FAO SPECIES IDENTIFICATION SHEETS
FOR FISHERY PURPOSES

EASTERN CENTRAL ATLANTIC
FISHING AREA 34 AND PART OF 47



VOLUME
IV

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)

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This publication has been prepared and printed as an integral part of the
FAO/Canada Government Cooperative Programme (Project GCP/INT/180/CAN)
with the direct support of the Canadian International Development Agency (CIDA)
and the Scientific Information and Publications Branch of the
Department of Fisheries and Oceans, Canada

VOLUME IV

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Published by arrangement with the

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

by the

DEPARTMENT OF FISHERIES AND OCEANS, CANADA

Ottawa, 1981

For bibliographic purposes this document should be cited as follows:

Fischer, W., G. Bianchi and W.B. Scott (eds), 1981 FAO species identification sheets for fishery purposes. Eastern Central Atlantic; fishing areas 34, 47 (in part). Canada Funds-in-Trust. Ottawa, Department of Fisheries and Oceans Canada, by arrangement with the Food and Agriculture Organization of the United Nations, vols. 1-7:pag.var.

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

SCOPH

1981

FAO SPECIES IDENTIFICATION SHEETS

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

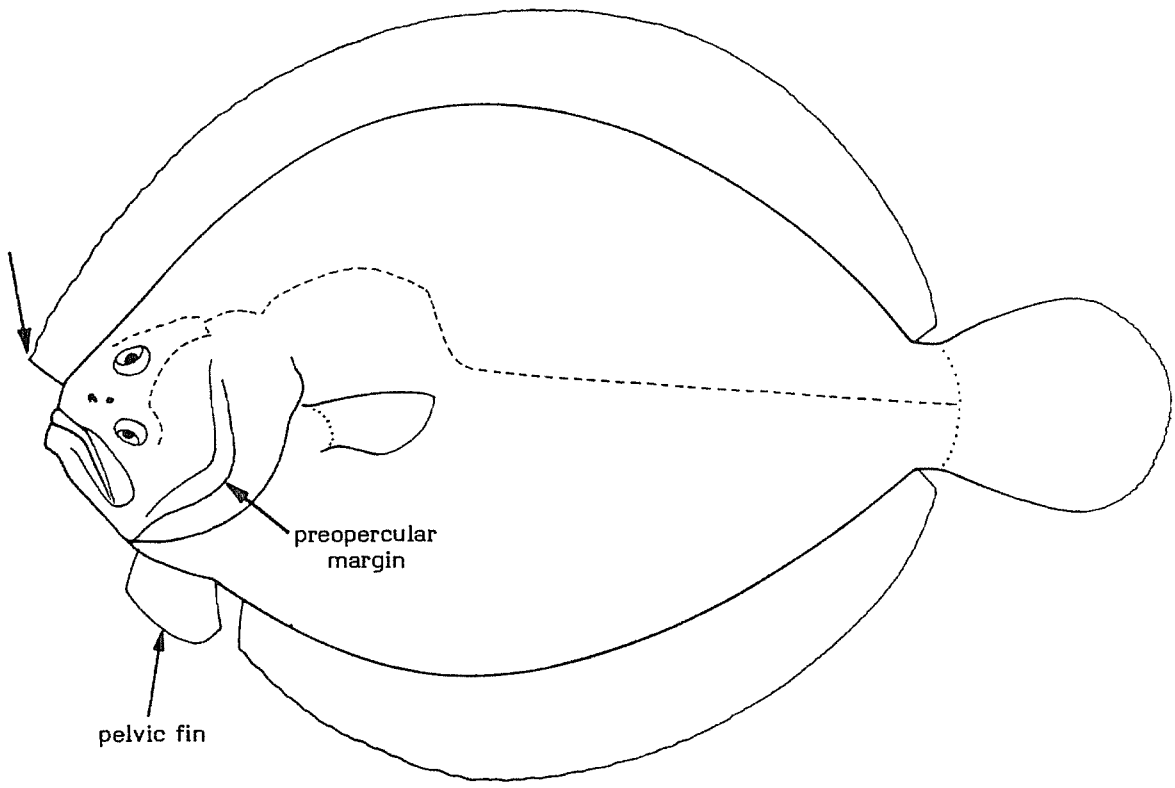
SCOPHTHALMIDAE*

Turbots, megrims, brills

Flatfishes with both eyes on left side; mouth large, with a prominent lower jaw; preopercular margin free. No spiny rays in fins; dorsal fin origin well in front of upper eye; bases of pelvic fins elongate and of equal size.

Colour: eyed side very variable depending i.a. on the colour of the sea bottom; blind side usually whitish.

Rather large flatfishes scarcely entering Fishing Area 34, from the north, their main fishing grounds lying in higher latitudes off the Atlantic coasts of Europe and Iceland. These excellent foodfishes are taken by bottom trawls off the coasts of Morocco and Mauritania, as well as around the Canary Islands, although separate statistics by species are not available.



*Considered as part of the Family Bothidae by earlier authors

SIMILAR FAMILIES OCCURRING IN THE AREA:

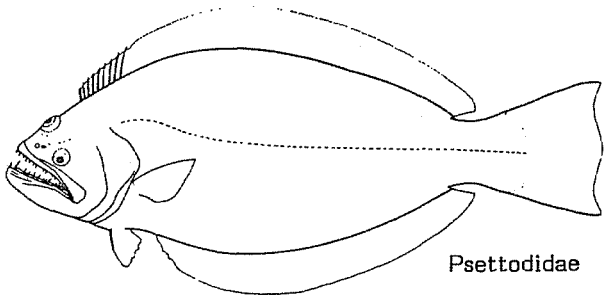
Psettodidae: dorsal fin with spiny rays anteriorly, its origin well behind upper eye.

Citharidae: bases of both pelvic fins short.

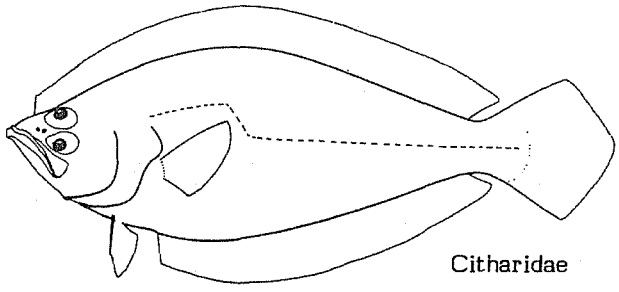
Bothidae: bases of both pelvic fins short (subfamily Paralichthinae) or the left is elongate and the right pelvic fin short (subfamily Bothinae).

Cynoglossidae: mouth inferior and preopercular margin not free; no pectoral fins; dorsal and anal fins fused with caudal fin.

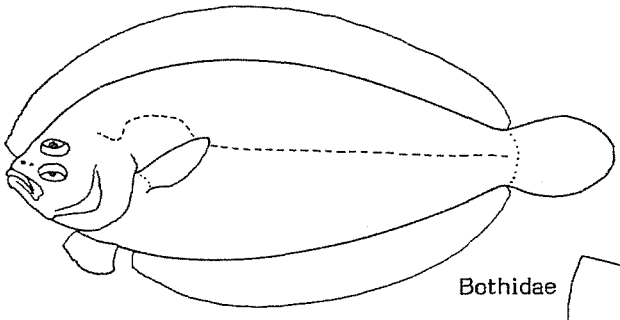
Pleuronectidae and Soleidae: both eyes on the right side.



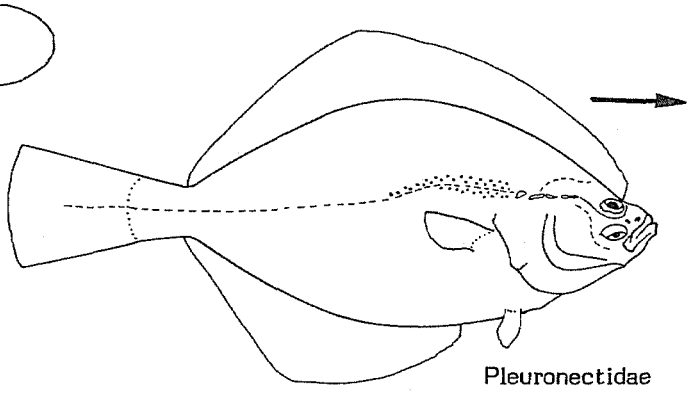
Psettodidae



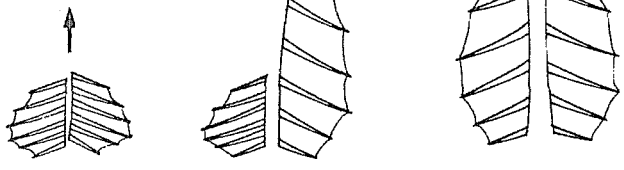
Citharidae



Bothidae



Pleuronectidae



Subfamily Paralichthinae

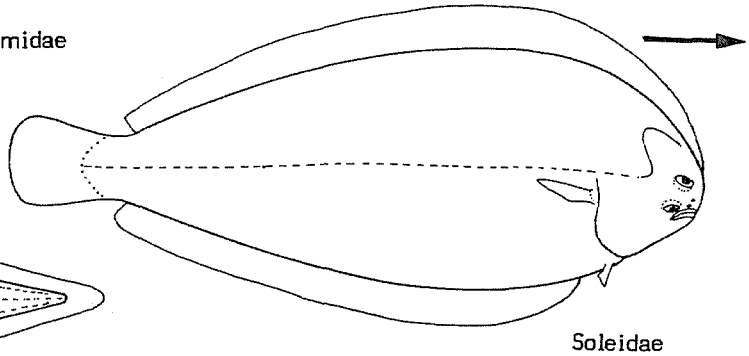
Subfamily Bothinae

Bothidae

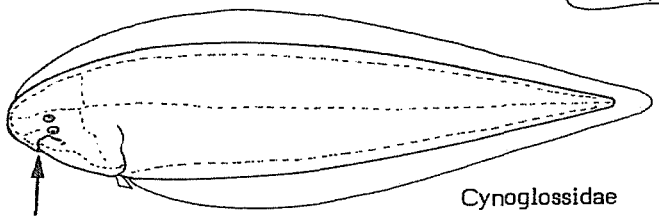
Scophthalmidae

pelvic fins seen from below

(arrows point toward head)



Soleidae



Cynoglossidae

KEY TO GENERA OCCURRING IN THE AREA:

1 a. Branchial septum *entire*; scales on eyed side cycloid (smooth-edged) or replaced by bony tubercles

2 a. Eyed side with numerous, pointed bony tubercles ..... Psetta

2 b. Eyed side without bony tubercles ..... Scophthalmus

1 b. Branchial septum with a large opening between lower pharyngeals and urohyal; scales on eyed side ctenoid (comb-like)

3 a. Scales ctenoid on both sides of body; vomer (on roof of mouth) without teeth .... Phrynorhombus

3 b. Scales ctenoid on eyed side and cycloid on blind side of body; vomer with teeth ..... Lepidorhombus

LIST OF SPECIES OCCURRING IN THE AREA:

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

Lepidorhombus boscii (Risso, 1810) Lepidorhombus whiffiagonis (Walbaum, 1792)	SCOPH Lepid 2
Phrynorhombus regius (Bonnaterre, 1788)	
Psetta maxima (Linnaeus, 1758)	SCOPH Psetta 1
Scophthalmus rhombus (Linnaeus, 1758)	SCOPH Scoph 1

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

SCOPH Lepid 2

1981

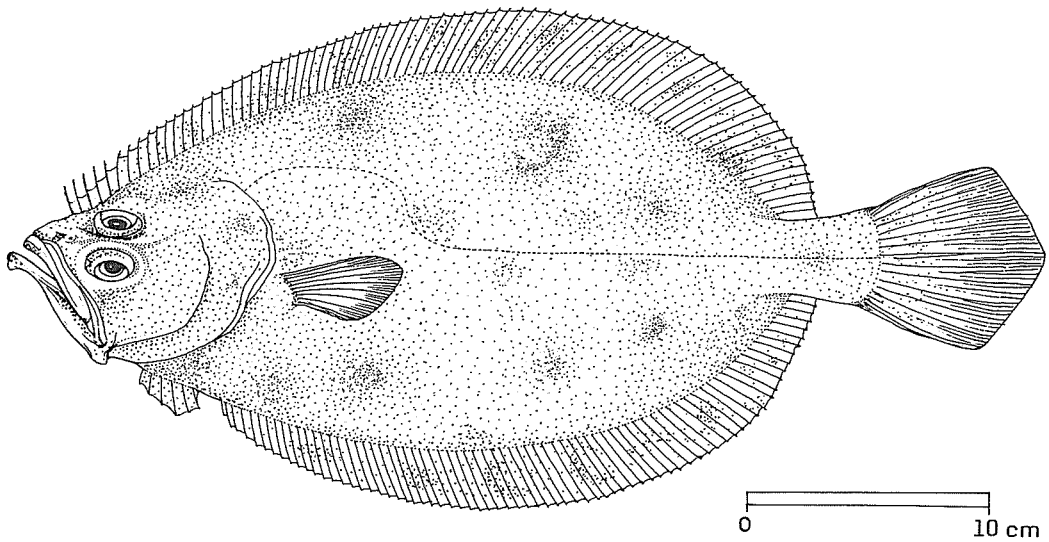
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCOPHTHALMIDAE

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

Lepidorhombus whiffiagonis (Walbaum, 1792)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Megrim (= Fluke, Area 37)
Fr - Cardine blanche
Sp - Gallo

NATIONAL :

DISTINCTIVE CHARACTERS :

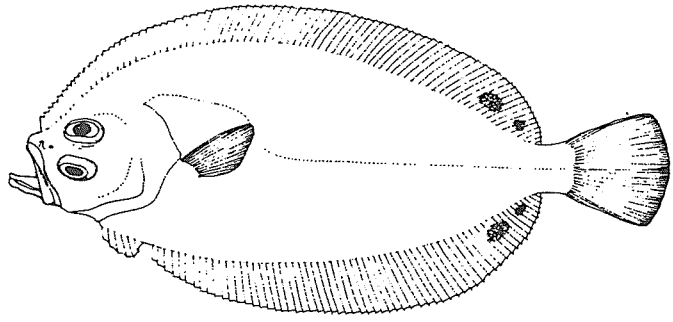
Body elongate. Mouth large; diameter of eye less than length of snout. Dorsal fin origin closer to tip of snout than to anterior edge of eye. Dorsal and anal fins terminate just a little on the blind side of the caudal peduncle; bases of both pelvic fins elongate and of equal length; lateral line forms a distinct curve above pectoral fin. Ctenoid (comb-like) rough scales on eyed and cycloid (smooth) scales on blind side.

Colour: yellowish or greyish brown. Dorsal and anal fins with indefinite darker spots posteriorly.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Lepidorhombus boscii: diameter of eye greater than length of snout; two distinct spots posteriorly both on dorsal and anal fins.

Other species of Scophthalmidae; scales on both sides either cycloid or ctenoid, or the scale are developed as bony tubercles.



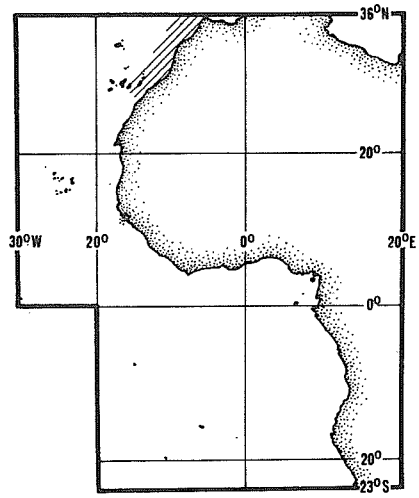
L. boscii

SIZE :

Maximum: about 50 cm; common to 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the area, from the Straits of Gibraltar to Cape Bojador (26°N); northward extending into the Western Mediterranean and along the Atlantic coast of Europe to 64°N.



On soft bottom down to about 400 m depth.

Fish forms the main part of the food, but also squids and crustaceans are eaten.

PRESENT FISHING GROUNDS :

Soft bottoms off Morocco, Sahara and around the Canary Islands.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with bottom trawls.

Marketed fresh or frozen.

SCOPH Psetta 1

1981

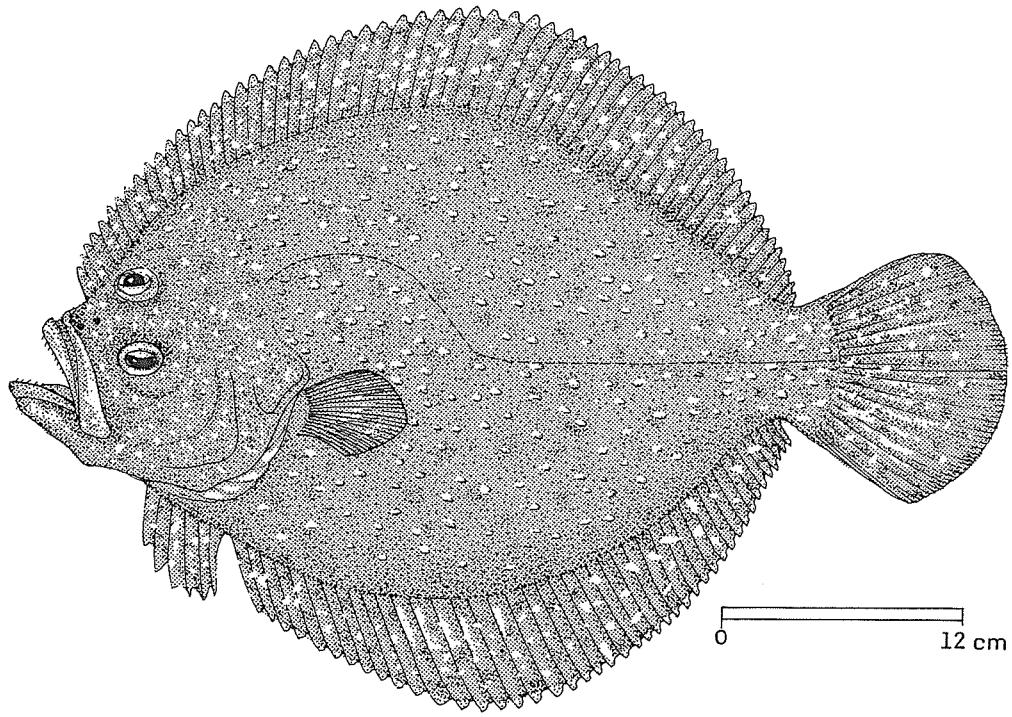
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCOPHTHALMIDAE

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

Psetta maxima (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Scophthalmus maximus (Linnaeus, 1758)
Scophthalmus maeoticus (Pallas, 1811)



VERNACULAR NAMES:

FAO : En - Turbot
Fr - Turbot
Sp - Rodaballo

NATIONAL :

DISTINCTIVE CHARACTERS :

Body almost circular. Mouth large. Dorsal fin origin well in front of eye; bases of both pelvic fins elongate and of equal length. Lateral line forms a curve above pectoral fin. Bony tubercles (transformed scales) developed on the ocular side, always much smaller than eye.

Colour: very variable, but generally greyish or sandy brown.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

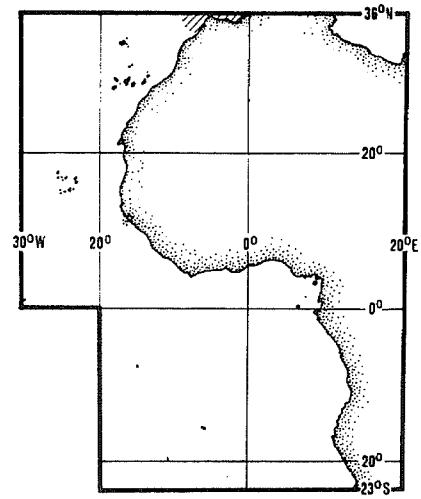
Other species of Scophthalmidae: scales either cycloid (smooth) and/or ctenoid (comb-like, rough), never developed as bony tubercles.

SIZE :

Maximum: up to 100 cm; common to 50 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the area, only off Morocco; northward extending into the Mediterranean and along the Atlantic coasts of Europe to the Polar Circle (subspecies P. maxima maxima). A different subspecies (P. maxima maeotica) occurs in the Black Sea.



On sandy and stony bottom down to about 70 m depth. Rather common in brackish waters.

Feeds on bottomfish, crustaceans and bivalves.

PRESENT FISHING GROUNDS :

Taken incidentally off Morocco.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with bottom trawls.

Marketed fresh and frozen.

SCOPH Scoph 1

1981

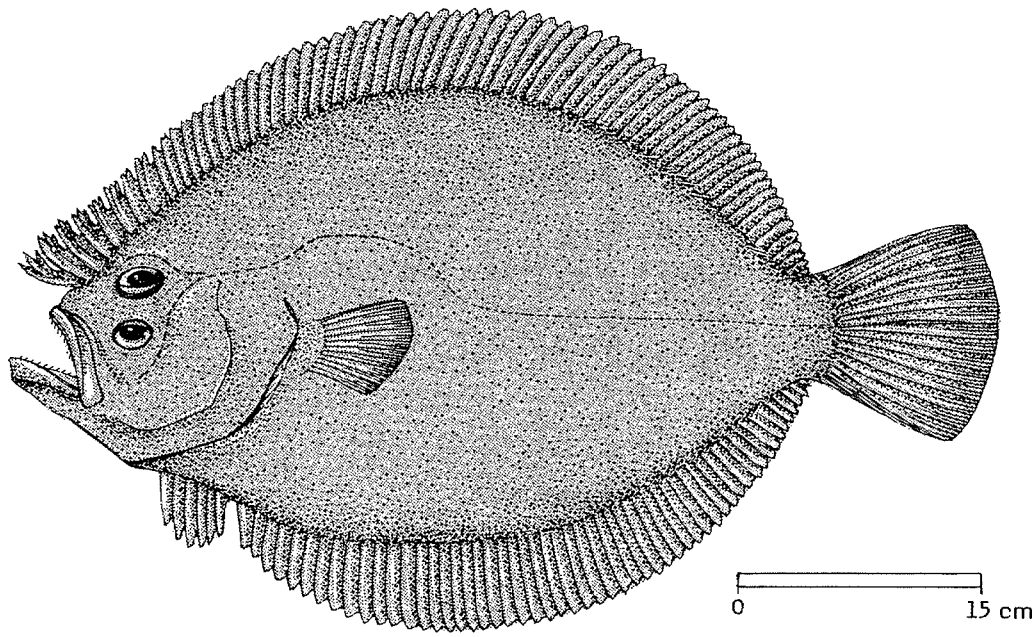
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SCOPHTHALMIDAE

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

Scophthalmus rhombus (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Rhombus laevis Turton, 1802



VERNACULAR NAMES:

FAO : En - Brill
Fr - Barbue
Sp - Rémol

NATIONAL :

DISTINCTIVE CHARACTERS :

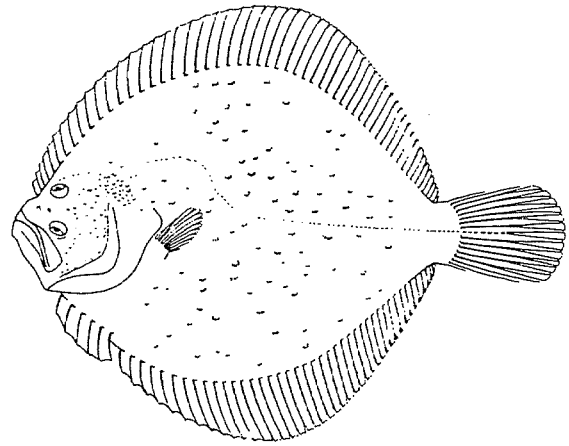
Body oval. Mouth large. Dorsal fin origin well in front of eye; bases of both pelvic fins elongate and of equal length. Lateral line forms a curve above pectoral fin. Small cycloid (smooth) scales on both sides of body; bony tubercles not developed.

Colour: brownish, or greyish, often with numerous small, dark spots.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Psetta maxima: scales transformed into bony tubercles. Body almost circular.

Other species of Scophthalmidae: scales on eyed side of body ctenoid (comb-like, rough).



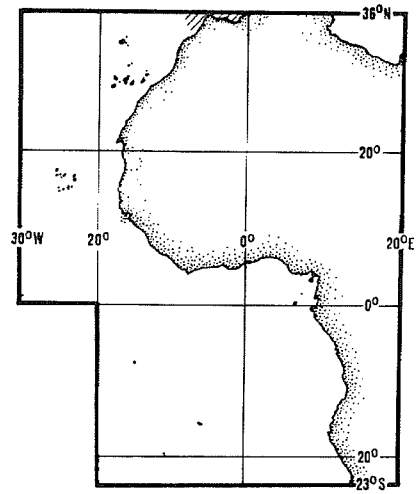
Psetta maxima

SIZE :

Maximum: up to 75 cm; common to 50 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the area, only Straits of Gibraltar and northernmost part of Morocco; northward extending along the west coast of Europe to 64°N; also found in the Mediterranean and the Black Sea.



Occurs on sandy bottom on the shallower part of the continental shelf; scarce in brackish water.

Feeds mainly on bottom fish and crustaceans.

PRESENT FISHING GROUNDS :

Incidentally off northern Morocco.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with bottom trawls.

Marketed fresh and frozen.

