudal fin darker than body.



inner surface



lateral view
sagitta

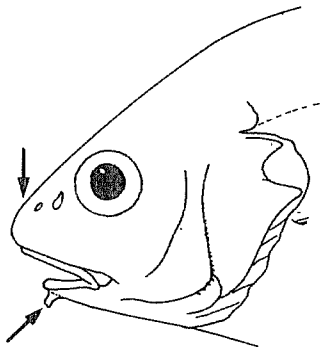


swimbladder
(half)

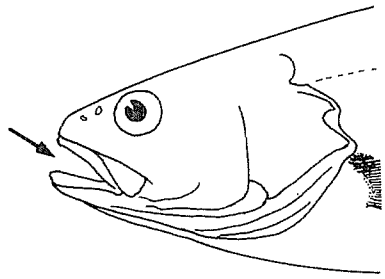
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Pseudotolithus (Pinnacorvina) epipercus, Sciaena umbra and Umbrina species: mouth also inferior and horizontal, but snout conical (blunt in P. (H.) moorii); caudal fin short, emarginate to S-shaped; 9 or more spines in anterior portion of dorsal fin (7 or 8 in P. (H.) moorii). Furthermore, a short rigid barbel in Umbrina species.

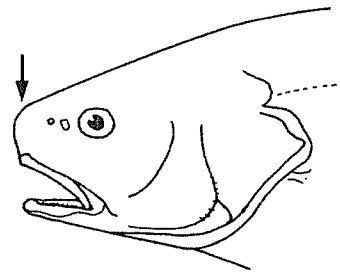
Other species of Sciaenidae: mouth large, oblique and terminal, lower jaw often projecting; eye much larger.



Umbrina sp.



Argyrosomus sp.

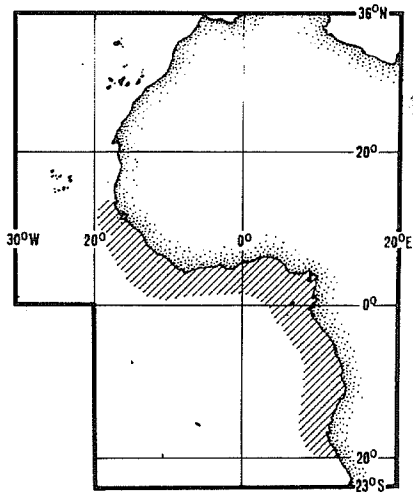


Pseudotolithus (Hostia) moorii

SIZE:

Maximum: 50 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:



Only along the West African coast, from Gambia to Angola.

Inhabits mud bottoms from about 15 to 70 m depth.

Feeds on small shrimps, worms and other bottom-dwelling invertebrates.

PRESENT FISHING GROUNDS:

Incidentally taken through its range; apparently not abundant.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls and on line gear (possibly other artisanal gear).

Marketed fresh and smoked.

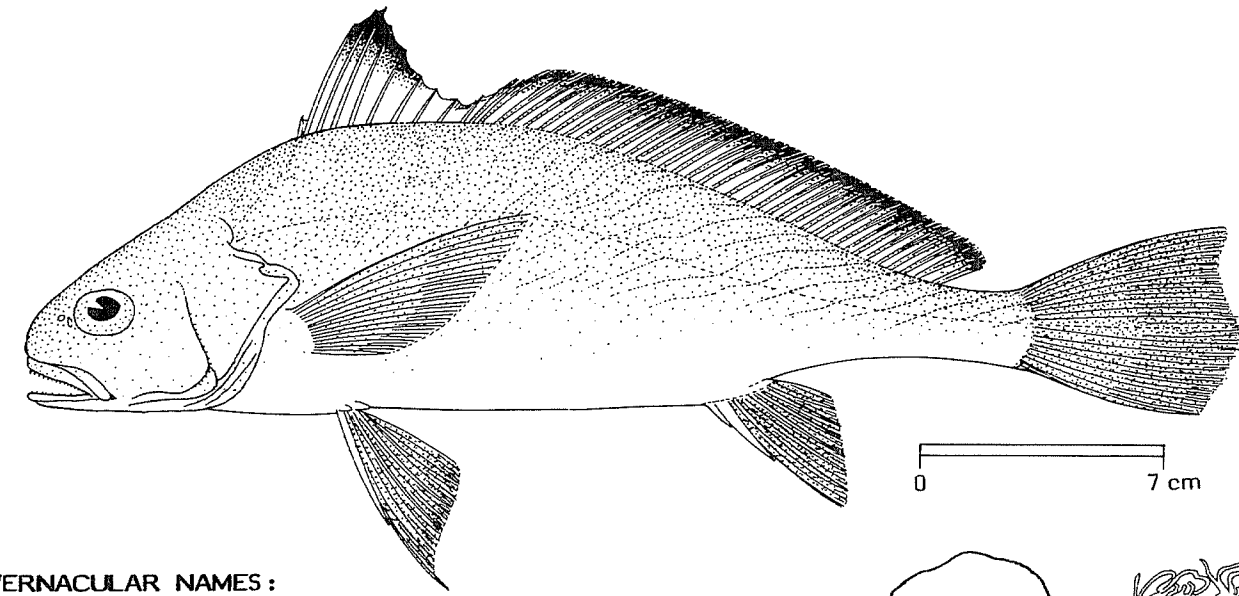
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCIAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Pseudotolithus (Pinnacorvina) epipercus Bleeker, 1863

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES :

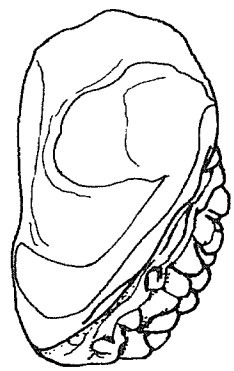
FAO : En - Guinea croaker
Fr - Otolithe guinéen
Sp - Corvina de Guinea

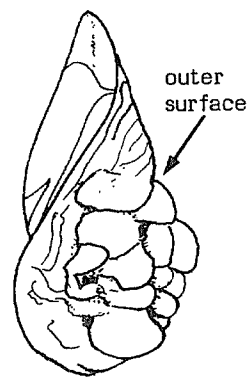
NATIONAL :

DISTINCTIVE CHARACTERS :

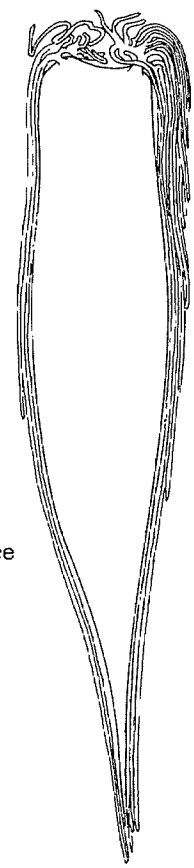
A medium-sized fish, its body moderately elongate and compressed. Eye diameter less than interorbital width, contained 4.6 to 5.4 times in head length; mouth inferior, nearly horizontal, maxilla reaching to posterior half of eye; teeth villiform, set in bands in both jaws, those in outer row of upper jaw distinctly enlarged and close-set, those in inner row of lower jaw slightly enlarged; chin without barbel, but with 6 pores; snout with 5 marginal pores only; gill rakers moderately long and slender, but shorter than gill filaments at angle of arch, 14 to 18 on first gill arch; preopercular margin weakly serrated but never spiny. Anterior portion of dorsal fin with 9 spines, posterior portion with 1 spine and 35 to 39 (usually 37 or 38) soft rays; anal fin with 2 spines and 7 soft rays, the second spine short and stout; caudal fin S-shaped. Anterior end of swimbladder with one pair of appendages dividing into a group of short anterior branches and a variable number of very long tubes running backward to well beyond hind end of bladder. Sagitta (earstone) ovoid, thick, twisted around its longitudinal axis, its outer surface covered with large granules. Scales mostly ctenoid (comblike), except for some cycloid scales on breast and suborbital region.

Colour: usually very dark, but occasionally light silver; often with faint oblique dark lines on sides; fins greyish to very dark; dorsal fin dark-edged, anal fin usually dark.


inner surface



lateral view
sagitta


swimbladder

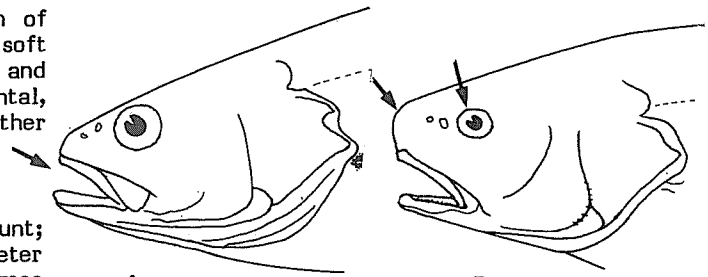
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Sciaenidae: second portion of dorsal fin shorter, with 34 or less soft rays (37 to 39 soft rays in P. (P.) epipercus); most with a large, oblique and terminal mouth. Those species having a horizontal, inferior mouth like P. (P.) epipercus can be further distinguished by the following characters:

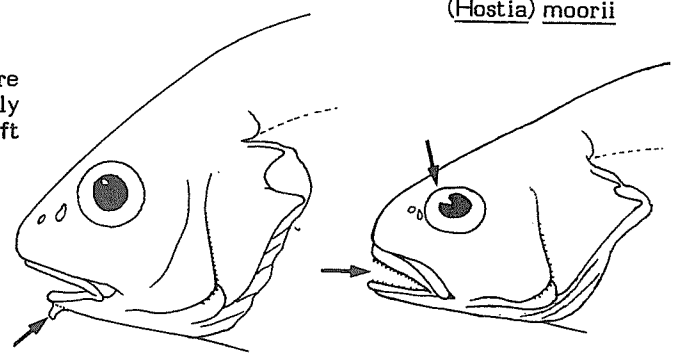
Pseudotolithus (Hostia) moorii: snout very blunt; caudal fin pointed; eye much smaller, its diameter contained 7.2 to 8.4 times in head length (4.6 to 5.4 times in P. (P.) epipercus).

Sciaena umbra: anterior profile steeper, back more strongly arched; anterior portion of dorsal fin distinctly higher, its tip, when depressed, reaching beyond first soft ray.

Umbrina species: a short, rigid barbel on chin.



Argyrosomus sp. Pseudotolithus (Hostia) moorii



Umbrina sp. *P. (Pinnacorvina) epipercus*

SIZE:

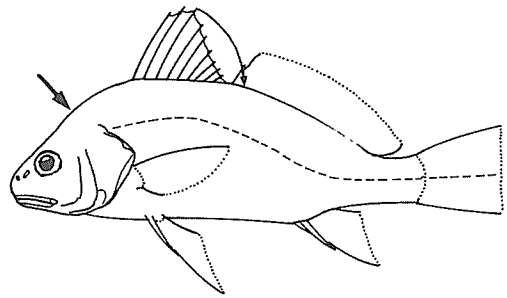
Maximum: 60 cm; common to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Only along the West African coast, from Guinea to Angola; possibly extending further north.

Inhabits mud bottoms in coastal waters, normally from the shoreline to about 70 m depth, but moves occasionally into deeper waters (to about 160 m); also enters estuaries and coastal lagoons.

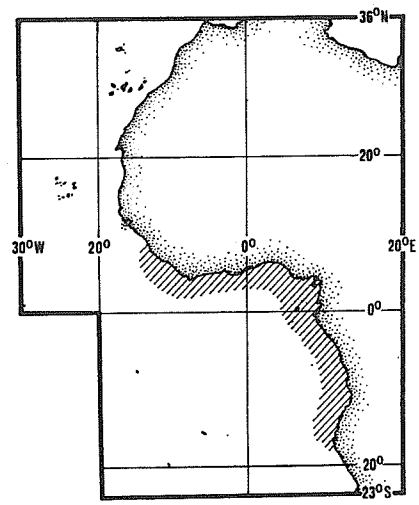
Feeds chiefly on benthic invertebrates.



S. umbra

PRESENT FISHING GROUNDS:

Throughout its range (artisanal and trawl fisheries).



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The combined catch of Pseudotolithus species reported from the area totalled 64,745 tons in 1978.

Caught with bottom trawls and on line gear.

Marketed fresh and smoked.

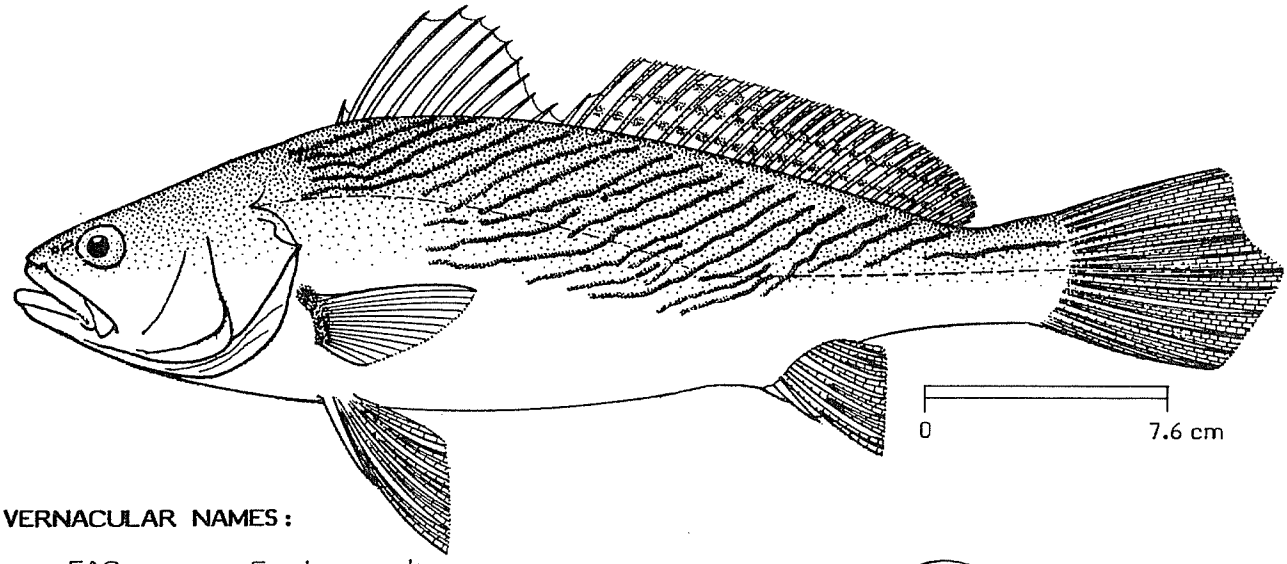
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCIAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Pseudotolithus (Pseudotolithus) brachygnathus Bleeker, 1863

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES :

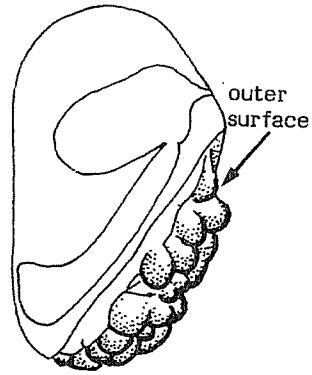
FAO : En - Law croaker
Fr - Otolithe gabo
Sp - Corvina reina

NATIONAL :

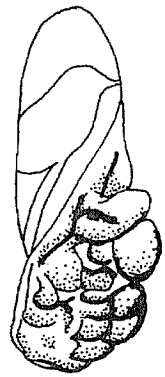
DISTINCTIVE CHARACTERS :

A large fish, its body elongate and moderately compressed. Eye rather large, its diameter greater than interorbital width and contained 4.1 to 6 times in head length; mouth rather large, oblique, the lower jaw slightly projecting; maxilla reaching to below posterior half of eye; teeth villiform, set in narrow bands in jaws; outer row of upper jaw enlarged and sharp, with one pair of canine-like teeth anteriorly; inner row of lower jaw with a few enlarged teeth laterally; chin without barbel but with 6 pores; snout with 5 marginal pores only; gill rakers long and slender, longer than gill filaments at angle of arch, 16 to 18 on first gill arch; preopercular margin serrated, often with sharp spines at angle. Anterior portion of dorsal fin with 10 spines, posterior portion with 1 spine and 25 to 27 soft rays; pectoral fin short, 18 to 20 percent of standard length; anal fin with 2 spines and 7 soft rays, the second spine short and stout; caudal fin S-shaped to asymmetrically pointed. Anterior end of swimbladder with one pair of appendages dividing into a gorup of short anterior branches and more than 10 very long and slender tubes running backward well beyond hind end of bladder. Sagitta (earstone) ovoid, thick, twisted around longitudinal axis, its outer surface covered with large granules. Scales ctenoid (comblike) on body and cycloid on entire surface of head.

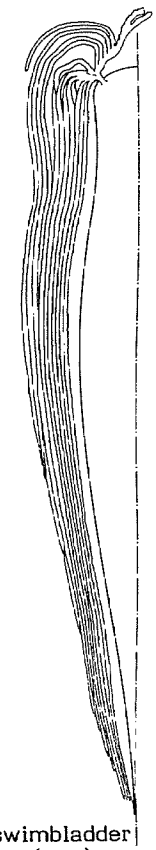
Colour: silvery grey, with a reddish tint and dark oblique lines on back and upper sides; a black spot on pectoral fin axil; soft portion of dorsal fin with small spots forming 2 or 3 dark lines; caudal fin dusky.



inner surface



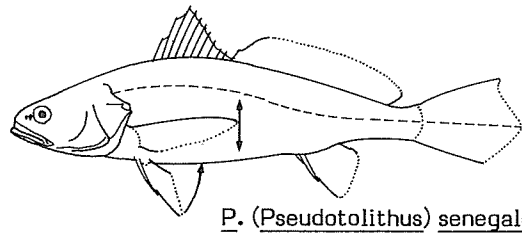
lateral view
sagitta



swimbladder
(half)

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

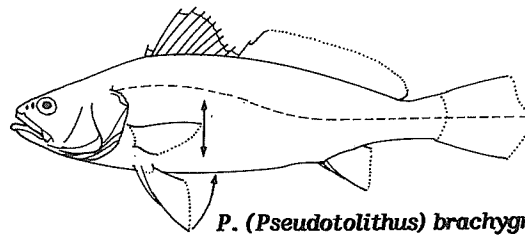
Pseudotolithus (P.) senegalensis and P. (P.) typus: 28 to 33 soft rays in posterior portion of dorsal fin (25 to 27 in P. (P.) brachygnathus). Furthermore, pectoral fins longer in P. (P.) senegalensis, 25 to 28 percent of standard length, their tips reaching to or beyond pelvic fin tips (18 to 20 percent of standard length, tips falling short of pelvic fin tips in P. (P.) brachygnathus); interorbital width very narrow in P. (P.) typus.



P. (Pseudotolithus) senegalensis

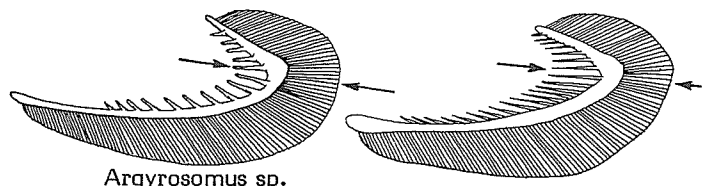
Argyrosomus species and Miracorvina angolensis: gill rakers much shorter than gill filaments at angle of first gill arch; appendages of swimbladder with only 3 tubes (Miracorvina angolensis) or arborescent (Argyrosomus species).

Pseudotolithus (Fonticulus) elongatus: 6 soft rays in anal fin (7 in P. (P.) brachygnathus); second anal fin spine almost as long as first soft ray (only half the length of first ray in P. (P.) brachygnathus).



P. (Pseudotolithus) brachygnathus

Pentheroscion mbizi and Pteroscion peli: 8 or 9 soft rays in anal fin. Furthermore, body short and robust in P. peli, and pectoral fins exceeding tips of pelvic fins when apressed in P. mbizi.

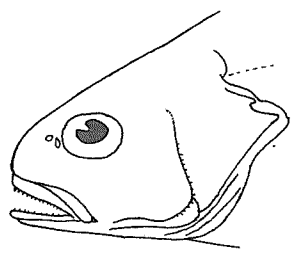


Argyrosomus sp.
M. angolensis

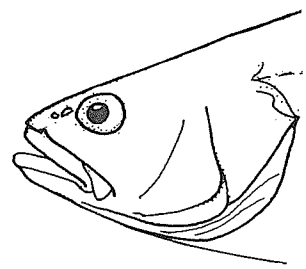
Pseudotolithus (P.) brachygnathus
first gill arch

Atractoscion aequidens: caudal fin emarginate; gill rakers rudimentary.

Other species of Sciaenidae: mouth inferior, horizontal; caudal fin emarginate to S-shaped, except in Pseudotolithus (Hostia) moorii. Also, a short barbel on chin in Umbrina species.



P. (Pinnacorvina) epipercus



P. (Pseudotolithus) brachygnathus

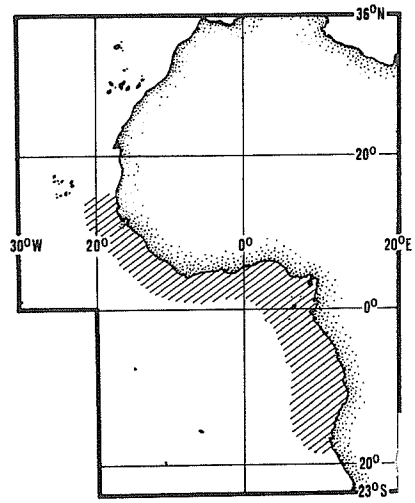
SIZE:

Maximum: 230 cm; common to 50 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Only along the West African coast, from Senegal southward at least to Angola.

Inhabits mud and sandy mud bottoms in coastal waters, usually from the shoreline to about 75 m depth, but may extend down to at least 150 m; reported to enter coastal lagoons with slightly hypersaline water (36.5‰S).



PRESENT FISHING GROUNDS:

Regularly fished throughout its range; makes up for about 7% of the total sciaenid catch off Angola. Often confused with P. (P.) senegalensis.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The combined catch of Pseudotolithus species reported from the area totalled 64,745 tons in 1978.

Caught with bottom trawls, fixed bottom nets and on line gear.

Marketed fresh and dried salted.

SCIAEN Pseud 5

1981

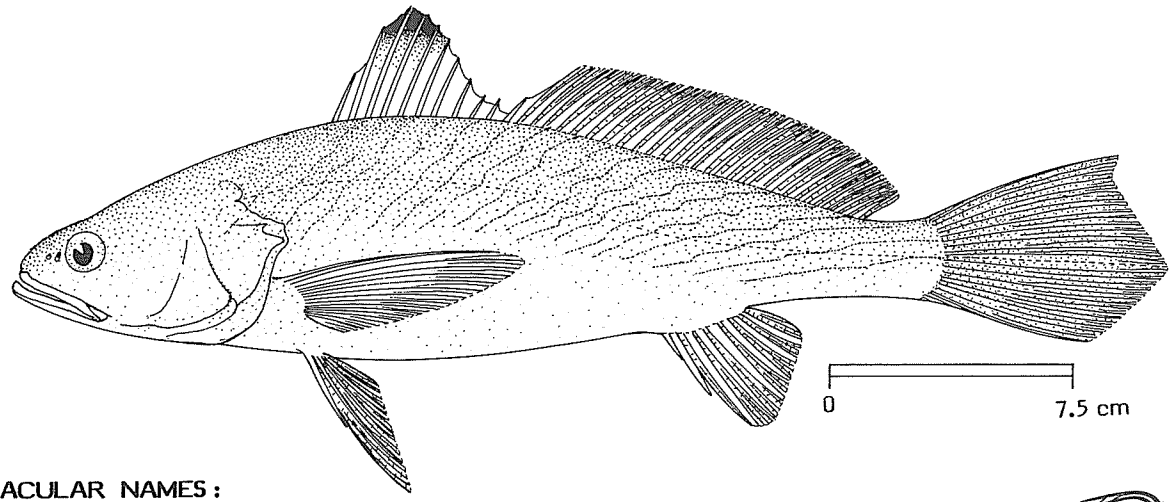
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCIAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Pseudotolithus (Pseudotolithus) senegalensis (Valenciennes, 1833)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES :

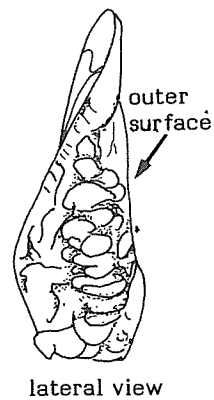
FAO : En - Cassava croaker
Fr - Otolithe sénégalais
Sp - Corvina casava

NATIONAL :

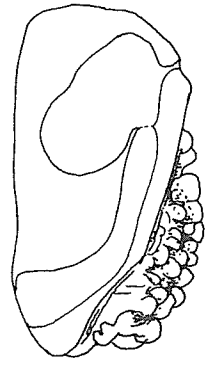
DISTINCTIVE CHARACTERS :

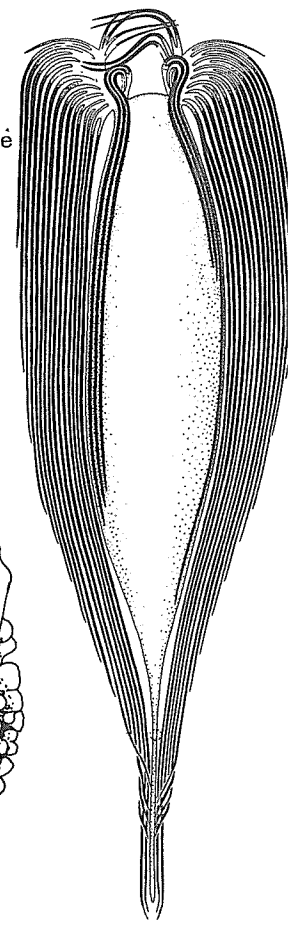
A large fish, its body elongate and compressed. Eye rather small, its diameter less than interorbital width and contained 5.7 to 6.4 times in head length; mouth large, oblique, the lower jaw projecting; maxilla reaching to below hind margin of eye or beyond; teeth villiform, set in narrow bands in jaws; outer row of upper jaw enlarged and sharp, with one pair of large canines anteriorly; inner row of lower jaw with a few enlarged teeth laterally; chin without barbel but with 6 pores; snout with 5 marginal pores only; gill rakers long and slender, longer than gill filaments at angle of arch, 12 to 16 (and often 1 or 2 additional tubercle-like rakers at either end) on first gill arch; preopercular margin slightly serrated, without spines. Anterior portion of dorsal fin with 10 spines, posterior portion with 1 spine and 28 to 33 soft rays; anal fin with 2 spines and 7 soft rays, the second spine rather short and slender; pectoral fins long, 25 to 28 percent of standard length, their tips reaching to, or extending beyond pelvic fin tips when apressed; caudal fin asymmetrically pointed. Anterior end of swimbladder with a pair of complicated tube-like appendages divided into an anterior group of rather short branches, and two posterior groups of long tubes running backward along bladder, the dorso-lateral group more numerous and longer than the ventral group. Sagitta (earstone) somewhat angulate, slightly twisted along its longitudinal axis, its outer surface covered with large granules. Scales weakly ctenoid (comblike), except for snout and suborbital region where they are cycloid. Lateral line extending to tip of caudal fin.