SCORP

1981

FAO SPECIES IDENTIFICATION SHEETS

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

SCORPAENIDAE*

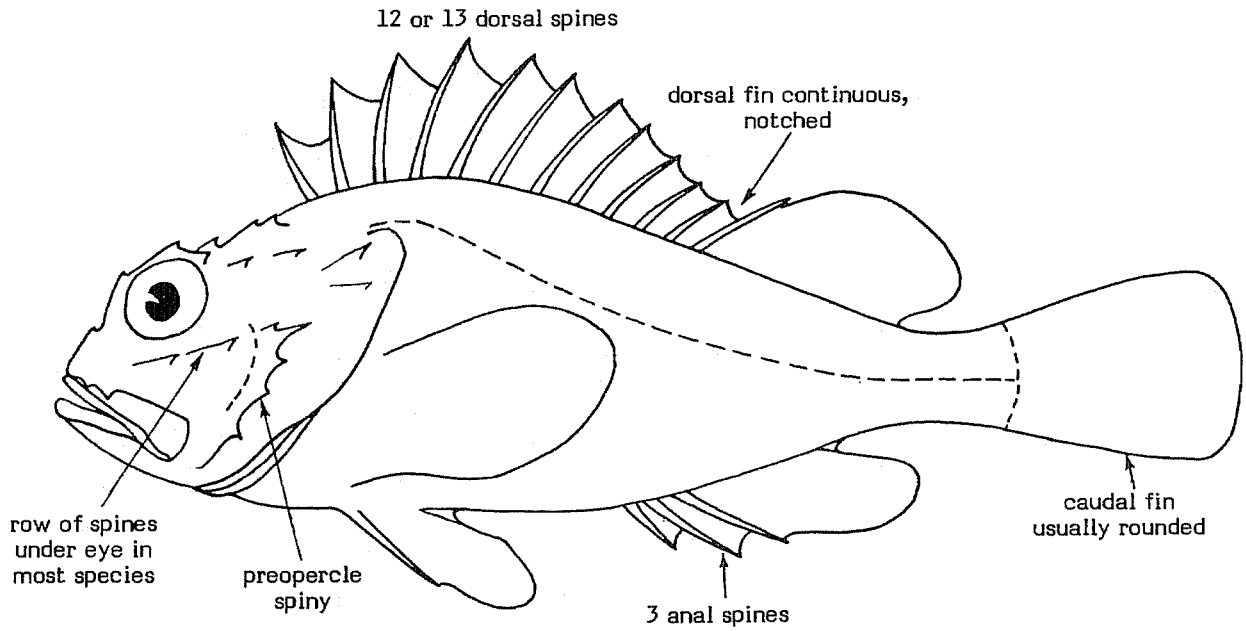
Scorpionfishes, rockfishes, rosefishes

Most are basslike, with a robust body, others compressed. Generally small in size, most under 25 cm in total length. Head large and spiny, usually with large eyes; mouth large, terminal; small villiform teeth on premaxillae, mandibles, and roof of mouth (vomer and sometimes palatine bones); no canines; teeth not in rows. Gill rakers short, usually slightly knobby. A ridge of bone (suborbital stay), usually bearing spines, under eye extending back to preopercle; preopercular margin with 3 or more spines; other spines scattered on head. Fleshy skin flaps or cirri present on head and body in some species. Dorsal fin continuous, with 12 or 13 spines and 9 to 12 soft rays (last soft ray double, appearing as 2 close-set rays but counted as one); anal fin normally with 3 spines and 5 or 6 soft rays (last double); pectoral fin usually large, fanlike, with 15 to 24 rays, upper rays usually branched, lower rays unbranched, often fleshy; pelvic fins thoracic in position, with 1 spine and 5 soft rays; caudal fin usually rounded or square-cut, not forked. Scales on sides ctenoid (rough to touch) or cycloid (smooth).

Colour: inshore scorpionfishes are mostly brown or variously mottled and barred with dark pigment on a lighter background, sometimes with areas of red or brown or green, and often a reddish belly. Some have a black blotch on the spinous dorsal fin. Those caught below about 50 m are mostly red and white, often with spots of darker red, brown, or black.

Bottom-living fishes (except Ectreposebastes), found from near shore down to the continental slope (but Trachyscorpia to 2 360 m). Some live in rocky areas, others on soft bottom. They feed on a variety of invertebrates and fishes.

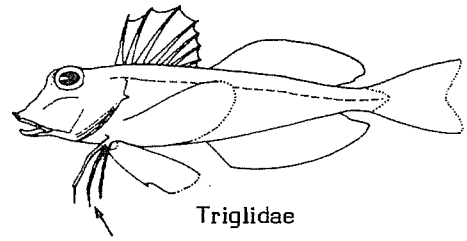
Of little commercial importance in the Eastern Central Atlantic, since most species are too small, not abundant, or occur on rocky bottoms (only about 500 t caught in the area in 1978). Larger species are often encountered in local fresh-fish markets and valued as food. A few shallow-water species are caught by sportfishermen on hook and line, some taken by handline and others caught incidentally in trawl fisheries. Species of Helicolenus, Pontinus and Scorpaena are commonly taken in trawls in the Eastern Atlantic.



*Applies to Eastern Atlantic representatives only

SIMILAR FAMILIES OCCURRING IN THE AREA:

Triglidae (searobins): also have a spiny head, but it is very bony (almost encased); 2 dorsal fins and 3 lowermost pectoral fin rays free from each other and detached from the remaining fin rays.



Triglidae

KEY TO GENERA OCCURRING IN THE AREA:

1 a. Dorsal fin spines 13 ..... Scorpaenodes

1 b. Dorsal fin spines 12

2 a. Dorsal fin soft rays 11 or more (last ray double)

3 a. Pectoral fin rays 19 or more; second preopercular spine longest (Fig. 1), 1 or no spines below eye ..... Helicolenus

3 b. Pectoral fin rays usually 18 or fewer (rarely 19); first preopercular spine longest (not counting small spine at base) (Fig. 2), row of spines below eye ..... Neomerinthe

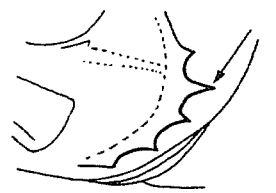


Fig. 1

2 b. Dorsal fin soft rays 10 or fewer (last ray double)

4 a. Lateral line a continuous channel roofed by thin scales; scales tiny, cycloid

5 a. Pectoral fin rays 18 to 20; anal fin with 6 soft rays (last double) ..... Ectreposebastes

5 b. Pectoral fin rays 21 to 24; anal fin with 5 soft rays (last double) ..... Setarches

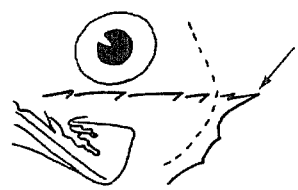


Fig. 2

4 b. Lateral line of tubed scales; scales on body ctenoid, or if cycloid then large (easily visible)

6 a. Pectoral fin with characteristic shape (Fig. 3), longest rays near upper part of fin; pectoral fin rays 20 or more ..... Trachyscorpia

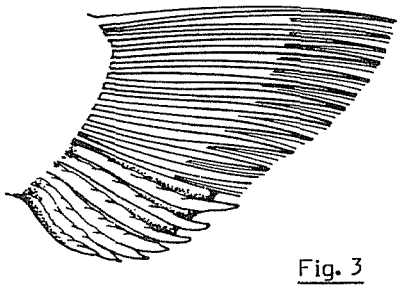


Fig. 3

6 b. Pectoral fin wedge-shaped to rounded, longest rays at about middle of fin; pectoral fin rays usually fewer than 20

7 a. All pectoral fin rays unbranched; gill rakers and rudiments on outside of first arch usually 17 to 22 ..... Pontinus

7 b. Some rays in upper half of pectoral fin branched; gill rakers and rudiments usually 18 or fewer

8 a. Usually 5 or more spines on ridge below eye (not counting preopercular spines); mostly plain-coloured, no dark brown ..... Idiastion

8 b. Usually 4 or fewer spines on ridge below eye; not plain-coloured, dark brown pigment present ..... Scorpaena

LIST OF SPECIES OCCURRING IN THE AREA :

Ectreposebastes imus Garman, 1899

Helicolenus dactylopterus (Delaroche, 1809)

Idiastion sp. Eschmeyer, 1969

Neomerinthe folgori (Postel & Roux, 1964)

Pontinus accraensis Norman, 1935
Pontinus kuhlii (Bowdich, 1825)
Pontinus leda Eschmeyer, 1969
Pontinus nigropunctatus (Günther, 1868)

Scorpaena angolensis Norman, 1935
Scorpaena annobonae Eschmeyer, 1969
Scorpaena ascensionis Eschmeyer, 1971
Scorpaena canariensis (Sauvage, 1878)
Scorpaena elongata Cadenat, 1943
Scorpaena laevis Troschel, 1866
Scorpaena loppei Cadenat, 1943
Scorpaena maderensis Valenciennes, 1833
Scorpaena mellissii Günther, 1868
Scorpaena normani Cadenat, 1943
Scorpaena notata Rafinesque, 1810
Scorpaena plumieri Bloch, 1789
Scorpaena porcus Linnaeus, 1758
Scorpaena scrofa Linnaeus, 1758
Scorpaena stephanica Cadenat, 1943

Scorpaenodes africanus Pfaff, 1933
Scorpaenodes elongatus Cadenat, 1949
Scorpaenodes insularis Eschmeyer, 1971

Setarches guentheri Johnson, 1862

Trachyscorpia cristulata echinata (Koehler, 1896)

Prepared by W.N. Eschmeyer, Department of Ichthyology, California Academy of Sciences, San Francisco, California, U.S.A.

SERRAN

1981

FAO SPECIES IDENTIFICATION SHEETS

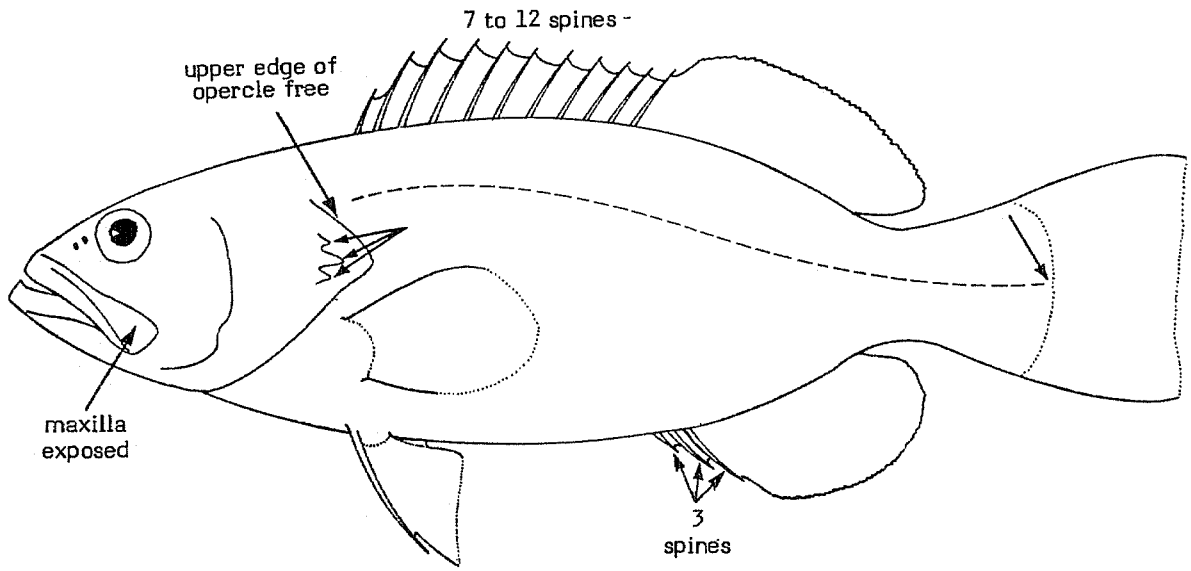
FISHING AREAS
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SERRANIDAE

(Anthiidae included by many authors but omitted here)

Groupers, seabasses, hinds, hamlets, creolefishes and combers

Heavy-bodied to moderately elongate and slender perch-like fishes with a deep caudal peduncle. Mouth slightly protractile, large, with its cleft horizontal or moderately oblique; maxilla broad, its posterior end not slipping beneath the suborbital area; teeth in villiform bands in both jaws with an anterior row of canines that are longer and pointed in piscivorous species; vomer and palatine bones (on roof of mouth) usually with patches of villiform teeth; opercle with three flat spines (except Centrarchops with two), the lowermost sometimes short and not visible externally; upper margin of opercle free; preopercle without lateral ridge, its vertical limb generally serrated, the lower (horizontal) limb serrated or undulate, sometimes with strong antrorse (forward-directed) spines; often there is a pronounced lobe at the angle of the preopercle; gill membranes separate and not connected to the isthmus; pseudobranch (on inner side of gill cover) well developed; gillrakers long or short, often bearing strong teeth. Dorsal fin single; dorsal fin spines 7 to 12, anal spines 3; pectoral fins rounded to somewhat pointed; pelvic fins near the pectorals, slightly ahead or behind the pectoral fin base in some species, and consisting of 1 spine and 5 soft rays, the innermost often connected to the body by a membrane for one fourth of its length or more; pelvic axillary process not developed, but a fleshy lobe often present at the upper end of the pectoral fin base; caudal fin forked, lunate or rounded, with 15 branched rays. Lateral line present, not interrupted and ending at caudal fin base, not curving close to base of dorsal fin. Scales rather small to moderately large, sometimes deeply embedded, usually ctenoid, but nearly smooth in some species. Head at least partly scaled, snout and preorbital region usually naked; post-temporal bone sometimes serrate. Vertebrae usually 10 plus 14, occasionally one or two more.



Colour: variable with patterns of light or dark stripes, spots, vertical or diagonal bars, or nearly plain. Many species are capable of rapid colour changes. Xanthic (yellow) phases are known in some species and several species have distinctively coloured deep- and shallow-water forms. Colour patterns are generally the most useful field characters as the morphometric and meristic characters often overlap to a considerable degree.

Seabasses and groupers are mostly demersal fishes of tropical and subtropical areas ranging from shallow coastal waters to moderate depths, rarely occurring beyond 300 m. A few species are, however, abundant and commercially important in temperate waters. Some serranids show preference for seagrass beds and mud or sandy bottom, but most are fishes of the coral and rocky reefs. Juveniles of a few species are common in the lower reaches of estuaries. Except for breeding aggregations, most species are solitary. All are predators on fishes and invertebrates sometimes including crabs and spiny lobsters. Most are either synchronous or transforming hermaphrodites that begin life as females and later become males; a few have separate sexes.

This family includes a large number of species ranging in size from a few cm to over 3 m. Many are excellent foodfishes sought in commercial fisheries; others are of local interest to sports-fishermen and in subsistence fisheries. The catch of groupers and seabasses reported from Fishing Area 34 in 1978 totalled about 20 000 tons. Most species are taken in traps, on hook and line, or on longlines, and those inhabiting soft bottoms are caught in bottom trawls.

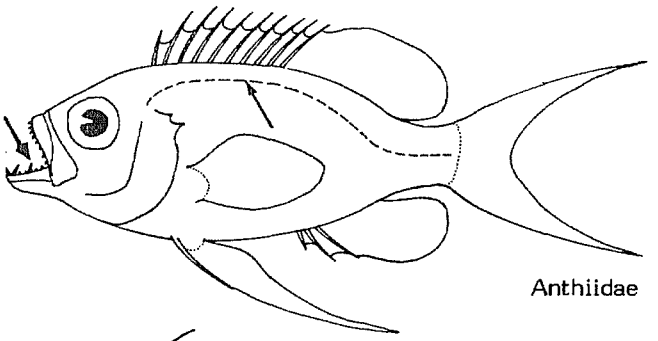
SIMILAR FAMILIES OCCURRING IN THE AREA:

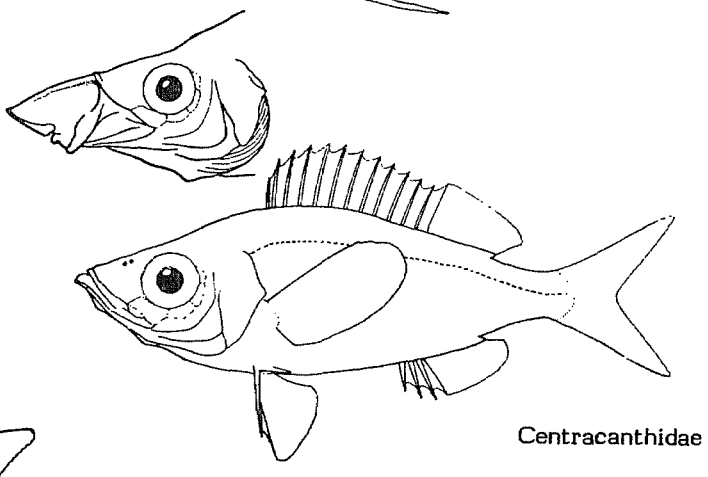
Anthiidae: lateral line running close to base of dorsal fin separated by 2 or 3 scale rows (5 or more in Serranidae); often with curved canine teeth at sides of lower jaw.

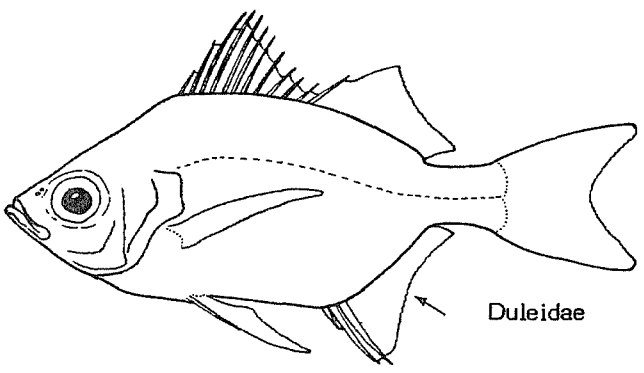
Centracanthidae: upper jaw extremely protrusible so the mouth can be extended as a short tube; pelvic axillary process present.

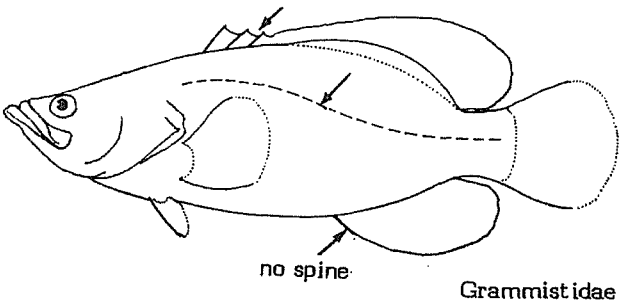
Duleidae: anal fin with more than 14 soft rays.

Grammistidae: pelvic fins small; dorsal spines 2 or 3; no anal spine.


Anthiidae


Centracanthidae


Duleidae



Grammistidae

Lobotidae: soft parts of dorsal and anal fins enlarged so that with the tail they give the appearance of a three-lobed fin. No teeth on roof of mouth; no spines on opercle.

Lutjanidae: scales large; upper edge of maxilla slipping under edge of suborbital; pelvic axillary process present.

Moronidae: silvery or spotted elongate fishes; 2 spines on opercle the lower one largest (3 in Serranidae). Dorsal fins separate.

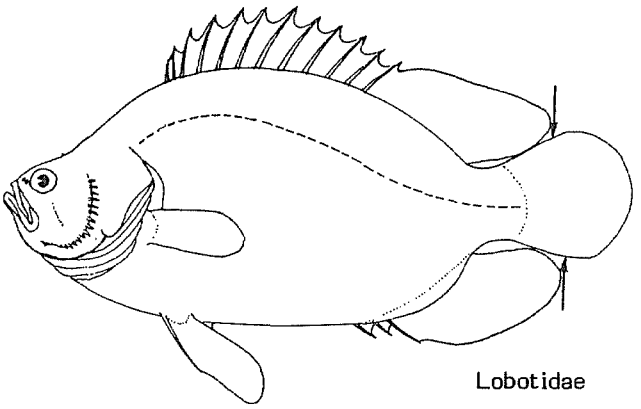
Pomadasyidae: no teeth on roof of mouth; no spines on opercle.

Pomatomidae: silvery fishes with a long second dorsal fin and only 2 spines in anal fin (3 in Serranidae). Patches of teeth present on floor of mouth between gill arches.

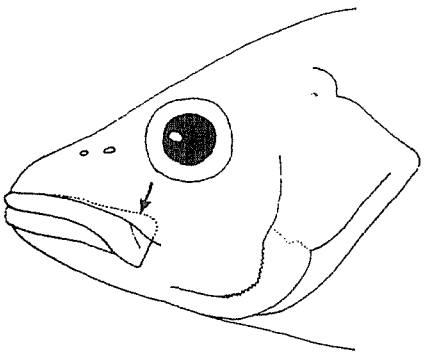
Priacanthidae: huge eyes, very rough scales, dorsal fin spines increasing regularly in length posteriorly (middle or anterior spines longest in Serranidae).

Sciaenidae: only 1 or 2 anal fin spines; lateral line continuing to end of tail; a long soft dorsal fin.

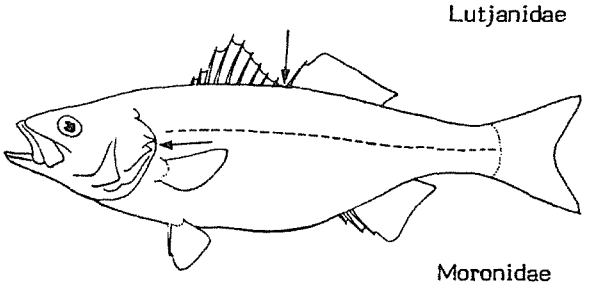
Sparidae: maxilla slipping under edge of suborbital area when mouth is closed; teeth at sides of jaws molariform in many species and anterior teeth incisiform in some; roof of mouth toothless.



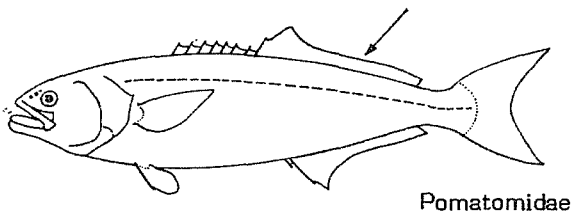
Lobotidae



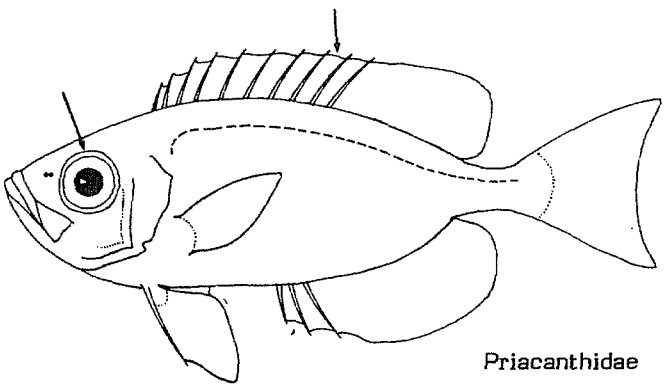
Lutjanidae



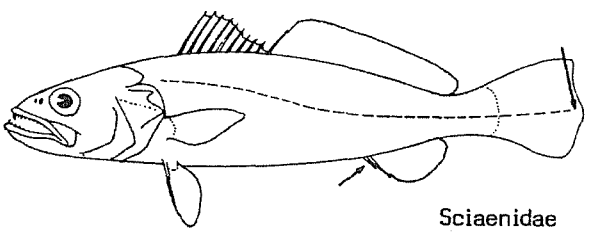
Moronidae



Pomatomidae



Priacanthidae



Sciaenidae

KEY TO GENERA OCCURRING IN THE AREA:

1 a. Body orbicular, compressed; body depth 1.8 to 2.1 times in standard length; opercle with 2 flat spines posteriorly; soft anal rays 13 or 14 (Fig. 1) ..... Centrarchops

1 b. Body more elongate, not compressed; body depth 2.7 to 3.8 times in standard length; opercle with 3 spines posteriorly; soft anal rays 7 to 11

2 a. Dorsal fin spines 10; no scaly flap of skin at upper end of pectoral fin base; soft dorsal and anal fins mostly naked (Fig. 2) ..... Serranus

2 b. Dorsal fin spines usually 9 or 11 (rarely 10 or 12); scaly flap of skin present at upper end of pectoral fin base; soft dorsal and anal fins mostly covered with scales

3 a. Caudal fin deeply forked (Fig. 3) ..... Paranthias

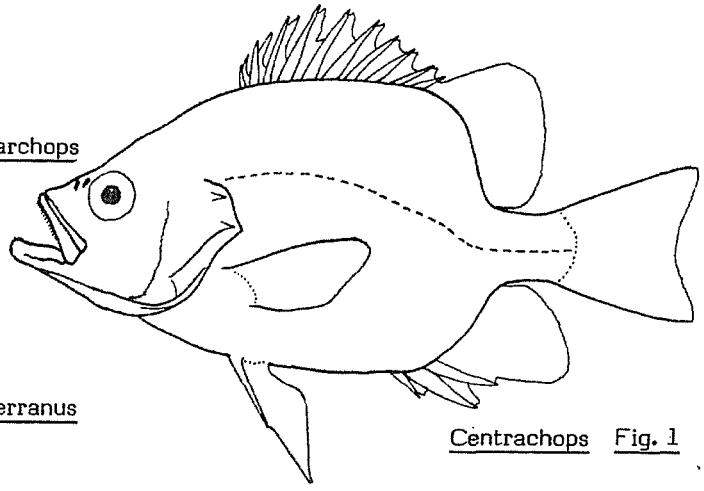
3 b. Caudal fin truncate or rounded

4 a. Dorsal fin spines 9 (Fig. 4) .. Cephalopholis

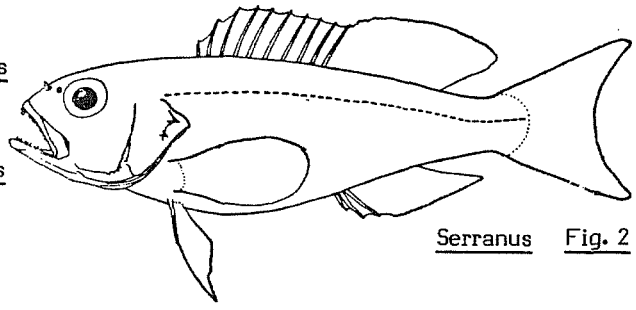
4 b. Dorsal fin spines 11 or 12 (rarely 10)

5 a. Strong, horizontal, bony ridge across opercle; scales very rough; soft dorsal rays 11 to 13 (Fig. 5) ..... Polyprion