Colour: silvery grey, darker above, with distinct dark, oblique lines along scale rows on back and upper sides, becoming horizontal and undulated posteriorly; inside of opercle jet black. Spinous portion of dorsal fin with a black tip; pelvic and anal fins dusky to yellowish, caudal fin dark.



lateral view


inner surface sagitta


swimbladder

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Pseudotolithus (P.) brachygnathus and P. (P.) typus: pectoral fins shorter, 18 to 21 percent of standard length, their tips falling short of pelvic fin tips when apressed (25 to 28 percent of standard length, reaching to or beyond pelvic fin tips in P. (P.) senegalensis); eye diameter greater than interorbital width. Furthermore, 25 to 27 soft rays in posterior portion of dorsal fin in P. (P.) brachygnathus (28 to 33 in P. (P.) senegalensis); 9 instead of 10 spines in anterior portion of dorsal fin, body rather rounded in cross section, and interorbital space very narrow in P. (P.) typus.

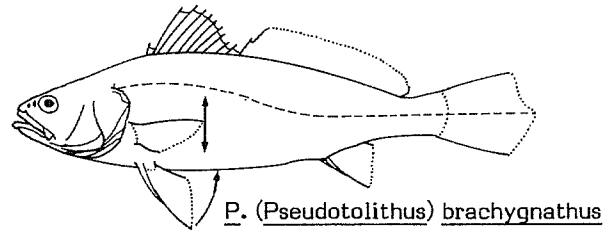
Argyrosomus species and Miracorvina angolensis: gill rakers much shorter than gill filaments at angle of first gill arch; appendages of swimbladder with only 3 tubes (M. angolensis) or arborescent (Argyrosomus species).

Pseudotolithus (Fonticulus) elongatus: 6 soft rays in anal fin (7 in P. (P.) senegalensis); second anal fin spine almost as long as first soft ray (slightly over half the length of first soft ray in P. (P.) senegalensis).

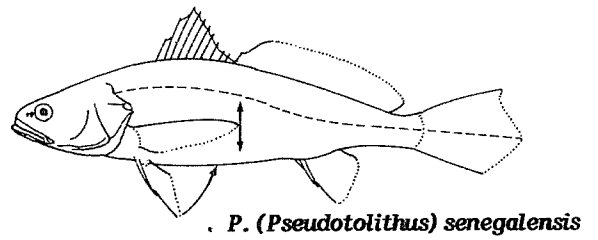
Pentheroscion mbizi and Pteroscion peli: 8 or 9 soft rays in anal fin; eye larger. Furthermore, body short and robust in P. peli; mouth black in P. mbizi.

Atractoscion aequidens: caudal fin emarginate; gill rakers rudimentary.

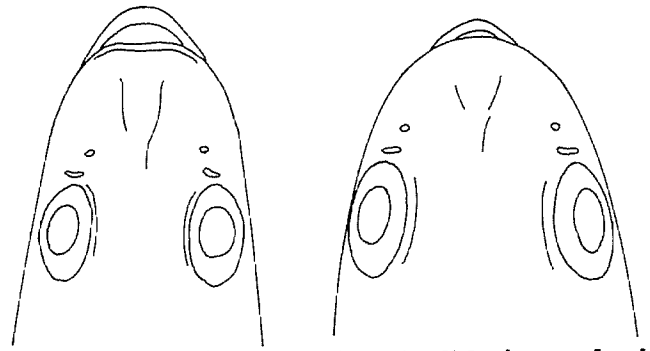
Other species of Sciaenidae: mouth inferior, horizontal. Also, a short barbel on chin in Umbrina species.



P. (Pseudotolithus) brachygnathus

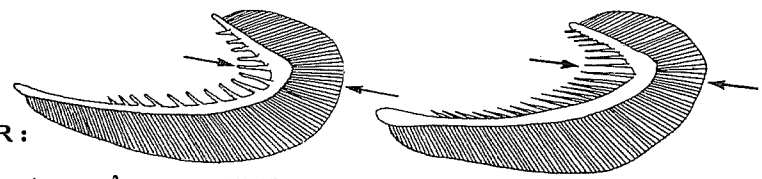


P. (Pseudotolithus) senegalensis



P. (Pseudotolithus) typus *P. (Pseudotolithus) senegalensis*

top of head



Argyrosomus sp.
M. angolensis

Pseudotolithus (P.) senegalensis

first gill arch

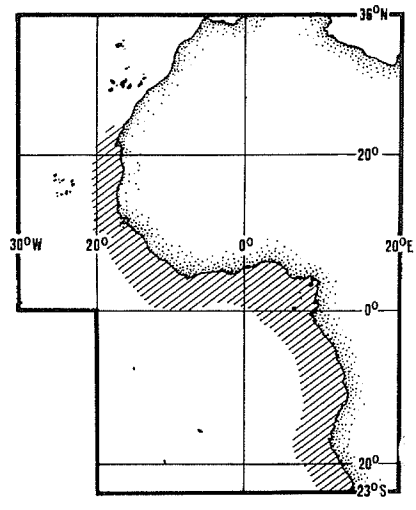
SIZE:

Maximum: 100 cm; common to 50 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Only along the West African coast, from Morocco to Angola, but rare north of Senegal.

Inhabits mud, sandy mud or rock bottoms in coastal waters from the shoreline to about 70 m depth, the smaller individuals usually being found in shallow waters; moves to midwaters when bottom water temperature falls below 18°C; rarely enters estuaries; spawning occurs from November to March in waters of 22 to 25°C.



PRESENT FISHING GROUNDS:

Particularly off tropical West Africa, where it occasionally accounts for 30 percent of trawl catches; off Angola, it constitutes 6 percent of the total sciaenid catch.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The combined catch of Pseudotolithus species reported from the area totalled 64,745 tons in 1978.

Caught with bottom trawls, set nets, seines and on line gear.

Marketed fresh, dried salted and smoked; occasionally reduced to fishmeal and oil.

SCIAEN Pseud 6

1981

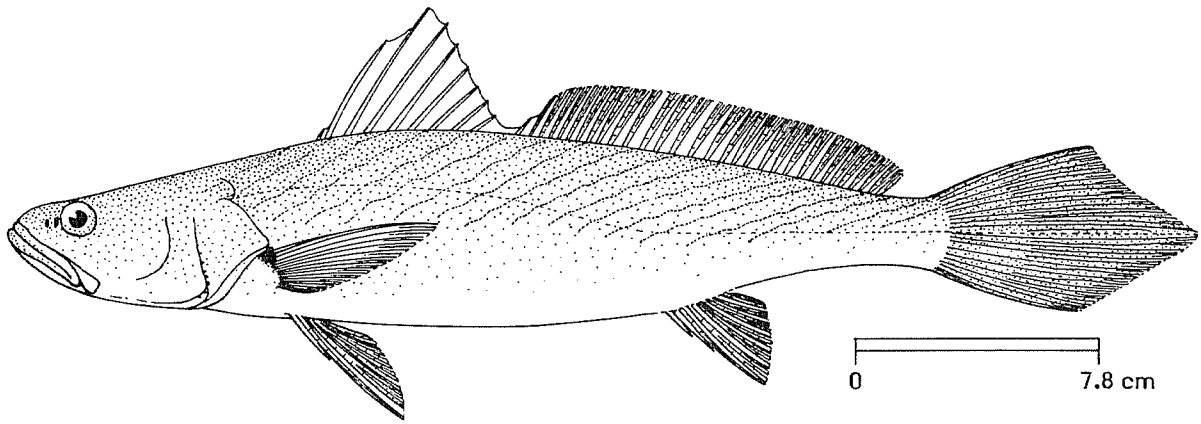
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCIAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Pseudotolithus (Pseudotolithus) typus Bleeker, 1863

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES :

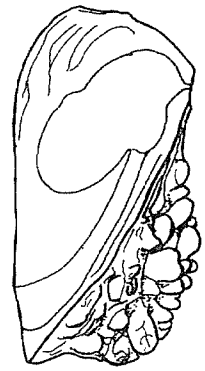
FAO : En - Longneck croaker
Fr - Otolithe nanka
Sp - Corvina bosoro

NATIONAL :

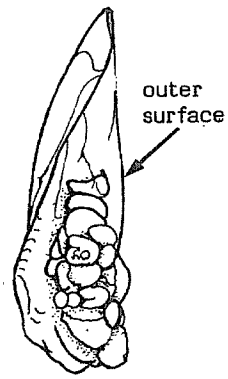
DISTINCTIVE CHARACTERS :

A large fish, its body long and rather rounded in cross section. Head long, concave on nape, interorbital space very narrow, less than eye diameter; mouth large, strongly oblique, the lower jaw distinctly projecting; maxilla reaching beyond hind margin of eye; villiform teeth set in narrow bands in jaws; outer row of upper jaw enlarged and sharp, with one pair of large canines anteriorly; chin without barbel but with 6 pores; snout with 5 marginal pores only; gill rakers long and slender, longer than gill filaments at angle of arch, 14 to 21 on first gill arch; preopercular margin smooth, sometimes with a few flexible spines at angle. Anterior portion of dorsal fin with 9 spines, posterior portion with 1 spine and 28 to 32 soft rays; anal fin with 2 spines and 7 (rarely 8) soft rays, the second spine rather short; pectoral fins 19 to 21 percent of standard length, their tips falling short of pelvic fin tips when apressed; caudal fin asymmetrically pointed. Anterior end of swimbladder with a pair of complicated, tubelike appendages divided into an anterior group of rather short branches and 2 posterior groups of very long tubes running backward along ventral and lateral sides of bladder up to its hind end, the dorsolateral group more numerous than the ventral group. Sagitta (earstone) somewhat angulate, slightly twisted along longitudinal axis, its outer surface covered with large granules. Scales ctenoid (comblike) except on top of head and in suborbital region, where they are cycloid. Lateral line extending to tip of caudal fin.

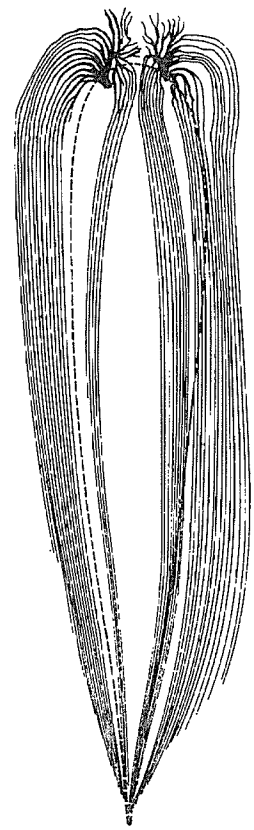
Colour: silvery grey, darker above, sometimes with faint dark oblique lines following scale rows on back and upper sides; inside of gill cover black; pectoral, anal and pelvic fins yellowish, caudal fin dark grey.



inner surface



lateral view
sagitta



swimbladder

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Sciaenidae: interorbital space much wider, 7 times or less in head length (more than 8 times in P. (P.) typus). Other species with a large, oblique and terminal mouth like P. (P.) typus can be further distinguished as follows:

Pseudotolithus (P.) brachygnathus and P. (P.) senegalensis: mouth not as strongly oblique; nape convex; body more compressed; 10 spines in anterior portion of dorsal fin (9 in P. (P.) typus). Furthermore, 25 to 27 soft dorsal fin rays in P. (P.) brachygnathus (28 to 32 in P. (P.) typus); pectoral fins longer, reaching to or exceeding pelvic fin tips in P. (P.) senegalensis.

Argyrosomus species and Miracorvina angolensis: gill rakers much shorter than gill filaments at angle of first arch; appendages of swimbladder with only 3 tubes (M. angolensis) or arborescent (Argyrosomus species).

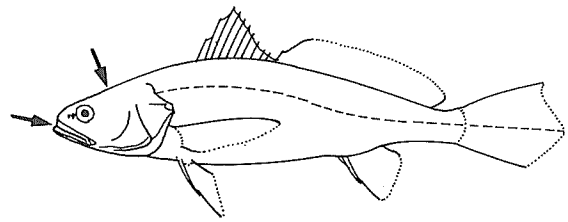
Pseudotolithus (Fonticulus) elongatus: 6 soft rays in anal fin (7 or 8 in P. (P.) typus); second anal fin spine almost as long as first soft ray (about half the length of first soft ray in P. (P.) typus).

Pentheroscion mbizi and Pteroscion peli: 10 spines in anterior portion of dorsal fin; eye large, less than 5 times in head length. Futhermore, body short and robust in P. peli; 9 soft rays in anal fin and mouth black in P. mbizi.

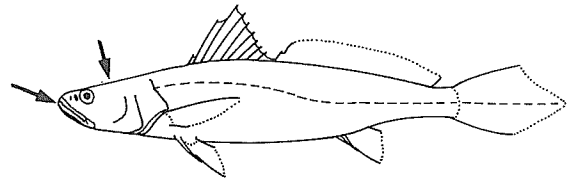
Atractoscion aequidens: caudal fin emarginate; gill rakers rudimentary.

P. (Pseudotolithus) senegalensis ***Pseudotolithus (P.) typus***

top of head



P. (Pseudolithus) senegalensis



P. (Pseudotolithus) typus

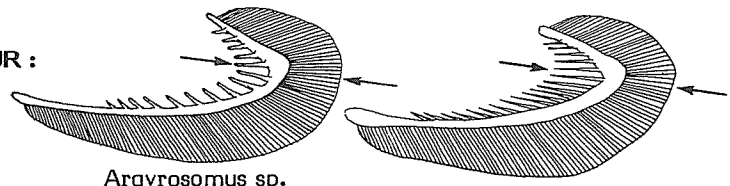
SIZE:

Maximum: 100 cm; common to 50 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Only along the West coast of Africa, from Morocco to Angola, becoming scarce north of Cape Verde.

Inhabits mud and sandy mud bottoms, in coastal waters from the shoreline to about 150 m depth, but most abundant in less than 60 m, at temperatures above 18°C; often found in estuaries.

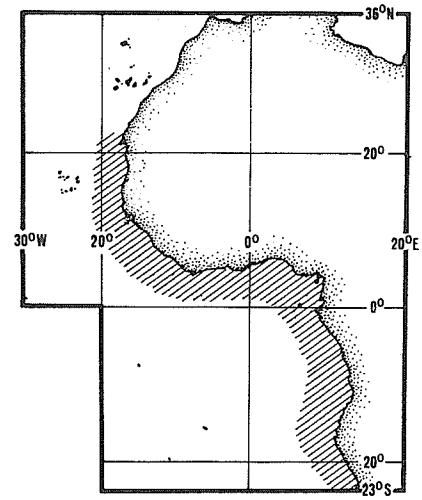


Argyrosomus sp.

M. angolensis

P. (Pseudotolithus) typus

first gill arch



PRESENT FISHING GROUNDS:

Mainly from the Gulf of Guinea to Congo; one of the most important commercial sciaenids in the area.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The combined catch of Pseudotolithus species reported from the area totalled 64,745 tons in 1978.

Caught with bottom trawls, fixed bottom nets and on line gear.

Marketed fresh, dried salted and smoked.

SCIAEN Ptero 1

1981

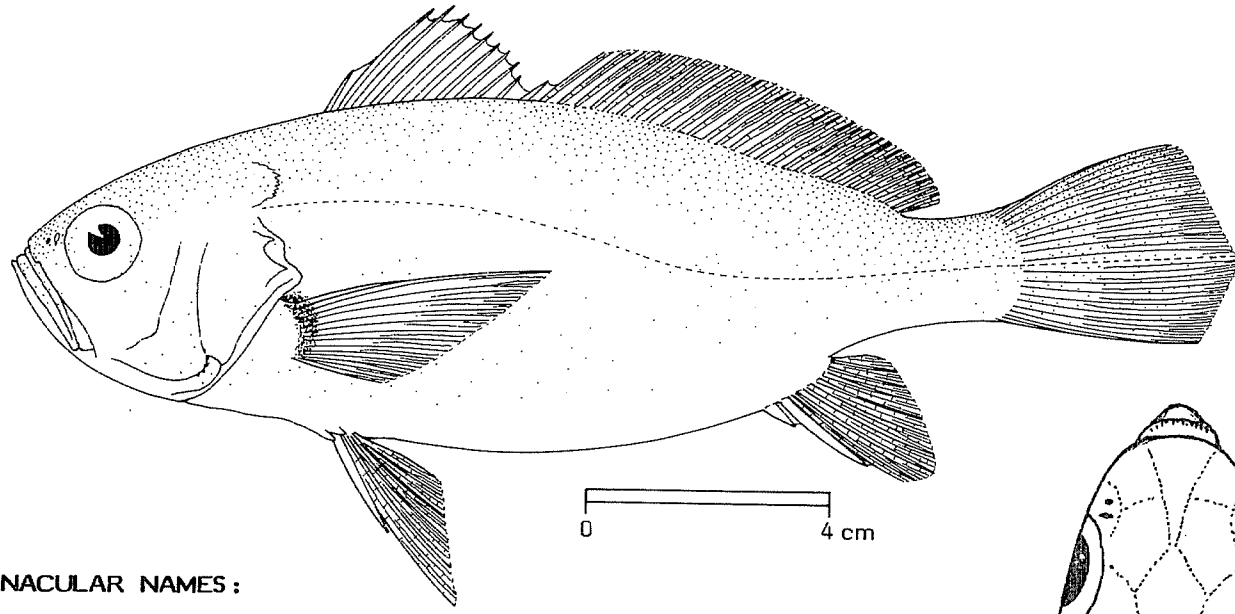
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCIAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Pteroscion peli (Bleeker, 1863)

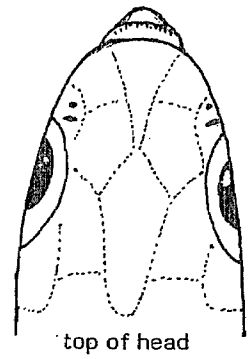
OTHER SCIENTIFIC NAMES STILL IN USE : None

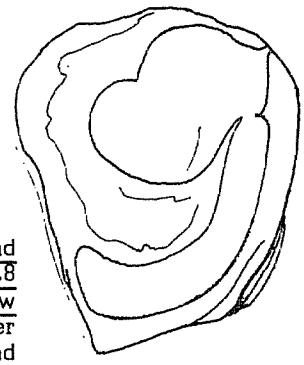


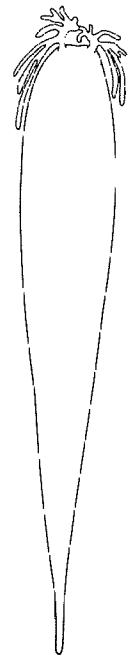
VERNACULAR NAMES :

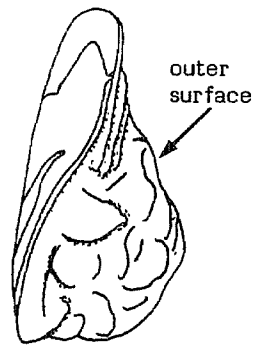
FAO : En - Boe drum
Fr - Courbine pélin
Sp - Bombache boé

NATIONAL :


top of head


inner surface


swimbladder



lateral view
sagitta

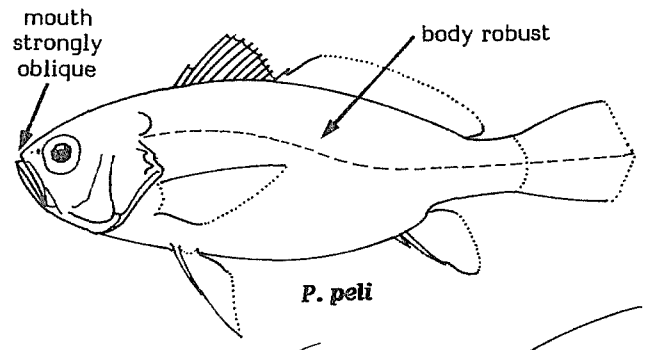
DISTINCTIVE CHARACTERS :

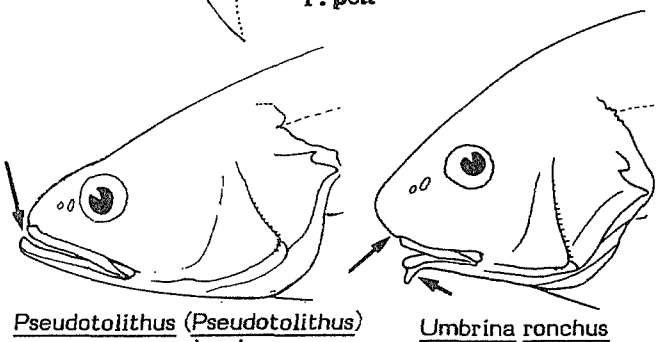
A small to medium-sized fish, short and robust. Top of head strongly cavernous, soft to touch; eye large, its diameter 3.7 to 3.8 times in head length; mouth large, strongly oblique, lower jaw projecting; teeth small, set in 1 to 3 rows along edges of jaws, outer row in upper jaw and inner row in lower jaw slightly enlarged and sharp; chin without barbel, but with 4 small pores; snout with 5 marginal pores only; gill rakers very long and slender, 23 to 25 on first gill arch; preopercular margin nearly smooth, often with weak spinules. Anterior portion of dorsal fin with 10 spines, posterior portion with 1 spine and 27 to 29 soft rays; anal fin with 2 spines and 9 (rarely 8) soft rays, the second spine long and stout, about 3/4 the length of first soft ray; caudal fin bluntly rhomboidal or double-emarginate. Swimbladder with a pair of anterior appendages divided into a short forward-directed arborescent branch and one or more slender tubes running backward along anterior third of bladder. Sagitta (earstone) very thick, its outer surface rather smooth, without lumps of large granules. Scales large and thin, ctenoid (comblike) except on snout and in suborbital region where they are cycloid. Lateral line extending to tip of caudal fin.

Colour: greyish olive above, silvery white below; a dark blotch at base of pectoral fins; inside of gill cover blackish dorsally; fins greyish, sometimes yellowish.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Sciaenidae: body not as robust, usually more elongate; *mouth not as strongly oblique; 5 or 6 pores or a short barbel on chin* (4 pores on chin and no barbel in P. peli); gill rakers on first arch 22 or fewer (23 to 25 in P. peli). Appendages of swimbladder, if present, either arborescent or divided into very long tubes, or as 2 simple horns.

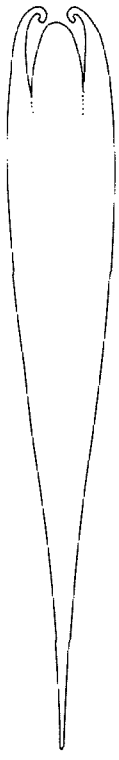




Pseudotolithus (Pseudotolithus) senegalensis

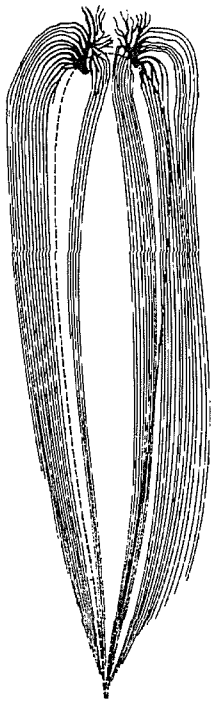
Umbrina ronchus

Argyrosomus hololepidotus (right half)



Atractoscion aequidens

swimbladder



Pseudotolithus (Pseudotolithus) typus

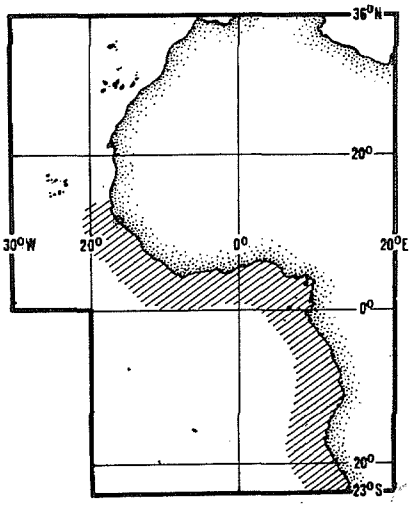
SIZE:

Maximum: 32 cm; common to 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Only along the West Coast of Africa, from Senegal to Angola.

Found in midwaters as well as on mud and sandy mud bottoms in coastal waters, from the shoreline to about 200 m depth, but most abundant in less than 50 m.



PRESENT FISHING GROUNDS:

Rather comon and regularly fished throughout its range; constitutes 6 percent of the total sciaenid catch off Angola.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics for this species are reported by Congo only (1,200 tons in 1978).

Caught with bottom trawls and on line gear (possibly other artisanal gear).

Marketed fresh, dried salted and smoked.

SCIAEN Sciaen 1

1981

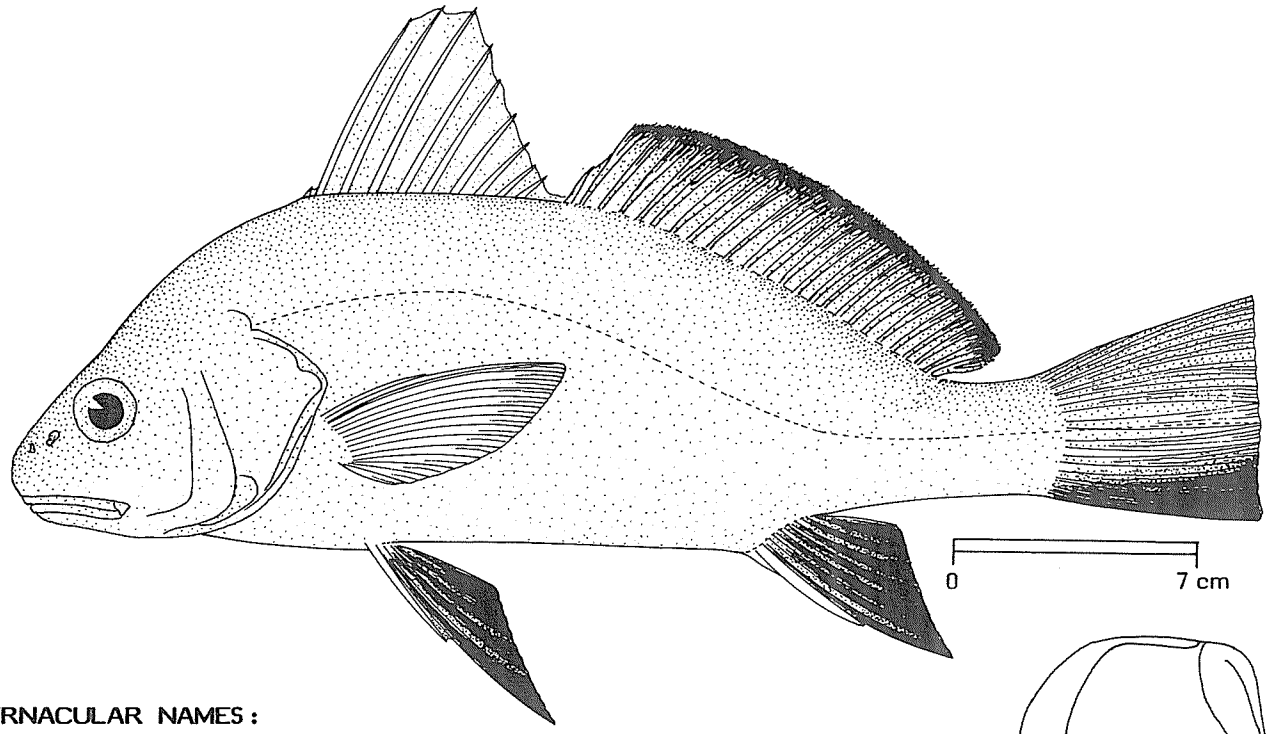
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCIAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Sciaena umbra Linnaeus, 1758

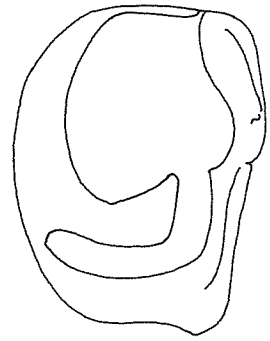
OTHER SCIENTIFIC NAMES STILL IN USE : Corvina nigra (Bloch, 1791)



VERNACULAR NAMES :

FAO : En - Brown meagre
Fr - Corb commun (= Corb noir, Area 37)
Sp - Corvallo

NATIONAL :



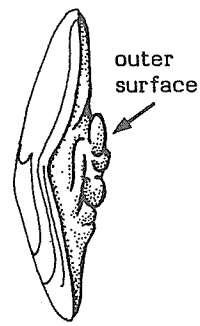
inner surface

DISTINCTIVE CHARACTERS :

A moderately large, deep-bodied fish, its back strongly arched. Mouth inferior, nearly horizontal; teeth villiform, set in bands in both jaws; chin without barbel but with 5 conspicuous pores; snout with 10 pores (5 upper and 5 marginal), its edge clearly notched below marginal pores; gill rakers rather short, 12 to 16 on first gill arch; preopercular margin smooth, often with several weak spines at angle. Anterior portion of dorsal fin very high, its tip, when depressed, reaching beyond first soft ray, with 10 or 11 spines, posterior portion with 1 spine and 23 to 26 soft rays; anal fin with 2 spines and 7 soft rays; caudal fin usually truncate (but ranging from slightly emarginate to slightly rounded in adults), pointed in juveniles. Swimbladder simple, carrot-shaped, without appendages. Sagitta (earstone) ovoid, rather thick, its outer surface covered with large granules. Scales ctenoid (comblike) on body and nape, cycloid on rest of head. Lateral line extending to hind margin of caudal fin.

Colour: uniform dark brown, with golden or metallic reflections; pelvic and anal fins jet black; soft portion of dorsal fin and lower part of caudal fin black-edged.

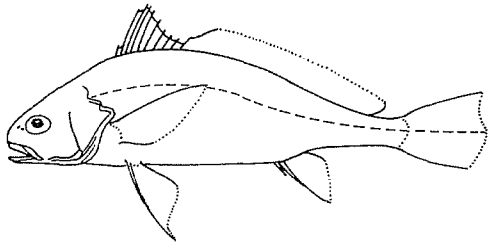
swimbladder



lateral view
sagitta

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

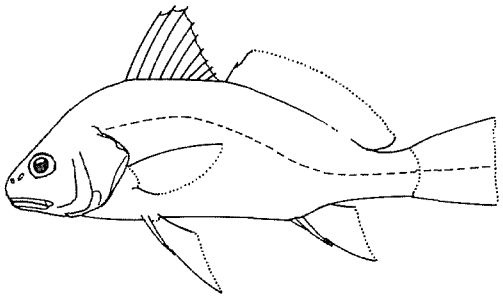
Other species of Sciaenidae: anterior profile less steep, back not as strongly arched; anterior portion of dorsal fin rather low, its tip, when depressed, falling short of first soft ray; most with a large, oblique and terminal mouth. Those species having a horizontal, inferior mouth like S. umbra can be further distinguished by the following characters:



P. (Pinnacorvina) epipercus

Pseudotolithus (Pinnacorvina) epipercus: second portion of dorsal fin long, with 37 to 39 soft rays (23 to 25 in S. umbra).

Pseudotolithus (Hostia) moorii: snout very blunt; caudal fin pointed; eye much smaller, its diameter contained 7.2 to 8.4 times in head length (3.6 to 5.4 times in S. umbra).

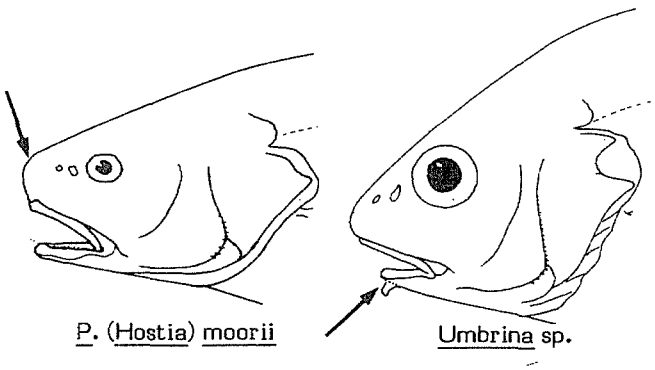


S. umbra

Umbrina species: a short and rigid barbel on chin.

SIZE:

Maximum: 50 cm; common to 35 cm.



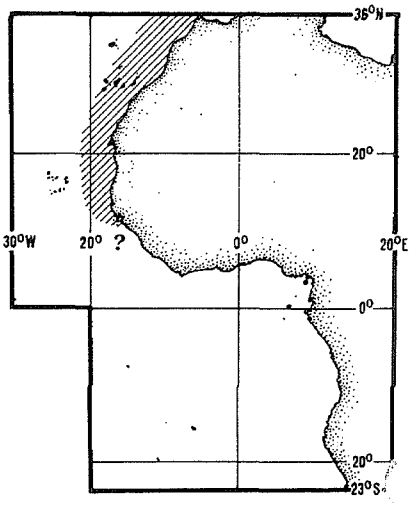
P. (Hostia) moorii — Umbrina sp.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Restricted to the northern part of the area, from Gibraltar to Mauritania, including the Canary Islands; occasionally ranging down to Senegal. Also found throughout the Mediterranean and the Black Sea, and northward along the European Atlantic coast to the British Channel.

Inhabits shallow coastal waters, from 20 to about 180 m depth, mainly on rocky and sandy bottoms; often enters estuaries; more active at night.

Feeds on small fishes and crustaceans.



PRESENT FISHING GROUNDS:

Only taken in modest quantities in the northern part of the area, the main fishing grounds being in the Mediterranean and Black Sea.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls, gill nets, trammel nets and beach seines.

Marketed fresh, dried salted and smoked.

SCIAEN Umbr 3

1981

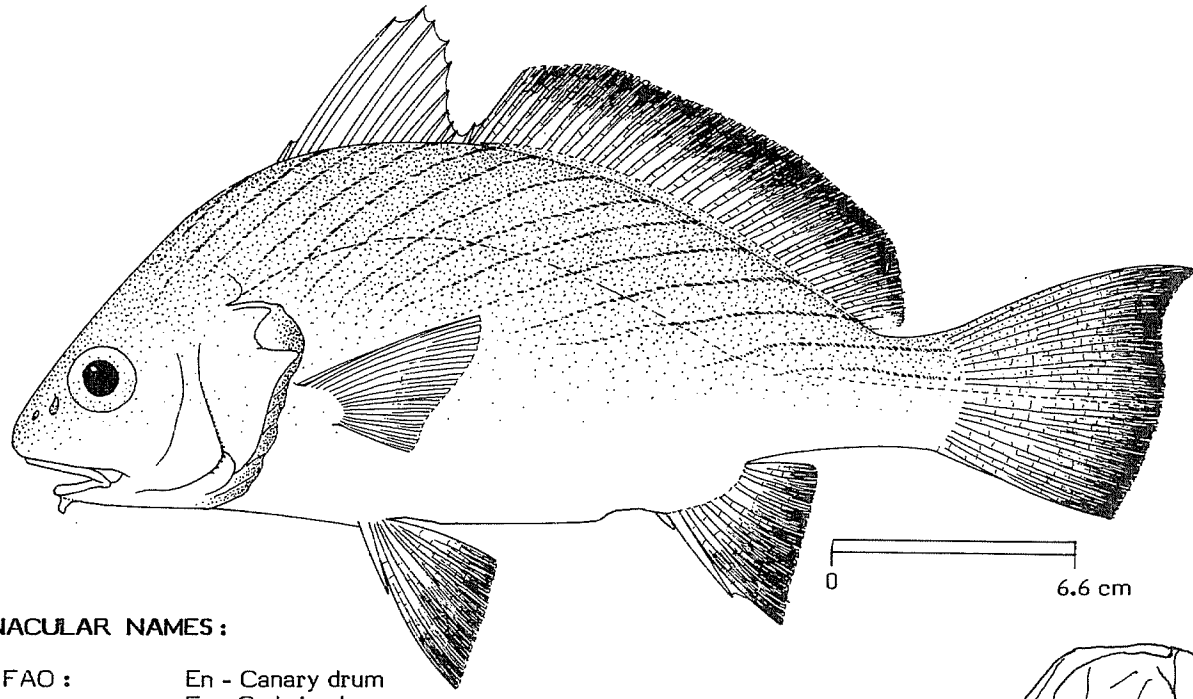
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCIAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Umbrina canariensis Valenciennes, 1843

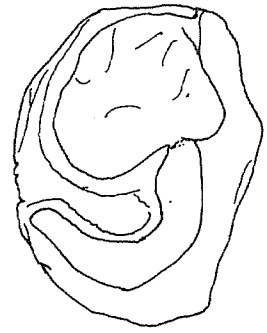
OTHER SCIENTIFIC NAMES STILL IN USE : ? Umbrina steindachneri Cadenat, 1950



VERNACULAR NAMES :

FAO : En - Canary drum
Fr - Ombrine bronze
Sp - Verrugato de Canarias

NATIONAL :



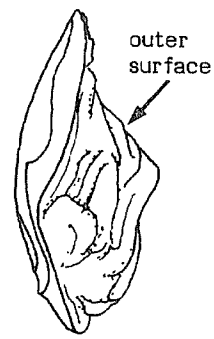
inner surface

DISTINCTIVE CHARACTERS :

A large, deep-bodied and compressed fish. Mouth small, inferior, nearly horizontal; teeth villiform, set in bands in both jaws; eye rather large, its diameter contained 3.6 to 4.7 times in head length, greater than interorbital width; chin with a short and rigid barbel, perforated by a pore at tip, and 2 pairs of lateral pores; snout with 10 pores (5 upper and 5 marginal), its edge notched below marginal pores; gill rakers short and stout, 14 to 17 (plus 1 or 2 tubercles at either end) on first arch; preopercular margin with many small spines. Anterior portion of dorsal fin with 10 spines, posterior portion with 1 spine and 27 to 31 soft rays; anal fin with 2 spines and 7 (rarely 8) soft rays, the second spine rather long, more than 2/3 the length of first soft ray and contained 2 to 2.6 times in head length; caudal fin truncate to slightly S-shaped, its upper edge somewhat longer than the lower. Swimbladder simple, carrot-shaped, without appendages. Sagitta (earstone) ovoid, thick, its outer surface covered with large granules or irregular ridges. Scales ctenoid (comblike) except on snout and suborbital region where they are cycloid. Lateral line extending to hind margin of caudal fin.

Colour: greyish silver to darkish with a greenish tint and longitudinal dark lines on back and upper sides, often extending onto head; distal portion of soft dorsal, pelvic, anal and caudal fins dark grey to black; membrane on hind margin of gill cover dark brown.

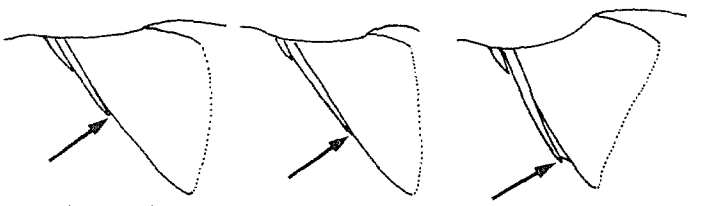
swimbladder



lateral view
sagitta

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

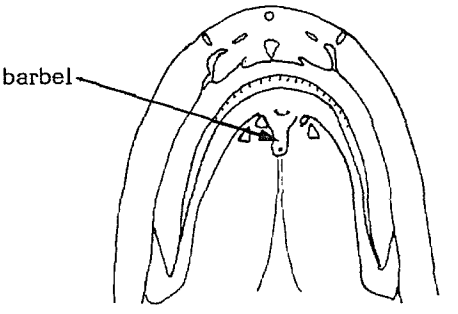
Umbrina cirrosa (very similar, difficult to distinguish): posterior portion of dorsal fin with 23 or 24 soft rays (27 to 31 in U. canariensis); eye smaller, its diameter less than interorbital width, and contained 4.4 to 6.3 times in head length (greater than interorbital width, and 3.6 to 4.7 times in head length in U. canariensis); second anal fin spine shorter, less than 2/3 of first soft ray (longer, more than 3/4 of first soft ray in U. canariensis).



anal fin

U. ronchus (very similar, difficult to distinguish): posterior portion of dorsal fin with 25 to 27 soft rays; eye smaller, its diameter less than interorbital width and contained 5.2 to 6.5 times in head length; second anal fin spine about half the length of first soft ray.

Other species of Sciaenidae: no barbel on chin.



Umbrina sp.
underside of head

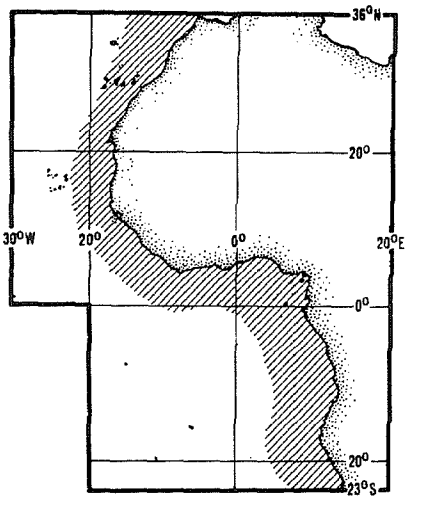
SIZE:

Maximum: 63 cm; common to 40 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Within the area, from Gibraltar at least to Angola, including the Canary Islands. Also found in the Western Mediterranean and along the Atlantic coast of Europe to the Bay of Biscay.

Inhabits mud and sand bottoms of the shelf and the upper slope, from about 50 to 300 m depth; most common between 160 and 180 m at temperatures of 14 to 15°C; young individuals usually occupy the shallower part of the depth range (50 to 120 m).



Feeds on small shrimps, worms and other bottom-dwelling invertebrates.

PRESENT FISHING GROUNDS:

A very abundant fish, exploited throughout its range; it constitutes about 27 percent of the total sciaenid catch off Angola.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species, but most probably it is often confused with other Umbrina species.

Caught with bottom trawls, on hook and line, and with other artisanal fishing gear.

Marketed fresh, dried salted, smoked and reduced to fishmeal and oil.

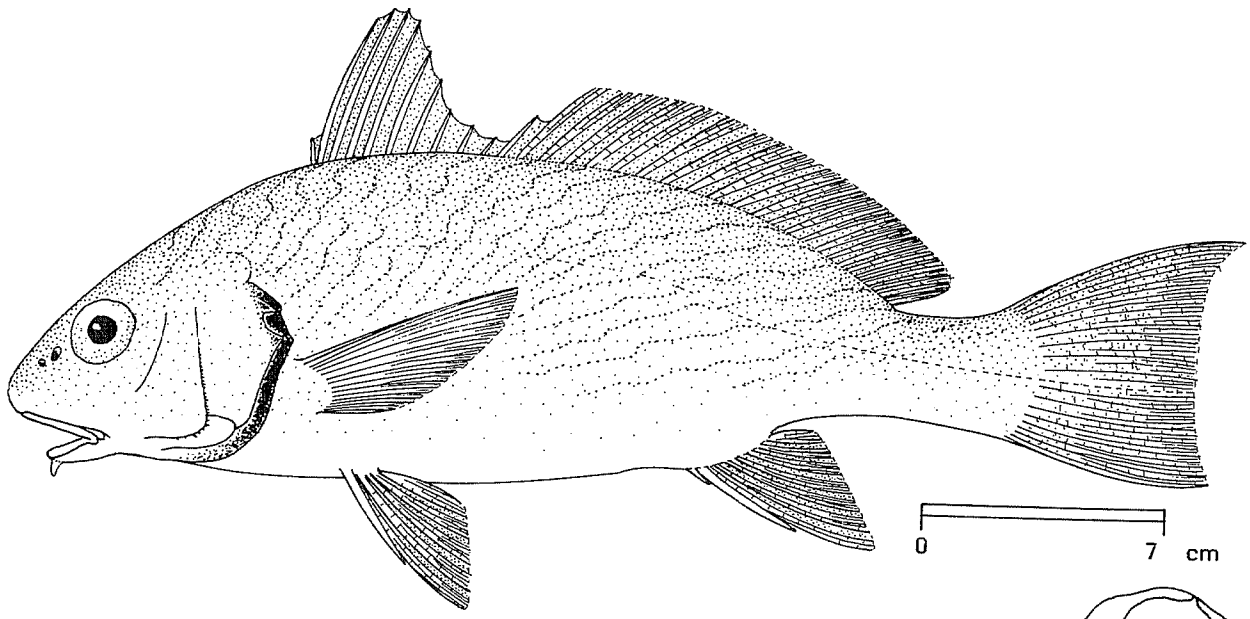
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCIAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Umbrina cirrosa (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES :

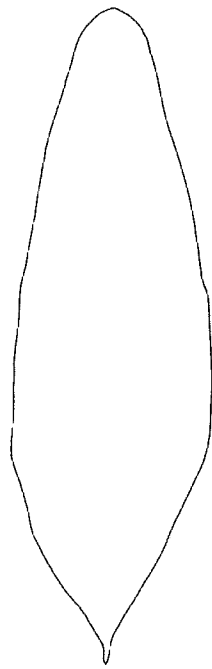
FAO : En - Shi drum
Fr - Ombrine cotière
Sp - Verrugato común

NATIONAL :

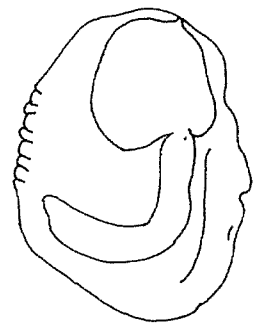
DISTINCTIVE CHARACTERS :

A large, deep-bodied and compressed fish. Mouth small, inferior, nearly horizontal; teeth villiform, set in bands in both jaws; eye rather small, its diameter contained 4.4 to 6.3 times in head length, smaller than interorbital width; chin with a short and rigid barbel, perforated by a pore at tip, and 2 pairs of lateral pores; snout with 10 pores (5 upper and 5 marginal), its edge notched below marginal pores; gill rakers short and stout, 11 to 13 (plus 1 or 2 tubercles at either end) on first arch; preopercular margin with many small spines. Anterior portion of dorsal fin with 9 or 10 spines, posterior portion with 1 spine and 23 to 25 soft rays; anal fin with 2 spines and 7 or 8 soft rays, the second spine 1/2 to 2/3 the length of first soft ray and contained 2.4 to 3.1 times in head length; caudal fin truncate to slightly emarginate, its upper edge somewhat longer than the lower. Swimbladder simple, carrot-shaped, without appendages. Sagitta (earstone) ovoid, thick, its outer surface covered with large granules or irregular ridges. Scales ctenoid (comb-like) except on breast, snout and suborbital region where they are mostly cycloid. Lateral line extending to hind margin of caudal fin.

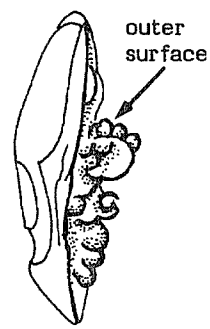
Colour: greyish silver or brownish with a metallic hue and longitudinal dark lines on back and upper sides; fins dusky; membranes on hind margin of gill cover jet black.



swimbladder



inner surface

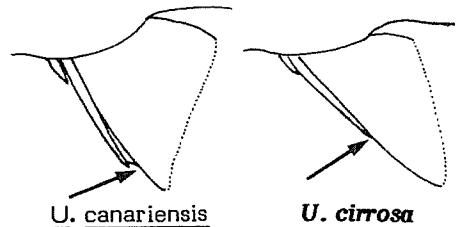


lateral view
sagitta

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Umbrina canariensis (very similar, difficult to distinguish): posterior portion of dorsal fin with 27 to 31 soft rays (23 or 24 in U. cirrosa); eye larger, its diameter greater than interorbital width and contained 3.6 to 4.7 times in head length (less than interorbital width, and 4.4 to 6.3 times in head length in U. cirrosa); second anal fin spine longer, more than 3/4 of first soft ray (shorter, less than 2/3 of first soft ray in U. cirrosa).

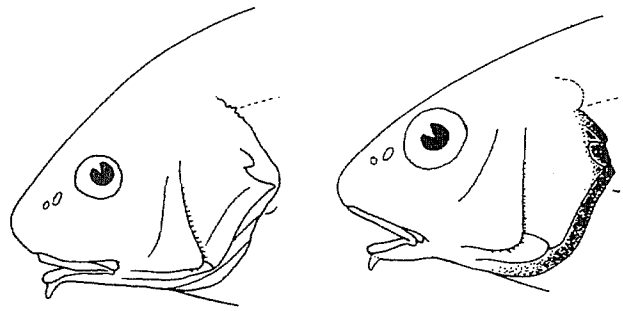
U. ronchus (very similar, difficult to distinguish): a much darker fish, but membrane at hind margin of gill cover not jet black as in U. cirrosa; posterior portion of dorsal fin with 25 to 27 soft rays (23 or 24 in U. cirrosa).



U. canariensis *U. cirrosa*

anal fin

Other species of Sciaenidae: no barbel on chin.



U. ronchus *U. cirrosa*

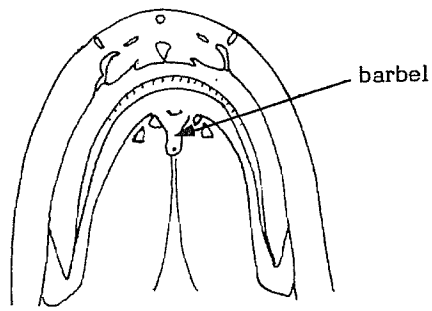
SIZE:

Maximum: 70 cm; common to 40 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Restricted to the northern part of the area, from Gibraltar to Southern Morocco, including the Canary Islands. Also found throughout the Mediterranean and the Black Sea, and northward along the European Atlantic coast to the Bay of Biscay.

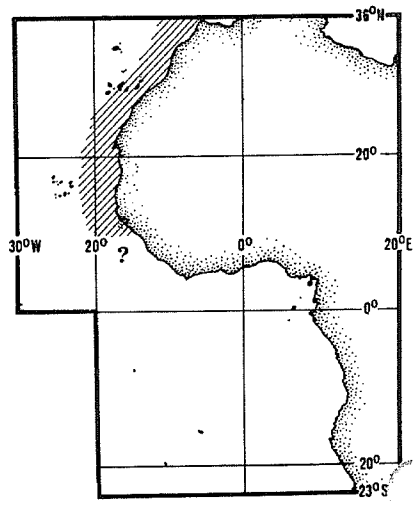
Inhabits coastal waters, from the shoreline to about 100 m depth, mainly on rocky and sandy bottoms; the juveniles often enter estuaries.