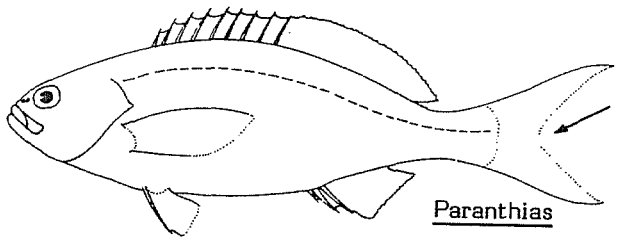
5 b. No bony ridge on opercle; scales smooth or moderately rough; soft dorsal rays 14 to 17



Centrachops Fig. 1

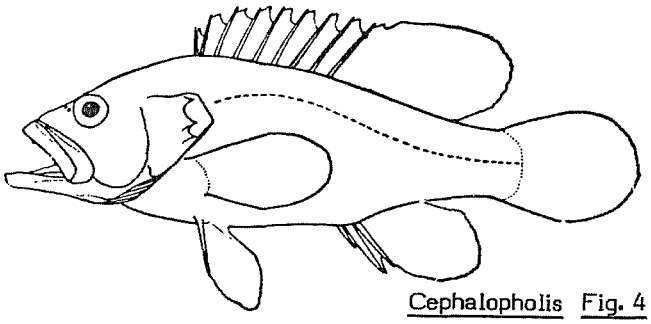


Serranus Fig. 2

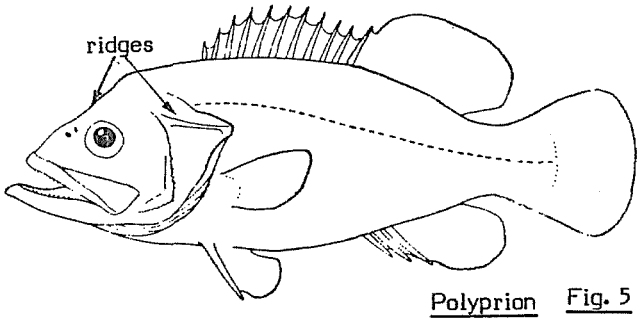


Paranthias

Fig. 3



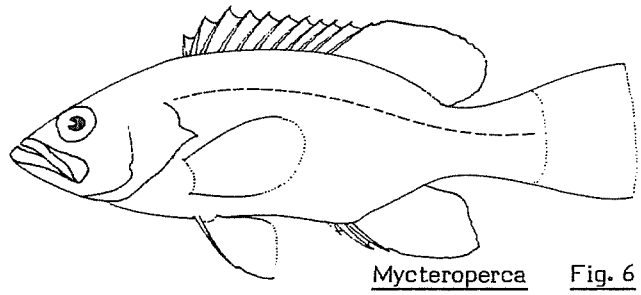
Cephalopholis Fig. 4



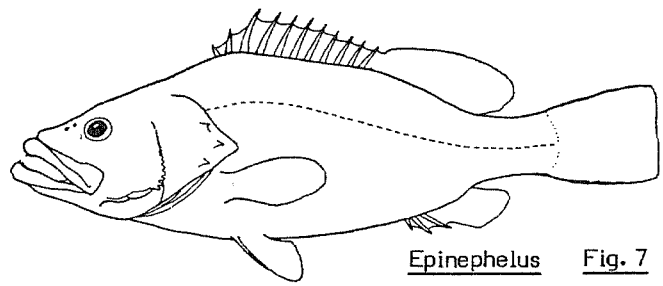
Polyprion Fig. 5

6 a. Anal fin rays 10 or 11 (Fig. 6) ..... Mycteroperca

6 b. Anal fin rays 7 or 8 (Fig. 7) ..... Epinephelus



Mycteroperca Fig. 6



Epinephelus Fig. 7

LIST OF SPECIES OCCURRING IN THE AREA:

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

Centrarchops chapini Fowler, 1923	
Cephalopholis nigri (Günther, 1859)	SERRAN Cephal 6
Cephalopholis taeniops (Valenciennes, 1828)	SERRAN Cephal 7
Epinephelus adscensionis (Osbeck, 1771)	
Epinephelus aeneus (Geoffroy St.-Hilaire, 1809)	SERRAN Epin 3
Epinephelus alexandrinus (Valenciennes, 1828)	SERRAN Epin 2
Epinephelus caninus (Valenciennes, 1843)	SERRAN Epin 23
Epinephelus (Promicrops) esonue (Ehrenbaum, 1914)	SERRAN Epin 24
Epinephelus goreensis (Valenciennes, 1830)	SERRAN Epin 25
Epinephelus guaza (Linnaeus, 1758)	SERRAN Epin 1
Mycteroperca rubra (Bloch, 1793)	SERRAN Myct 6
Paranthias furcifer (Valenciennes, 1828)	SERRAN Parant 1
Polyprion americanus (Bloch & Schneider, 1801)	SERRAN Polyp 1
Serranus accraensis (Norman, 1931)	SERRAN Serran 3
Serranus africana (Cadenat, 1960)	
Serranus atricauda (Günther, 1874)	SERRAN Serran 4
Serranus cabrilla (Linnaeus, 1758)	SERRAN Serran 1
Serranus hepatus (Linnaeus, 1766)	SERRAN Serran 5
Serranus sanctaehelenae (Boulenger, 1895) (= Paracentropristis heterurus (Cadenat, 1937))	
Serranus scriba (Linnaeus, 1758)	SERRAN Serran 6

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

Draft material reviewed by P. Heemstra, J.L.B. Smith Institute of Ichthyology, Rhodes University, Grahamstown, South Africa

SERRAN Cephal 6

1981

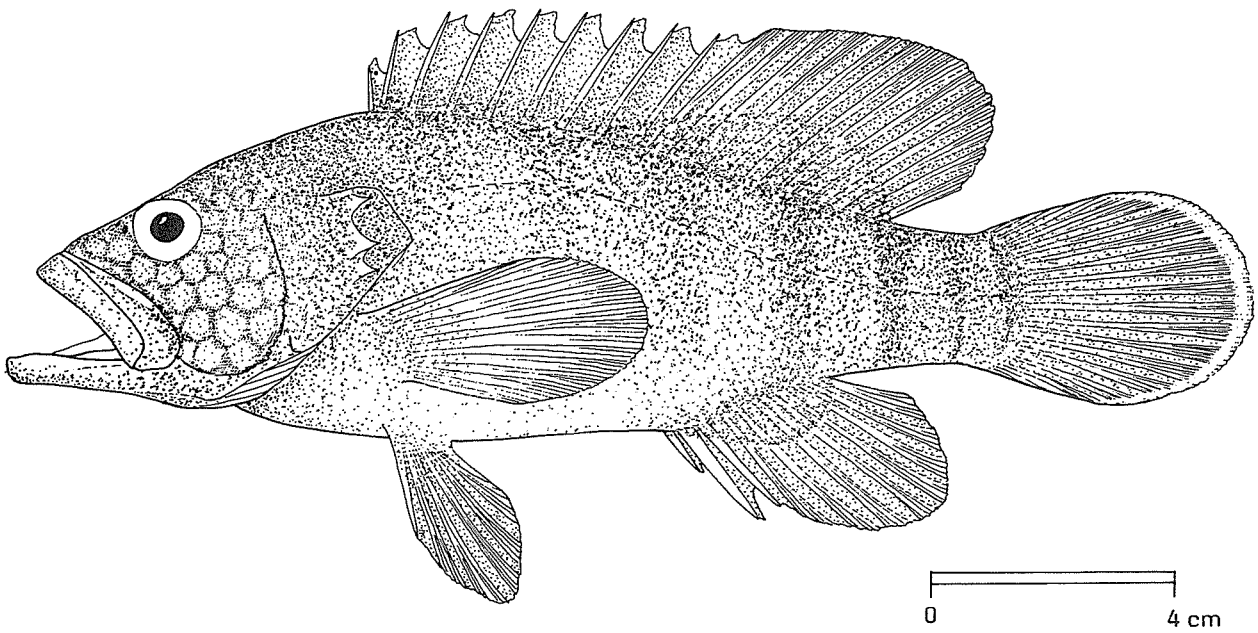
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SERRANIDAE

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

Cephalopholis nigri (Günther, 1859)

OTHER SCIENTIFIC NAMES STILL IN USE : Petrometopon nigri (Günther, 1859)



VERNACULAR NAMES:

FAO : En - Niger seabass
Fr - Mérou du Niger
Sp - Cherna del Niger

NATIONAL :

DISTINCTIVE CHARACTERS :

Size rather small. Body robust, moderately compressed; caudal peduncle deep. Bases of soft dorsal, and anal fins covered with scales. Dorsal fin with 9 spines and 14 or 15 soft rays; anal fin with 3 spines and 8 soft rays; caudal fin rounded. Lower limb of first gill arch with 8 or 9 gillrakers.

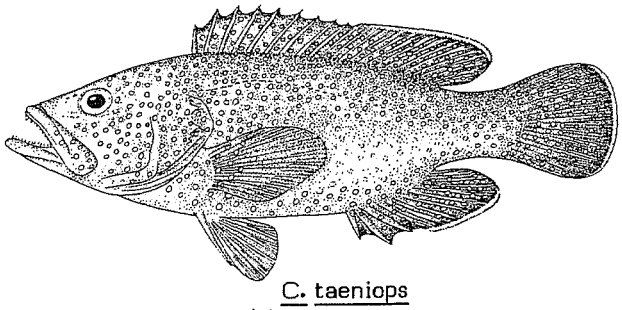
Colour: dark brown, with vertical dark bands on posterior part of the body, becoming indistinct anteriorly; belly reddish; sides of head with a reticulated pattern of hexagonal reddish spots separated by dark lines; caudal fin with a pale margin.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Cephalopholis taeniops: colour pattern spotted; caudal fin squarish; anal soft rays 9 or 10 (8 in C. nigri).

Serranus species: 10 dorsal fin spines (9 in Cephalopholis); no scaly flap of skin at upper end of pectoral fin base; anal fin square or emarginate.

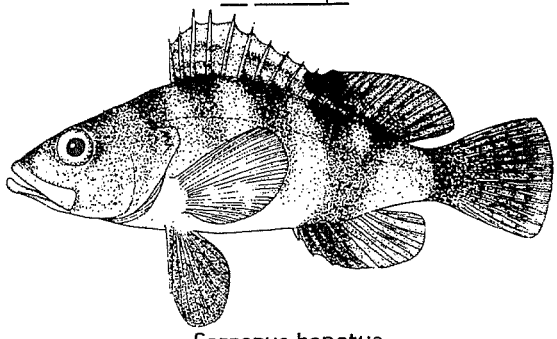
Epinephelus, Mycteroperca and Polyprion species: size much larger; 11 or 12 dorsal fin spines; also, a prominent ridge on opercle in Polyprion americanus.



C. taeniops

SIZE:

Maximum: 30 cm; common to 20 cm.



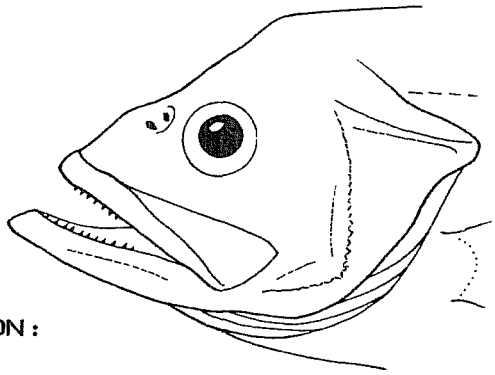
Serranus hepatus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

From Ghana to Zaire.

Inhabits sandy and rocky bottoms in coastal waters (usually less than 100 m depth).

Carnivorous.



Polyprion americanus

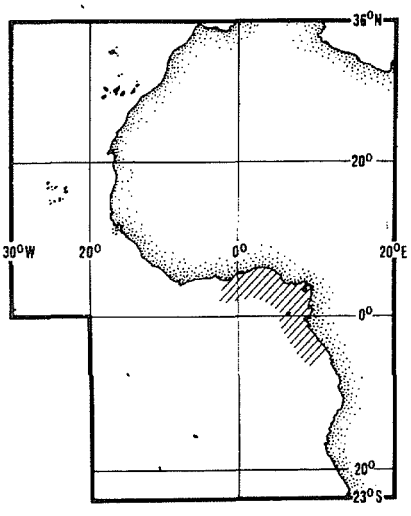
PRESENT FISHING GROUNDS:

Taken throughout its range, but too small and apparently not abundant enough to be of significant commercial interest.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught on hook and line and in bottom trawls.



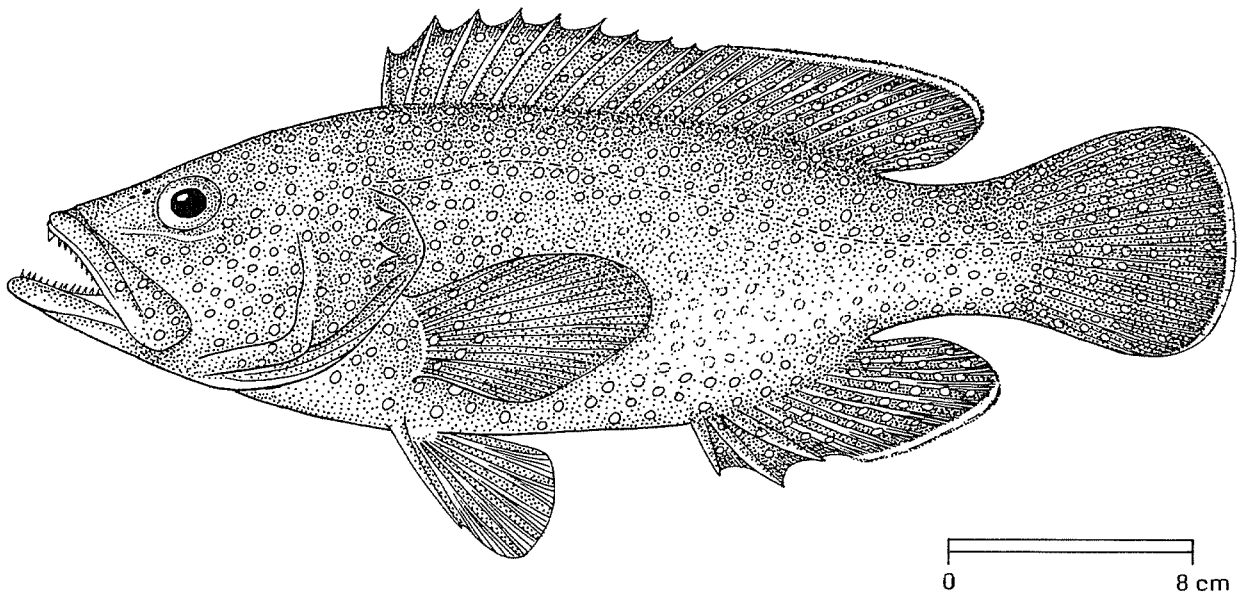
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SERRANIDAE

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

Cephalopholis taeniops (Valenciennes, 1828)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Bluespotted seabass
Fr - Mérou à points bleus
Sp - Cherna colorada

NATIONAL :

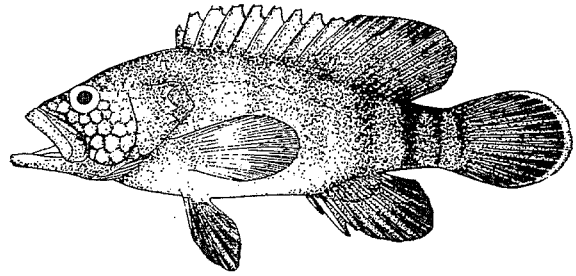
DISTINCTIVE CHARACTERS :

Size rather small. Body robust, moderately compressed, caudal peduncle deep. Bases of soft dorsal and anal fins covered with scales. Dorsal fin with 9 spines and 15 or 16 soft rays; anal fin with 3 spines and 9 or 10 soft rays; caudal fin squarish. Eleven to 13 gillrakers on lower limb of first arch.

Colour: reddish orange, everywhere covered with distinct small blue spots with dark edges; ground colour of young individuals brown or olive.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Serranidae: none has the pattern of blue spots characteristic of C. taeniops. The only other West African species of the genus, C. nigri, has vertical bands on posterior part of body and a reticulated pattern of hexagonal reddish spots separated by dark lines on sides of head.

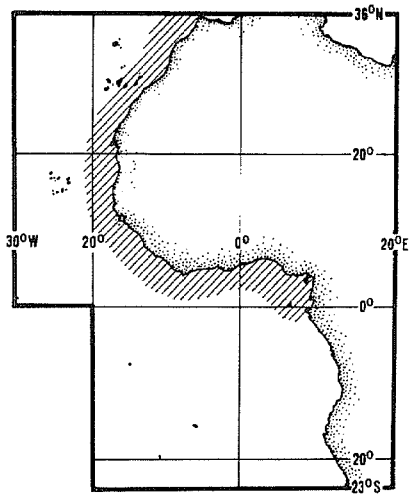


C. nigri

SIZE:

Maximum: to 70 cm; common to 40 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:



From Morocco to Cameroon.

Inhabits sandy and rocky bottoms between 20 and 200 m depth, but is essentially a coastal species.

Carnivorous.

PRESENT FISHING GROUNDS:

Taken throughout its range, but especially off Senegal and Mauritania.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught on lines and in bottom trawls.

Marketed fresh and smoked; also reduced to fishmeal (offshore fleets).

SERRAN Epin 1

1981

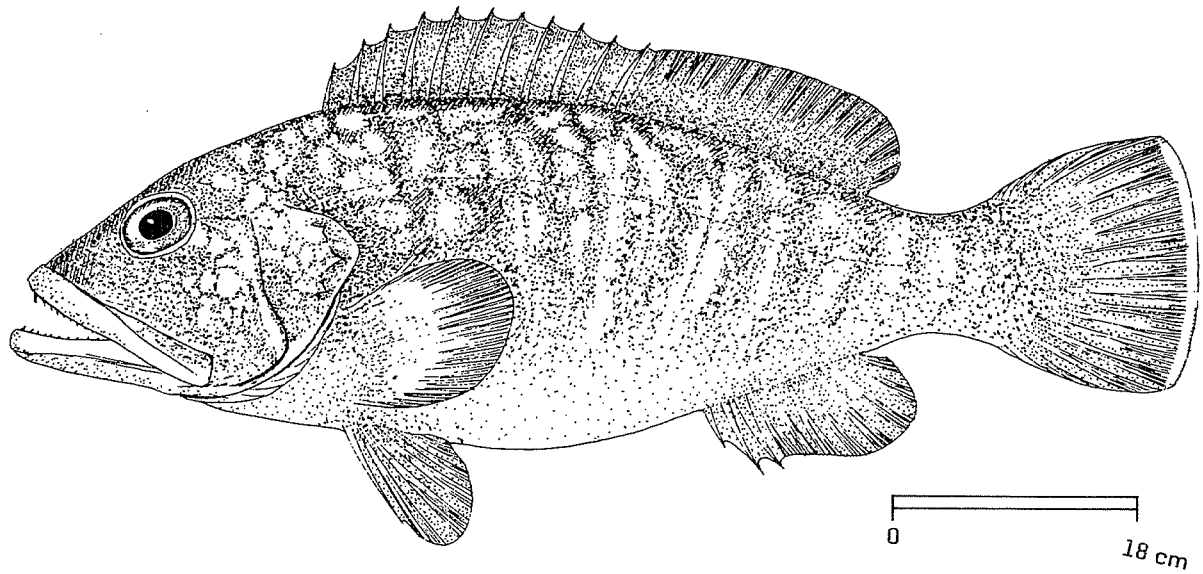
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SERRANIDAE

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

Epinephelus guaza (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Epinephelus gigas (Brünnich, 1768)



VERNACULAR NAMES:

FAO : En - Dusky grouper
Fr - Mérou noir (= Mérou sombre, Area 37)
Sp - Mero (= Mero nebuloso, Area 37)

NATIONAL :

DISTINCTIVE CHARACTERS :

Size moderate to large. Body robust, its depth contained about 4 times in total length. A single dorsal fin of 11 spines and 14 to 16 soft rays; anal fin with 3 spines and 8 soft rays; caudal fin rounded. Scales small and greatly overlapping, embedded in thick skin.

Colour: dark grey reddish brown to purplish with scattered irregular white spots, these sometimes form diffuse vertical bars; large adults uniform dark brown; caudal fin with a distinct white margin; no conspicuous lines on cheek.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

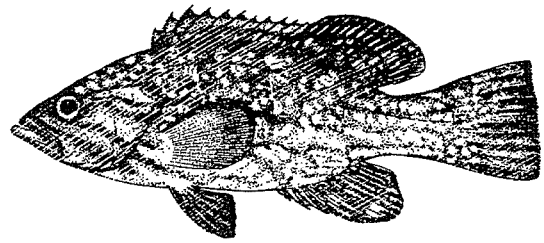
Other Epinephelus species: either without conspicuous markings or with distinctive colour patterns; also, body less deep.

Mycteroperca rubra: anal fin with 11 rays (8 in Epinephelus species); irregular wavy dark lines and scattered white blotches on lower sides.

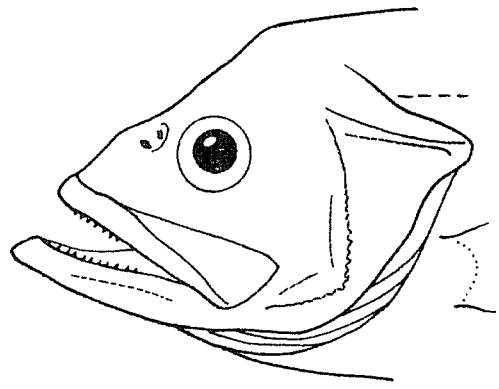
Polyprion americanus: a prominent ridge on upper part of gill cover; body with irregular dark markings.

Cephalopholis species: size much smaller; only 9 spines in dorsal fin (11 in Epinephelus species) and distinct colour markings.

Serranus species: size much smaller; 10 spines in dorsal fin; scales larger; most species with vertical bars or other distinctive colour patterns.



Mycteroperca rubra



Polyprion americanus

SIZE :

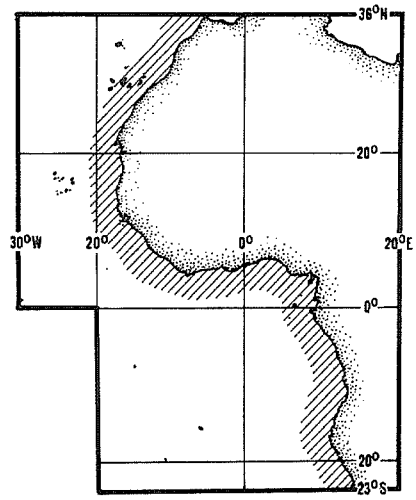
Maximum: 150 cm; common to 90 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Throughout the area, including the Canary Islands. Northward extending into the Mediterranean and to the Bay of Biscay (rare). Also occurring in the Western Atlantic (Brazil and Bermuda).

Inhabits mostly rocky and sandy bottoms at depths between 10 and 200 m or more.

A voracious predator, feeding chiefly on fishes, cephalopods and crustaceans.



PRESENT FISHING GROUNDS :

Shelf waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

The catch reported for this species from Fishing Area 34 totalled about 200 t in 1978; but actual landings are doubtless higher. The combined catch of Epinephelus species reported from the area in 1978 exceeded 16 000 t.

Taken on lines in bottom trawls and trammel nets.

Marketed fresh and smoked.

SERRAN Epin 2

1981

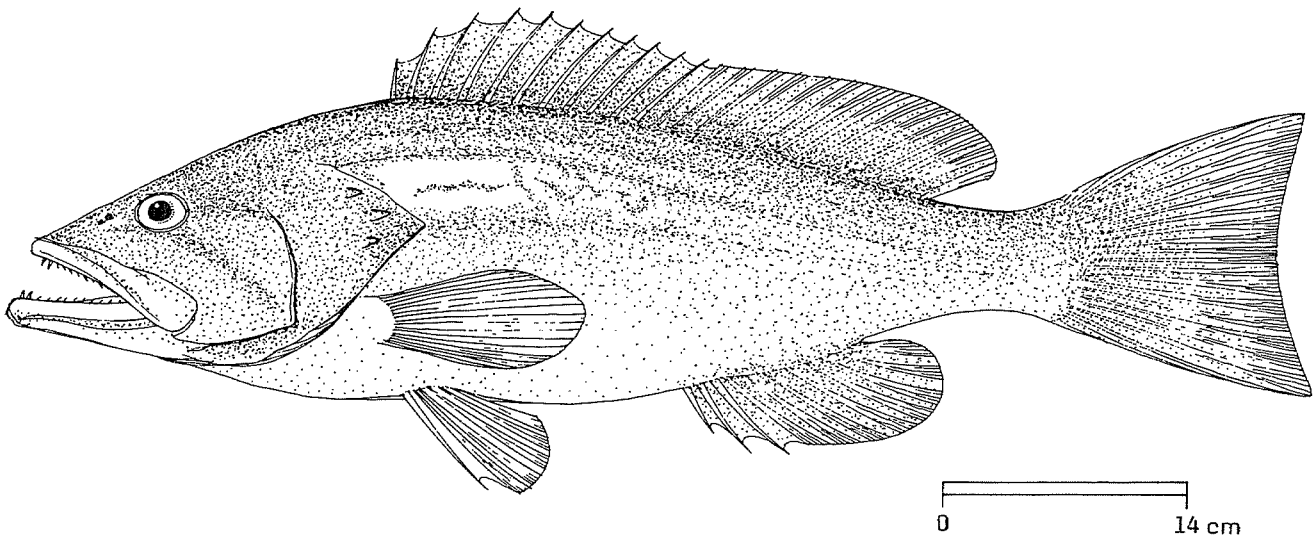
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SERRANIDAE

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

Epinephelus alexandrinus (Valenciennes, 1828)

OTHER SCIENTIFIC NAMES STILL IN USE : Serranus alexandrinus Valenciennes, 1628



VERNACULAR NAMES:

FAO : En - Golden grouper
Fr - Mérou badèche (= Abadèche, Area 37)
Sp - Falso abadejo

NATIONAL :

DISTINCTIVE CHARACTERS :

Size moderate to large. Body rather elongate, moderately compressed. A single dorsal fin of 11 spines and 16 to 18 soft rays; anal fin with 3 spines and 8 soft rays; caudal fin truncate to emarginate. Scales small, over 90 in lateral line, greatly overlapping and embedded in thick skin.