Umbrina sp.
underside of head

PRESENT FISHING GROUNDS:

Only taken in moderate quantities in the northern part of the area, the main fishing grounds being in the Mediterranean and Black Sea.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species (a record for about 7 tons taken by Gabon in 1978, most probably applies to U. canariensis, a species with which it is often confused).

Caught with bottom trawls, gill nets and beach seines.

Marketed fresh, dried salted and smoked.

SCIAEN Umbr 5

1981

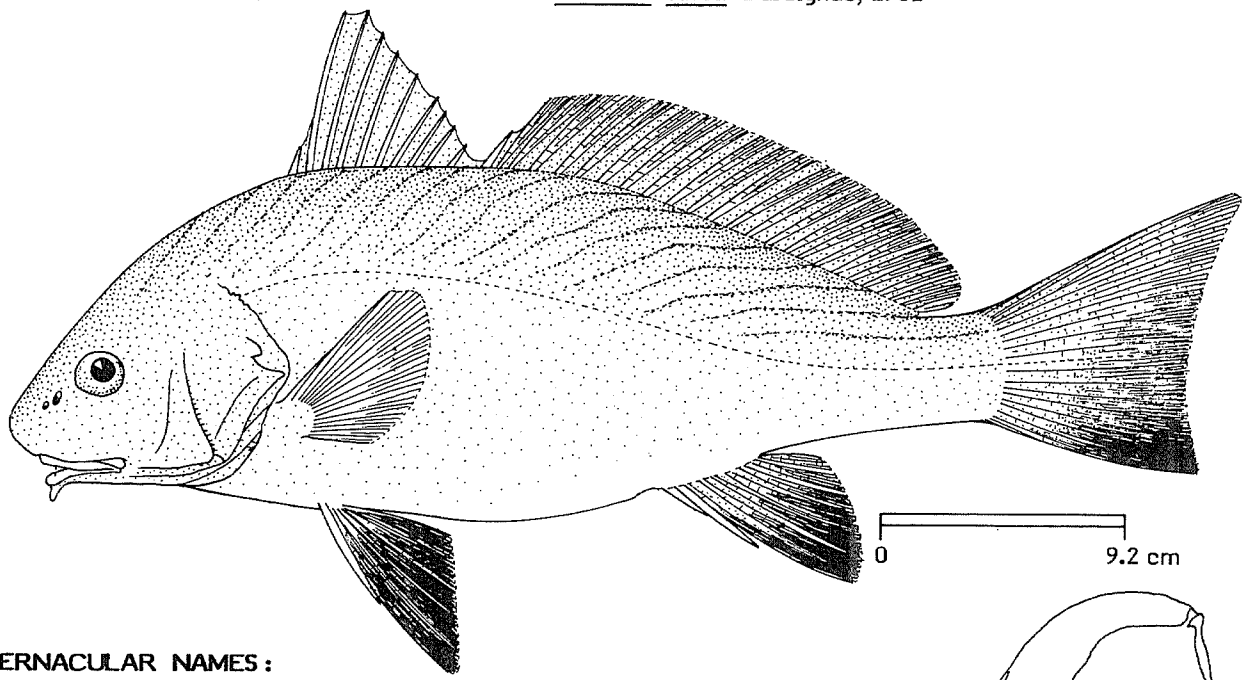
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCIAENIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Umbrina ronchus Valenciennes, 1843

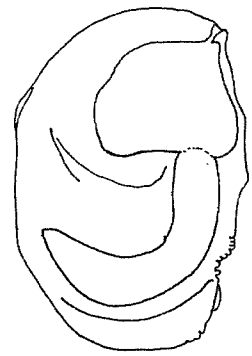
OTHER SCIENTIFIC NAMES STILL IN USE : Umbrina fusca Dardignac, 1961



VERNACULAR NAMES :

FAO : En - Fusca drum
Fr - Ombrine fusca
Sp - Verrugato fusco

NATIONAL :

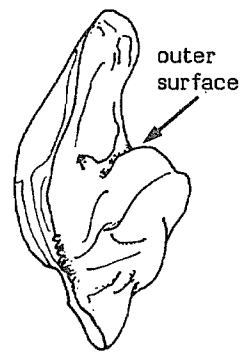


inner surface

DISTINCTIVE CHARACTERS :

A large, rather elongate and compressed fish. Mouth small, inferior, nearly horizontal; teeth villiform, set in bands in both jaws; eye rather small, its diameter contained 5.2 to 6.5 times in head length and smaller than interorbital width; chin with a short and rigid barbel, perforated at tip by a pore, and 2 pairs of lateral pores; snout with 10 pores (5 upper and 5 marginal), its edge notched below marginal pores; gill rakers short and stout, 11 to 13 (plus 1 or 2 tubercles at either end of first arch); preopercular margin with many small spines. Anterior portion of dorsal fin with 10 spines, posterior portion with 1 spine and 25 to 27 soft rays; anal fin with 2 spines and 7 soft rays, the second spine short, about half the length of first soft ray and contained 3 to 3.2 times in head length; caudal fin truncate to slightly emarginate, its upper edge somewhat longer than the lower. Swimbladder simple, carrot-shaped, without appendages. Sagitta (earstone) ovoid, thick, its outer surface covered with large granules or irregular ridges. Scales ctenoid (comblike). Lateral line extending to hind margin of caudal fin.

swimbladder

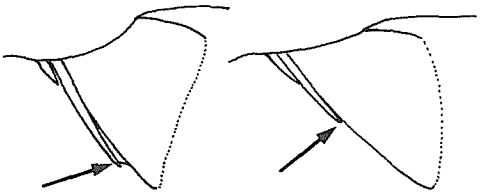


lateral view
sagitta

Colour: body dark brown, upper sides and back with faint purplish longitudinal lines along scale rows tending to fade in larger individuals; pelvic fins and distal portion of anal fin jet black, other fins dusky to dark.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Umbrina canariensis (very similar, difficult to distinguish): posterior portion of dorsal fin with 27 to 31 soft rays (25 to 27 in U. ronchus); eye larger, its diameter greater than interorbital width and contained 3.6 to 4.7 times in head length (less than interorbital width and 5.2 to 6.5 times inn head length in U. ronchus); second anal fin spine stronger, more than 3/4 the length of first soft ray (about half the length of first soft ray in U. ronchus).

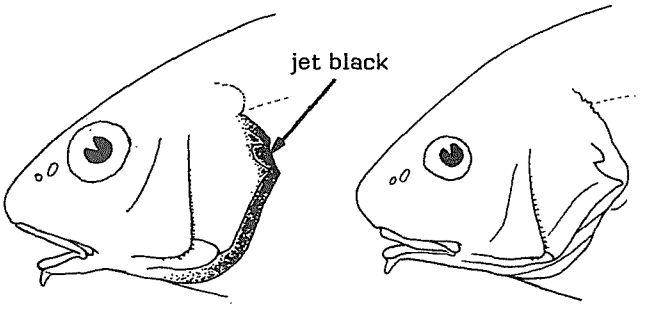


U. canariensis *U. ronchus*

anal fin

U. cirrosa (very similar, difficult to distinguish): body lighter, membrane on hind margin of gill cover jet black; posterior portion of dorsal fin with 23 or 24 soft rays.

Other species of Sciaenidae: no barbel on chin.



U. cirrosa *U. ronchus*

SIZE:

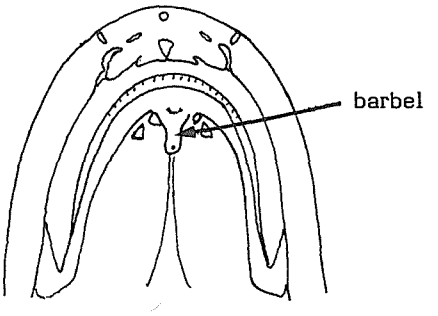
Maximum: 77 cm; common to 40 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Within the area, from Gibraltar at least to Angola, including the Canary Islands. Also found in the Western Mediterranean.

Inhabits rock and sand bottoms in coastal waters, from about 20 to 200 m depth; most common between 50 and 100 m; juveniles mainly occur in littoral areas but do not enter estuaries. Adults are mature at 3 years of age; spawning takes place between June and August.

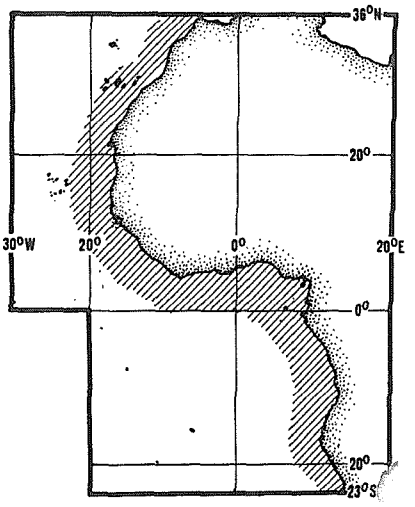
Feeds on small shrimps, worms and other bottom-dwelling invertebrates.



Umbrina sp.
underside of head

PRESENT FISHING GROUNDS:

Apparently taken throughout its range, but data are uncertain due to confusion with other Umbrina species.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls and on line gear.

Marketed fresh, dried salted and smoked; occasionaly reduced to fishmeal and oil (offshore industrial fleets).

SCOMBERES

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

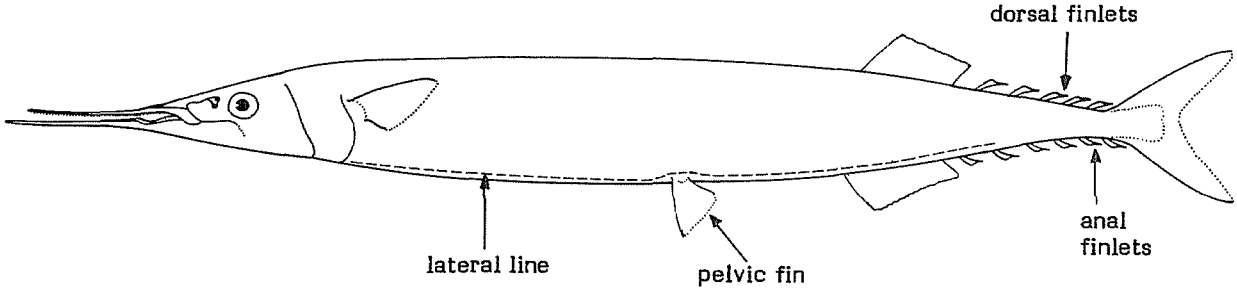
SCOMBERESOCIDAE

Sauries

Elongate, slender fishes, moderately compressed, the greatest depth about 10% (7 to 12%) of standard length. Jaws prolonged as slender, fragile beaks in adults, the lower jaw always the longest; all teeth minute; nostrils set in pits close before eyes. No spines in fins; dorsal and anal fins far back on body, the anal slightly in front of dorsal; both fins followed by 4 to 7 separate finlets (this feature, typical of the mackerels and tunas - Scombridae, combined with the slender body and posteriorly placed fins typical of the pikes - Esocidae, gave rise to the family name Scomberesocidae); in adults, the first few finlets are often difficult to distinguish from the last rays of the main fins; pectoral fins high, above lateral midline of body at top of gill cover opening; pelvic fins originating at about midpoint of body, the distance between pelvic and anal fin bases being about half the distance between pelvic and pectoral bases; lower lobe of caudal fin only slightly longer than upper lobe. No keels on caudal peduncle. Lateral line low, running along ventral profile, but not reaching to base of caudal fin. Scales small to moderate-sized, cycloid, easily shed; scales on sides vertically oblong, the circuli in straight vertical lines; scales of back and of narrow ventral area (between lateral lines) rounded, the circuli curving with shape of scale.

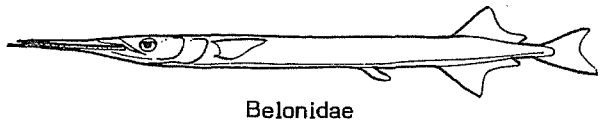
Colour: in life, olive green to brownish above, silvery below; usually a silvery band (dusky in preservative) with a narrow dark lower edge, extending along sides just below darker back.

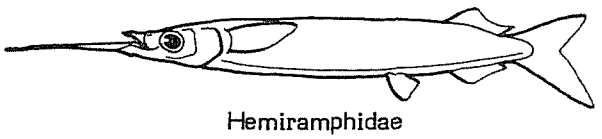
Small to medium-sized, epipelagic fishes which readily come to a light at night. S. saurus may occur in large schools and habitually skips over the surface, much like the flying fishes, particularly when fleeing predators. The food of both species is made up of small zooplankton organisms commonly found at or near the surface. These fishes are not of great commercial importance off the West African coast, since large schools (especially of S. saurus) are rather sporadic in occurrence. However, several nations fishing in this area consider at least S. saurus as being of potential interest.



SIMILAR FAMILIES OCCURRING IN THE AREA:

Belonidae (needlefishes) and Hemiramphidae (half-beaks): superficially similar in having long, slender bodies, dorsal, pelvic and anal fins in similar positions, and one or both jaws prolonged into a beak in adults. However, both these families lack the separate finlets behind dorsal and anal fins.


Belonidae


Hemiramphidae

Other families having separate finlets: pelvic fins far forward, about below bases of pectoral fins; jaws not beak-like; one or more keels on caudal peduncle.

KEY TO SPECIES OCCURRING IN THE AREA:

1 a. Pectoral fin rays 13 or 14 (seldom 12 or 15); gill rakers on first arch 34 to 51; both jaws of adults prolonged as slender beaks, the lower only slightly the longer; all teeth villiform, in narrow bands throughout the length of both jaws; scales along sides of body 128 to 148; lateral line extending only to above one of the first few anal finlets (Fig. 1) ..... Scomberesox saurus

S. saurus Fig. 1

1 b. Pectoral fin rays 10 or 11; gill rakers on first arch 22 to 24 (seldom 19 or 26); both jaws of adults prolonged as slender beaks, the lower about twice as long as upper; all teeth minute, conical, in a single row along entire margin of upper jaw and on posterior margins of lower jaw (teeth present, but very sparse anteriorly); scales along sides of body 77 to 91; lateral line not extending much past bases of pelvic fins (Fig. 2) ..... Nanichthys simulans

N. simulans Fig. 2

LIST OF SPECIES OCCURRING IN THE AREA:

Code numbers are given for those species for which Identification Sheets are included

Nanichthys simulans Hubbs & Wisner, 1980	SCOMBERES Nan 1
* Scomberesox saurus (Walbaum, 1792)	SCOMBERES Scom 1

Prepared by R.L. Wisner, Marine Biology, Scripps Institution of Oceanography, University of California, La Jolla, California 92093, U.S.A.

* Scomberesox saurus is divided into a northern and southern subspecies, based on average differences in the number of gill rakers; Scomberesox saurus saurus is confined to the North Atlantic Ocean and Mediterranean Sea; the number of gill rakers range from 36 (seldom 34 or 35) to 41. Scomberesox saurus scombroides occurs in all southern oceans; the number of gill rakers ranges from 40 to 49 (seldom 39 or 50/51). Both subspecies require temperate water and neither is known to penetrate the warm tropical areas.

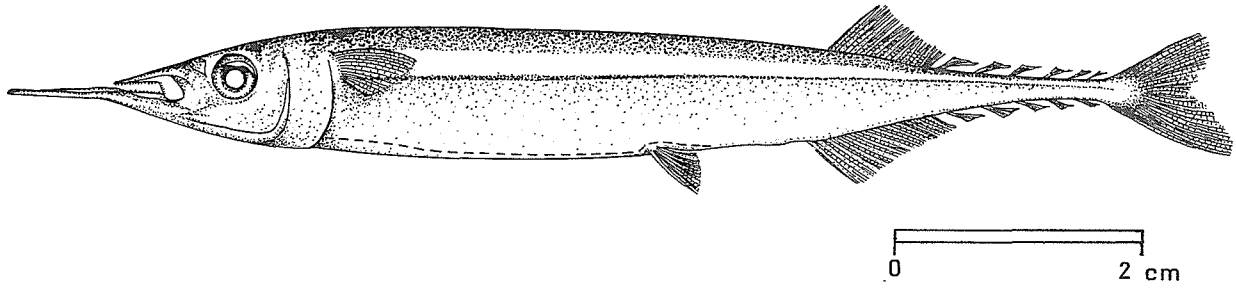
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCOMBERESOCIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Nanichthys simulans Hubbs & Wisner, 1980

OTHER SCIENTIFIC NAMES STILL IN USE : Scomberesox sp. Parin, 1968



VERNACULAR NAMES:

FAO : En - Dwarf saury
Fr - Balaou nain
Sp - Paparda enana

NATIONAL :

DISTINCTIVE CHARACTERS :

Body strongly compressed (except in gravid females), the width contained about 3 (2.7 to 3.4) times in the depth. Both jaws of adults prolonged as slender, fragile beaks, but upper jaw only about half as long as the lower (measured from anterior margin of eye); all teeth minute, conical, in a single row along entire margin of upper jaw and on posterior margins of lower jaw (teeth present, but very sparse anteriorly); gill rakers on first arch 22 to 24 (seldom 19 or 25/26). Total dorsal fin rays (including the 5 to 7 finlets) 14 to 16; total anal fin rays (including 5 to 7 finlets) 19 to 20 (seldom 17 or 18); pectoral fin rays 10 or 11. Scales along sides of body 77 to 91. Lateral line not extending much past the base of pelvic fin. Ovary single; swimbladder absent.

Colour: greenish above, silvery below; a narrow silvery band (brownish in preservative), often with a narrow darker lower edge, extends along body just below the dark area of back from gill cover to near caudal fin; fins only lightly, if at all, flecked with green (brownish in preservative).

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

S. saurus: body only moderately compressed, the width about 1.7 to 2.3 times in the depth (2.7 to 3.4 times in N. simulans); both jaws of adults more prolonged, the lower only slightly the longer, its tip blunt and possibly with tactile tissue; teeth villiform, in narrow bands; pectoral fin rays 12 to 15 (10 or 11 in N. simulans); gill rakers 34 to 51 (19 to 26 in N. simulans); scales along sides 128 to 148 (77 to 91 in N. simulans); lateral line ending above one of first anal finlets. Juveniles are very similar in appearance to N. simulans, especially at standard lengths of less than 4.1 cm, when beak development is about the same in both species.

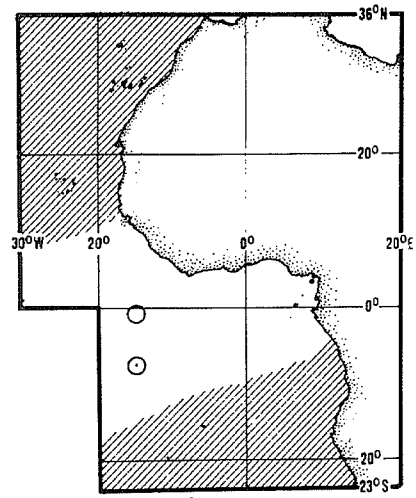
S. saurus

SIZE:

Maximum: 12.6 cm total length, but very few individuals exceed 10 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Common throughout the area, except near the equator; apparently antitropical in distribution, since few specimens have been recorded between about 8°N and 8°S. Outside the area, it ranges northward to about 40°N, westward to about 45°W, (across to southern Brazil and northern Argentina) and southward to about 35°S. It also occurs, but is seldom captured, in the tropical Indian Ocean. Not known from the Mediterranean Sea or the Pacific Ocean.



○ = stragglers

An oceanic, surface-schooling fish that comes readily to a light at night; little else is known of its habits; apparently gregarious, as many individuals may be taken with dip nets using night lights, and in single tows in pleuston nets.

Spawning habits unknown, but presumably similar to those of S. saurus.

Feeds on small planktonic forms; feeding migrations are unknown.

PRESENT FISHING GROUNDS:

Although common in the area, apparently not fished commercially at present; neither the schooling and migratory habits nor the actual abundance of this species are sufficiently well known to determine whether it may be considered a potential resource.

SCOMBERES Scom 1

1981

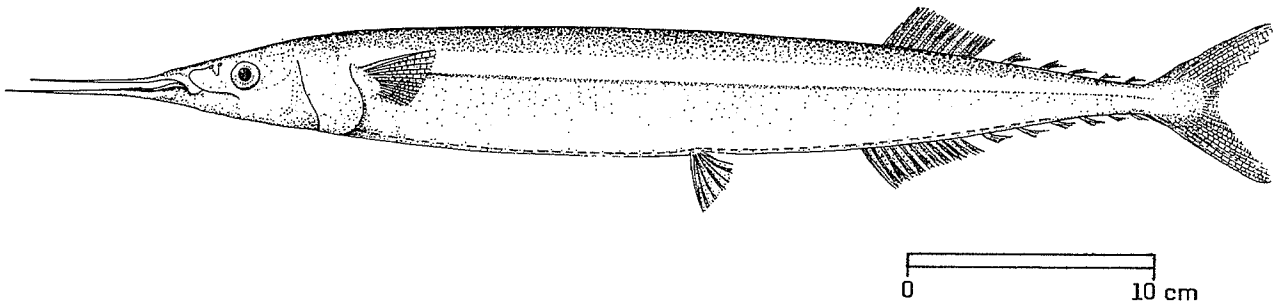
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCOMBERESOCIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Scomberesox saurus (Walbaum, 1792)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Atlantic saury
Fr - Balaou atlantique
Sp - Paparda del Atlántico

NATIONAL :

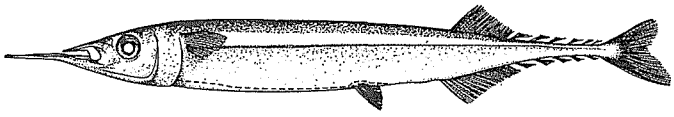
DISTINCTIVE CHARACTERS :

Body elongate, moderately compressed, the width contained about 2.0 (1.7 to 2.3) times in the depth. Both jaws of adults prolonged as slender, fragile beaks, the lower only slightly longer than the upper and bluntly tipped with soft tissue (possibly tactile); in adults of 20 cm or more, the snout length averages about 1.6 (1.5 to 1.7) times in head length but in smaller individuals (7 to 15 cm) this length is contained about 2.0 (1.8 to 2.3) times in head; teeth villiform, in narrow bands extending to near tips on each jaw; gill rakers on first arch 34 to 51. Total dorsal fin rays (including the 5 to 7 finlets) 16 or 17 (seldom 15 or 18); total anal fin rays (including the 5 to 7 finlets) 18 to 21 (seldom 17); pectoral fin rays 13 or 14 (seldom 12 or 15); pelvic fin rays always 6. Scales along sides of body 128 to 148. Lateral line extending only to above one of the first anal finlets. Ovaries paired; swimbladder present.

Colour: in life, olive to dark green or light brown above in adults (bluish in young); a silvery band (brownish in preservative), often with a narrow dark lower edge, about the width of eye, extends from head to near tail just below the dark area of back; sides and belly silvery, often with a brassy-golden wash; usually a small green spot below bases of pectoral fins (not evident in preserved fish); dorsal fin (including finlets) and caudal fin greenish; other fins lightly flecked with green (the green is brownish in preservative). The coloration appears to vary slightly, possibly with age or geographic area.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

N. simulans: very similar in appearance and colour, especially to juveniles of S. saurus. Body strongly compressed, the width about 2.7 to 3.4 times in the depth (1.5 to 2.3 times in S. saurus); both jaws of adults less prolonged than in S. saurus, the upper only about half as long as the lower; tip of lower jaw rather soft and flexible, but pointed and probably with much less tactile tissue; teeth in a single row; pectoral fin rays 10 or 11 (12 to 15 in S. saurus); gill rakers 19 to 26 (34 to 51 in S. saurus); scales larger, 77 to 91 on sides of body (128 to 148 in S. saurus); lateral line ending just behind pelvic fin base.



N. simulans

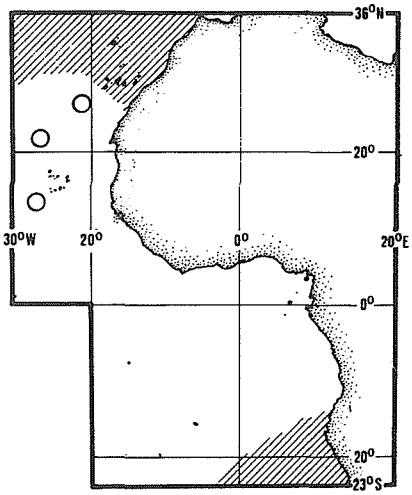
SIZE:

Maximum: 46 cm standard length; statements in literature of 50 to 76 cm are not supported by preserved specimens.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

A subspecies, S. s. saurus, occurs only in the northern portion of the area, above 30°N, with a few young individuals known to about 15°N. Outside the area, this subspecies occurs in the Mediterranean Sea and across the North Atlantic, to about 45°N, but it can range northward to Newfoundland, Iceland, the British Isles, and (rarely) along Norway and into the Barents, White and Kara seas, following the seasonal movements of temperate water masses.

The other subspecies, S. s. scombroides, occurs in the extreme southeastern part of this Fishing Area. Outside the area it is distributed worldwide in temperate waters of the southern oceans between about 30° and 40°S. However, in the Pacific, juveniles range northward to near the equator off Ecuador with the displacements of the cool water masses of the Peru Current.



O = stragglers

Both subspecies are oceanic, primarily surface-schooling fishes that readily come to a night light; they habitually skip over the surface, presumably to escape predators. They frequently enter bays and estuaries.

Spawning takes place mainly in the open ocean, in warm-temperate water.

They feed on small planktonic forms, and perform feeding migrations from spawning areas to cool-temperate, plankton-rich waters.

PRESENT FISHING GROUNDS:

Surface waters, apparently mostly in the northern part of the area.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species in this Fishing Area. Small catches are made by Spain, Morocco and several nations operating offshore fishing fleets in the northern part of the area. At present the species is of limited commercial importance due to the fact that large schools of adults are sporadic in appearance, but it is considered of potential commercial interest by several nations fishing in the area.

SCOMBR

1981

FAO SPECIES IDENTIFICATION SHEETS

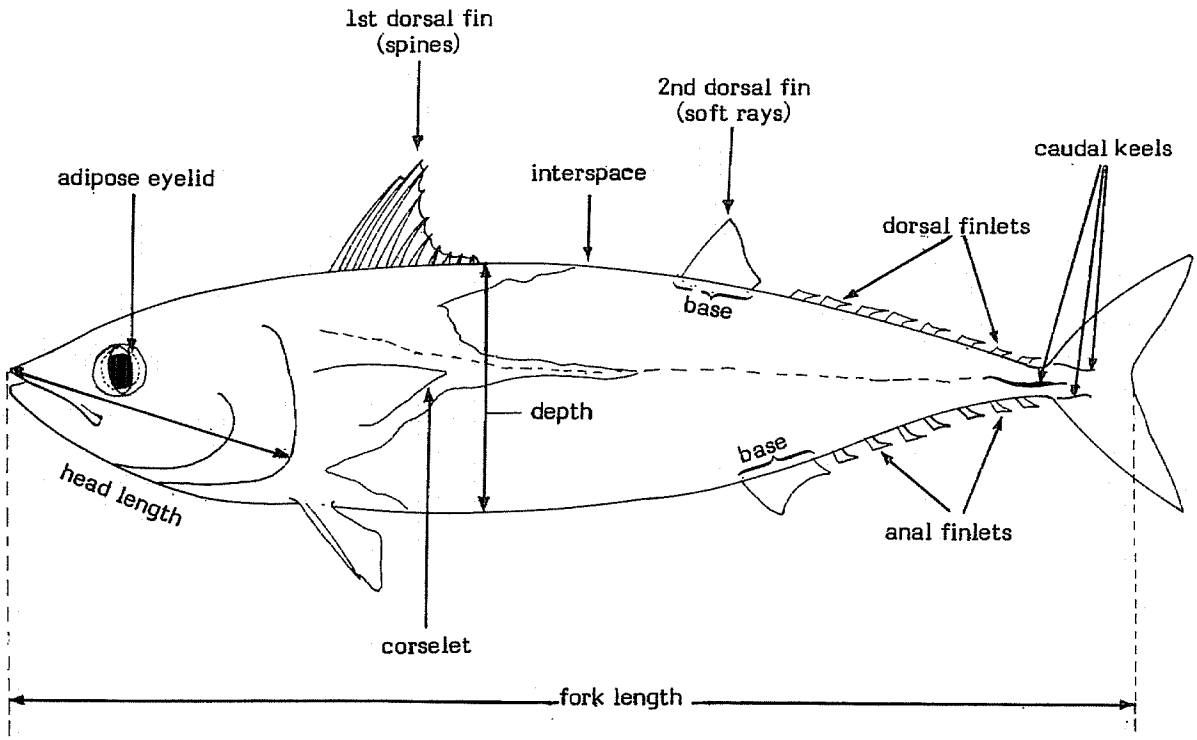
FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

SCOMBRIDAE

Mackerels and tunas

Body elongate and fusiform, moderately compressed in some genera. Snout pointed; adipose eyelid sometimes present (Scomber); premaxillae beak-like, free from nasal bones which are separated by ethmoid bone; mouth rather large; teeth in jaws strong, moderate or weak; no true canines; palate and tongue may be toothed. Two dorsal fins; anterior fin usually short and separated from posterior fin; finlets present behind dorsal and anal fins; pectoral fins placed high; pelvic fins moderate or small; caudal fin deeply forked with supporting caudal rays completely covering hypural plate. At least 2 small keels on each side of caudal peduncle, a larger keel in between in many species. Lateral line simple. Vertebrae 31 to 66. Body either uniformly covered with small to moderate scales (e.g. Scomber, Scomberomorus) or a corselet developed (area behind head and around pectoral fins covered with moderately large, thick scales) and rest of body naked (Auxis, Euthynnus, Katsuwonus), or covered with small scales (Thunnus).

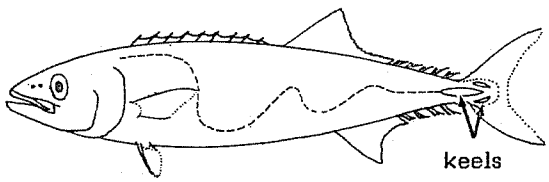
Colour: various Scomber species are usually bluish or greenish above with a pattern of wavy bands on upper sides and silvery below; Scomberomorus and Acanthocybium are blue-grey above and silvery below with dark vertical bars or spots on sides. Sarda has 5 to 11 dark oblique stripes on back; Euthynnus has a striped pattern on back and several dark spots between pectoral and pelvic fins; Katsuwonus has 4 to 6 conspicuous longitudinal stripes on belly; Auxis and Thunnus are deep blue/black above; most species of Thunnus have bright yellow finlets with black borders.



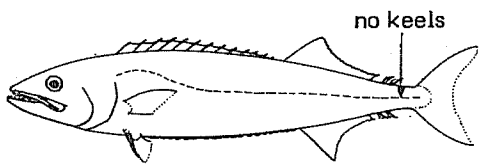
SIMILAR FAMILIES OCCURRING IN THE AREA :

Carangidae: dorsal fin spines 3 to 8 (9 to 27 in Scombridae); frequently scutes developed along the posterior part of the lateral line and usually no well developed finlets (except in Oligoplites with a series of dorsal and anal finlets; Elagatis and Decapterus with one dorsal and one anal finlet); they also have 2 detached spines in front of anal fin.

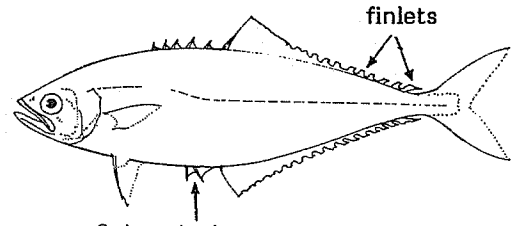
Gempylidae: back usually brown, rarely blue-brown; never distinct markings on body; no keels on caudal peduncle, except in Lepidocybium.



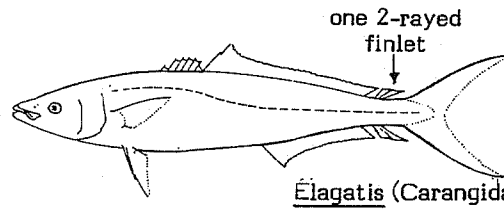
Lepidocybium (Gempylidae)



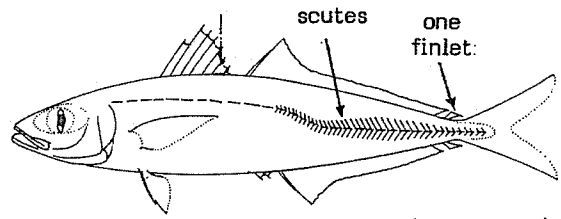
Ruvettus (Gempylidae)



Oligoplites (Carangidae)



Elagatis (Carangidae)



Decapterus (Carangidae)

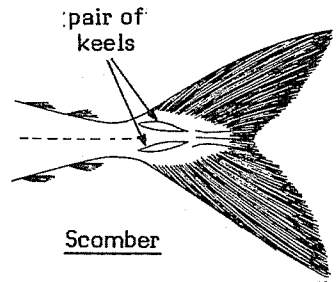
KEY TO GENERA OCCURRING IN THE AREA :

1 a. Two small keels on either side of caudal peduncle (Fig. 1); 5 dorsal and 5 anal finlets ..... Scomber

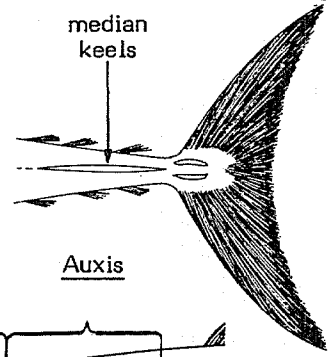
1 b. Two small keels and a large median keel between them on either side of caudal peduncle (Fig. 2); 7 to 10 dorsal and 7 to 10 anal finlets

2 a. Teeth in jaws strong, compressed, almost triangular or knife-like; corselet of scales obscure

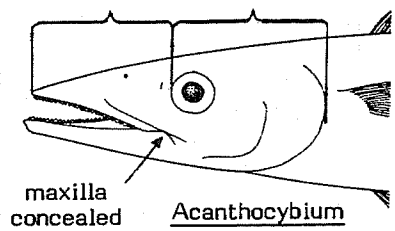
3 a. Snout as long as rest of head; no gill rakers; 21 to 27 spines in first dorsal fin; posterior end of maxilla concealed under preorbital bone (Fig. 3) .. Acanthocybium



Scomber Fig. 1

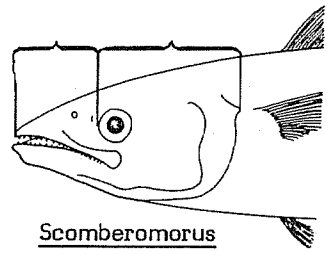


Auxis Fig. 2



Acanthocybium Fig. 3

3 b. Snout much shorter than rest of head; at least 6 gill rakers present; 14 to 19 spines in first dorsal fin; posterior end of maxilla exposed (Fig. 4) ..... Scomberomorus



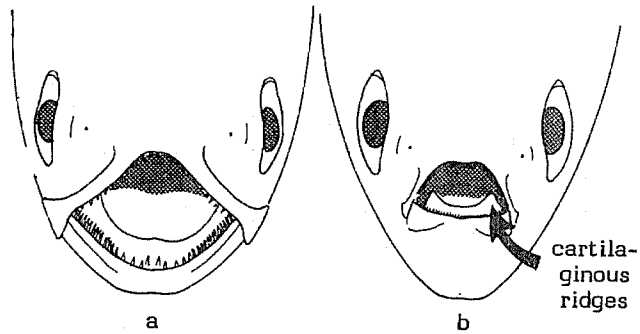
Scomberomorus Fig. 4

2 b. Teeth in jaws slender, conical, hardly compressed; corselet of scales well developed

4 a. Upper surface of tongue without cartilaginous longitudinal ridges (Fig. 5a)

5 a. Five to ten narrow, dark longitudinal stripes on upper part of body (Fig. 6); 20 to 22 spines in first dorsal fin; no teeth on upper surface of tongue ..... Sarda

5 b. No stripes on body; 12 to 14 spines in first dorsal fin; 2 tooth patches on upper surface of tongue ..... Orcynopsis



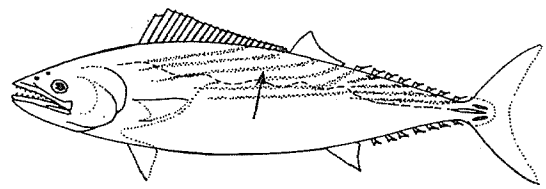
a b

Sarda sarda Katsuwonus pelamis

Fig. 5

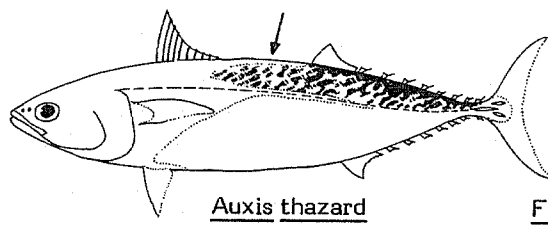
4 b. Upper surface of tongue with 2 longitudinal ridges (Fig. 5b)

6 a. First and second dorsal fins widely separated, the space between them equal to length of first dorsal fin base (Fig. 7); 9 to 11 spines in first dorsal fin ..... Auxis



Sarda sarda Fig. 6

6 b. First and second dorsal fins barely separated, at most by eye diameter (Figs. 8 to 10); 12 to 16 spines in first dorsal fin



Auxis thazard Fig. 7

7 a. Three to five prominent dark longitudinal stripes on belly (Fig. 8); gill rakers 53 to 63 on first arch ..... Katsuwonus

7 b. No dark longitudinal stripes on belly; gill rakers 19 to 45 on first arch

8 a. Body naked behind corselet of enlarged and thickened scales; black spots usually present between pectoral and pelvic fin bases (Fig. 9); 26 or 27 pectoral fin rays .. Euthynnus

8 b. Body covered with very small scales behind corselet; no black spots on body; 30 to 36 pectoral fin rays ..... Thunnus

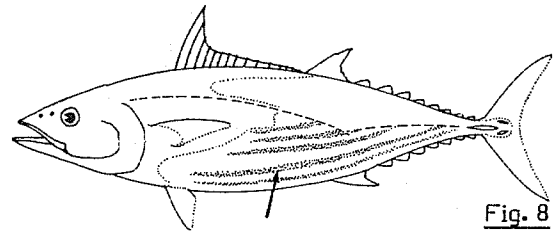
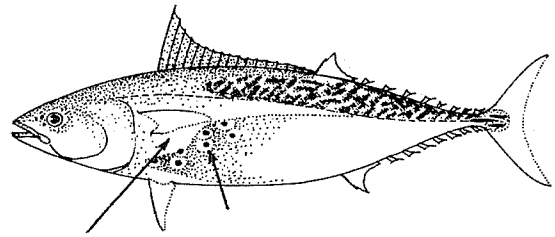


Fig. 8

Katsuwonus pelamis



Euthynnus alletteratus Fig. 9

LIST OF SPECIES OCCURRING IN THE AREA:

Code numbers are given for those species for which Identification Sheets are included

Acanthocybium solandri (Cuvier, 1831)	SCOMBR Acan 1
Auxis rochei (Risso, 1810)	SCOMBR Aux 2
Auxis thazard (Lacepède, 1803)	SCOMBR Aux 1
Euthynnus alletteratus (Rafinesque, 1810)	SCOMBR Euth 1
Katsuwonus pelamis (Linnaeus, 1758)	SCOMBR Kats 1
Orcynopsis unicolor (Geoffrey St. Hilaire, 1817)	SCOMBR Orcy 1
Sarda sarda (Bloch, 1793)	SCOMBR Sarda 1
Scomber japonicus Houttuyn, 1780	SCOMBR Scom 2
Scomber scombrus Linnaeus, 1758	SCOMBR Scom 1
Scomberomorus tritor (Cuvier, 1831)	SCOMBR Scombm 7
Thunnus alalunga (Bonnaterre, 1788)	SCOMBR Thun 1
Thunnus albacares (Bonnaterre, 1788)	SCOMBR Thun 3
Thunnus obesus (Lowe, 1839)	SCOMBR Thun 5
Thunnus thynnus thynnus (Linnaeus, 1758)	SCOMBR Thun 2

Prepared by B.B. Collette, NMFS Systematics Laboratory, NOAA, National Museum of Natural History, Washington, D.C., U.S.A.

Part of original illustrations provided by author

SCOMBR Acan 1

1981

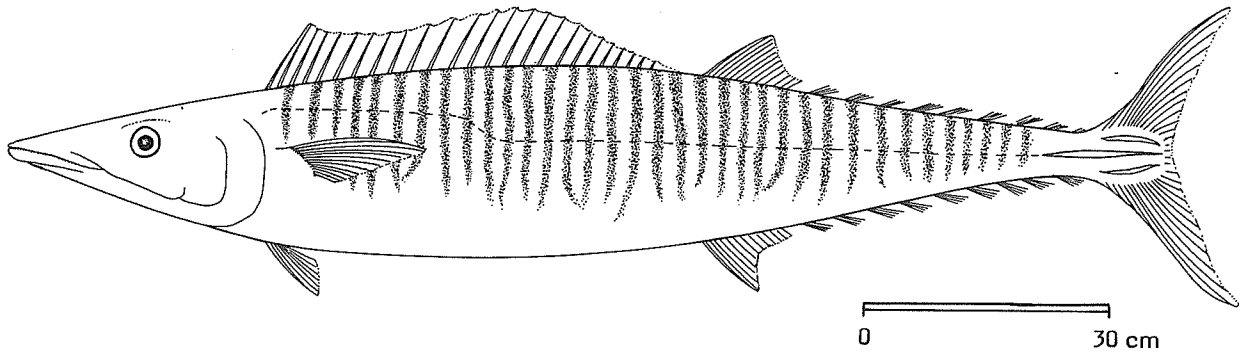
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCOMBRIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Acanthocybium solandri (Cuvier, 1831)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

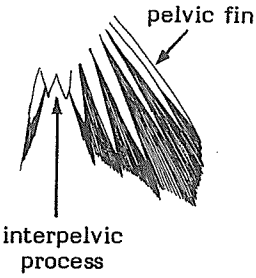
FAO : En - Wahoo
Fr - Thazard-bâtard
Sp - Peto

NATIONAL :

DISTINCTIVE CHARACTERS :

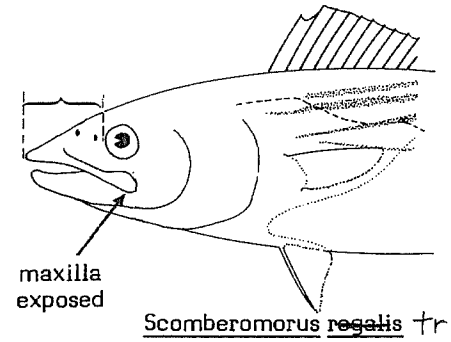
Body very elongate, fusiform and only slightly laterally compressed. Snout about as long as the rest of head. Gill rakers undeveloped and absent; posterior part of maxilla completely concealed under preorbital bone. Two dorsal fins, the first with 24 to 26 spines, 9 dorsal and anal finlets; 2 small flaps (interpelvic process) between pelvic fins.

Colour: back iridescent bluish green; numerous dark vertical bars on sides which extend to below lateral line.

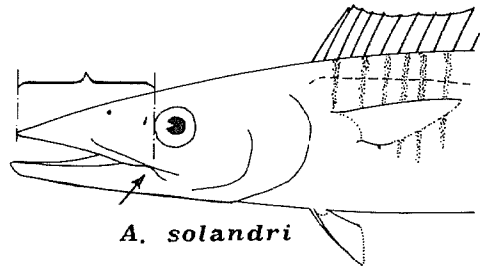


DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Scombridae: snout much shorter than the rest of head (equal to rest of head in A. solandri) and no regular vertical stripes extending to below lateral line. The most similar in shape are Scomberomorus species which, in addition to the above-mentioned characters, are distinguished from A. solandri by the exposed hind margin of the maxilla, fewer dorsal fin spines (14 to 19 instead of 24 to 26) and the presence of at least 6 gill rakers on first gill arch.



Scomberomorus ~~regalis~~ tritor



A. solandri

SIZE:

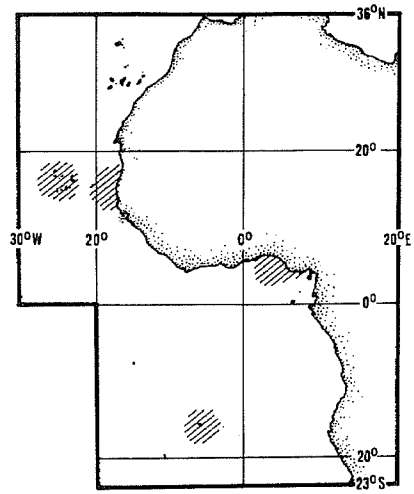
Maximum: 211 cm fork length; and 36 kg or more.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

A cosmopolitan warm-water species usually found well offshore. Exact range in the Eastern Atlantic is not well known but there are records from the Cape Verde Islands, Mauritania, Senegal, Guinea, Dahomey, and St. Helena.

PRESENT FISHING GROUNDS:

Offshore surface waters throughout its range.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Only negligible quantities (less than 50 t) reported from the area in 1977.

Primarily a sportsfish on light to heavy tackle, surface trolling with spoon, feather lure, strip bait, or flying fish or halfbeak.

Marketed mostly fresh; the flesh is of very good quality.

SCOMBR Aux 1

1981

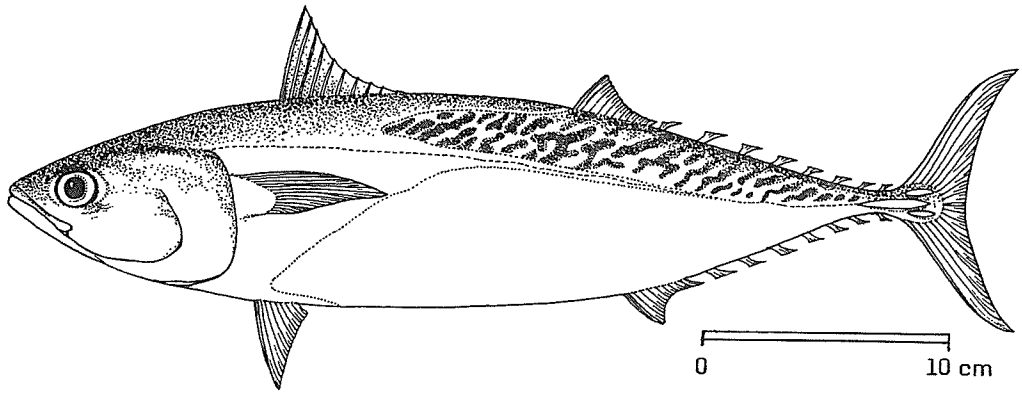
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCOMBRIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Auxis thazard (Lacepède, 1803)

OTHER SCIENTIFIC NAMES STILL IN USE : Auxis tapeinosoma Bleeker, 1854
Auxis hira Kishinouye, 1923



VERNACULAR NAMES:

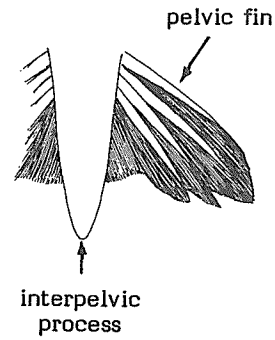
FAO : En - Frigate tuna
Fr - Auxide
Sp - Melva

NATIONAL :

DISTINCTIVE CHARACTERS :

Body robust, elongate and rounded. Two dorsal fins, the first with 10 to 12 spines, separated from the second by a large interspace (at least equal to length of first dorsal fin base), the second fin followed by 8 finlets; pectoral fins short, but reaching past vertical line from anterior margin of scaleless area above corselet; a large single-pointed flap (interpelvic process) between pelvic fins; anal fin followed by 7 finlets. Body naked except for the corselet, which is well developed and narrow in its posterior part (no more than 5 scales wide under second dorsal fin origin). A strong central keel on each side of caudal fin base between 2 smaller keels.

Colour: back bluish, turning to deep purple or almost black on the head; a pattern of 15 or more narrow, oblique to nearly horizontal, dark wavy lines in the scaleless area above lateral line; belly white; pectoral and pelvic fins purple, their inner sides black.

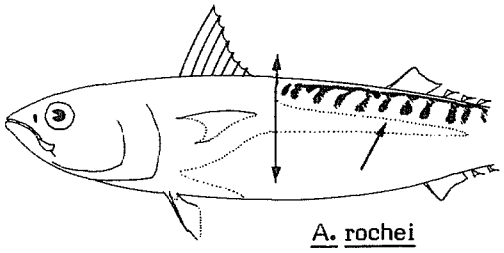


DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

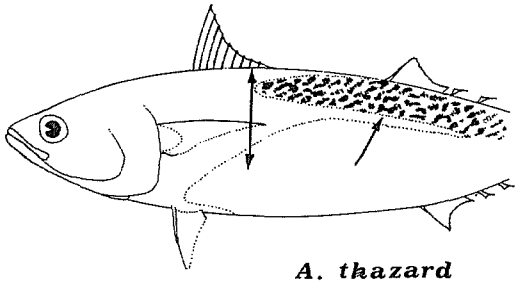
A. rochei: posterior part of corselet wider, 6 to 20 scales wide under the second dorsal fin origin (not more than 5 scales wide in A. thazard); pectoral fins not reaching vertical from scaleless area above corselet; dark stripes on back nearly vertical.

Scomber species: scales present all over body; no central keel between the 2 small keels on each side of caudal fin base; 5 finlets behind dorsal and anal fins instead of 7 or 8; marbled colour pattern of back extending forward up to head.

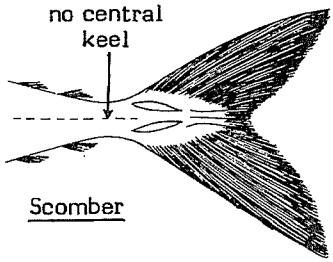
All other scombrid species occurring in the area have both dorsal fins close together.



A. rochei



A. thazard



Scomber

SIZE:

Maximum: 50 cm fork length; common to 40 cm (larger than A. rochei).

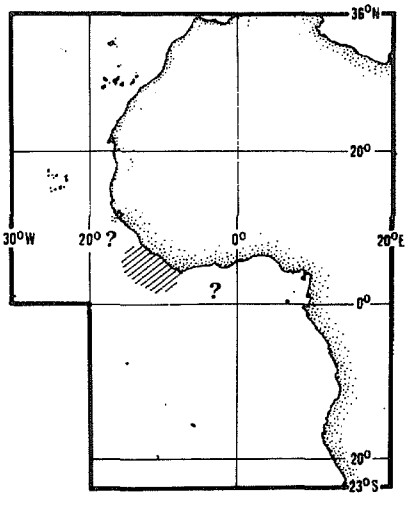
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

A cosmopolitan warm-water species that occurs sporadically throughout the Eastern Central Atlantic. Until recently, only one species, currently known as A. rochei, was recognized in the Eastern Atlantic so the exact distribution of the two species is not well known. Definitely known from off Liberia.

FAO Species Synopses Nos. 4 and 8 (also No. 27 - Atlantic).

PRESENT FISHING GROUNDS:

Mainly coastal waters.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

A total of about 21 000 t for Auxis species was reported from the area in 1977 (20 000 t from Ghana).

Caught with beach seines, driftnets, purse seines, and by trolling.

Marketed fresh; possibly also frozen.