Colour: yellowish brown to sepia brown, with a series of longitudinal darker lines on body and 2 oblique, dark lines on opercle that are prominent in the young becoming indistinct in adults. Large specimens often have a diffuse golden blotch on sides which disappears quickly after death.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

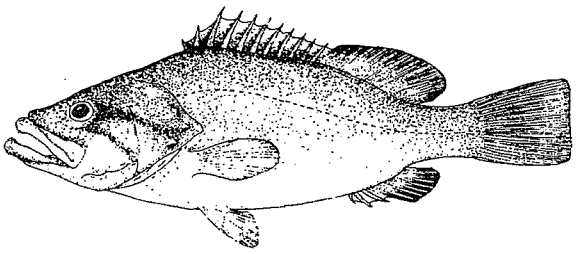
Other Epinephelus species: none has longitudinal stripes on body. E. caninus is uniform in colour (like old individuals of E. alexandrinus), but it has a usually more rounded caudal fin, larger anterior canines and larger and rougher scales. The other species have distinctive colour markings either on head or body.

Mycteroperca rubra: anal fin with 11 rays (8 in Epinephelus species); irregular wavy dark lines and scattered white blotches on lower sides.

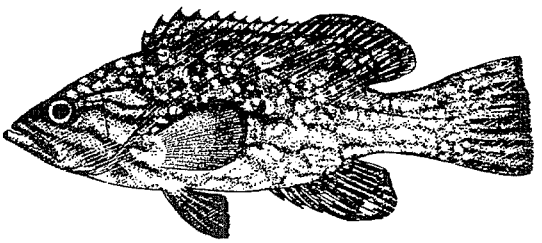
Polyprion americanus: a prominent ridge on upper part of gill cover; body with irregular dark markings.

Cephalopholis species: size much smaller; only 9 spines in dorsal fin (11 in Epinephelus species) and distinct colour markings.

Serranus species: size much smaller; 10 spines in dorsal fin; different colour patterns.



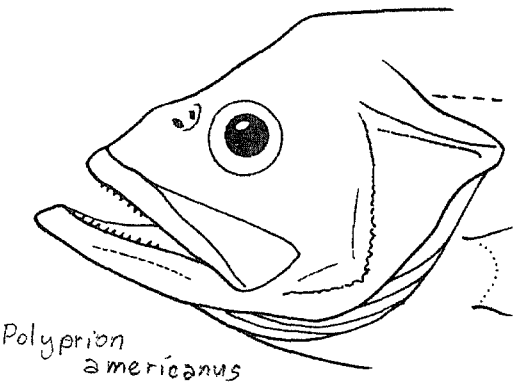
E. caninus



Mycteroperca rubra

SIZE:

Maximum: 140 cm; common to 70 cm.



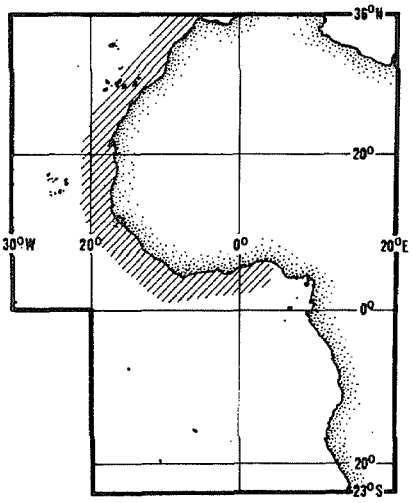
Polyprion americanus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from the Straits of Gibraltar southward to Nigeria. Northward extending into the Mediterranean.

Bottom-living on sand and rock at depths from 10 to 300 m, but most abundant in the shallower part of its range, to about 200 m.

A voracious predator feeding on fish and cephalopods.



PRESENT FISHING GROUNDS:

Shelf waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken on lines, in bottom trawls and trammel nets.

Marketed mostly fresh and smoked.

SERRAN Epin 3

1981

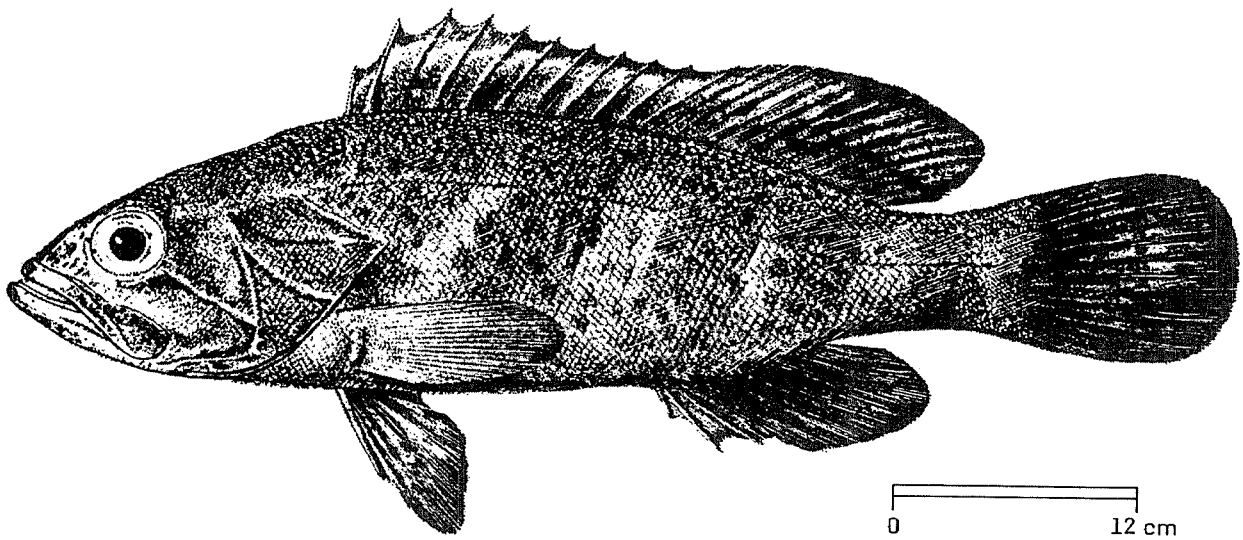
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SERRANIDAE

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

Epinephelus aeneus (Geoffroy St. Hilaire, 1809)

OTHER SCIENTIFIC NAMES STILL IN USE : Serranus aeneus (Geoffroy St. Hilaire, 1809)



VERNACULAR NAMES:

FAO : En - White grouper
Fr - Mérou blanc
Sp - Cherna de ley

NATIONAL :

DISTINCTIVE CHARACTERS :

Size large. Body rather elongate, its depth over 4 times in total length. Dorsal fin with 11 spines and 14 to 16 soft rays; anal fin with 3 spines and 8 soft rays; caudal fin rounded. Scales small, over 90 in lateral line, greatly overlapping, and embedded in thick skin. Lower limb of gill arch with 12 to 15 gillrakers.

Colour: generally dark reddish brown or greyish green sometimes with more or less distinct lighter crossbars. Two or three prominent oblique white stripes on the side of the head.

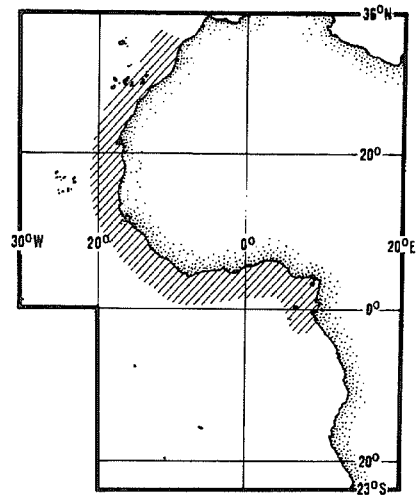
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Serranidae: lack the pale oblique lines on sides of head, characteristic of E. aeneus.

SIZE:

Maximum: at least 115 cm; common to 60 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:



In the area, from the Straits of Gibraltar southward to Angola, also Ascension Island. Northward extending into the Mediterranean and along the Atlantic coasts of Europe to the British Isles.

Inhabits mainly sandy and muddy bottoms from the coastline to about 200 m depth, but more common in the upper part of this range (to 100 m).

A voracious predator, feeding chiefly on fish, cephalopods and crustaceans.

PRESENT FISHING GROUNDS:

Upper part of the continental shelf throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catch reported for this species from Fishing Area 34 totalled 860 t in 1978. Actual landings are doubtless much larger, but not reported separately; the combined catch of Epinephelus species reported from the area in 1978 exceeded 16 000 t.

Taken on handlines, in bottom trawls and trammel nets.

Marketed chiefly fresh and smoked.

SERRAN Epin 23

1981

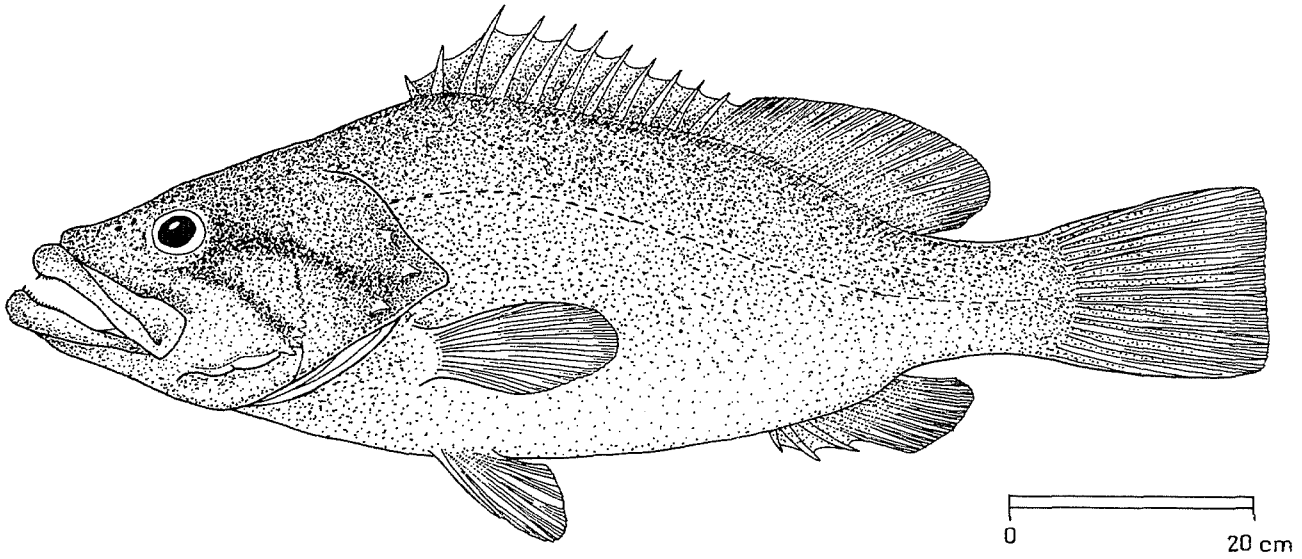
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SERRANIDAE

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

Epinephelus caninus (Valenciennes, 1843)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Dogtooth grouper
Fr - Mérou gris
Sp - Mero denton

NATIONAL :

DISTINCTIVE CHARACTERS :

Size moderate to large. Body moderately compressed, elongate. Canine-like teeth more developed than in other Epinephelus species. Dorsal fin with 11 spines and 13 or 14 soft rays; anal fin with 3 spines and 8 soft rays; caudal fin truncate. Scales moderate in size, very rough.

Colour: uniform somber reddish brown to greyish violet, without prominent markings; belly slightly paler; head with 2 oblique dark lines running downward and backward from the eye across the cheek and gill covers, which tend to disappear in old individuals.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

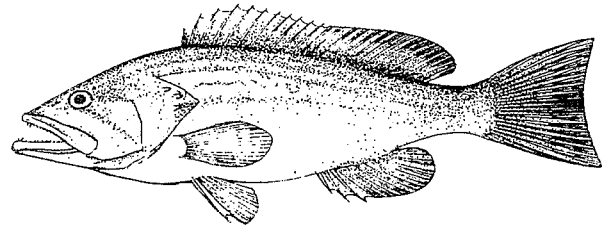
Other Epinephelus species: all have distinctive colour markings, except old individuals of E. alexandrinus in which the characteristic longitudinal body stripes may tend to disappear, but this species has a slightly emarginate caudal fin, smaller anterior teeth smaller, smoother scales, and 16 to 18 soft dorsal rays (13 or 14 in E. caninus).

Mycteroperca rubra: anal fin with 11 rays (8 in Epinephelus species); irregular wavy dark lines and scattered white blotches on lower sides.

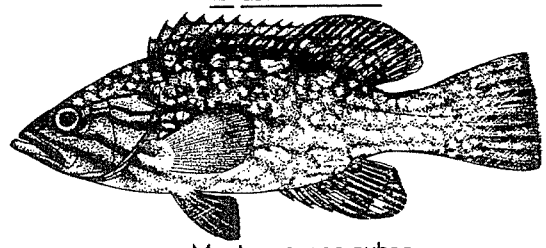
Polyprion americanus: a prominent ridge on upper part of gill cover; body with irregular dark markings.

Cephalopholis species: size much smaller; only 9 spines in dorsal fin (11 in Epinephelus species) and distinct colour markings.

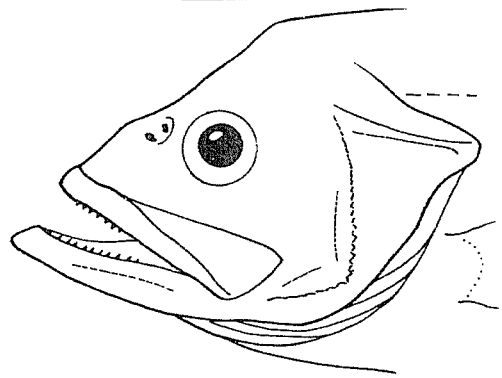
Serranus species: size much smaller; 10 spines in dorsal fin; scales larger; different colour patterns.



E. alexandrinus



Mycteroperca rubra



Polyprion americanus

SIZE:

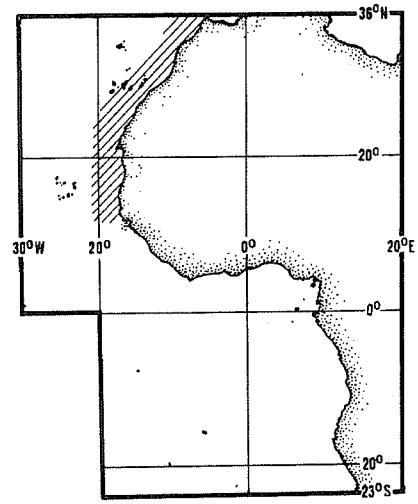
Maximum: 140 cm; common to 100 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from the Straits of Gibraltar to Senegal. Northward extending into the Mediterranean.

Bottom-living at depths from about 30 to 300 m.

Carnivorous.



PRESENT FISHING GROUNDS:

Deeper shelf waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The combined catch of Epinephelus species reported from the area in 1978 exceeded 16 000 t.

Taken on lines and in bottom trawls.

Marketed fresh and smoked.

SERRAN Epin 24

1981

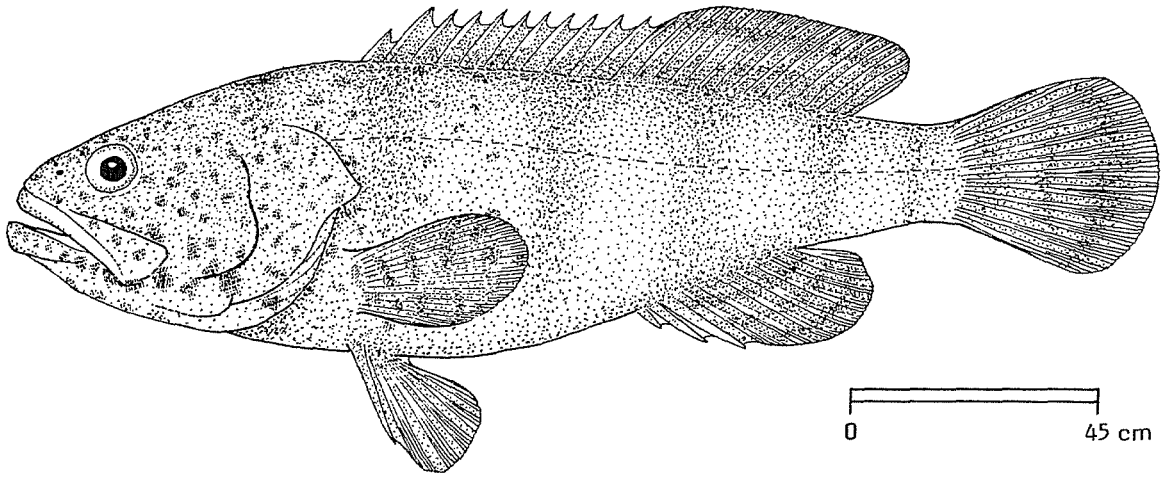
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SERRANIDAE

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

Epinephelus (Promicrops) esonue (Ehrenbaum, 1914)*

OTHER SCIENTIFIC NAMES STILL IN USE : Promicrops esonue Ehrenbaum, 1914
Promicrops ditobo Roux & Collignon, 1954



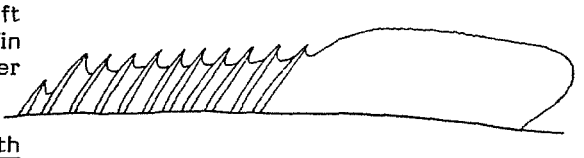
VERNACULAR NAMES:

FAO : En - Esonue grouper
Fr - Mérou ésonue
Sp - Mero esonué

NATIONAL :

DISTINCTIVE CHARACTERS :

Size very large. Body moderately elongate, thick (not compressed). Dorsal fin consisting of 11 spines and 14 to 17 soft rays; all the spines shorter than the longest soft ray; anal fin with 3 spines and 8 soft rays; caudal fin rounded. Scales rather small, embedded.



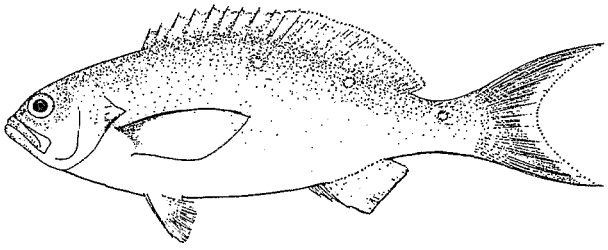
dorsal fin

Colour: live individuals are greenish to yellow olive with distinct dark, round spots on head and anterior part of body -prominent in young, becoming diffuse in older animals; body with irregular oblique, often diffuse, darker bars.

* Possibly conspecific with Epinephelus (Promicrops) itajara from the Western Central Atlantic

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Serranidae: spiny portion of dorsal fin higher, the longest spine not distinctly shorter than anterior dorsal fin rays (except in Paranthias which is easily distinguished by more streamlined shape and deeply forked caudal fin).



Paranthias furcifer

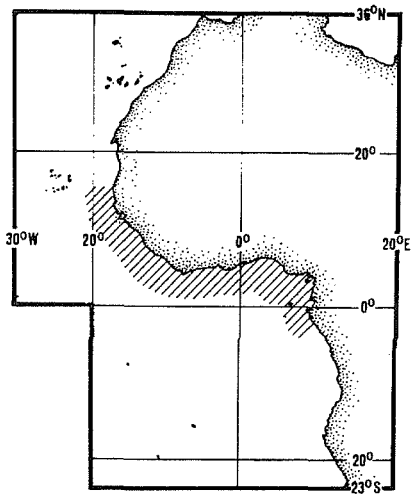
SIZE:

Maximum: 200 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

From Senegal to Congo.

Bottom-living to depths of at least 160 m.



PRESENT FISHING GROUNDS:

Taken incidentally throughout its range; apparently not common.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken on lines and in bottom trawls.

Marketed fresh.

SERRAN Epin 25

1981

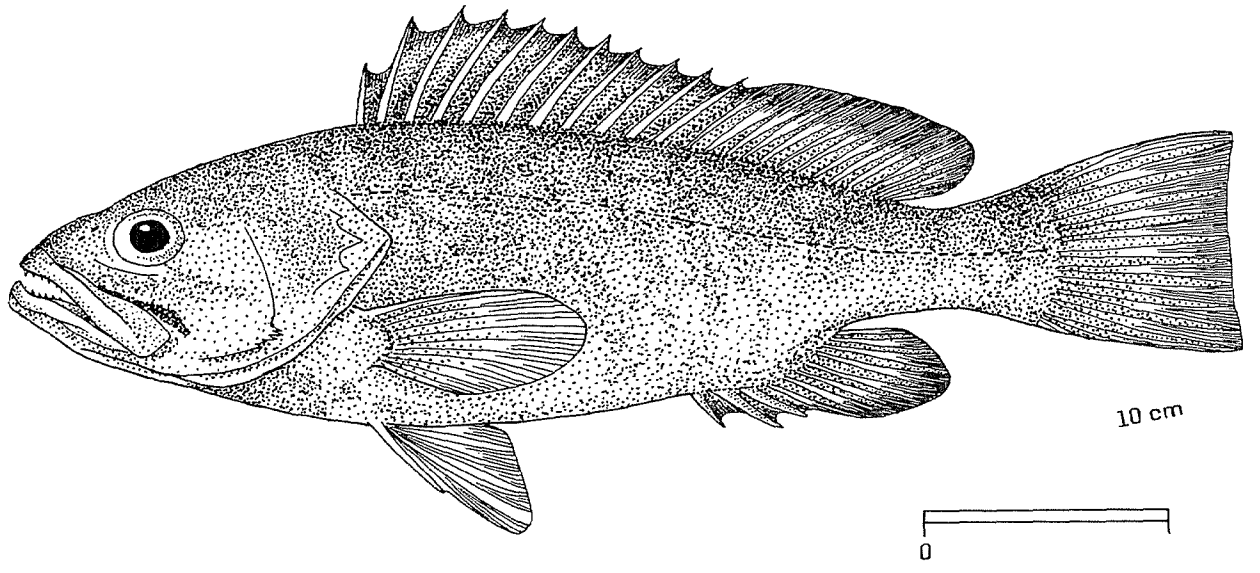
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SERRANIDAE

FISHING AREAS 34, 47(
(E Central Atlantic)

Epinephelus goreensis (Valenciennes, 1830)

OTHER SCIENTIFIC NAMES STILL IN USE : sometimes misidentified as E. fasciatus (Forsskål, 1775) , a distinctive species from the Red Sea and the Indo-West Pacific region



VERNACULAR NAMES:

FAO : En - Dungat grouper (= Redbanded grouper)
Fr - Mérou dungat
Sp - Mero de Gorea

NATIONAL :

DISTINCTIVE CHARACTERS :

Size moderate. Body moderately compressed, rather deep. A single dorsal fin consisting of 11 spines and 15 or 16 soft rays; anal fins with 3 spines and 8 soft rays; caudal fin truncate. Scales small, greatly overlapping, deeply embedded in thick skin. Gillrakers longer than gill filaments, 16 to 18 on lower limb of first arch.

Colour: pink to bright red or brownish, often with diffuse spots sometimes forming vertical bars; maxillary groove black.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

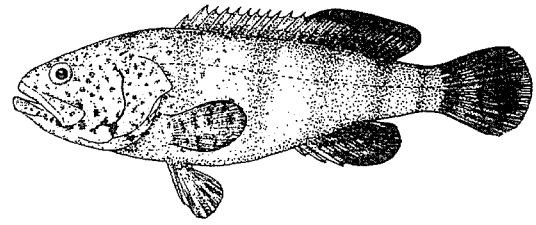
Epinephelus esonue: vertical bars also present but round dark spots on head and anterior part of body, and spiny part of dorsal fin much lower than soft part, the longest spine distinctly shorter than anterior dorsal fin rays.

Cephalopholis nigri: only 9 spines in dorsal fin (11 in E. goreensis); sides of head with a reticular pattern of hexagonal reddish spots separated by dark lines.

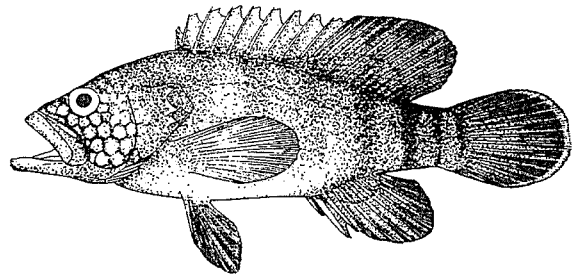
Centrarchops chapini: body very deep and compressed; 13 or more anal finrays (8 in E. goreensis).

Serranus species: many with vertical bars, but size much smaller; 10 spines in dorsal fin; scales larger, skin at base of vertical fins, thin, and distinctive colour patterns.

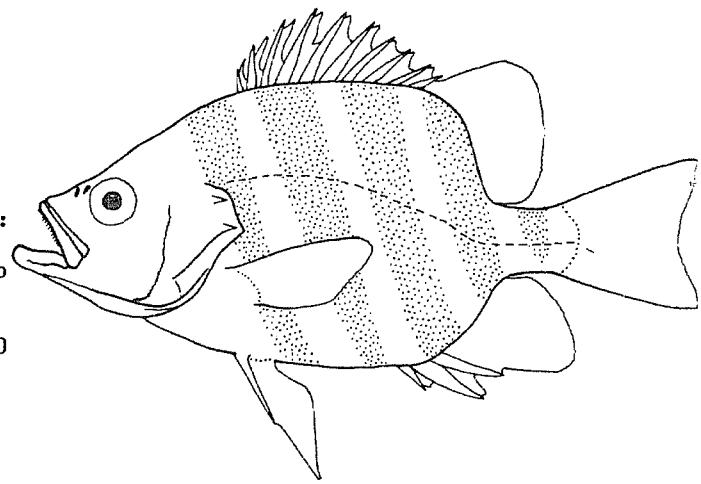
Other species of Serranidae: no vertical bars; either uniformly coloured, or with distinctive colour patterns.



E. esonue



Cephalopholis nigris



Centrarchops chapini

SIZE :

Maximum: at least 60 cm; common to 50 cm.