SCOMBR Aux 2

1981

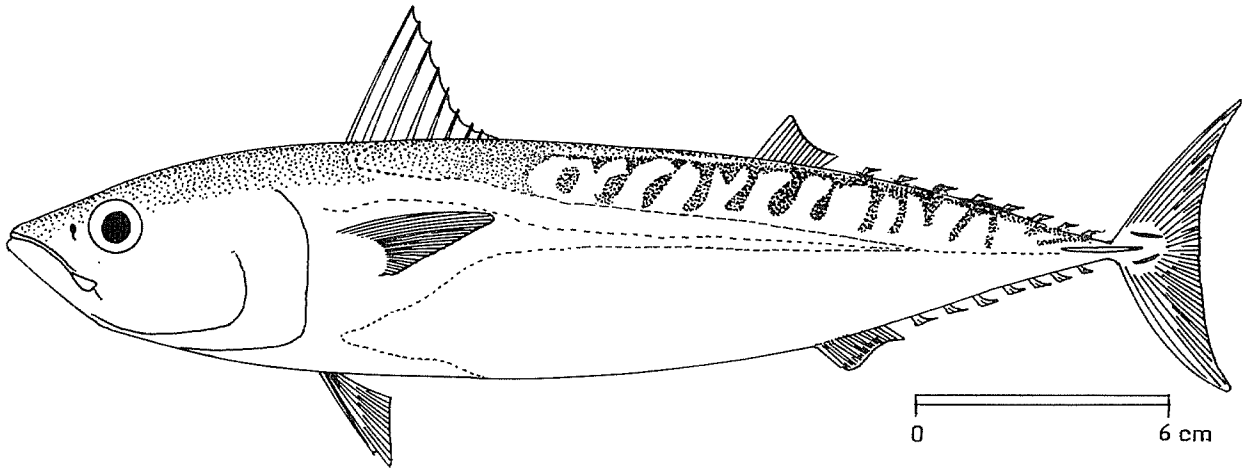
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCOMBRIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Auxis rochei (Risso, 1810)

OTHER SCIENTIFIC NAMES STILL IN USE : Auxis thynnoides Bleeker, 1855
Auxis maru Kishinouye, 1923



VERNACULAR NAMES:

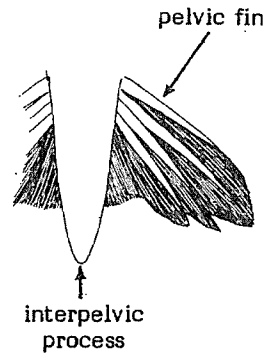
FAO : En - Bullet tuna
Fr - Bonitou (= Auxide, Area 31)
Sp - Melva

NATIONAL :

DISTINCTIVE CHARACTERS :

Body robust, elongate and rounded. Two dorsal fins separated by a large interspace (at least equal to length of first dorsal fin base), the second fin followed by 8 finlets; pectoral fins short, not reaching vertical line from anterior margin of scaleless area above corselet; a large, single-pointed flap (interpelvic process) between the pelvic fins; anal fin followed by 7 finlets. Body naked except for corselet, which is well developed in its posterior part (more than 6 scales wide under second dorsal fin origin). A strong central keel on each side of caudal fin base between 2 smaller keels.

Colour: back bluish, turning to deep purple or almost black on the head; a pattern of 15 or more fairly broad, nearly vertical dark bars in the scaleless area; belly white; pectoral and pelvic fins purple, their inner sides black.

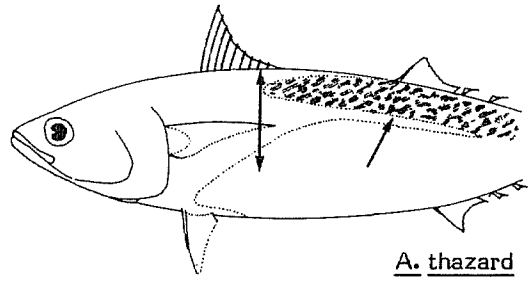


DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

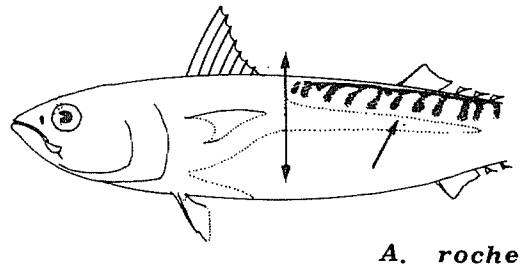
Auxis thazard: posterior part of corselet narrower, not more than 5 scales wide under second dorsal fin origin (6 to 20 scales wide in A. rochei); pectoral fins reaching vertical from scaleless area above corselet; dark stripes on back more oblique.

Scomber species: scales present all over body; no central keel between the 2 small keels on each side of caudal fin base; 5 finlets behind dorsal and anal fins instead of 7 or 8; marbled colour pattern of back extending forward up to head.

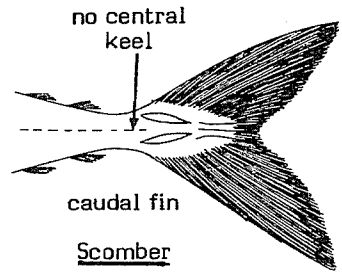
All other scombrid species occurring in the area have both dorsal fins close together.



A. thazard



A. rochei



Scomber

SIZE:

Maximum: 40 cm fork length; common to 35 cm.

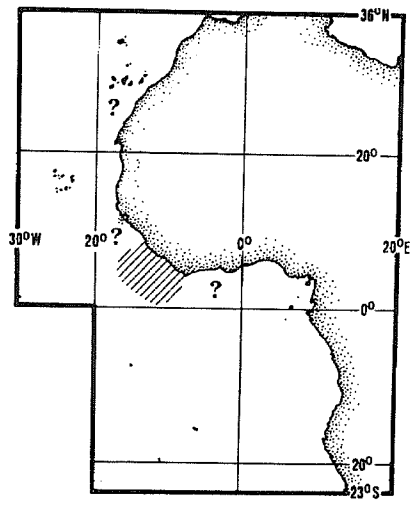
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

A cosmopolitan warm-water species that occurs sporadically throughout the Eastern Central Atlantic. Until recently, only one species was recognized in this area, so exact distribution of the two species (A. rochei and A. thazard) is not well known. A. rochei appears to be the more common of the two.

Adults have been taken largely in inshore waters and near islands.

Feeds on small fishes, especially clupeoids; also on crustaceans, especially megalops larvae and larval stomatopods, and on squids.

FAO Species Synopsis No. 28.



PRESENT FISHING GROUNDS:

No specific fishery exists; caught with other species throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

A total of about 21 000 t for Auxis species was reported from the area in 1977 (20 000 t from Ghana).

Caught with purse seines, liftnets, traps, pole and line, and by trolling.

Marketed fresh and frozen.

SCOMBR Euth 1

1981

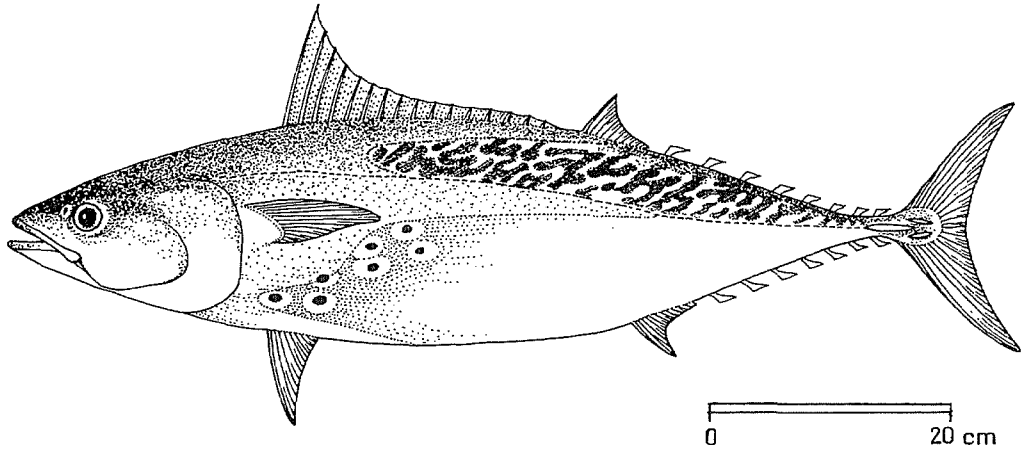
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCOMBRIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Euthynnus alletteratus (Rafinesque, 1810)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

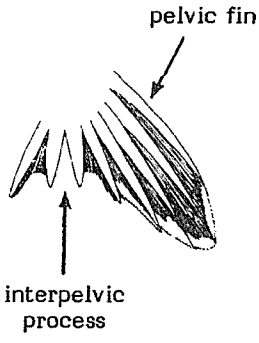
FAO : En - Little tunny
Fr - Thonine commune (= Thonine, Area 31)
Sp - Bacoreta

NATIONAL :

DISTINCTIVE CHARACTERS :

A large fish, body robust and fusiform. Two dorsal fins separated by a narrow space (not wider than eye diameter); anterior spines in dorsal fin much higher than those midway, giving the fin a strongly concave outline; second dorsal fin much lower than first, followed by 8 finlets; pectoral fins short; 2 flaps (interpelvic process) between pelvic fins; anal fin followed by 7 finlets. Body naked, except for the corselet and lateral line. Caudal peduncle very slender, bearing on either side a prominent central keel between 2 small keels at bases of caudal fin lobes.

Colour: back dark blue with a complicated striped pattern not extending forward beyond middle of first dorsal fin; lower sides and belly silvery white; several characteristic dark spots between pelvic and pectoral fins (not always very conspicuous).



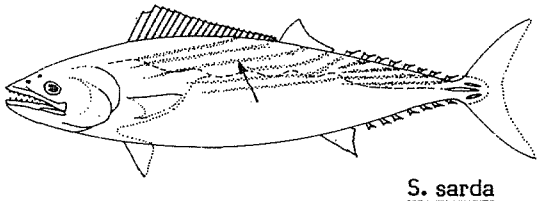
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Other species of Scombridae lack the characteristic dark spots between pectoral and pelvic fins. Those which also show a pattern of stripes on back can be further distinguished by the following characters:

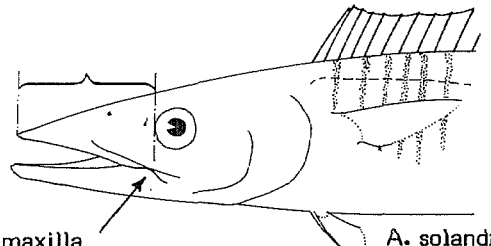
Sarda sarda: stripes on back 5 to 11 nearly straight and horizontal lines, extending forward to origin of first dorsal fin; mouth wider, upper jaw reaching at least to hind margin of eye.

Acanthocybium solandri: stripes vertical, extending to below lateral line and forward to origin of first dorsal fin; snout about as long as rest of head; posterior part of maxilla completely concealed under preorbital bone.

Auxis and Scomber species: dorsal fins separated by a large space (about equal to length of first dorsal fin base).



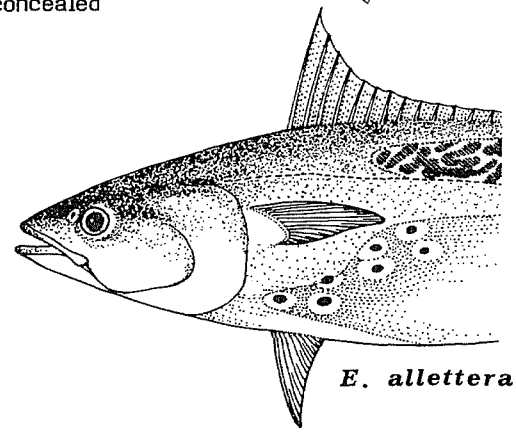
S. sarda



A. solandri

SIZE :

Maximum: 100 cm fork length; common to 85 cm, and about 7 kg weight.



E. alletteratus

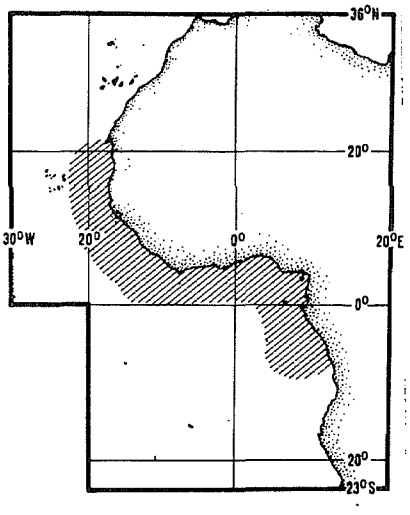
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

From Mauritania and the Cape Verde Islands southward along the coast in the Gulf of Guinea to Angola. Also found in the Mediterranean Sea and the Western Atlantic.

Less migratory than Katsuwonus pelamis or other tunas; usually found in coastal areas with swift currents, near shoals and offshore islands.

Feeds mainly on small fishes such as clupeoids and other pelagic species, as well as on fish larvae, squids and crustaceans. At times, schools can be located by the presence of diving birds that are also feeding on the smaller fishes.

FAO Species Synopsis No. 20.



PRESENT FISHING GROUNDS :

Surface waters, mainly on the continental shelf.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

The total catch reported from the Area in 1977 was about 3 000 t.

In open waters it is fished with purse seines and trolling lines; young specimens are also taken with beach seines.

Marketed mainly fresh, also canned.

SCOMBR Kats 1

1981

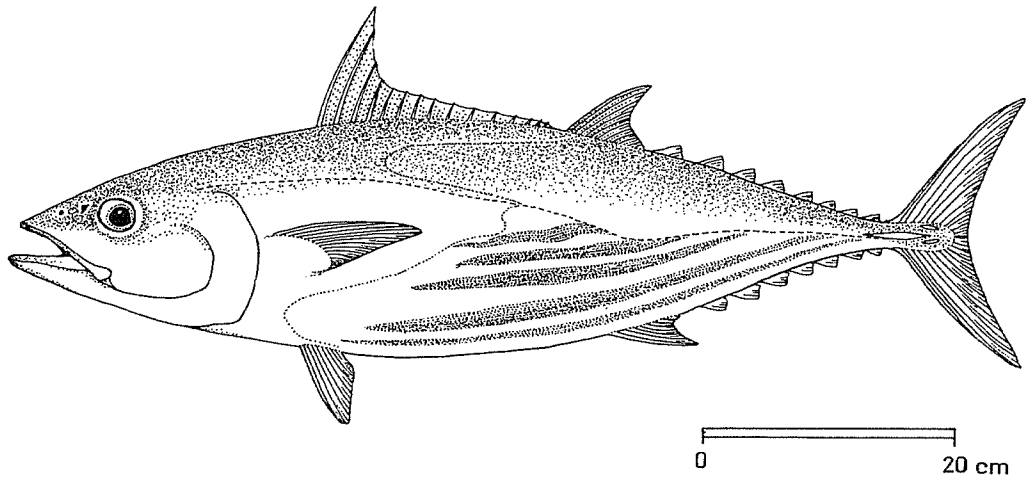
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCOMBRIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Katsuwonus pelamis (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Euthynnus pelamis (Linnaeus, 1758)



VERNACULAR NAMES:

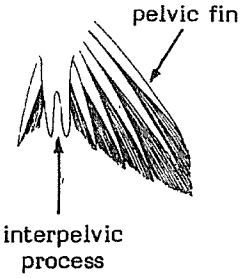
FAO : En - Skipjack tuna
Fr - Bonite à ventre rayé (= Listao, Area 31)
Sp - Listado

NATIONAL :

DISTINCTIVE CHARACTERS :

Body fusiform, elongate and rounded. Gill rakers numerous, 53 to 63 on first gill arch. Two dorsal fins separated by a small interspace (not larger than eye), the first with 14 to 16 spines, the second followed by 7 to 9 finlets; pectoral fins short with 26 or 27 rays; 2 flaps (interpelvic process) between pelvic fins; anal fin followed by 7 or 8 finlets. Body scaleless except for the corselet and lateral line. A strong keel on each side of base of caudal fin between 2 smaller keels.

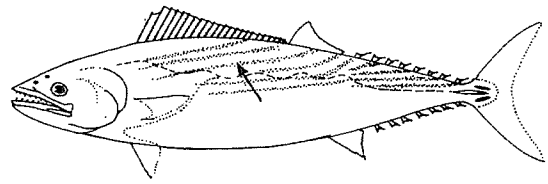
Colour: back dark purplish blue, lower sides and belly silvery, with 4 to 6 very conspicuous longitudinal dark bands which in live specimens may appear as discontinuous lines of dark blotches.



DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Sarda sarda is the only other species in the area with longitudinal stripes but these are on the back instead of on the belly as in K. pelamis. S. sarda also has many fewer gill rakers (16 to 22 instead of 53 to 63) and many more spines in the long, low and straight first dorsal fin (20 to 23 instead of 14 to 16).

All other scombrid species in the area lack the dark longitudinal bands on lower flanks, and have fewer gill rakers, at most 43 (Thunnus t. thynnus).



Sarda sarda

SIZE:

Maximum: 100 cm fork length; common to 80 cm.

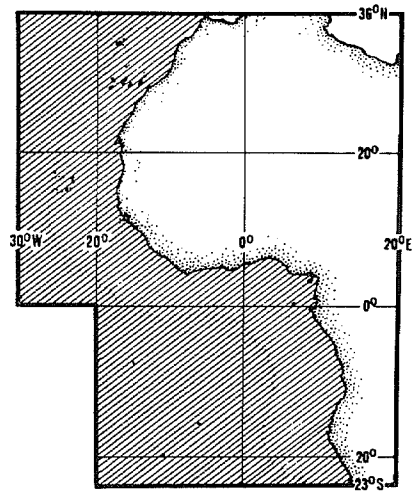
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Cosmopolitan in tropical and subtropical seas. Found along the entire coast of West Africa.

Occurs in large schools in deep coastal and oceanic waters, generally above the thermocline.

Feeds on fishes, cephalopods, and crustaceans.

FAO Species Synopses Nos. 15, 21 and 22.



PRESENT FISHING GROUNDS:

Deep coastal and oceanic waters.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The total catch from the Area was about 94 000 t (France, 24 850 t; Spain, 18 882; Japan, 13 240; Ghana, 7 458; Puerto Rico, 7 200; Senegal, 5 055; Korea, 4 188; Angola, 4 036, etc.).

Caught mainly by pole and line; also with purse seines. Also an important game fish usually taken by trolling on light tackle using plugs, spoons, feathers, or strip bait.

Marketed canned or frozen.

SCOMBR Orcy 1

1981

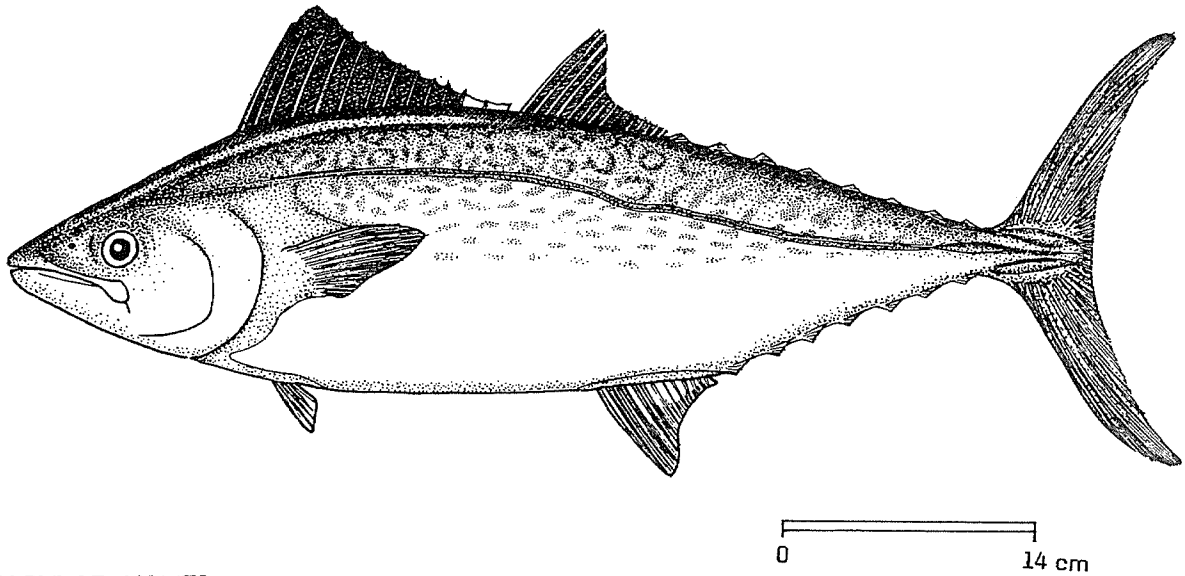
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCOMBRIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Orcynopsis unicolor (Geoffroy St. Hilaire, 1817)

OTHER SCIENTIFIC NAMES STILL IN USE : None



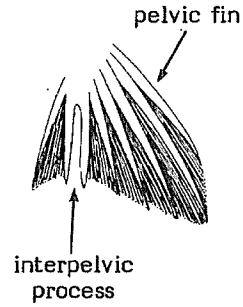
VERNACULAR NAMES:

FAO : En - Plain bonito
Fr - Palomette
Sp - Tasarte

NATIONAL :

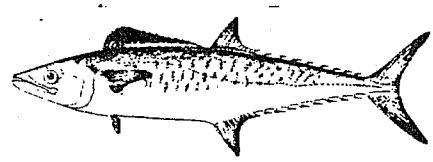
DISTINCTIVE CHARACTERS :

Body relatively short and deep, strongly compressed. Mouth rather large, upper jaw reaching to hind margin of eye; 2 tooth patches on upper surface of tongue; 12 to 17, usually 14 to 16, gill rakers on first arch. Dorsal fins close together, the first (spiny) short and high (12 to 14 spines) and almost straight in outline; 7 to 9 dorsal and 6 to 8 anal finlets; pectoral fins short (21 to 23 rays); pelvic fins separated by 2 flaps (interpelvic process). Lateral line wavy. Body naked behind well developed corselet except for a band of scales along the bases of the dorsal fins and patches of scales around the bases of the pectoral and pelvic fins; caudal peduncle slender, with a well developed lateral keel between two smaller keels on each side.



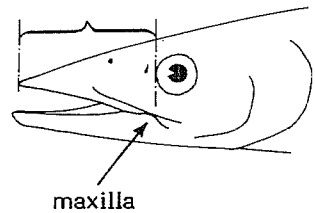
Colour: back blue-black with faint mottled pattern laterally but no prominent stripes or spots; lower sides silvery; anterior three quarters of first dorsal fin black, second dorsal fin and dorsal finlets dark, some yellow on anal fin.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:



S. tritor: sides of body only with numerous round yellow to bronze spots, but without yellow lines or streaks; pectoral fins without scales, except at bases; total number of gill rakers on first arch usually 14 or fewer; spines in first dorsal fin usually 19.

Acanthocybium solandri: no gill rakers; 24 to 26 spines in first dorsal fin; snout about as long as rest of head (much shorter in Scomberomorus species); posterior end of maxilla concealed under preorbital bone; numerous vertical stripes on sides of body.

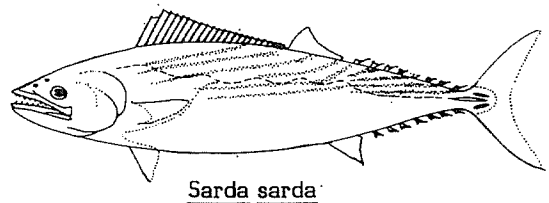


Acanthocybium solandri

Sarda sarda: mouth wider, maxilla reaching well beyond hind margin of eye; first dorsal fin with a straight outer edge and longer, with 20 to 23 spines; 5 to 11 dark slightly oblique lines on back and upper sides.

SIZE:

Maximum: at least 100 cm fork length (13.1 kg); common to 70 cm.

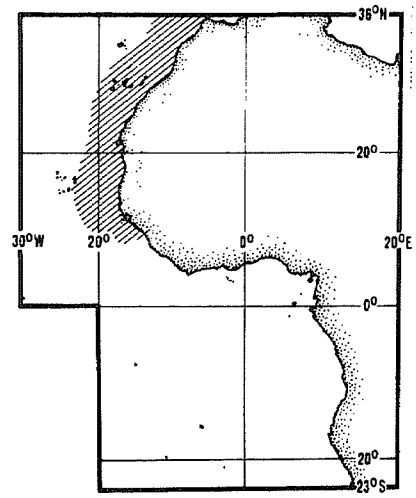


Sarda sarda

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

An Eastern Atlantic endemic whose range is centered in the Mediterranean Sea but extends north to Oslo, Norway and southward to Dakar, Senegal.

Feeds mainly on small fishes, especially sardines and anchovies.



PRESENT FISHING GROUNDS:

Coastal and offshore waters in the northern part of the area.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catch reported from the area was 340 t in 1977.

Caught mainly by pole and line; also with purse seines.

Marketed canned or frozen.