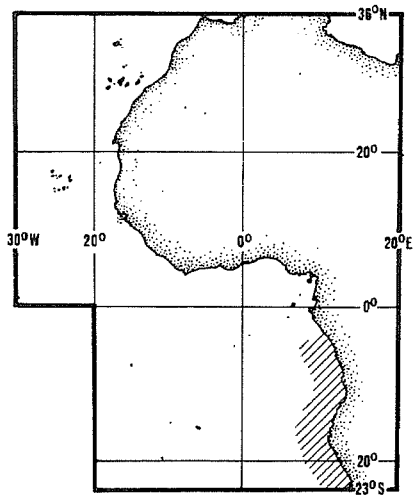
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the area, from Angola southward. Also occurring in the Indian and Pacific Oceans.

Bottom-living, from the coastline to at least 100 m depth.

PRESENT FISHING GROUNDS :

Taken incidentally throughout its range.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught on hook and line and occasionally in bottom trawls.

Marketed mostly fresh.

SERRAN Myct 6

1981

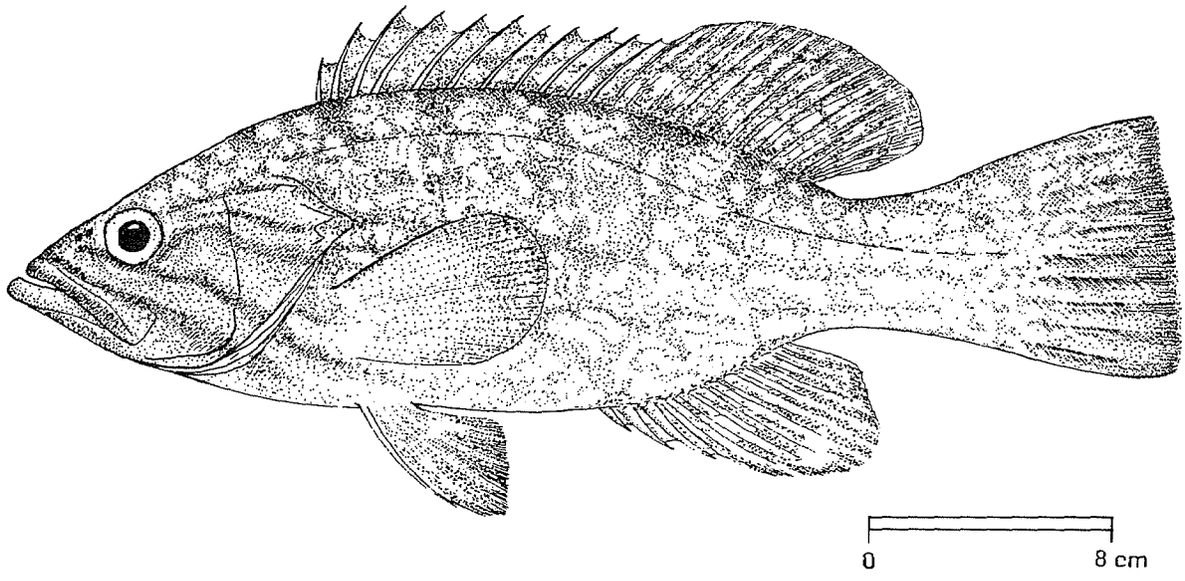
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SERRANIDAE

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

Mycteroperca rubra (Bloch, 1793)

OTHER SCIENTIFIC NAMES STILL IN USE : Parepinephelus acutirostris Valenciennes, 1828



VERNACULAR NAMES:

FAO : En - Comb grouper
Fr - Mérou royal (= Badèche peigne, Area 31)
Sp - Gitano (= Cuna negra, Area 31)

NATIONAL :

DISTINCTIVE CHARACTERS :

Size moderate. Body rather compressed; dorsal fin with 11 spines and 16 soft rays; anal fin with 3 spines and 11 soft rays; caudal fin truncate. Gillrakers long and slender, 29 to 32 on lower limb of first arch. Scales ctenoid (rough to touch).

Colour: dark reddish brown above, lighter below, with irregular wavy dark lines and scattered white blotches on lower sides.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

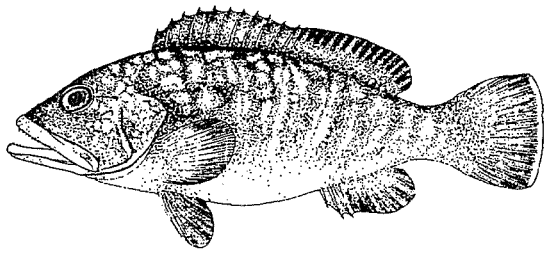
Epinephelus species: anal fin rays 8 (11 in M. rubra). Fewer than 20 gillrakers on lower limb of first arch (29 to 32 in M. rubra).

Polyprion americanus: a prominent ridge on upper part of gill cover; only 11 or 12 soft dorsal finrays (15 to 17 in M. rubra) and only 8 or 9 anal rays.

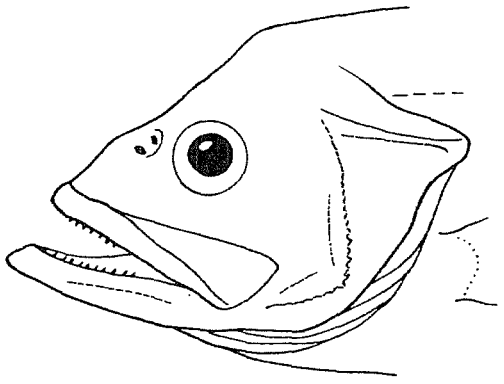
Cephalopholis species: size smaller; only 9 spines in dorsal fin (11 in Epinephelus species) and distinctive colour markings.

Serranus species: size much smaller; 10 spines in dorsal fin (11 in M. rubra); scales larger; distinctive colour patterns.

Paranthias furcifer: caudal fin deeply forked; dorsal spines 9.



Epinephelus guaza



Polyprion americanus

SIZE:

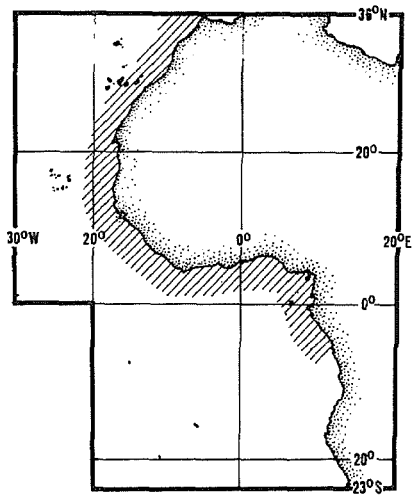
Maximum: at least 49 cm, but probably 60 cm and 1.34 kg; common to about 40 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from the Straits of Gibraltar to Zaire. Northward extending into the Mediterranean and along the Atlantic coasts of Europe to the Bay of Biscay. Also in the Western Atlantic off Brazil, Panama, Cuba, Bermuda and in the northeastern Gulf of Mexico.

Inhabits sandy and rocky bottoms from 15 to 200 m depth, but more common in the shallower part of its range (to 50 m).

Carnivorous.



PRESENT FISHING GROUNDS:

Taken in upper shelf waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught in bottom trawls and on hook and line.

Marketed mostly fresh and frozen.

SERRAN Parant 1

1981

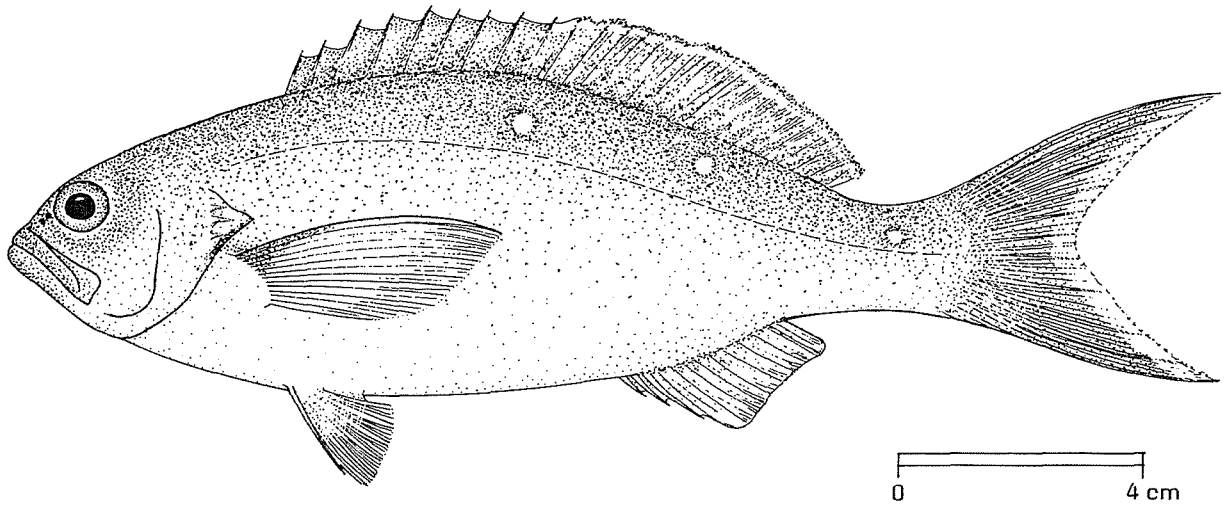
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SERRANIDAE

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

Paranthias furcifer (Valenciennes, 1828)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Creole fish
Fr - Badèche créole
Sp - Cuna lucero

NATIONAL :

DISTINCTIVE CHARACTERS :

Size rather small. Body moderately compressed with dorsal and ventral profiles nearly equally curved. Head short, less than 35% of standard length. Dorsal fin with 9 spines and 16 to 19 soft rays; anal fin with 3 spines and 9 or 10 soft rays; caudal fin deeply forked. Gillrakers on lower limb of first arch 22 to 25. scales ctenoid (rough), small.

Colour: bright reddish overall, only slightly lighter ventrally; often with 4 contrasting spots along base of dorsal fin.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

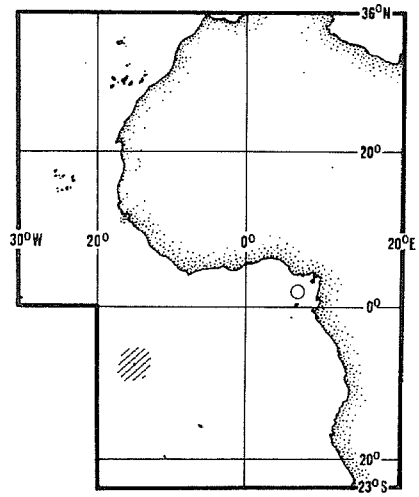
The short head, evenly curved dorsal and ventral outlines, deeply forked caudal fin and bright red colour are unique. Other serranids have the dorsal profile more strongly curved than the ventral and do not have the caudal fin deeply forked.

SIZE :

Maximum: 35 cm; common to 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the Eastern Atlantic only known from the Bay of Biafra and Ascension Island. Also occurs in the Western Atlantic (from the North coast of South America through the Gulf of Mexico, Florida, to South Carolina) and in the Eastern Pacific.



PRESENT FISHING GROUNDS :

Probably taken only incidentally at present.

SERRAN Polyp 1

1981

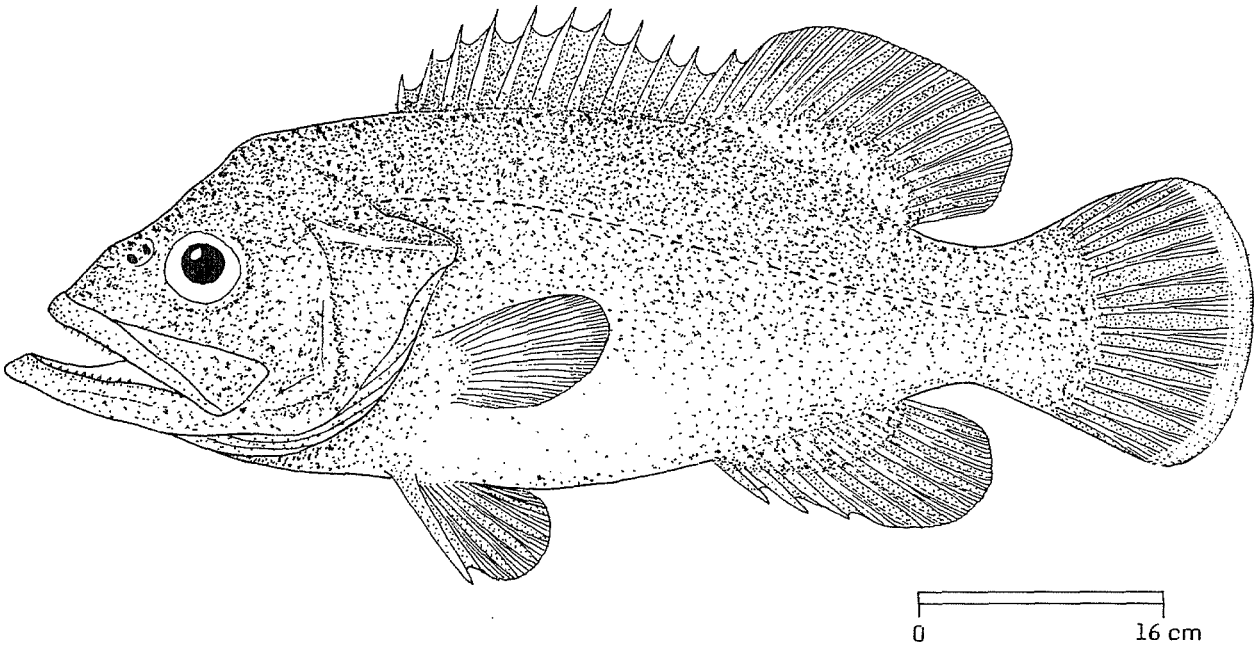
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SERRANIDAE

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

Polyprion americanus (Bloch & Schneider, 1801)

OTHER SCIENTIFIC NAMES STILL IN USE : Polyprion americanum (Bloch & Schneider, 1801)



VERNACULAR NAMES:

FAO : En - Wreckfish
Fr - Cernier commun
Sp - Cherna

NATIONAL :

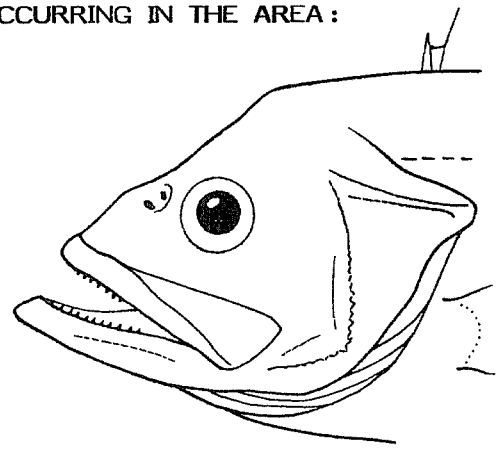
DISTINCTIVE CHARACTERS :

Size large. Body rather deep and robust, with very rough scales, heavy fin spines and a large head with a prominent rough bony longitudinal ridge on the upper part of the gill cover. A single dorsal fin with 11 or 12 spines and 11 or 12 soft rays; anal fin with 3 spines and 8 or 9 soft rays; caudal fin rounded. Scales small, about 82 to 90 in lateral line; bases of soft dorsal and anal covered with thick skin and embedded scales.

Colour: dark reddish brown, often with darker irregular marblings.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Other species of Serranidae: none has the distinct ridge on gill cover characteristic of P. americanus. Furthermore, the other large serranids in the area (Epinephelus and Mycteroperca species) all have 13 or more dorsal fin rays (11 or 12 in P. americanus) and the smaller Cephalopholis species have only 9 dorsal fin spines (11 or 12 in P. americanus).



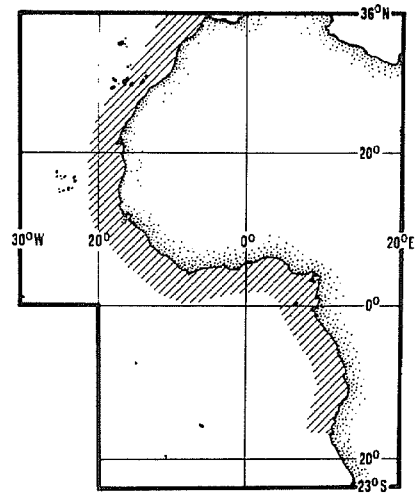
P. americanus

SIZE :

Maximum: 200 cm; common to 80 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the area, from the Straits of Gibraltar to southern Angola, including Madeira, the Canaries and Cape Verde Islands. Northward extending into the Mediterranean and along the Atlantic coasts of Europe up to Norway. Also in the Western Atlantic.



Inhabits rocky and sandy bottoms between 40 and 450 m depth, but is also often found near the surface.

PRESENT FISHING GROUNDS :

Shelf and upper slope waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

The catch reported for this species from the area totalled 120 t in 1978 (Spain only).

Taken on handlines and in bottom trawls.

Marketed fresh, also reduced to fishmeal and oil (offshore fleets).

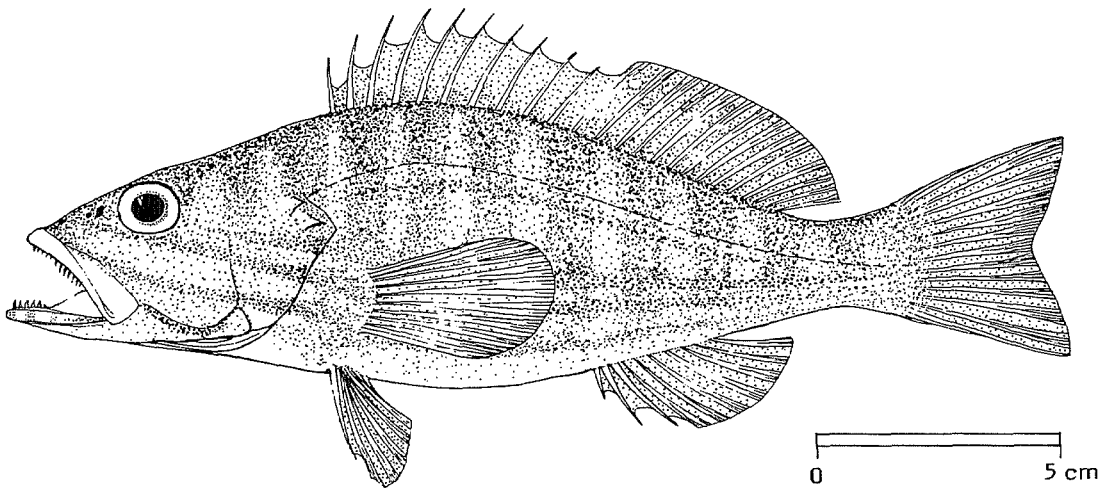
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SERRANIDAE

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

Serranus cabrilla (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Paracentropristis cabrilla Linnaeus, 1758



VERNACULAR NAMES:

FAO : En - Comber (= Cabrilla seabass, Area 37)
Fr - Serran chèvre (= Serran cabrille, Area 37)
Sp - Cabrilla

NATIONAL :

DISTINCTIVE CHARACTERS :

Size small. Body elongate, slightly compressed. Dorsal fin with 10 spines and 13 to 15 soft rays; anal fin with 3 spines and 7 or 8 soft rays; caudal fin square to slightly emarginate; gillrakers on lower limb of first arch 13 to 16; 72 to 78 scales in lateral line.

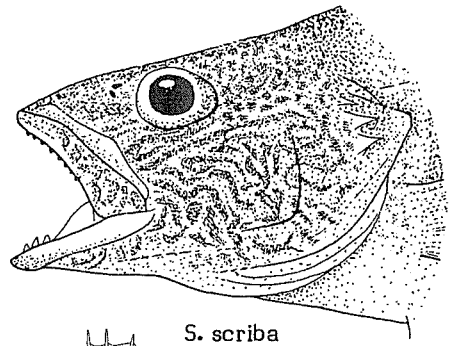
Colour: ground colour reddish yellow; sides with 2 or 3 darker (often bluish) longitudinal stripes; sometimes 8 or 9 darker bars across back; head with oblique orange stripes; vertical fins with bright pale violet dots. This colour pattern is reported as varying more or less with sex, age and habitat, individuals from deeper waters being less colourful.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

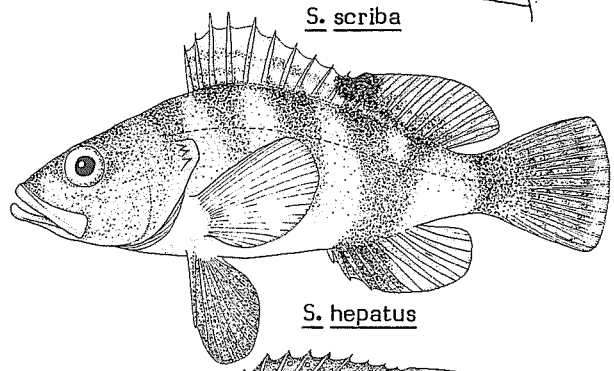
Other Serranus species: body without longitudinal stripes. Furthermore, a pattern of prominent dark vermiculations on head in Serranus scriba, and a conspicuous dark spot on middle of soft dorsal fin rays in S. hepatus.

Cephalopholis species: body more robust, scales deeply embedded in thick skin, only 9 spines in dorsal fin (10 in S. cabrilla) and distinctive colour patterns.

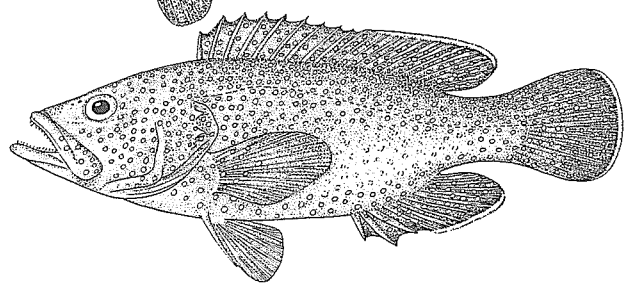
Epinephelus, Mycteroperca and Polyprion species: size much larger, body heavier built, 11 or 12 spines in dorsal fin, scales deeply embedded in thick skin.



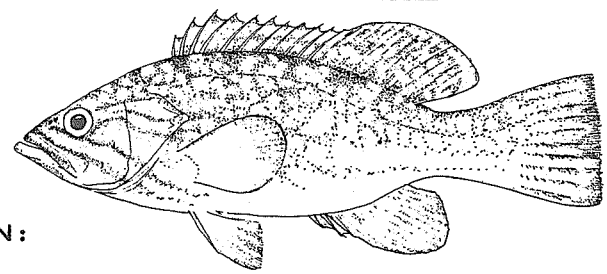
S. scriba



S. hepatus



Cephalopholis taeniops



SIZE:

Maximum: at least 40 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from the Straits of Gibraltar to Angola, including the Canary Islands. Northward extending into the Mediterranean and along the Atlantic coasts of Europe up to the British Isles. Also in the Red Sea.

Inhabits rocky as well as soft bottoms from the coastline to about 450 m depth.

A voracious predator, feeding on fish, cephalopods and crustaceans.

PRESENT FISHING GROUNDS:

Mainly shelf waters throughout its range; rather abundant in some localities.

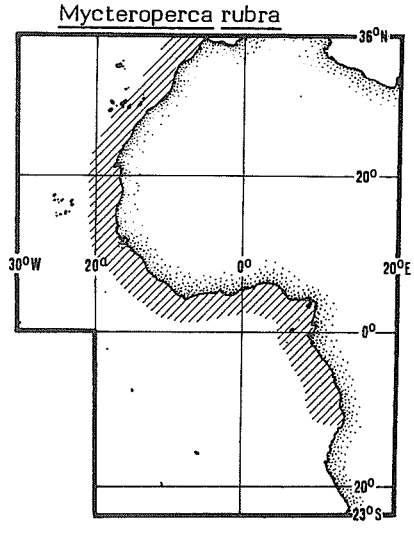
CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught on hand lines and in bottom trawls and trammel nets.

Marketed fresh, dried salted, smoked. Also reduced to fishmeal (offshore fleets).

Mycteroperca rubra



SERRAN Serran 3

1981

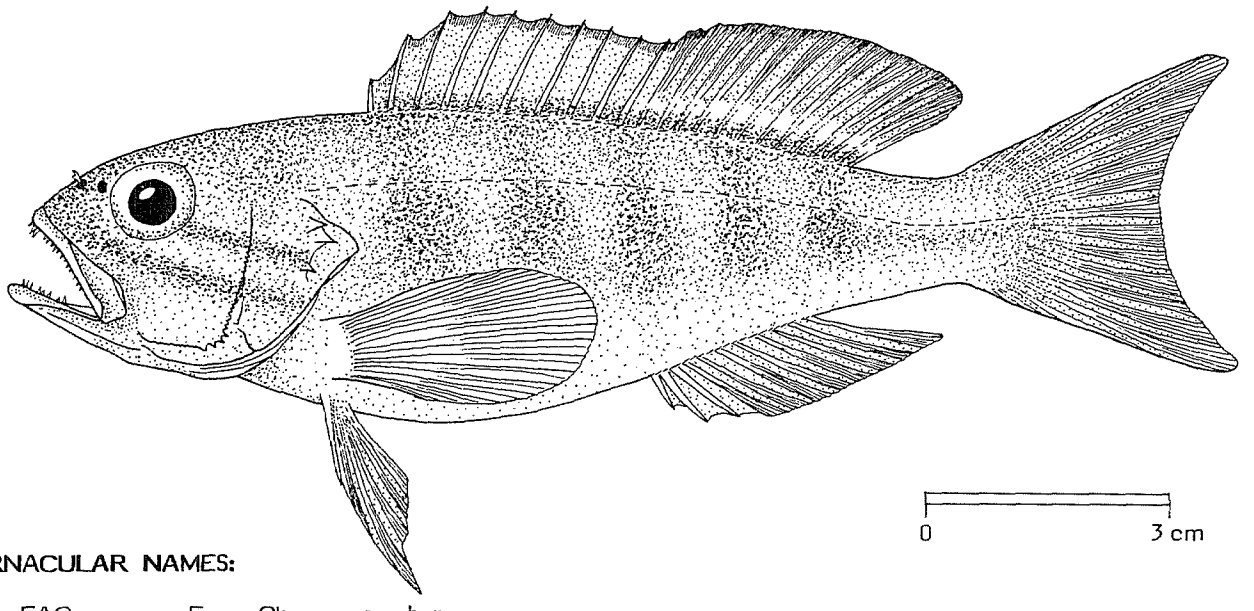
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SERRANIDAE

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

Serranus accraensis (Norman, 1931)

OTHER SCIENTIFIC NAMES STILL IN USE : Neanthias accraensis Norman, 1931
Novanthias accraensis (Norman, 1931)



VERNACULAR NAMES:

FAO : En - Ghanean comber
Fr - Serran ganéen
Sp - Serrano ganés

NATIONAL :

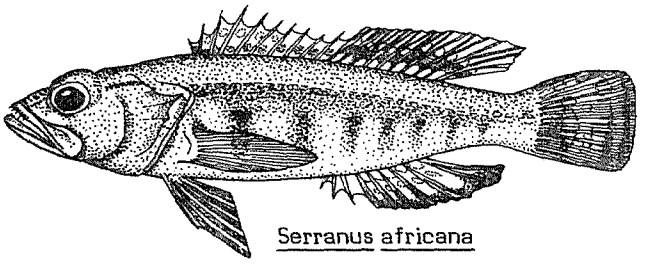
DISTINCTIVE CHARACTERS :

Size small. Body fusiform, rather robust. Dorsal fin with 10 spines and 12 or 13 soft rays; anal fin with 3 spines and 7 or 8 soft rays; caudal fin emarginate. Lower gillrakers 13 or 14. Scales rather large, 45 to 48 in lateral line; skin thin, scales not deeply embedded.

Colour: rather pale brown with 5 or 6 indistinct broad dusky vertical bars that end in dark blotches below the lateral line; a trace of 2 or 3 narrow dark bars running from the eye backward across the opercle. Dorsal fin with a pale bar at its base and a dusky margin; anal pale yellowish, caudal fin a little darker.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Serranus africana: dark vertical bars on body restricted to lower sides (from lateral line downward); 10 or 11 soft dorsal fin rays (12 or 13 in S. accraensis).



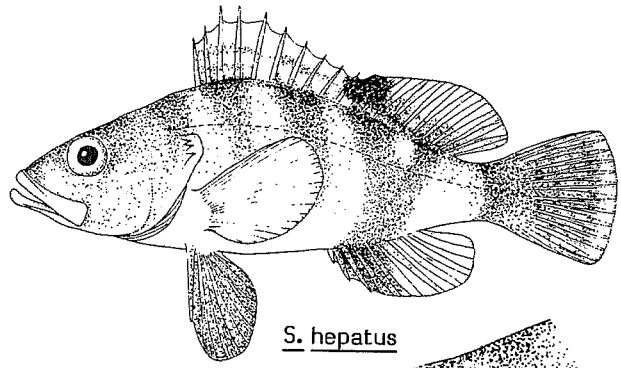
Serranus africana

S. hepatus: a prominent dark spot at front of soft dorsal fin.

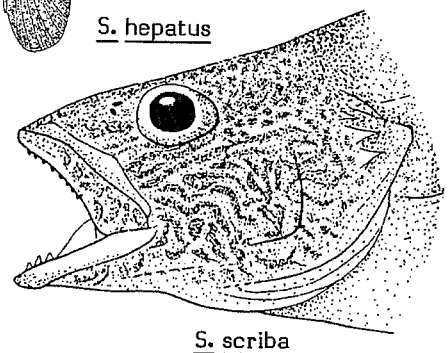
Other Serranus species: scales smaller, more than 50 in lateral line (about 45 in S. accraensis). Furthermore, a prominent pattern of dark vermiculations on sides of head in S. scriba.

Cephalopholis species: body more robust, scales deeply embedded in thick skin, only 9 spines in dorsal fin (10 in S. accraensis) and distinctive colour patterns.

Epinephelus, Mycteroperca and Polyprion species: size much larger, body heavier built, 11 or 12 spines in dorsal fin, scales deeply embedded in skin.



S. hepatus



S. scriba

SIZE :

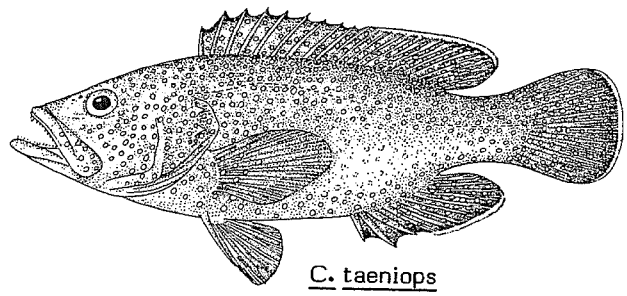
Maximum: at least 16 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Off Ghana.

Inhabits shelf waters between 25 and 150 m depth.

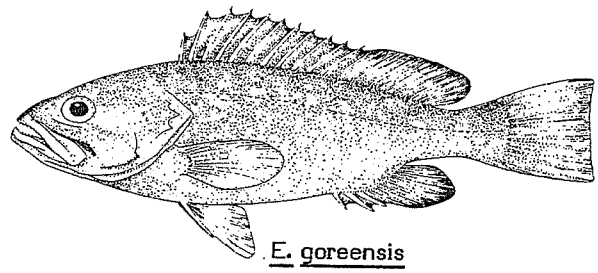
Carnivorous.



C. taeniops

PRESENT FISHING GROUNDS :

Artisanal fisheries throughout its range; reported to be taken regularly off Ghana.



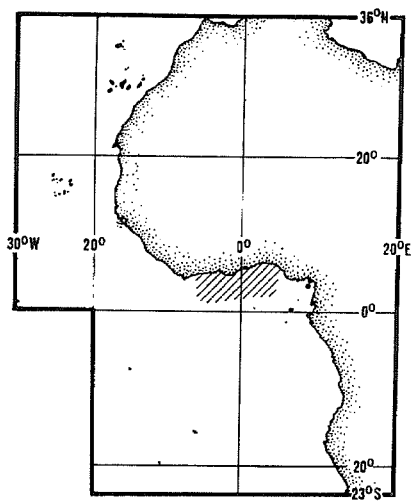
E. goreensis

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught in bottom trawls and on hook and line

Marketed fresh and smoked.



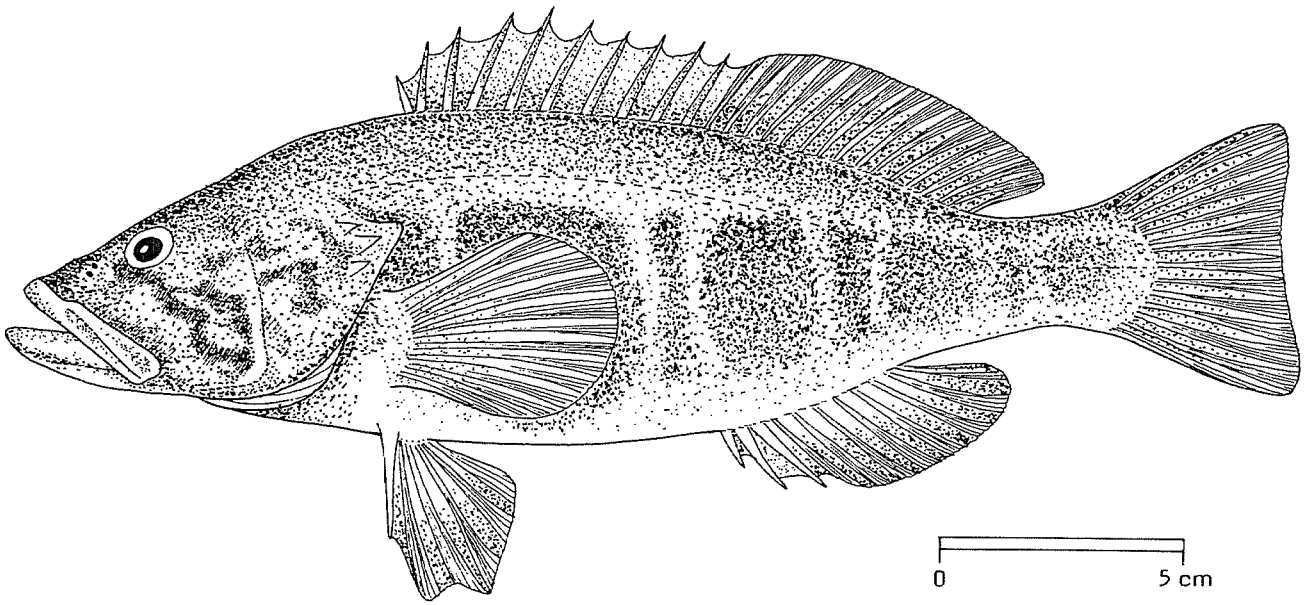
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SERRANIDAE

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

Serranus atricauda Günther, 1874

OTHER SCIENTIFIC NAMES STILL IN USE : Paracentropristis atricauda (Günther, 1874)



VERNACULAR NAMES:

FAO : En - Blacktail comber
Fr - Serran à queue noire
Sp - Serrano imperial

NATIONAL :

DISTINCTIVE CHARACTERS :

Size rather small. Body elongate. Dorsal fin with 10 spines and 15 or 16 soft rays; anal fin with 3 spines and 8 soft rays; caudal fin straight to slightly emarginate. Lower gillrakers 14 or 15. Scales small, 80 to 90 in lateral line; skin thin, scales not deeply embedded.

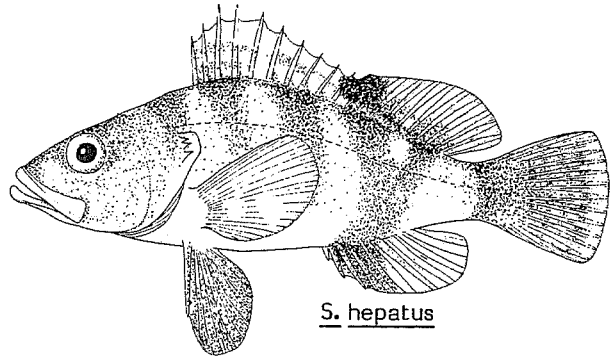
Colour: brownish, with a series of 4 or 5 larger squarish dark blotches alternating with narrow vertical dark bars; 2 or 3 dark oblique stripes on cheeks; vertical fins dark with bright spots; pelvic fins dark, distal half of anal fin and corners of caudal fin black.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

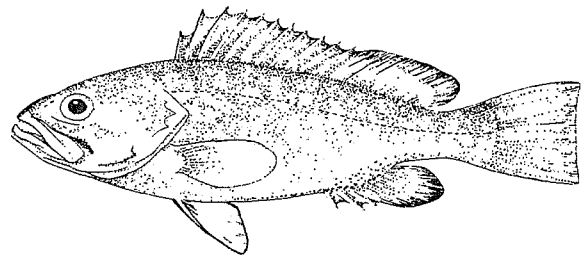
Serranus hepatus: a prominent dark spot at front of soft dorsal fin; 11 or 12 soft dorsal rays (15 or 16 in S. atricauda)

Other species of Serranus: scales larger, fewer than 80 in lateral line (80 to 90 in S. atricauda).

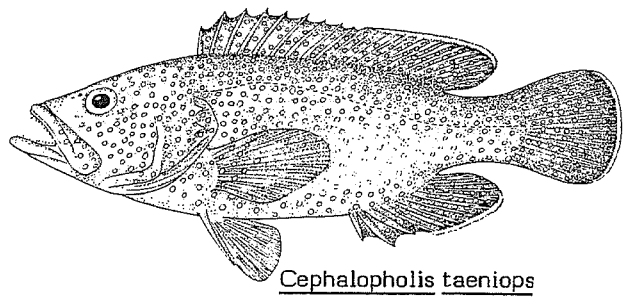
Other species of Serranidae: none has the pattern of squarish blotches characteristic of S. atricauda. Furthermore, Epinephelus, Mycteroperca and Polyprion species are much larger and heavy-bodied, with scales deeply embedded in thick skin and they also have more spines in dorsal fin (11 or 12 instead of 10). Cephalopholis species which are more similar in size to S. atricauda, have only 9 spines in dorsal fin and distinctive colour patterns.



S. hepatus



Epinephelus goreensis



Cephalopholis taeniops

SIZE:

Maximum: 35 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

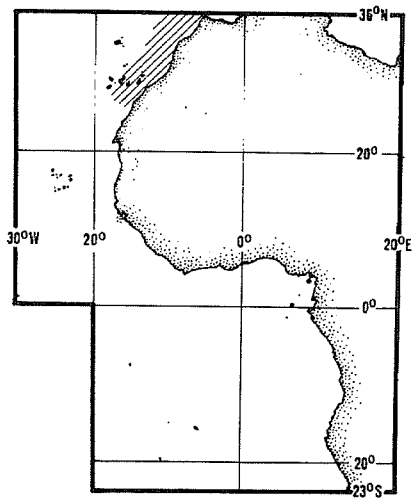
In the area, from the Straits of Gibraltar to Mauritania, and around Madeira and the Canary Islands. Also in the Mediterranean, off Portugal and around the Azores.

Bottom-living, from the coastline to about 90 m depth.

Carnivorous.

PRESENT FISHING GROUNDS:

Upper shelf waters.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught on handlines and in trammel nets and bottom trawls.

Marketed mostly fresh.

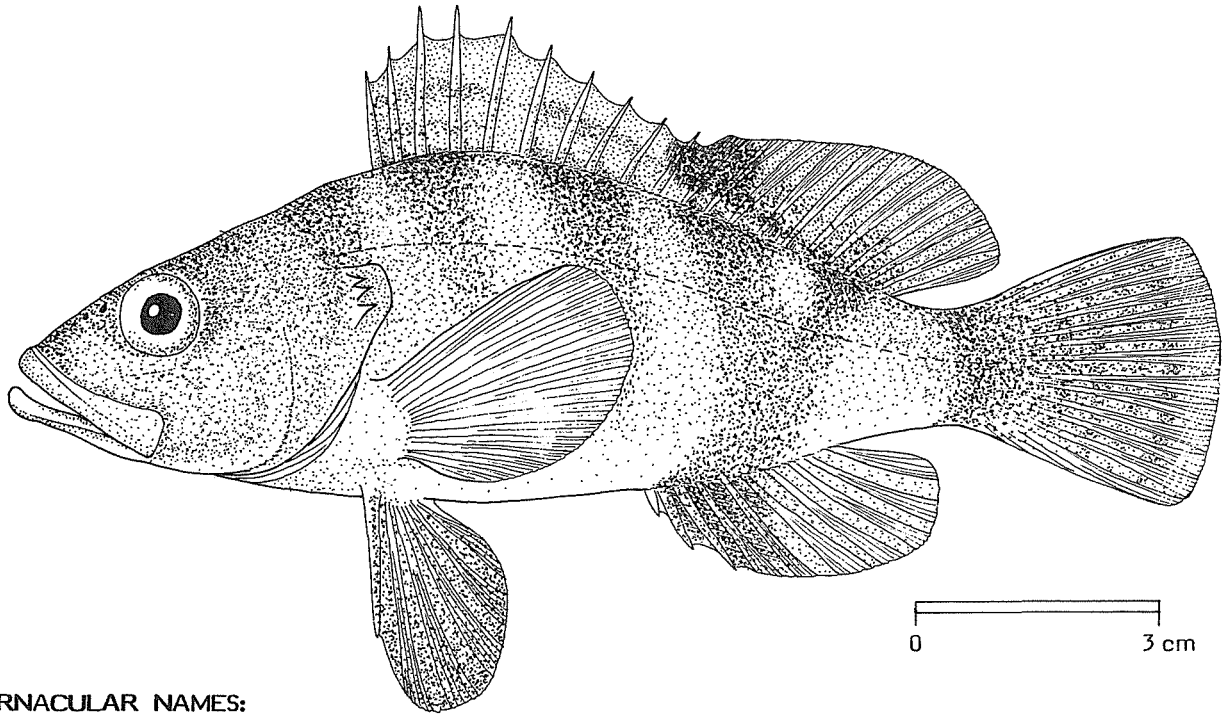
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SERRANIDAE

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

Serranus hepatus (Linnaeus, 1766)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Brown comber
Fr - Serran tambour
Sp - Merillo

NATIONAL :

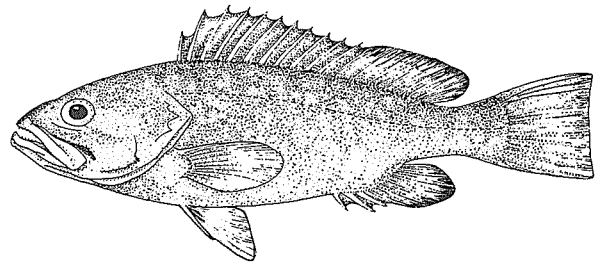
DISTINCTIVE CHARACTERS :

Size small. Body fusiform, more robust than the other Serranus species. Dorsal fin with 10 spines and 11 or 12 soft rays; anal fin with 3 spines and 6 or 7 soft rays; caudal fin rounded or truncate. Lower gillrakers 13 to 15. Scales moderate in size, 44 to 50 in lateral line; skin thin, scales not deeply embedded.

Colour: brownish yellow with 5 more or less distinct vertical bars of which the fourth, below the soft dorsal fin, is broadest and bifurcating above; pelvics and base of anal fin blackish; a round black blotch on anterior soft dorsal fin rays that continues as black bar along the base of the fin in some specimens; individuals from shallow waters are darker than those from deeper waters.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Serranidae: none has the prominent dark spot at front of soft dorsal fin characteristic of S. hepatus. Furthermore, Epinephelus, Mycteroperca and Polyprion species are much larger and heavy-bodied, with scales deeply embedded in thick skin, and they also have more spines in dorsal fin (11 or 12 instead of 9). Cephalopholis species, which are more similar in size to S. hepatus, have only 9 spines in dorsal fin and very different colour patterns.



Epinephelus goreensis

SIZE:

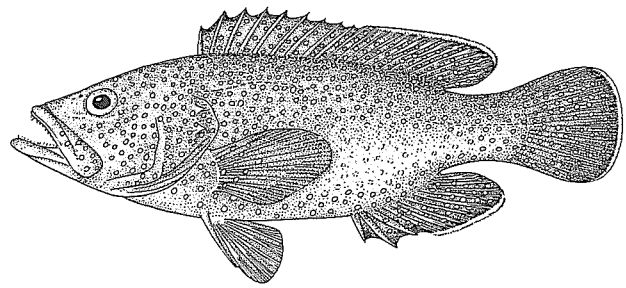
Maximum: 25 cm; common to 12 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

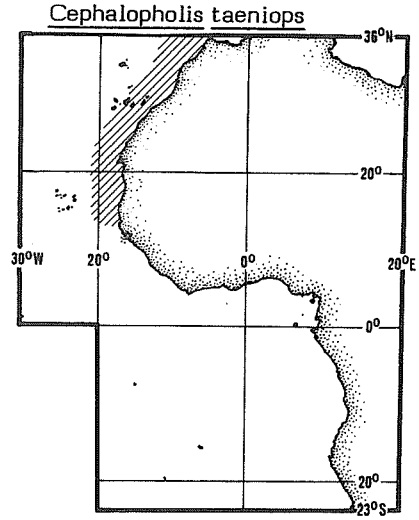
In the area, from the Straits of Gibraltar southward to Senegal, including the Canary Islands. Northward extending into the Western Mediterranean, and to Portugal.

Occurs from 5 to 100 m depth over seagrass, sand, mud and rocks.

Carnivorous.



Cephalopholis taeniops



PRESENT FISHING GROUNDS:

Taken by artisanal fisheries throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught on handlines, and in bottom trawls and trammel nets.

Marketed fresh, and smoked; also reduced to fishmeal (offshore fleets).

SERRAN Serran 6

1981

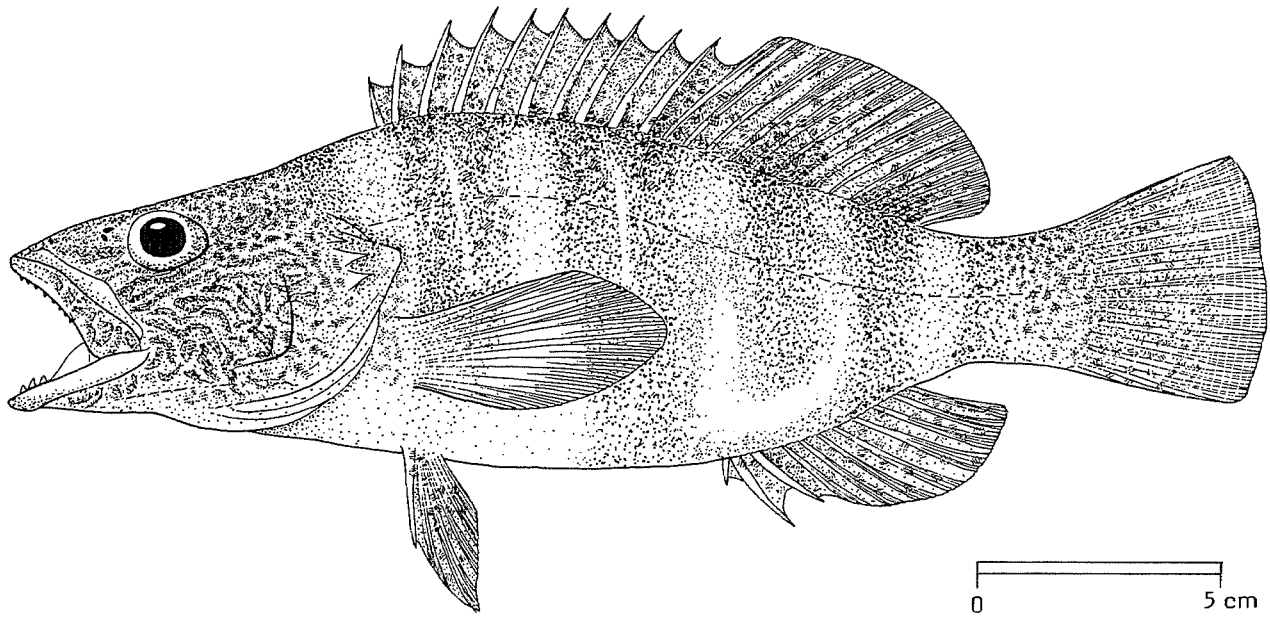
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SERRANIDAE

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

Serranus scriba (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Painted comber
Fr - Serran écriture
Sp - Serrano escribano (= Serrano)

NATIONAL :

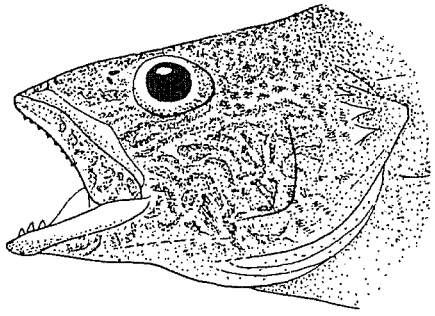
DISTINCTIVE CHARACTERS :

Size rather small. Body elongate, only slightly compressed. Head rather pointed. Dorsal fin with 10 spines and 14 or 15 soft rays; anal fin with 3 spines and 7 or 8 soft rays; caudal fin straight or slightly rounded. Lower gillrakers 12 to 14. Scales rather small, 65 to 75 in lateral line; skin thin, scales not deeply embedded.

Colour: brownish red above, greyish on belly; sides with 5 or 6 vertical bars, some of which split in two below the lateral line; in some individuals these bars fuse to form 2 broad bars, one below the soft dorsal and one below the spiny dorsal; sides of head with prominent dark vermiculations, and a dark longitudinal stripe running through the eye; vertical fins with red dots. A large bluish-violet blotch is reported on lower sides in live or very fresh specimens.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Other species of Serranidae: none has the prominent vermiculations on head characteristic of S. scriba.



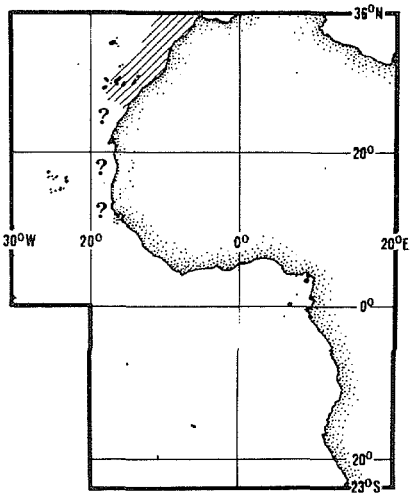
S. scriba

SIZE :

Maximum: 36 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the area, from the Straits of Gibraltar to Southern Sahara, possibly even to Senegal including the Canary Islands. Northward extending into the Mediterranean and Black Seas, and along the Atlantic coasts of Europe up to the Bay of Biscay.



A coastal and sedentary species, inhabiting rocky bottoms from the coastline to 150 m.

A voracious predator, feeding on fishes and crustaceans.

PRESENT FISHING GROUNDS :

Taken by artisanal fisheries throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught on hook and line; occasionally in bottom trawls.

Marketed mostly fresh.