SCOMBR Sarda 1

1981

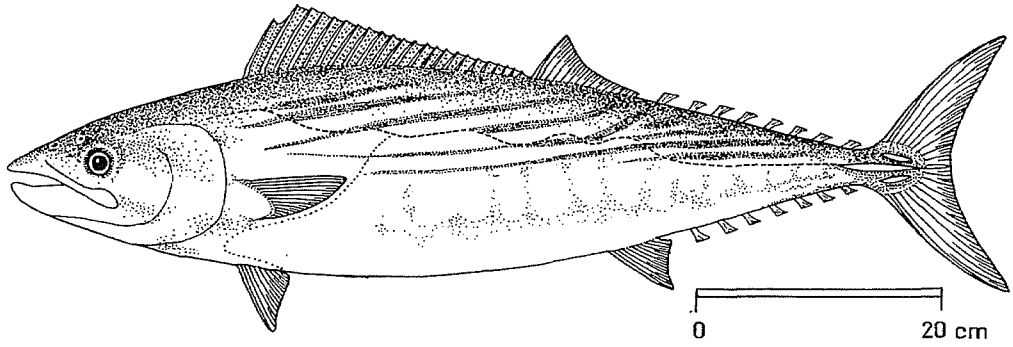
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCOMBRIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Sarda sarda (Bloch, 1793)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

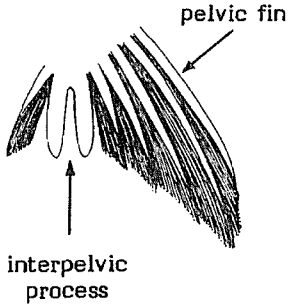
FAO : En - Atlantic bonito
Fr - Bonito à dos rayé (= Pélamide, Area 31)
Sp - Bonito atlántico

NATIONAL :

DISTINCTIVE CHARACTERS :

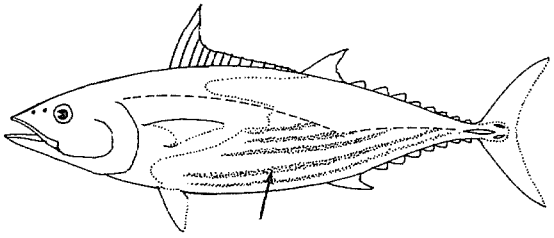
A small, relatively narrow-bodied tuna. Mouth rather wide, upper jaw reaching to hind margin of eye or beyond; no tooth patches on upper surface of tongue; 16 to 22 gill rakers on first arch. Dorsal fins close together, the first (spiny) very long, (20 to 23 spines) and straight or only slightly concave in outline; 7 to 9 dorsal and 6 to 8 anal finlets; pectoral fins short; pelvic fins separated by 2 flaps (interpelvic process). Lateral line conspicuously wavy. Body entirely covered with scales which are minute except on the well developed corselet; caudal peduncle slender, with a well developed lateral keel between two smaller keels on each side.

Colour: back and upper sides steel-blue, with 5 to 11 dark slightly oblique stripes running forward and downward; lower sides and belly silvery.



DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

All other species of Scombridae: upper jaw shorter, at most reaching to hind margin of eye (in Scomberomorus species); first dorsal fin clearly concave in outline and shorter, spines always less than 20 (20 to 23 in S. sarda). The only other species with longitudinal dark stripes is Katsuwonus pelamis, but these are on belly, not on back.



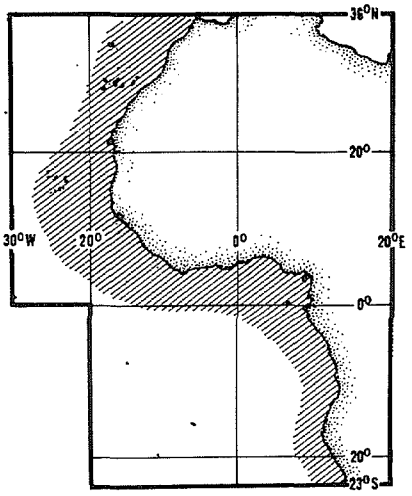
Katsuwonus pelamis

SIZE:

Maximum: 85 cm fork length and 5 kg weight; common to 50 cm and about 2 kg weight.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the Eastern Atlantic, extends from near Oslo, Norway, southward to Port Elizabeth, South Africa, inlcuding the Mediterranean and Black Seas. It is known from all along the coast of West Africa from Morocco to Southwest Africa. It is also found in the Western Atlantic from Massachusetts to northern Argentina.



A pelagic migratory species often schooling near the surface in inshore waters.

Feeds mostly on fishes, particularly small clupeoids, gadoids and mackerels.

FAO Species Synopsis No. 24 and No. 1.

PRESENT FISHING GROUNDS:

Surface waters, mainly over the continental shelf.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The reported catch from the area in 1977 was 5 688 t (4 164 taken by U.S.S.R.).

In coastal waters it is caught mostly with gillnets and purse seines, while trolling lines are more often used offshore.

Marketed mainly fresh and canned.

SCOMBR Scom 1

1981

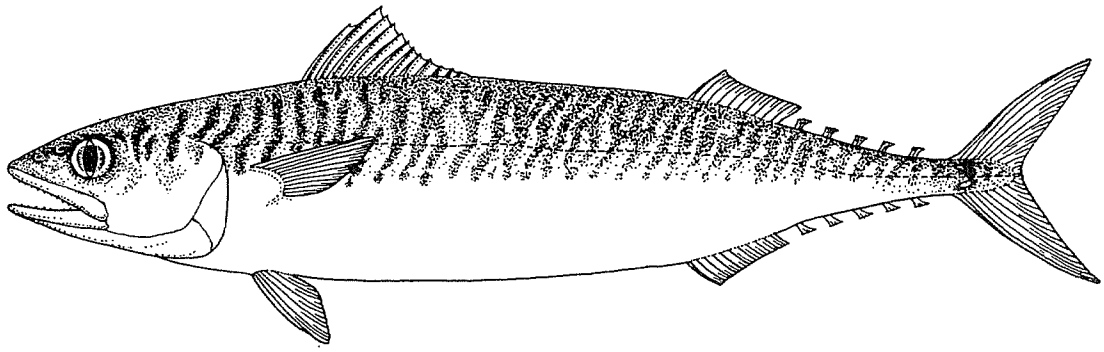
FAO SPECIES IDENTIFICATION SHEETS

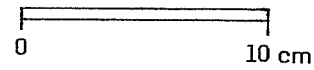
FAMILY : SCOMBRIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Scomber scombrus Linnaeus, 1758

OTHER SCIENTIFIC NAMES STILL IN USE : None





VERNACULAR NAMES:

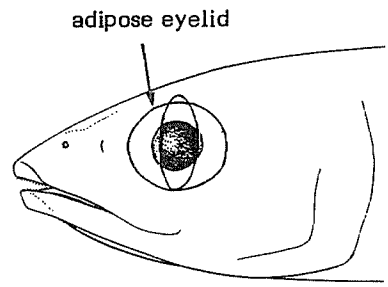
FAO :
En - Atlantic mackerel
Fr - Maquereau commun (= Maquereau de l'Atlantique, Area 37)
Sp - Caballa del Atlántico

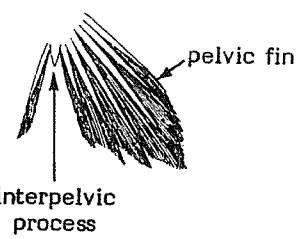
NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate and rounded, snout pointed, caudal peduncle slim. Front and hind margins of eye covered by an adipose eyelid. Two widely separated dorsal fins (interspace at least equal to length of first dorsal fin base), the first with 11 to 13 spines; 5 dorsal and 5 anal finlets; a single small flap (interpelvic process) between pelvic fins. Scales behind head and around pectoral fins larger and more conspicuous than those covering rest of body, but no well developed corselet. Two small keels on each side of caudal peduncle (at base of caudal fin lobes), but no central keel between them. Swimbladder absent.

Colour: back brilliant blue-green with a series of dark curving lines across the back; sides metallic; lower sides and belly white without any blotches.



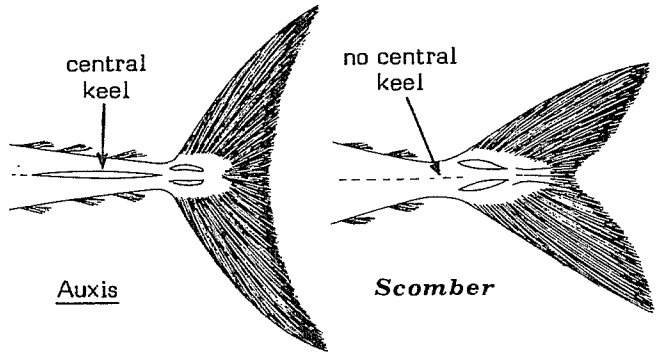


DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

S. japonicus: larger size scales covering the areas behind the head and around the pectoral fins; fewer dorsal fin spines (9 to 10 instead of 11 to 13); numerous dusky, rounded blotches on the lower sides and belly; space between first dorsal fin groove and second dorsal fin approximately equal to groove; swimbladder present.

Auxis rochei and A. thazard: a strong central keel between 2 feeble keels located at the bases of the caudal fin lobes; corselet of scales well developed, while the rest of body is scaleless.

All other species of Scombridae: dorsal fins close together (interspace much smaller than the length of the first dorsal fin base); a strong keel on the caudal peduncle between the 2 keels at bases of caudal fin lobes; size larger.



caudal fin

SIZE:

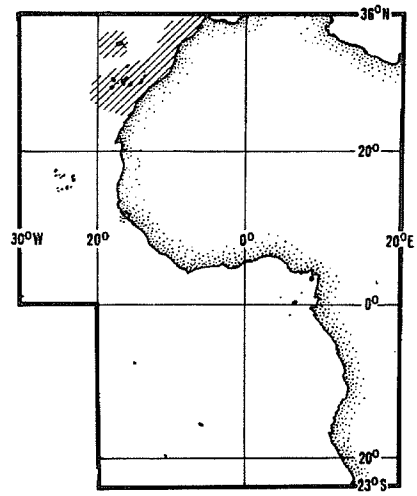
Maximum: 50 cm fork length; common to 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

A North Atlantic species found from the North Sea and Mediterranean Sea south to the Canary Islands and Cabo Bojador (26°N) of the Northwest coast of Africa. Also found in the Western Atlantic from Labrador to Cape Lookout.

A schooling pelagic fish inhabiting cold and temperate waters.

Feeds chiefly on pelagic invertebrates and on herring, pilchard, sprat and eels.



PRESENT FISHING GROUNDS:

Coastal waters over the continental shelf.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Of relatively little importance in the area but a very important species further north in both the Eastern and Western North Atlantic.

Caught with purse seines, often together with sardines, sometimes using light; also with trolling lines, gillnets, traps, beach seines and midwater trawls.

Marketed fresh, frozen, smoked, salted and occasionally also canned.

SCOMBR Scom 2

1981

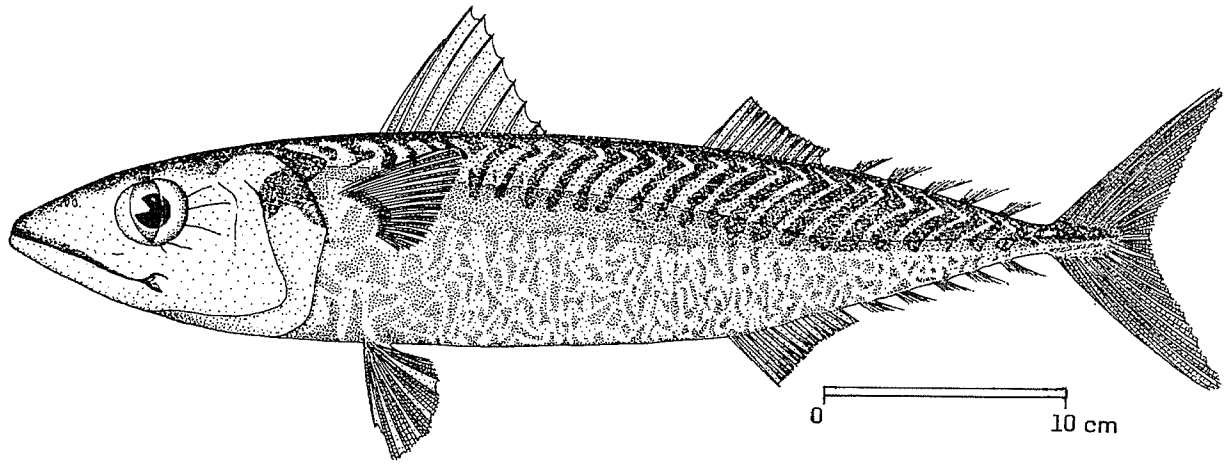
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCOMBRIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Scomber japonicus Houttuyn, 1780

OTHER SCIENTIFIC NAMES STILL IN USE : Pneumatophorus colias (Gmelin, 1788)
Scomber colias Gmelin, 1788



VERNACULAR NAMES:

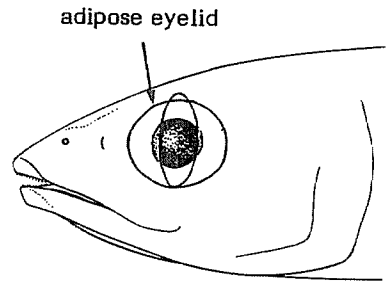
FAO : En - Chub mackerel
Fr - Maquereau espagnol
Sp - Estornino

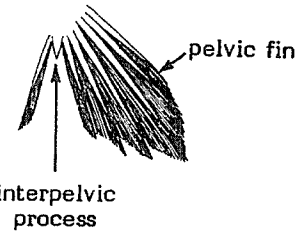
NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate and rounded, snout pointed, caudal peduncle slim. Front and hind margins of eye covered by an adipose eyelid. Two widely separated dorsal fins (interspace at least equal to length of first dorsal fin base), the first with 8 to 10 spines; 5 dorsal and 5 anal finlets; a single small flap (interpelvic process) between pelvic fins. Scales behind head and around pectoral fins larger and more conspicuous than those covering rest of body, but no well developed corselet. Two small keels on each side of caudal peduncle (at base of caudal fin lobes), but no central keel between them. Swimbladder present.

Colour: back steel-blue crossed by faint wavy lines; lower sides and belly silvery-yellow with numerous dusky rounded blotches.



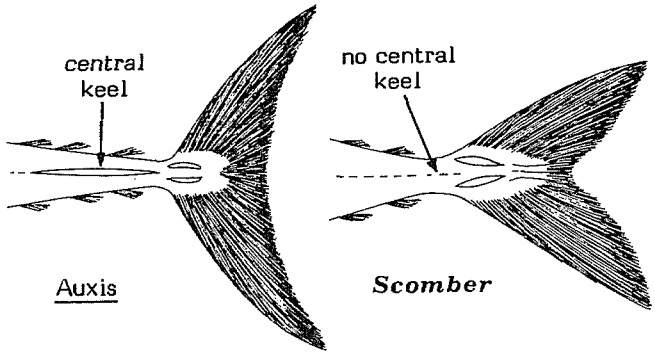


DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

S. scombrus: (so far known only from the north part of area) size of scales covering head and body uniform; larger number of dorsal fin spines (11 to 13 instead of 8 to 10); no dusky blotches on the lower sides and belly; swim-bladder absent.

Auxis rochei and A. thazard: a strong central keel between 2 feeble keels located at the bases of the caudal fin lobes; corselet of scales well developed, while the rest of body is scaleless.

All other species of Scombridae: dorsal fins close together (interspace much smaller than the length of the first dorsal fin base); a strong keel on the caudal peduncle between the 2 keels at bases of caudal fin lobes; size larger.



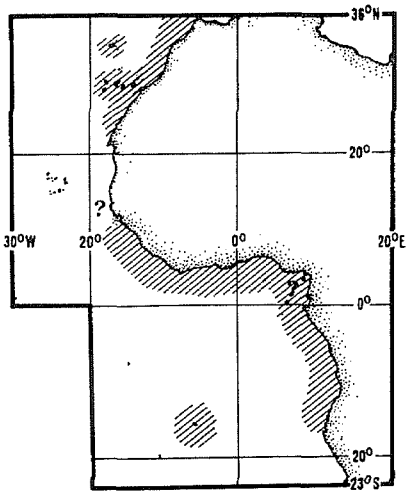
caudal fin

SIZE:

Maximum: 50 cm fork length; common to 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

A cosmopolitan species inhabiting temperate and subtropical waters of the Atlantic, Indian, and Pacific oceans and adjacent seas. In the Eastern Atlantic, known from the Mediterranean and Black seas, Madeira, the Canary Islands and from 10° to 16°S in the Gulf of Guinea. Also found around the Cape of Good Hope.



A schooling pelagic species found mostly in coastal waters.

Feeds on small pelagic fishes, especially clupeoids, and pelagic invertebrates.

PRESENT FISHING GROUNDS:

Coastal waters over the continental shelf.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catch reported from the area was about 171 000 t in 1977 (U.S.S.R., 114 280 t; Morocco, 40 122 t).

Caught with purse seines, often together with sardines, sometimes using light; also with trolling lines, gillnets, traps, beach seines and midwater trawls.

Marketed fresh, frozen, smoked, salted and occasionally also canned.

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1981

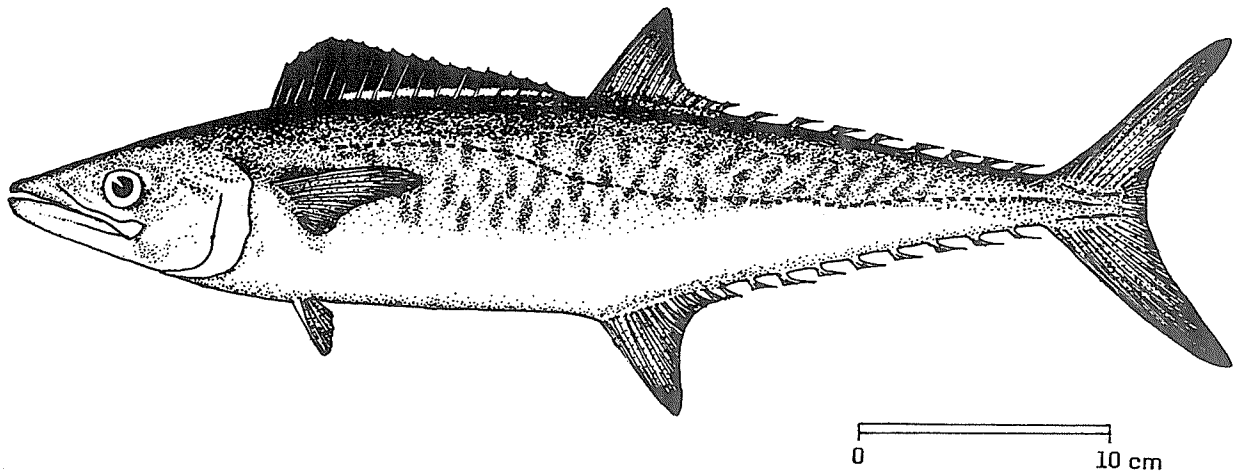
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCOMBRIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Scomberomorus tritor (Cuvier, 1831)

OTHER SCIENTIFIC NAMES STILL IN USE : Scomberomorus maculatus (Mitchill, 1815)



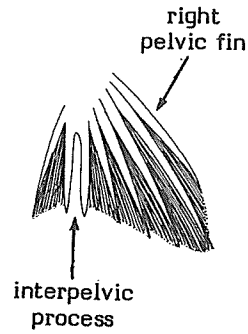
VERNACULAR NAMES:

FAO : En - West African Spanish mackerel
Fr - Thazard blanc
Sp - Carite pintado

NATIONAL :

DISTINCTIVE CHARACTERS :

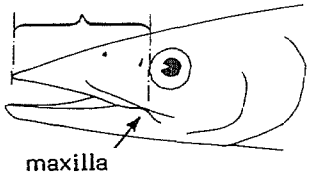
Body elongate, strongly compressed. Snout much shorter than rest of head; posterior part of maxilla exposed, reaching to a vertical from hind margin of eye; gill rakers on first arch many (2 or 3 on upper limb); 10 to 13, usually 11, on lower limb (12 to 15 total). Two scarcely separated dorsal fins, the first with 15 to 19 spines; dorsal and anal finlets 7 to 9, usually 8; 2 flaps (interpelvic process) between pelvic fins. Lateral line gradually curving down toward caudal peduncle. Body entirely covered with small scales, no corselet developed; pectoral fins without scales, except at bases.



Colour: back bluish green, sides silvery with about three rows of vertycally elongated spots, some large individuals with thin vertical bars; anterior half of first dorsal fin and margin of posterior half of first fin black, base of posterior half white.

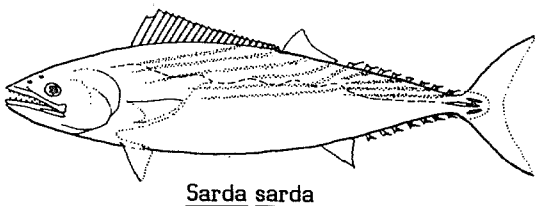
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Acanthocybium solandri: no gill rakers; 24 to 26 spines in first dorsal fin; snout about as long as rest of head (much shorter in Scomberomorus species); posterior end of maxilla concealed under preorbital bone; numerous vertical stripes on sides of body.



Acanthocybium solandri

Sarda sarda: mouth wider, maxilla reaching well beyond hind margin of eye; first dorsal fin with a straight outer edge and longer, with 20 to 23 spines; 5 to 11 dark, slightly oblique lines on back and upper sides.

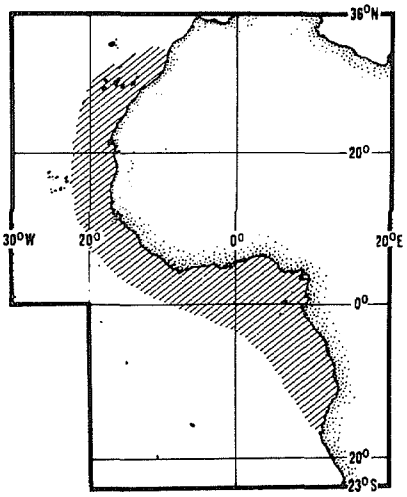

Sarda sarda

SIZE:

Maximum: at least 98 cm fork length; common to 50 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

An Eastern Atlantic species whose range is concentrated in the Gulf of Guinea from the Canary Islands and Dakar to Angola. Rare in the Mediterranean Sea. Has erroneously been considered conspecific with a similar Western Atlantic species, S. maculatus.



Tends to form schools and enters tidal estuaries.

Feeds on small fishes, especially sardines and anchovies.

PRESENT FISHING GROUNDS:

Coastal waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catch reported from the area in 1977 totalled 1 119 t all taken by Ghana.

Caught mainly with purse seines, and on line gear.

Marketed mostly fresh or frozen; the flesh is highly appreciated.

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1981

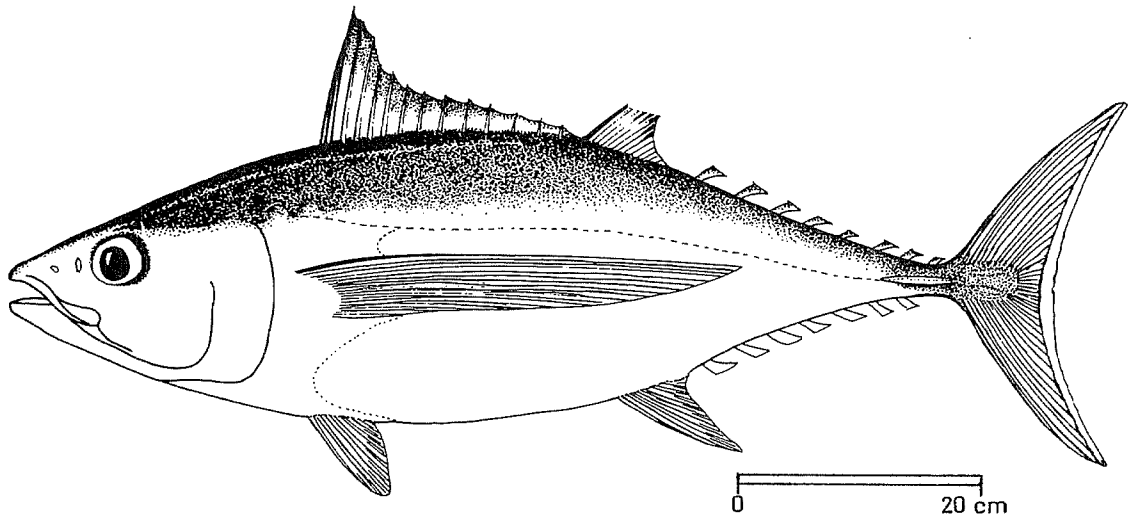
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: SCOMBRIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Thunnus alalunga (Bonnaterre, 1788)

OTHER SCIENTIFIC NAMES STILL IN USE: Germo alalunga (Bonnaterre, 1788)
Thunnus germo (Lacepède, 1800)



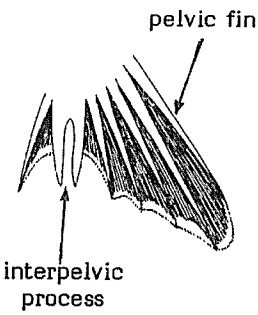
VERNACULAR NAMES:

FAO: En - Albacore
Fr - Germon
Sp - Atun blanco (= Albacora)

NATIONAL:

DISTINCTIVE CHARACTERS:

A large species with an elongate, fusiform body, deepest at a more posterior point than in other tunas (at, or only slightly anterior to, second dorsal fin rather than near middle of first dorsal fin base). Eyes rather large; gill rakers 25 to 31 on first arch. Two dorsal fins separated only by a narrow interspace, the second clearly lower than the first and followed by 7 to 9 finlets; pectoral fins remarkably long, usually 30 percent of fork length or longer, reaching well beyond origin of second dorsal fin (usually up to second dorsal finlet); 2 flaps (interpelvic process) between pelvic fins; anal fin followed by 7 or 8 finlets. Small scales on body; corselet of larger scales developed but not very distinct. Caudal peduncle very slender, bearing on each side a strong lateral keel between 2 smaller keels. Liver striated on ventral surface. Swimbladder present.



Colour: back metallic dark blue, lower sides and belly whitish; a faint lateral iridescent blue band runs along sides in live fish; first dorsal fin deep yellow, second dorsal and anal fins light yellow, anal finlets dark; posterior margin of caudal fin white.