SOL

1981

FAO SPECIES IDENTIFICATION SHEETS

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

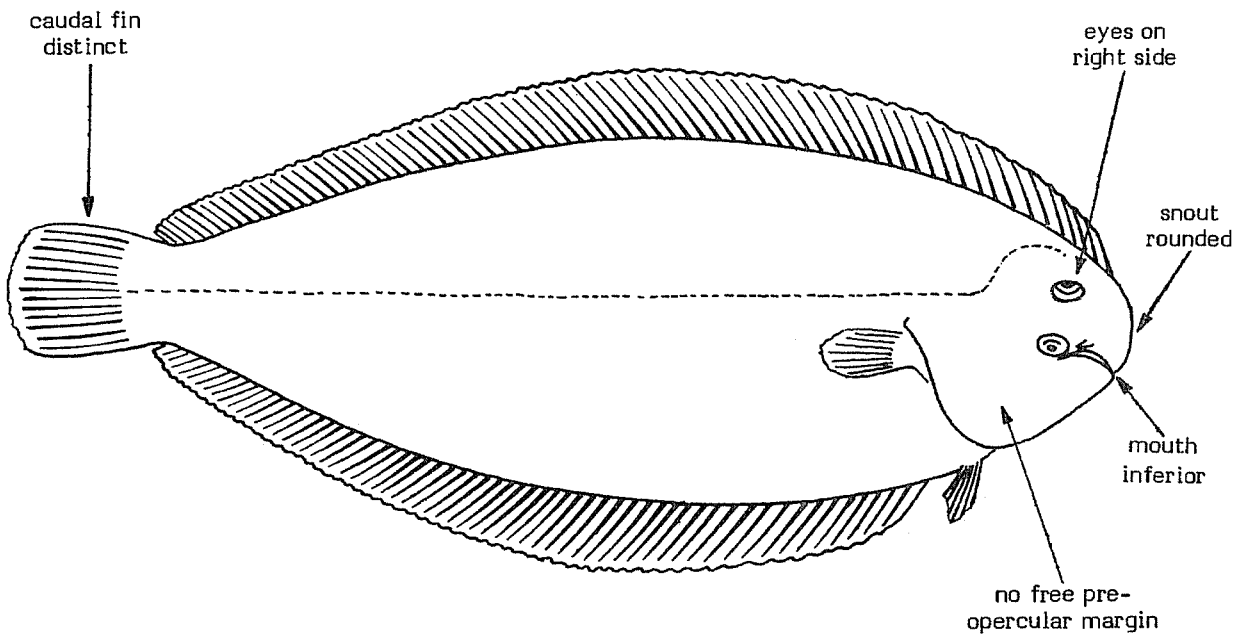
SOLEIDAE

Soles

Body oval, more or less elongate, strongly compressed, flattened on left side. Preopercle covered by skin and scales, its hind margin not free, scarcely visible as a shallow, scaleless groove; snout rounded, as a fleshy lobe; mouth small, inferior, more or less arched; lips fleshy, smooth or fringed; teeth small, hardly visible, sometimes absent; no teeth on palatines (roof of mouth); lower jaw never projecting beyond the upper; eyes small, both on the right side (except in rare, inverted individuals); nostrils of eyed and blind sides symmetrical or nearly so; blind side of head often covered with hairlike sensorial fringes. All fins without spiny rays; origin of dorsal fin placed either at, or more often before level of upper eye, sometimes even near mouth (Heteromycteris); caudal fin distinct, sometimes completely separated from dorsal and anal fins, in other cases united to them by a fine membrane, or the three fins fused together. Lateral line straight on mid-body, wavy, arched, bifurcated or indistinct on head. Scales ctenoid (rough to touch).

Colour: normally, the eyed side coloured and the blind side unpigmented (rare exceptions are individuals pigmented on both sides, albinos lacking pigmentation altogether, or specimens showing a colour inversion). The colour on the eyed side ranges from light to dark brown, sometimes ornamented with darker spots (rather large eyespots or ocelli, or regular, diffuse dots), wavy transverse bands, etc.

Small to medium-sized fishes ranging from 7 to about 70 cm in total length from marine or brackish waters (Heteromycteris); inhabit soft, mobile bottoms (mud, sand) mainly near the coast, but also on the continental shelf (Microchirus) and even on the slope to depths greater than 1 000 m (Bathysolea). Soles are usually taken in bottom trawls. Their flesh is of good quality and the larger species (25 cm and more) are of considerable commercial importance. The catch of soles reported from the area in 1978 slightly exceeded 3 000 t. Although all of the landings are recorded under Solea vulgaris (Solea solea), it is most probable that this category comprises several different species.



SIMILAR FAMILIES OCCURRING IN THE AREA:

Psettodidae: dorsal fin with spiny anterior rays, originating behind level of eyes.

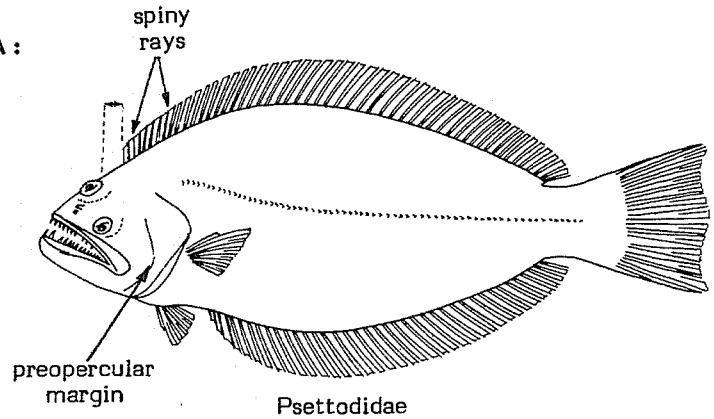
Pleuronectoidei (Citharidae, Scophthalmidae, Bothidae): mouth terminal, snout more or less pointed, lower jaw usually prominent, preopercular margin free and well visible, dorsal fin without spines and originating at level or before upper eye. Furthermore:

Citharidae: eyes on left side, lateral line visible on both sides, bases of pelvic fins short, but about equal in length.

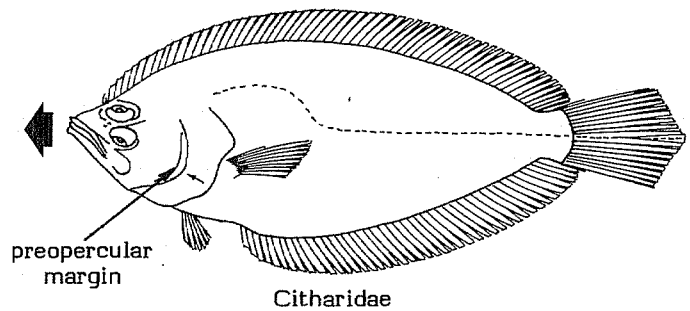
Scophthalmidae: eyes on left side, lateral line visible on both sides; bases of pelvic fins long, but about equal in length.

Bothidae: eyes on left side, lateral line visible only on eyed side, pelvic fin base on eyed side much larger than that on left side of both fin bases, equally short.

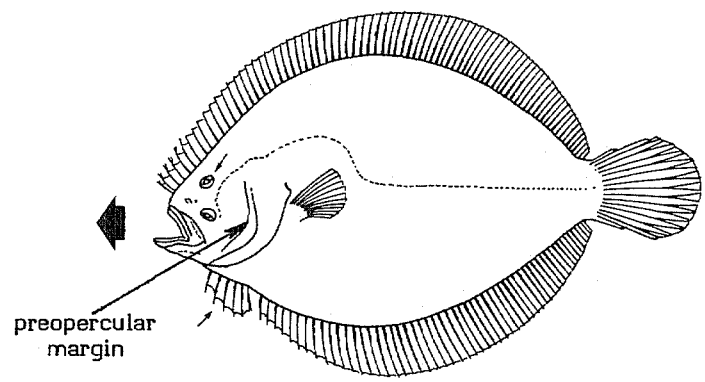
Cynoglossidae: also without a free preopercular margin and a rounded snout, but eyes on left side of body and caudal fin not distinct.



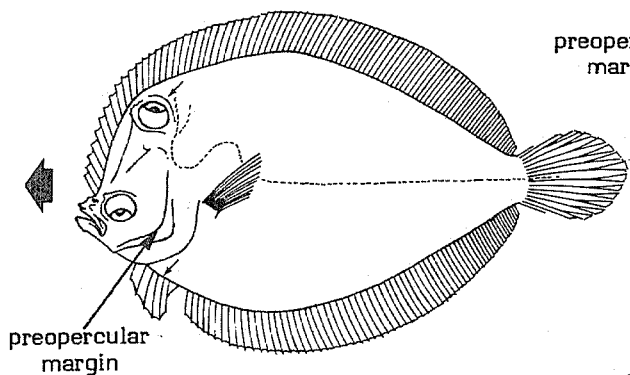
Psettodidae



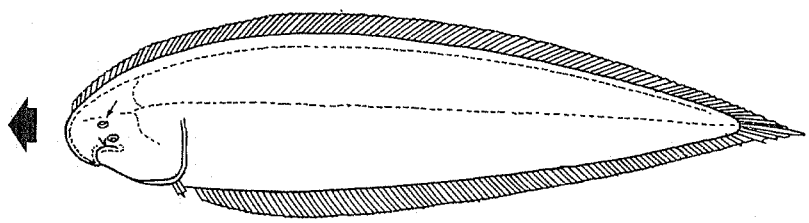
Citharidae



Scophthalmidae



Bothidae (male)



Cynoglossidae

KEY TO GENERA OCCURRING IN THE AREA:

1 a. Dorsal and anal fins confluent with caudal fin (Fig. 1) ..... Synaptura

1 b. Caudal fin more or less separated from dorsal and anal fins (Fig. 2)

2 a. Pectoral fins absent on both sides ..... Heteromycteris

2 b. At least one of the pectoral fins present

3 a. Pectoral fin present on eyed side, absent on blind side ..... Monochirus

3 b. Both pectoral fins present (sometimes reduced)

4 a. Pectoral fin of blind side less developed than that of eyed side

5 a. Lateral line not visible on postero-dorsal region of head (supratemporal branch) (Fig. 3) ..... Buglossidium

5 b. Lateral line visible on postero-dorsal region of head (Fig. 4)

6 a. All rays of pectoral fin of eyed side simple ..... Bathysolea

6 b. First ray of pectoral fin of eyed side simple, the others bifid

7 a. Pectoral fin of eyed side with 8 or more rays; jaws extending backward beyond centre of lower eye (Fig. 5) ..... Vanstraelenia

7 b. Pectoral fin of eyed side with 7 or less rays; jaws not extending backward to below centre of eye (Fig. 6) ..... Microchirus

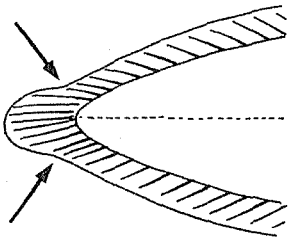


Fig. 1

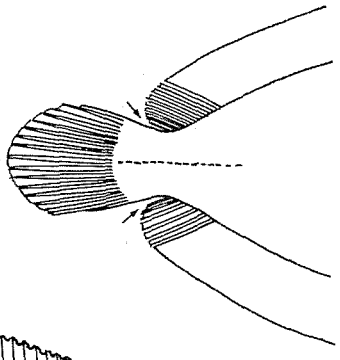


Fig. 2

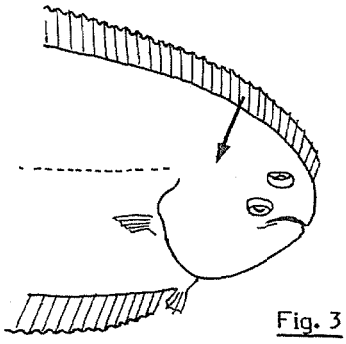


Fig. 3

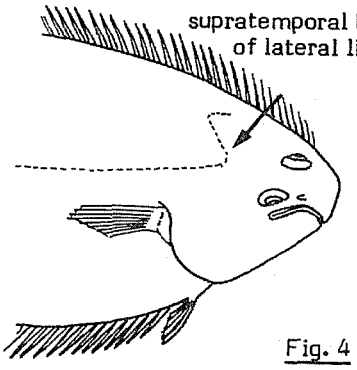


Fig. 4

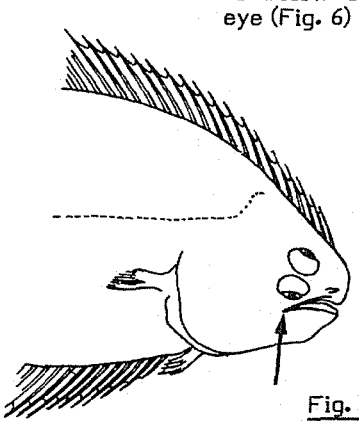


Fig. 5

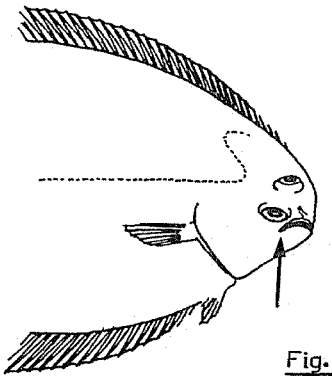


Fig. 6

4 b. Both pectoral fins equally well developed

8 a. Anterior nostril of blind side enlarged (Figs. 7,8)

9 a. Enlarged anterior nostril vault-shaped and well separated from posterior nostril (Fig. 7) ..... Synapturichthys

9 b. Enlarged anterior nostril rosette-shaped, close to posterior nostril (Fig. 8) ..... Pegusa

8 b. Anterior nostril of blind side not enlarged (Fig. 9)

10 a. Lateral line describing a smooth, rounded S behind head; posterior margin of pectoral fin of eyed side more or less rounded and symmetrical (Fig. 10) ..... Solea

10 b. Lateral line describing an angular S behind head; posterior margin of pectoral fin of eyed side more or less obliquely truncate (Fig. 11) ..... Dicologoglossa

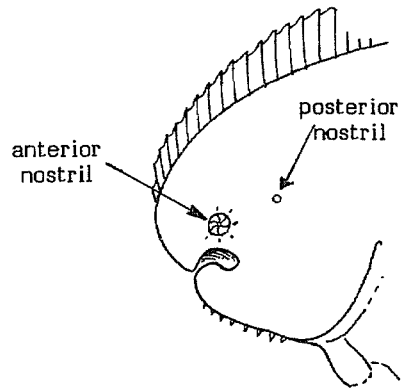


Fig. 7

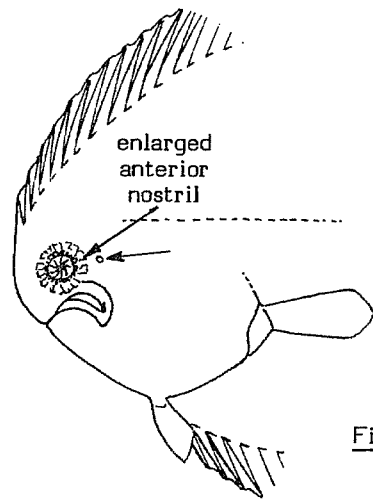


Fig. 8

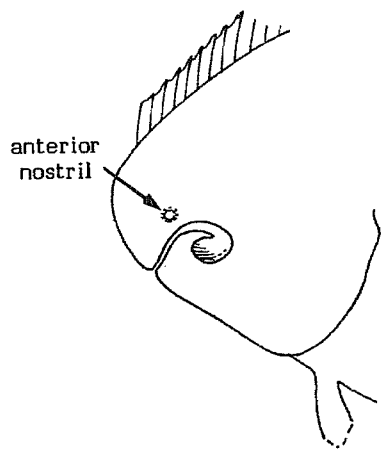


Fig. 9

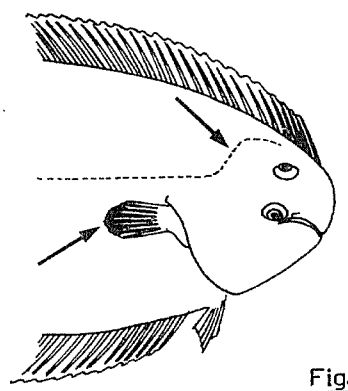


Fig. 10

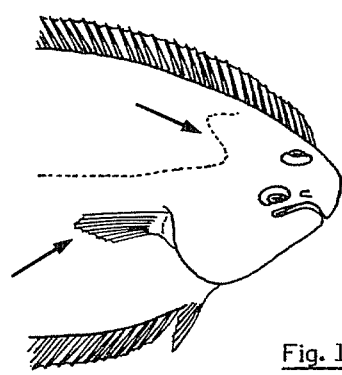


Fig. 11

LIST OF SPECIES OCCURRING IN THE AREA :

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

Bathysolea lactea Roule, 1916	
Bathysolea profundicola (Vaillant, 1888)	
Buglossidium luteum (Risso, 1810)	
Dicologoglossa cuneata (de la Pylaie) Moreau, 1881)	SOL Dic 1
Dicologoglossa hexophthalma (Bennett, 1831)	
Heteromycteris proboscideus (Chabanaud, 1925)	
Microchirus boscanion (Chabanaud, 1926)	
Microchirus frechkopi Chabanaud 1952	
Microchirus ocellatus (Linnaeus, 1758)	
Microchirus theophila (Risso, 1810)	SOL Mic 1
Microchirus variegatus (Donovan, 1802)	SOL Mic 2
Microchirus wittei Chabanaud, 1950	
Monochirus hispidus Rafinesque, 1814	
Pegusa cadenati Chabanaud, 1948	
Pegusa lascaris (Risso, 1810)	SOL Peg 1
Pegusa triophthalmus (Bleeker, 1863)	SOL Peg 2
Solea senegalensis Kaup, 1858	SOL Sol 3
Solea vulgaris Quensel, 1806	SOL Sol 1
Synaptura cadenati Chabanaud, 1948 ♀	SOL Syn 2
Synaptura lusitanica Capello, 1868	SOL Syn 3
Synapturichthys kleinii (Risso, 1826)	
Vanstraelenia chirophthalmus (Regan, 1915)	SOL Van 1

Prepared by J.C. Quéro and illustrated by J.J. Vayne, Institut scientifique et technique des Pêches maritimes, laboratoire d'Ichthyologie, La Rochelle, France

SOL Dic 1

1981

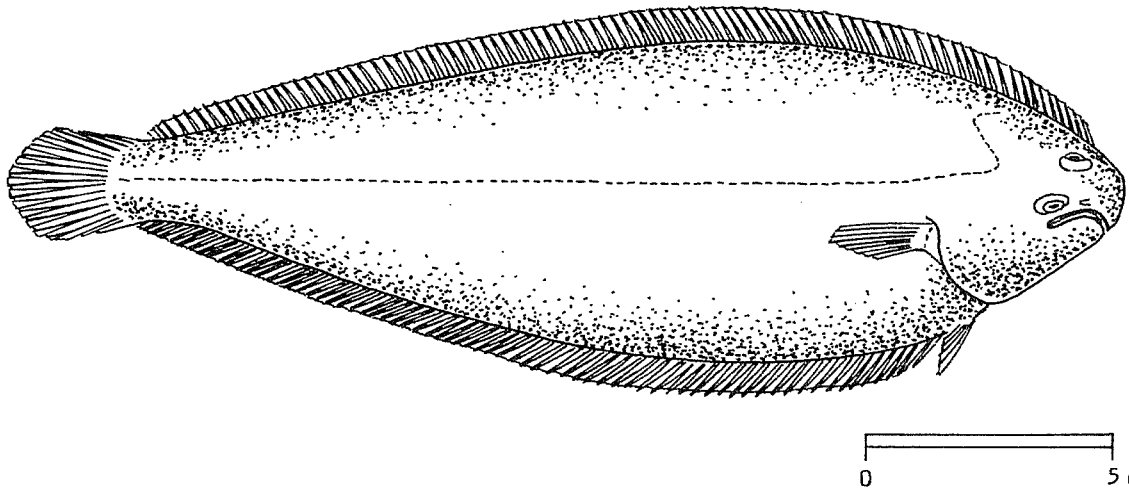
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SOLEIDAE

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

Dicologoglossa cuneata (de la Pylaie) Moreau, 1881)

OTHER SCIENTIFIC NAMES STILL IN USE : Solea cuneata (de la Pylaie) Moreau, 1881)



VERNACULAR NAMES:

FAO : En - Wedge sole
Fr - Céteau
Sp - Acedia

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval, elongated, tapering backwards, its greatest depth contained more than 3 times in standard length. Snout angulate; upper eye separated from upper profile of head by a distance smaller than its diameter; anterior nostril of blind side not enlarged; tube of anterior nostril of eyed side not reaching backward to anterior margin of eye. Dorsal fin with 81 to 85 rays, originating at level of anterior upper eye margin; anal fin with 65 to 78 rays; last rays of both fins united by a membrane to the base of caudal fin; pectoral fins equally well developed on both sides, with 8 to 10 rays, that on eyed face obliquely truncate and more or less triangular in shape. Scales ctenoid (rough); easily detached; tubed scales in lateral line 105 to 132. Lateral line describing an angular S on posterodorsal (supratemporal) region of head, with the ascending section directed upwards and backwards.

Colour: eyed side chocolate brown to grey brown with small bluish spots; blind side white; pectoral fin of eyed side with an oblong black blotch not reaching hind margin of fin.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Dicologoglossa hexophthalma: eyed face ornamented with 6 eye spots.

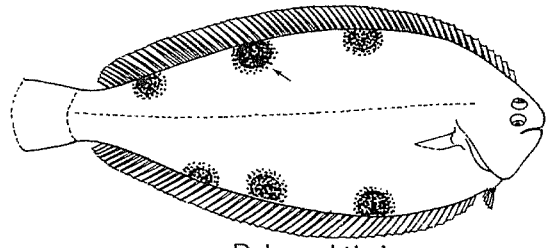
Microchirus azevia: symmetrically arranged eye spots present in young, but disappearing in adults; no membrane between base of caudal fin and last dorsal and anal fin rays.

Vanstraelenia chirophthalmus: no membrane between base of caudal fin and last dorsal and anal fin rays; urinary papilla near to anus.

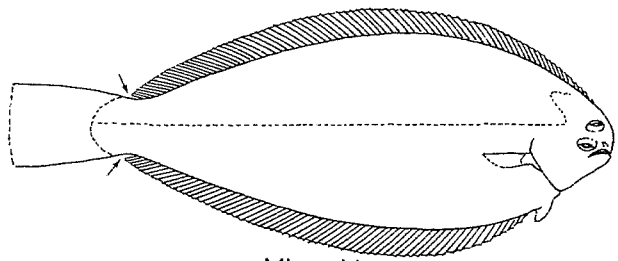
Solea species (young individuals): lateral line on posterior part of head describing a smoothly rounded S, with the ascending section directed upward and forward; origin of dorsal fin before upper eye.

Pegusa species (young individuals) and Synaptu-richthys kleinii: anterior nostril of blind side enlarged.

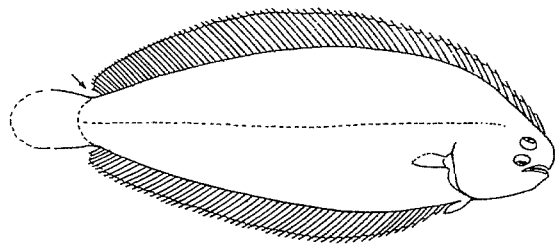
Other species of Soleidae: either one or both pectoral fins absent, or the one on blind side less developed than that of eyed side, or dorsal and anal fins confluent with caudal fin.



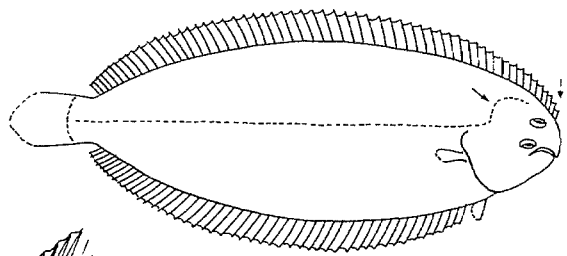
D. hexophthalma



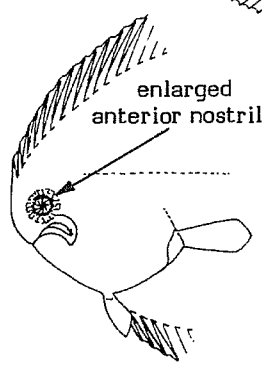
Microchirus azevia



Vanstraelenia chirophthalmus



Solea sp.



Pegusa sp.

SIZE:

Maximum: 30 cm; common to 22 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

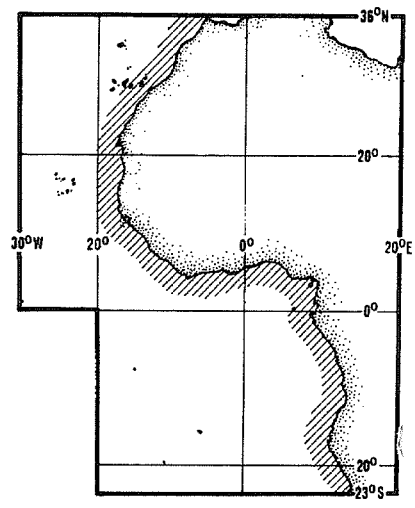
Throughout the area, northward extending to the Bay of Biscay, and southward to the Cape of Good Hope. Probably also occurring in the Indian Ocean.

Inhabits sand or muddy sand bottoms from 10 to about 430 m depth; primarily coastal in the northern part of its range (between 10 to 100 m in the Bay of Biscay) but descending to the slope off Mauritania.

Feeds mainly on crustaceans (mainly amphipods, but also small shrimps and crabs), worms and snails.

PRESENT FISHING GROUNDS:

Mainly continental shelf off Morocco and Mauritania, where it is very abundant; rather uncommon in the Gulf of Guinea.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken in bottom trawls.

Marketed mostly fresh, the flesh of this small species being highly esteemed.