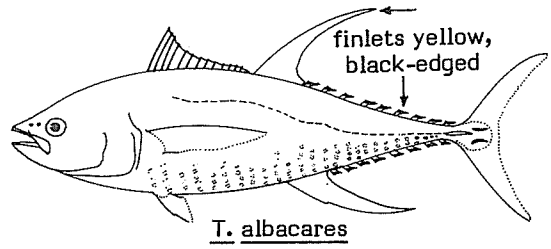
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

All other species of Thunnus: pectoral fins shorter, never reaching beyond posterior end of second dorsal fin base in adults (however, young specimens of T. alalunga, less than 30 cm, have pectoral fins about equal in length to similar-sized specimens of T. albacares and T. obesus); body deepest more anteriorly (at level of first dorsal fin origin); no white margin to caudal fin. Further distinguishing characters of other species of Thunnus are the following:

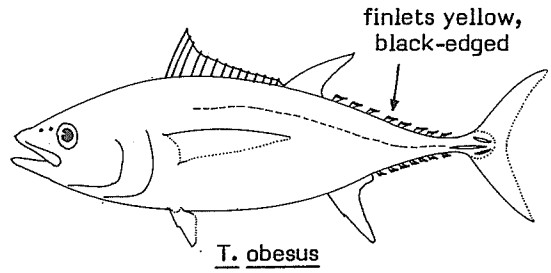
T. albacares: no striations on ventral surface of liver, and belly frequently crossed by about 20 broken, nearly vertical striations; also, second dorsal and anal fins greatly elongated in large adults; dorsal and anal finlets yellow, with a narrow black margin.

T. obesus: dorsal and anal finlets bright yellow, with distinct black margins (entire finlets dark in T. alalunga).

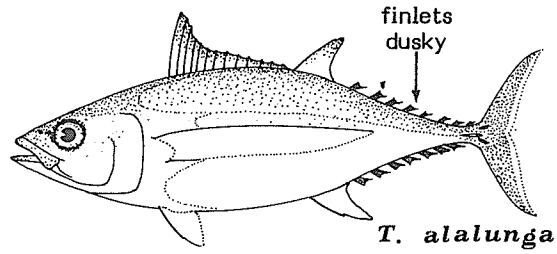
T. thynnus: pectoral fins very short, never reaching the space between dorsal fins; second dorsal fin reddish brown; more gill rakers (34 to 43; 25 to 31 in T. alalunga).



T. albacares



T. obesus



T. alalunga

SIZE :

Maximum: 120 cm fork length; common to 100 cm.

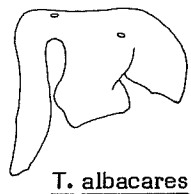
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

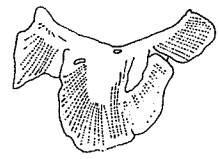
A cosmopolitan species, often extending into cool waters. In the Eastern Atlantic, its range extends from Great Britain to South Africa and it also occurs in the Mediterranean Sea.

Oceanic, the young often in large schools; found below the thermocline or at temperatures of 17 to 21°C.

Feeds on many kinds of organisms, particularly fishes, squids and crustaceans.

FAO Species Synopses No. 23 (W. Atlantic) No. 34 (as G. alalunga, E. Atlantic) and No. 9 (as T. germo, Indo-Pacific), and No. 109 (Atlantic).


T. albacares


T. alalunga

PRESENT FISHING GROUNDS :

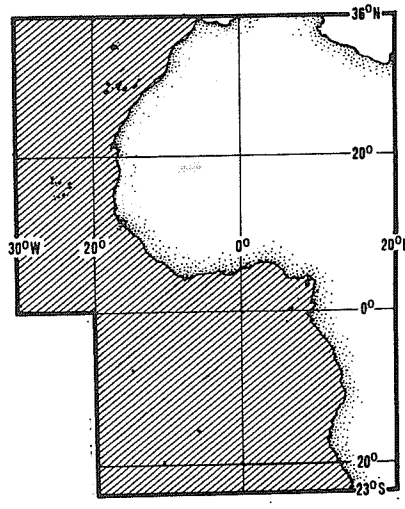
Oceanic waters, throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

The total catch reported from Fishing Area 34 was 6 033 t in 1977 (4 064 t taken by Korea).

Caught with purse seines, longlines; also by trolling.

Marketed mainly canned or frozen.



SCOMBR Thun 2

1981

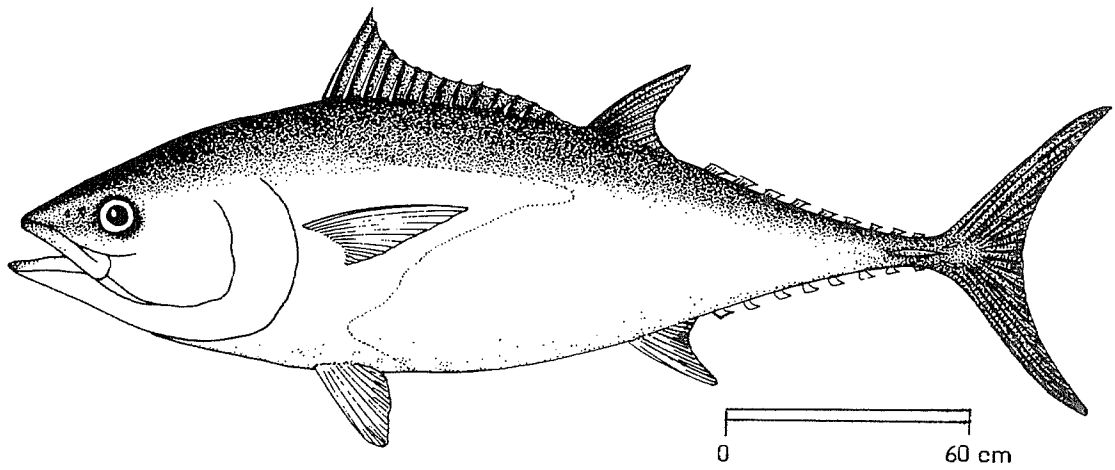
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCOMBRIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Thunnus thynnus thynnus (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Thunnus thynnus (Linnaeus, 1758)



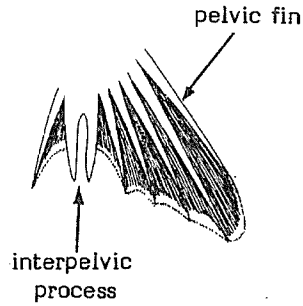
VERNACULAR NAMES:

FAO : En - Atlantic bluefin tuna (= Northern bluefin tuna, Area 31)
Fr - Thon rouge
Sp - Atún

NATIONAL :

DISTINCTIVE CHARACTERS :

A very large species with a fusiform and rounded body (nearly circular in cross-section), very robust in front. Two dorsal fins separated only by a narrow interspace, the second higher than the first; 8 to 10 finlets present behind the second dorsal and 7 to 9 behind the anal fin; pectoral fins very short, less than 80 percent of head length, never reaching the interspace between the dorsal fins; 2 separate flaps (interpelvic process) between the pelvic fins; a well developed, although not particularly conspicuous corselet; very small scales on rest of body. Caudal peduncle slender, with a strong lateral keel between 2 small keels located at the bases of the caudal fin lobes. Ventral surface of liver striated. Swimbladder present.



Colour: back dark blue or black, lower sides and belly silvery white with colourless transverse lines alternated with rows of colourless dots (the latter dominate in older fish), visible only in fresh specimens; first dorsal fin yellow or bluish, the second reddish-brown; anal fin and finlets dusky yellow edged with black; lateral keel black in adults.

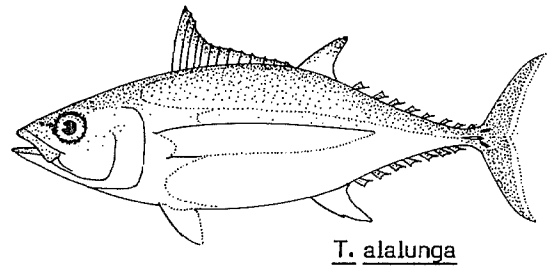
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

All other species of Thunnus: fewer gill rakers, at most 33 on first arch (34 to 43 in T. t. thynnus); pectoral fins longer, more than 80 percent of head length (or 23 percent of fork length) and reaching at least to space between dorsal fins; second dorsal fin not reddish brown.

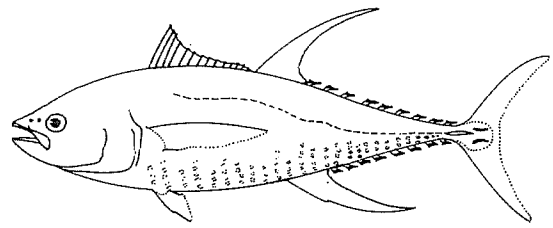
Further distinguishing characters of the species of Thunnus are the following:

T. alalunga: pectoral fin usually reaching nearly to second dorsal finlet; caudal fin with a distal white margin; body depth greatest more posteriorly near origin of second dorsal and anal fins.

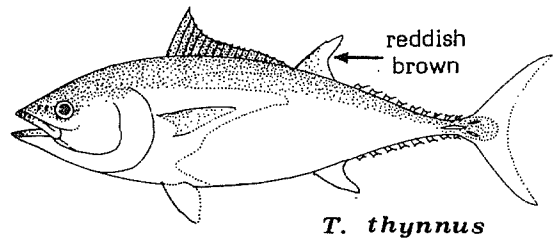
T. albacares: ventral surface of liver without striations; dorsal and anal fins bright yellow and becoming very elongate in large specimens; dorsal and anal finlets bright yellow with black margins; body frequently crossed by about 20 broken, nearly vertical lines.



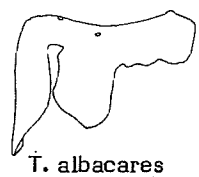
T. alalunga



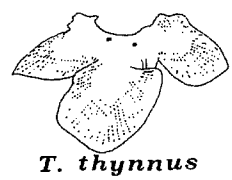
large adult T. albacares



T. thynnus



T. albacares



T. thynnus

SIZE:

Maximum: over 300 cm fork length; common to 200 cm.

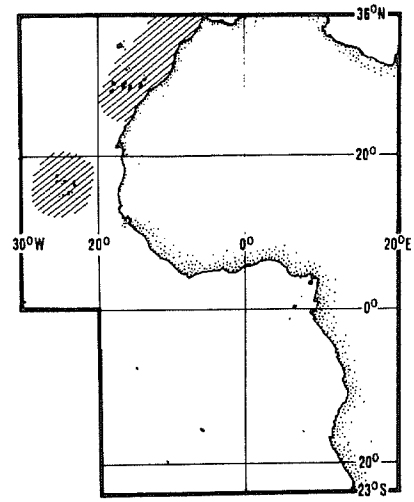
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

This subspecies occurs mostly in the North Atlantic Ocean and is replaced by another subspecies in the North Pacific. In the Eastern Atlantic, found in the Mediterranean Sea and from Norway and Great Britain southward to Morocco, the Canary Islands, and Mauritania. There is also a population off Cape Town, South Africa.

A pelagic, very fast swimming species known to effect transoceanic migrations; the young generally form schools, sometimes together with other scombroid species of similar size; immature specimens are found in warm waters only, while adults also enter cold waters in search of food.

Outside the spawning season it is a voracious predator which preys on many kinds of fishes, crustaceans and cephalopods.

FAO Species Synopsis No. 13.



PRESENT FISHING GROUNDS:

Inshore and offshore surface waters.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catch in the area totalled 1 933 t in 1977.

Primarily taken on longlines.

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1981

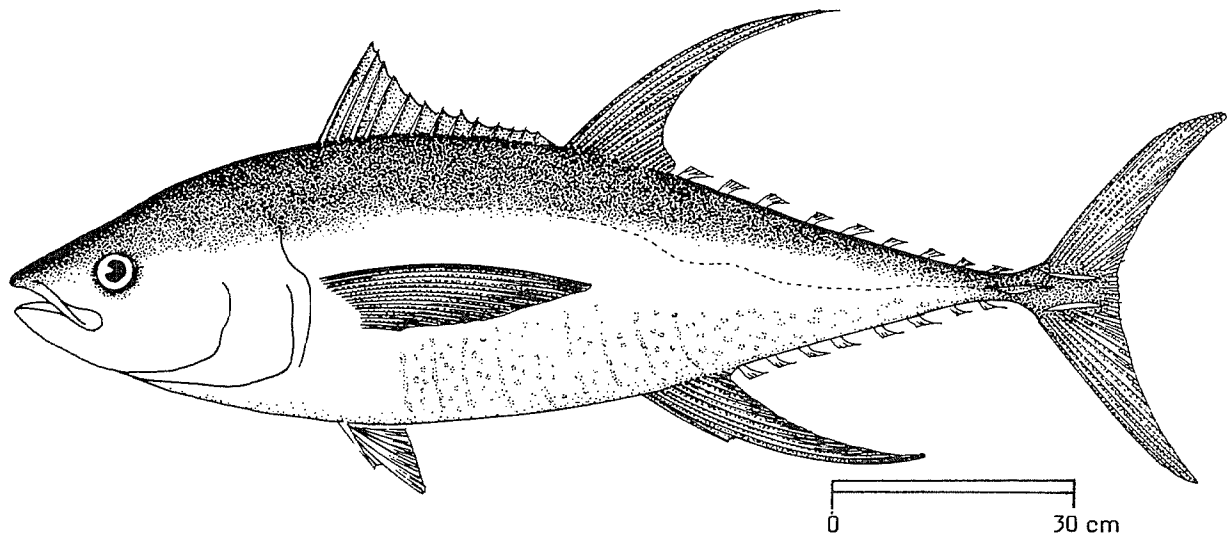
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCOMBRIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Thunnus albacares (Bonnaterre, 1788)

OTHER SCIENTIFIC NAMES STILL IN USE : Neothunnus macropterus (Temminck & Schlegel, 1844)
Neothunnus albacora (Lowe, 1839)
Thunnus argentivittatus (Cuvier, 1831)



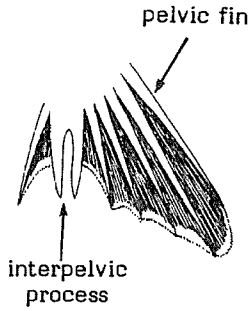
VERNACULAR NAMES:

FAO : En - Yellowfin tuna
Fr - Albacore (= Thon albacore, Area 31)
Sp - Rabil

NATIONAL :

DISTINCTIVE CHARACTERS :

A large species with an elongate, fusiform body, slightly compressed from side to side. Gill rakers 26 to 34 on first arch. Two dorsal fins, separated only by a narrow interspace, the second followed by 8 to 10 finlets; anal fin followed by 7 to 10 finlets; 2 flaps (interpelvic process) between pelvic fins; large specimens have very long second dorsal and anal fins, becoming well over 20 percent of fork length; pectoral fins moderately long, usually reaching beyond second dorsal fin origin but not beyond end of its base, usually 22 to 31 percent of fork length. Body with very small scales; corselet of larger scales developed but not very distinct. Caudal peduncle very slender, bearing on each side a strong lateral keel between 2 smaller keels. No striations on ventral surface of liver. Swimbladder present.

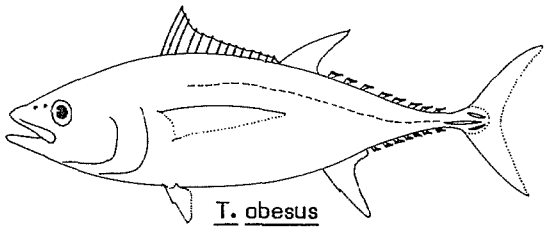


Colour: back metallic dark blue changing through yellow to silver on belly; belly frequently crossed by about 20 broken, nearly vertical lines; dorsal and anal fins, and dorsal and anal finlets, bright yellow, the finlets with a narrow black border.

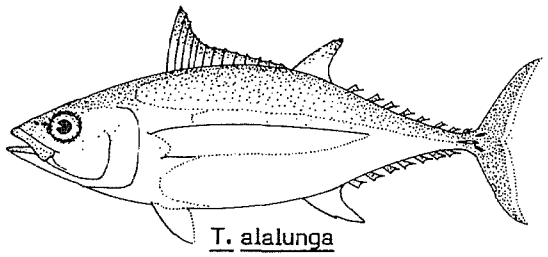
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Thunnus obesus: striations present on ventral surface of liver; dorsal and anal fins never elongated. In specimens of similar size, T. obesus is generally heavier, deeper, and has a larger eye.

T. alalunga: pectoral fins much longer in adults (but not in young up to 30 cm), usually reaching to second dorsal finlet (usually 30 percent of fork length or more), greatest body depth near origins of second dorsal and anal fins instead of more anteriorly; a narrow white posterior margin to caudal fin; striations present on ventral surfaces of liver.



T. obesus



T. alalunga

SIZE:

Maximum: 195 cm fork length; common to 150 cm.

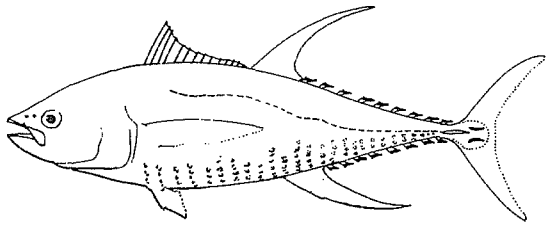
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

A pantropical species. In the eastern Atlantic it is known from the Azores and southern Portugal southward throughout the Gulf of Guinea to South Africa.

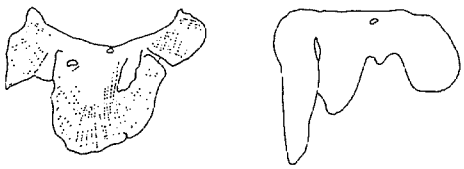
Oceanic, above and below the thermocline.

Feeds on a wide variety of fishes, crustaceans, and cephalopods.

FAO Species Synopses No. 26 (W. Atlantic) and No. 16 (Pacific) as T. albacares, No. 33 (E. Atlantic) as N. albacora, and No. 10 (Indian Ocean) as N. macropterus.



T. albacares



T. alalunga *T. albacares*

PRESENT FISHING GROUNDS:

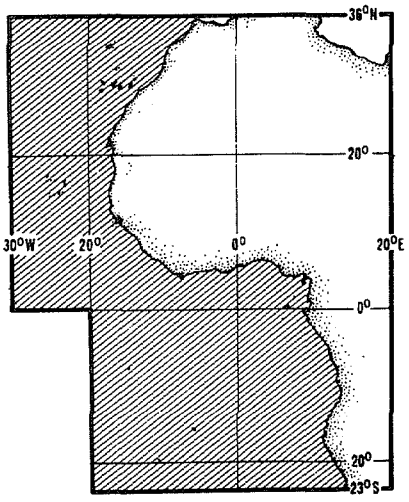
Open waters, throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The reported catch for the Area in 1977, totalled 127 301 t (France, 37 910; Spain, 37 549; Porto Rico, 15 160; Korea, 12 054; Ivory Coast, 10 026; Senegal, 6 847; Cuba, 3 900; Japan, 2 333; Ghana, 642).

Caught mainly with longlines and purse seines.

Marketed mainly canned or frozen.



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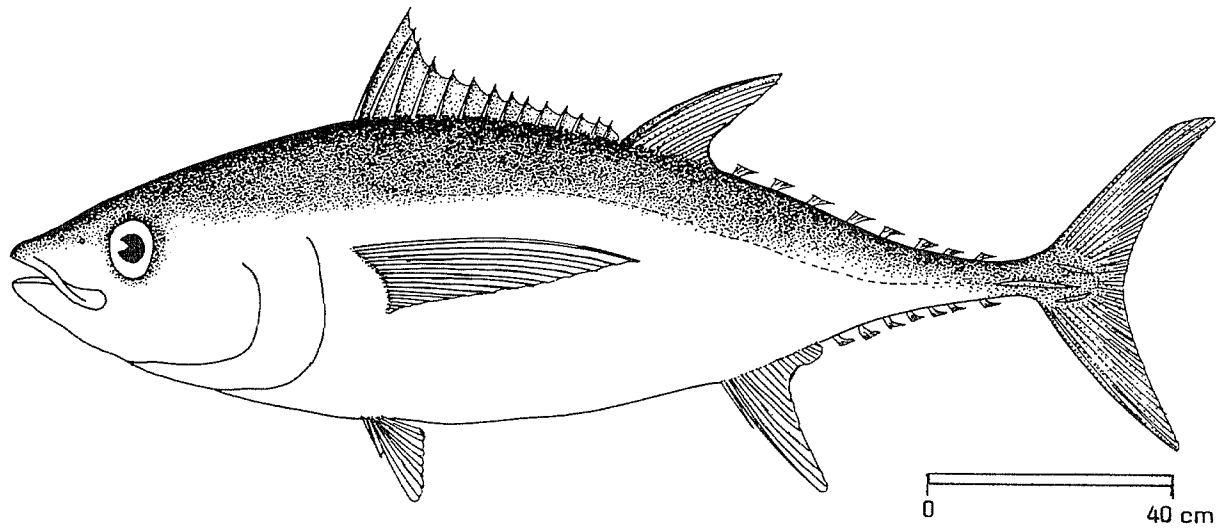
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCOMBRIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Thunnus obesus (Lowe, 1839)

OTHER SCIENTIFIC NAMES STILL IN USE : Parathunnus mebachi Kishinouye, 1923
Parathunnus sibi (Temminck & Schlegel, 1844)



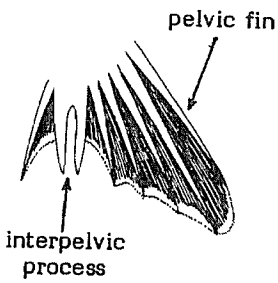
VERNACULAR NAMES:

FAO : En - Bigeye tuna
Fr - Thon obèse (= Patudo, Area 31)
Sp - Patudo

NATIONAL :

DISTINCTIVE CHARACTERS :

A large species with robust, fusiform body, slightly compressed from side to side. Gill rakers 23 to 31 on first arch. Two dorsal fins, separated only by a narrow interspace, the second followed by 8 to 10 finlets; pectoral fins moderately long (22 to 31 percent of fork length) in large specimens (over 110 cm fork length), but very long (as long as in T. alalunga) in smaller specimens; 2 flaps (interpelvic process) between pelvic fins; anal fin followed by 7 to 10 finlets. Very small scales on body; corselet of larger and thicker scales developed, but not very distinct. Caudal peduncle very slender, with a strong lateral keel between 2 smaller keels. Ventral surface of liver striated. Swimbladder present.

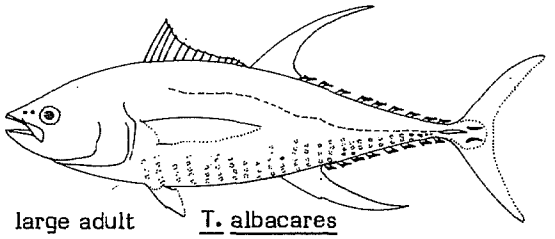


Colour: back metallic dark blue, lower sides and belly whitish; a lateral iridescent blue band runs along sides in live specimens; first dorsal fin deep yellow, second dorsal and anal fins light yellow, finlets bright yellow edged with black.

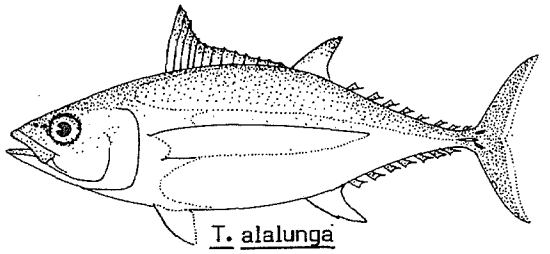
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

T. albacares: no striations on ventral surface of liver; second dorsal and anal fins elongated in large adults; belly frequently crossed by about 20 broken, nearly vertical lines. In specimens of similar size, T. albacares is generally lighter-weight, slimmer, and has a smaller eye.

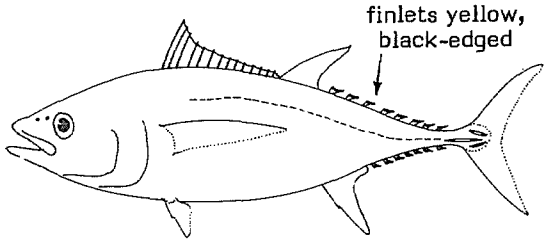
T. alalunga: a narrow white border to caudal fin, the greatest body depth nearest the second dorsal and anal fin origins instead of more anteriorly, and pectoral fins longer in adults (reaching to about second dorsal finlet, usually 30 percent of fork length or more).



large adult T. albacares



T. alalunga



T. obesus

SIZE:

Maximum: 197 cm fork length (hook and line record from Peru); common to 180 cm.

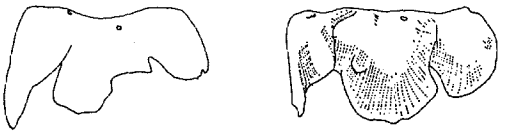
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

A pantropical species. In the Eastern Atlantic, it is known from the Azores southward through the Gulf of Guinea to South Africa.

A pelagic oceanic species, taken from the surface to depths of 250 m.

Feeds on a wide variety of fishes, cephalopods and crustaceans.

FAO Species Synopses No. 11 (as Parathunnus mebachi from the Indian Ocean) and No. 14 (as P. sibi from the Pacific).

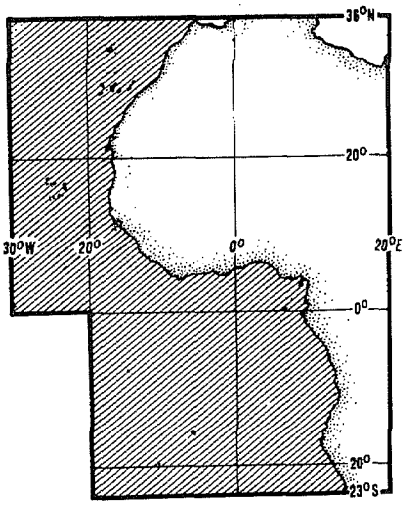


T. albacares *T. obesus*

liver

PRESENT FISHING GROUNDS:

Open waters, throughout its range.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

A total catch of 25 236 t was reported for Fishing Area 34 in 1977 (Korea, 5 980; Japan, 4 092; Spain, 3 887; Portugal, 3 400; France, 3 036; Cuba, 1 800).

Caught mainly with longlines, occasionally, purse seines are also used.

Marketed mainly canned or frozen.