SOL Mic 1

1981

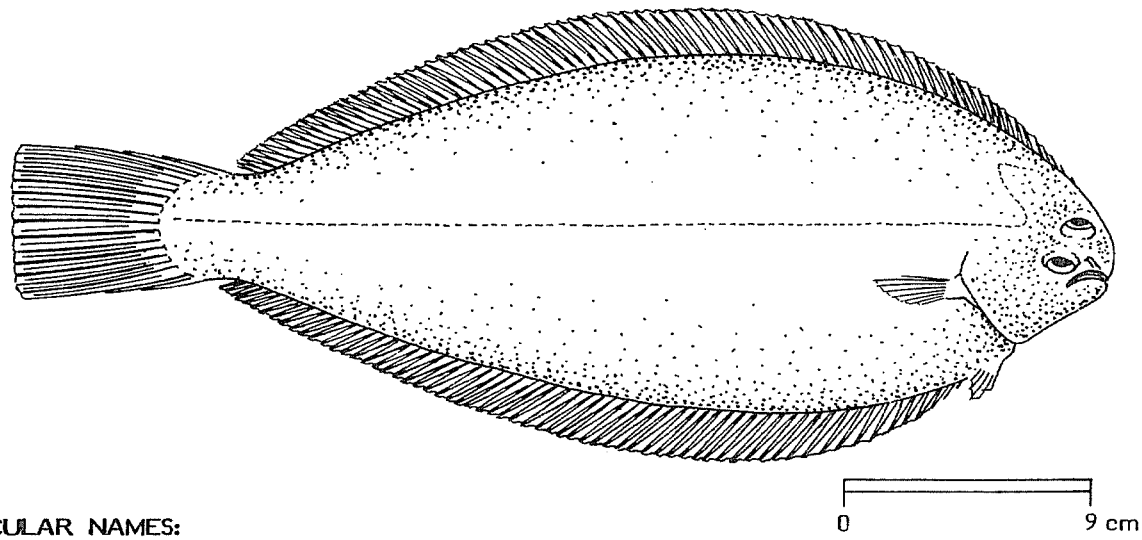
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SOLEIDAE

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

Microchirus theophila (Risso, 1810)

OTHER SCIENTIFIC NAMES STILL IN USE : *Solea azevia* Capello 1868
Microchirus azevia (Capello, 1868)
Dicologoglossa azevia (Capello, 1868)
Solea theophila (Risso, 1810)



VERNACULAR NAMES:

FAO : En - Bastard sole
Fr - Sole-perdix juive
Sp - Acevia

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval. Mouth cleft below centre of lower eye; tube of anterior nostril on eyed face directed backwards, reaching anterior margin of lower eye. Dorsal fin with 71 to 86 rays; anal fin with 58 to 68 rays; last dorsal and anal fin rays not united to base of caudal fin by a distinct membrane; pectoral fins with 7 rays, unequal, the one on blind side shorter than that on eyed side; first pectoral ray on eyed side simple, the following rays bifid; caudal fin truncate, lateral line with 108 to 130 tubed scales, its supratemporal prolongation describing an angular S on posterior region of head with ascending section directed upwards and backwards.

Colour: eyed side uniformly greyish to reddish brown in adults, with 5 or 6 light-margined eyespots in young individuals up to 8 or 10 cm in length; blind side white; pectoral fins blackish distally.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Microchirus variegatus and *M. wittei*: broad crossbars; caudal fin rounded.

M. frechkopi: light longitudinal lines and 4 eyespots; caudal fin rounded.

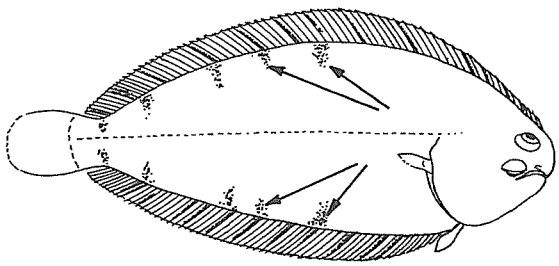
M. boscanion: 5 spots on body along dorsal and anal fins; both these fins with regularly spaced black rays; caudal fin rounded.

M. ocellatus: one large eyespot on midbody and a pair of eyespots along each, the dorsal and anal fins.

Vanstraelenia chirophthalmus: mouth cleft behind level of lower eye centre.

Buglossidium luteum: supratemporal prolongation of lateral line not visible.

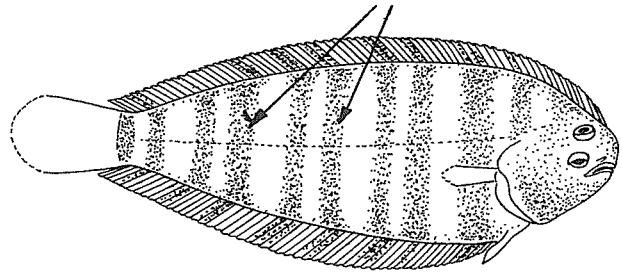
Other species of Soleidae: either dorsal and anal fins confluent with caudal fin, or one or both pectoral fins missing, or both pectoral fins equally well developed or all pectoral fin rays on eyed side simple.



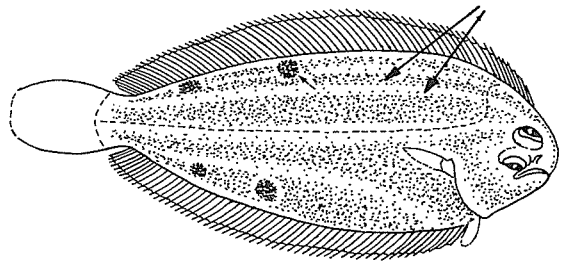
M. boscanion

SIZE :

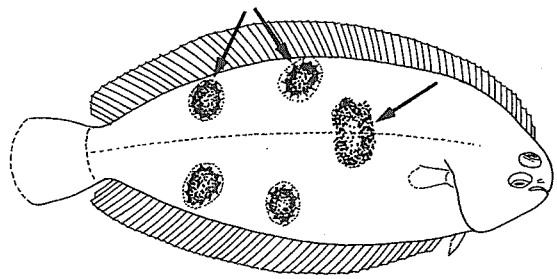
Maximum: 40 cm.



M. variegatus



M. frechkopi

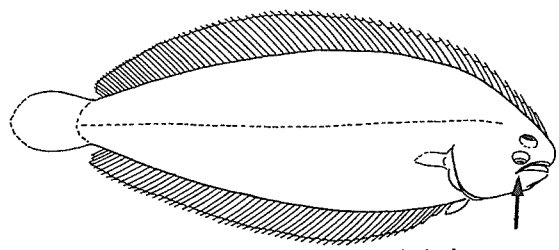


M. ocellatus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the area, from Gibraltar to Senegal; northward extending into the Western Mediterranean and along the Atlantic coast of Europe to the British Isles.

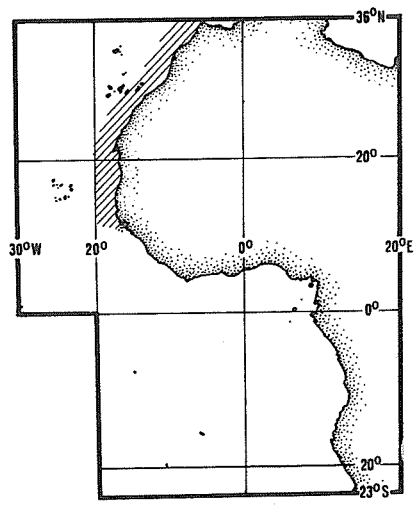
Inhabits sand or muddy sand bottoms between 40 and 340 m depth.



Vanstraelenia chirophthalmus

PRESENT FISHING GROUNDS :

Continental shelf and edge of slope off Morocco and Mauritania.

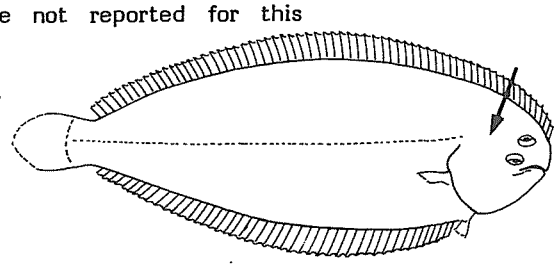


CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Taken in bottom trawls.

Marketed mostly fresh.



Buglossidium luteum

SOL Mic 2

1981

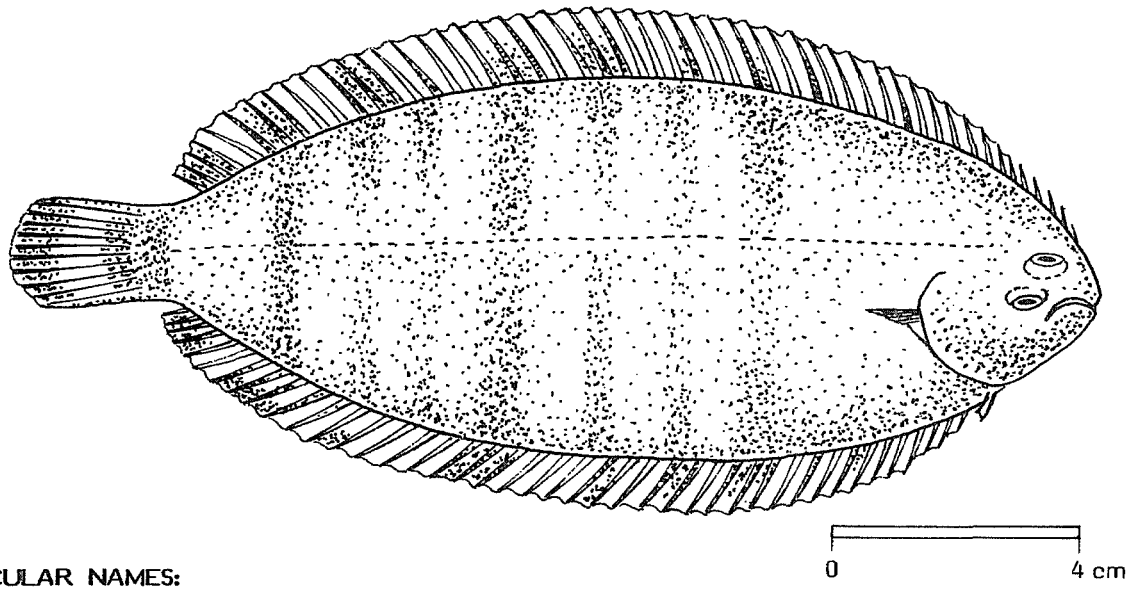
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SOLEIDAE

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

Microchirus variegatus (Donovan, 1802)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Thickback sole
Fr - Sole-perdix commune
Sp - Golleta

NATIONAL :

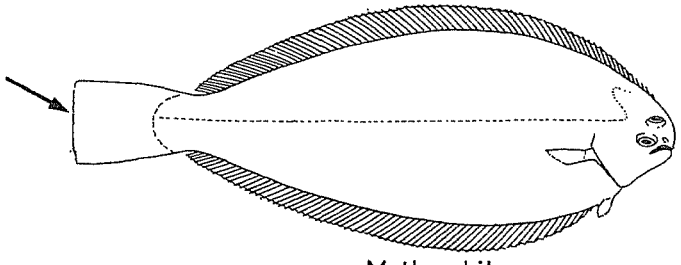
DISTINCTIVE CHARACTERS :

Body oval. Mouth cleft anterior to lower eye centre. Dorsal fin with 63 to 73 rays, originating before the eyes; anal fin with 51 to 64 rays; last dorsal and anal fin rays not united to base of caudal fin by a distinct membrane; pectoral fins unequal, the one on eyed side with 4 or 5 rays, the one on blind side clearly less developed, with 2 to 4 rays; first pectoral ray on eyed side simple, the following rays bifid; caudal fin rounded. Lateral line with 70 to 92 tubed scales, its supratemporal prolongation visible.

Colour: eyed side brownish red to brownish grey with broad dark brown cross bars on body and vertical fins; blind side white; pectoral fins dark brown to blackish.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Microchirus theophila: caudal fin truncate or double-truncate; no crossbars; young with eyespots.



M. theophila

M. ocellatus and M. frechkopi: eyespots present in adults; no crossbars.

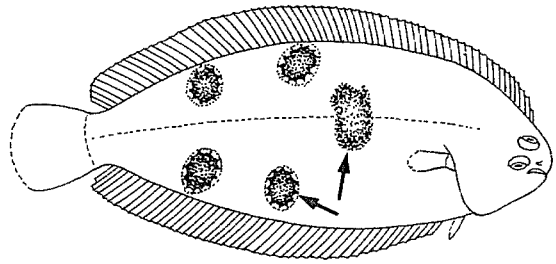
M. boscanion: 5 spots on body along dorsal and anal fins; both these fins with regularly spaced black rays; no crossbars.

M. wittei: crossbars also present, but pectoral fin of eyed side with 5 to 7 rays (4 or 5 in M. variegatus).

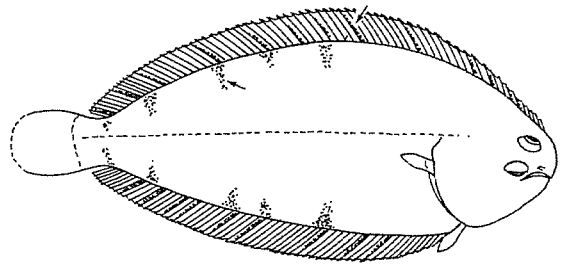
Buglossidium luteum: supratemporal prolongation of lateral line not visible.

Vanstraelenia chirophthalmus: mouth cleft behind level of lower eye centre.

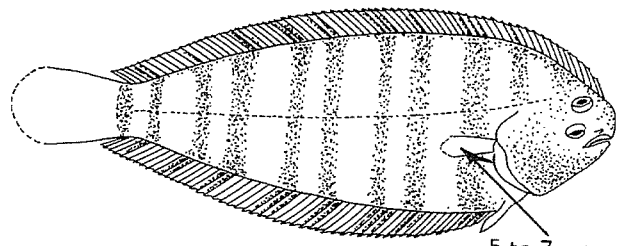
Other species of Soleidae: either dorsal and anal fins confluent with caudal fin, or one or both pectoral fins missing, or both pectoral fins equally well developed, or all pectoral fin rays on eyed side simple.



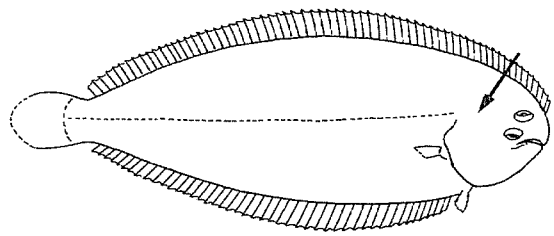
M. ocellatus



M. boscanion



M. wittei



Buglossidium luteum

SIZE :

Maximum: 20 cm; common to 18 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the area, from Gibraltar to Senegal; northward extending into the Mediterranean and along the Atlantic coast of Europe to the British Isles.

Inhabits mud or sand bottoms between 80 and 400 m depth.

PRESENT FISHING GROUNDS :

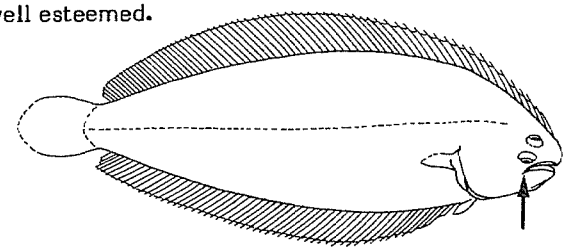
Continental shelf and edge of the slope of Morocco and Mauritania.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

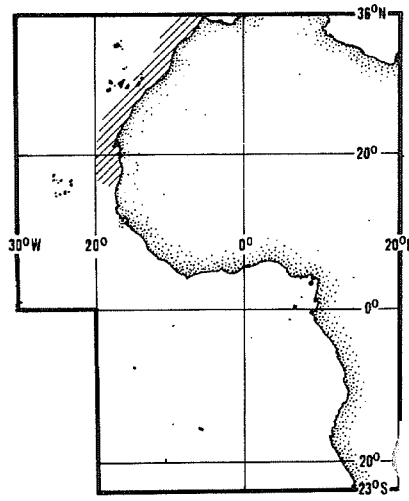
Separate statistics are not reported for this species.

Taken in bottom trawls.

Marketed fresh, flesh well esteemed.



Vanstraelenia chirophthalmus



SOL Peg 1

1981

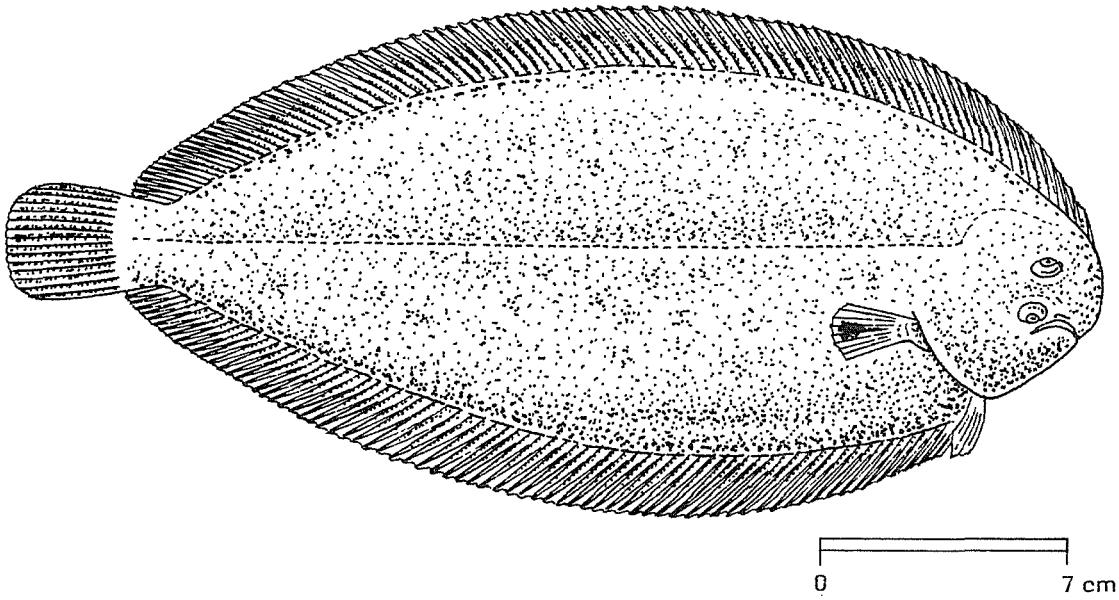
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SOLEIDAE

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

Pegusa lascaris (Risso, 1810)

OTHER SCIENTIFIC NAMES STILL IN USE : Solea lascaris (Risso, 1810)



VERNACULAR NAMES:

FAO : En - Sand sole
Fr - Sole-pole (= Sole verrue, Area 37)
Sp - Sortija

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval. Blind side of head covered with numerous short papillae; upper eye separated from dorsal profile of head by a distance clearly greater than its diameter; anterior nostril of blind side enlarged and rosette-shaped, its outer margin with long fringes; posterior nostril of blind side close to anterior nostril. Dorsal fin with 70 to 90 rays, its origin distinctly in front of eyes on anterior profile of head; anal fin with 58 to 75 rays; pectoral fins equally well developed on both sides, with 7 to 10 rays; base of caudal fin united by a membrane to the last ray of dorsal and anal fins, but caudal peduncle still distinct. Lateral line with 98 to 145 tubed scales, its supratemporal prolongation describing a smooth curve on head.

Colour: eyed side light yellowish brown to reddish brown with numerous small dark spots and whitish dots; blind side white; pectoral fins of eyed side with a black spot near fin margin, margined with yellowish white on hides and in front.

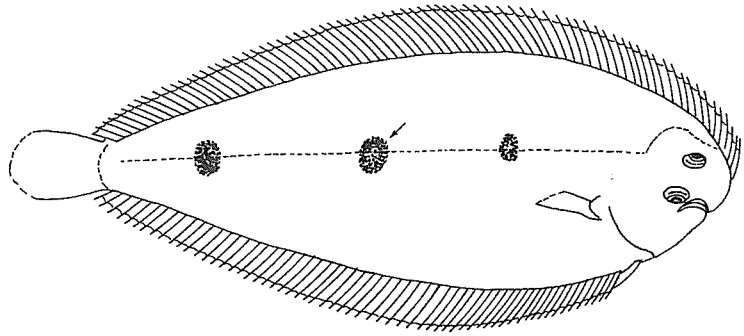
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Pegusa triophthalmus: 3 eyespots on lateral line.

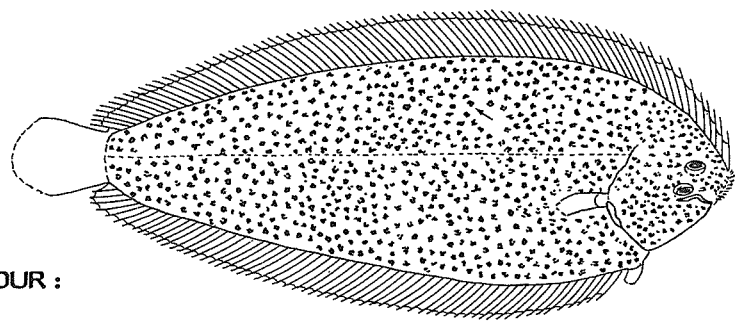
P. cadenati: a small species (maximum size 18 cm); eyed side uniformly covered with numerous brown or black points.

Synapturichthys kleinii: a small species (maximum size 10 cm); anterior nostril of blind side enlarged and vault-shaped, its outer margin smooth or with short fringes; posterior nostril of blind side well separated from anterior nostril.

Other species of Soleidae: anterior nostril of blind side not enlarged.



P. triophthalmus



P. cadenati

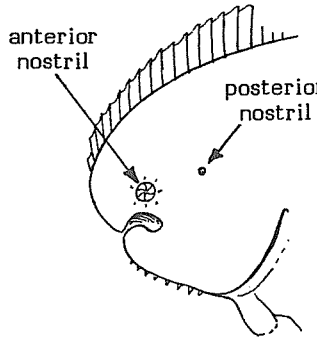
SIZE :

Maximum: 40 cm; common to 30 cm.

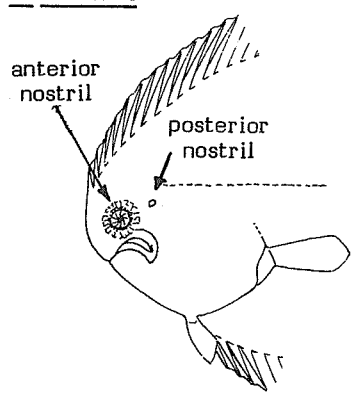
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Throughout the area, northward extending into the Mediterranean and along the Atlantic coast of Europe to the British Isles, and southward to the Cape of Good Hope.

Inhabits mobile bottoms between 5 and 300 m; off West Africa more common between 10 and 50 m.



Synapturichthys kleinii



Pegusa sp.

PRESENT FISHING GROUNDS :

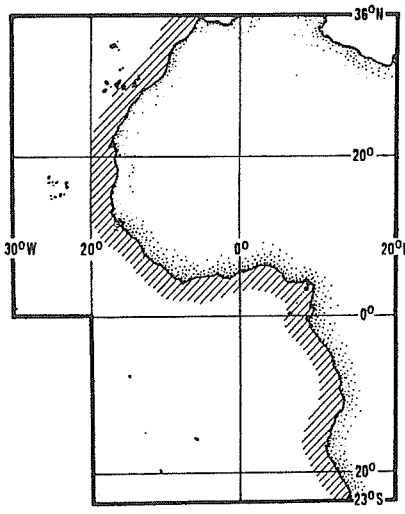
Coastal areas from Mauritania to the Gulf of Guinea.

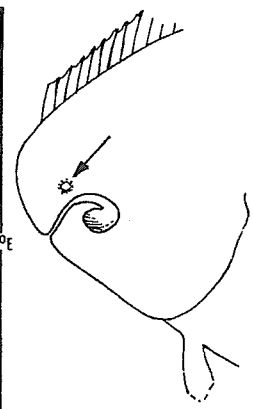
CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Taken in bottom trawls.

Marketed mostly fresh.





other Soleidae

blind side of head

SOL Peg 2

1981

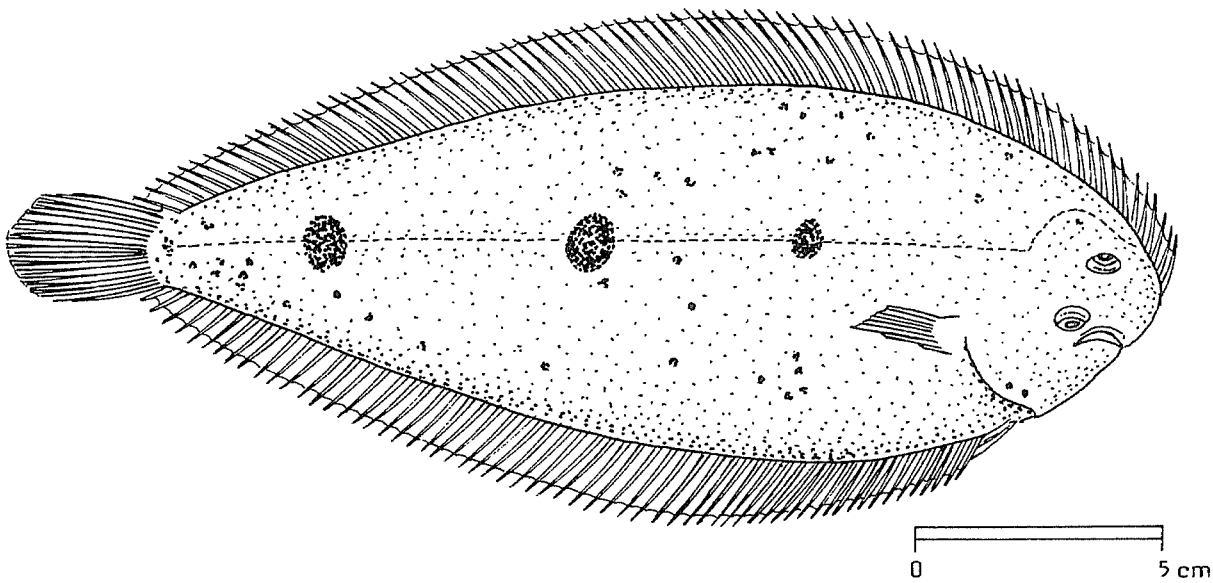
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SOLEIDAE

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

Pegusa triophthalmus (Bleeker, 1863)

OTHER SCIENTIFIC NAMES STILL IN USE : Pegusa triophthalma (Bleeker, 1863)



VERNACULAR NAMES:

FAO : En - Cyclope sole
Fr - Sole-pole à trois taches
Sp - Sortija tres ojos

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval. Upper eye separated from dorsal profile of head by a distance distinctly greater than its diameter; anterior nostril of blind side enlarged and rosette-shaped, its outer margin with long fringes; posterior nostril of blind side close to anterior nostril. Dorsal fin with 76 to 80 rays, originating almost at tip of snout; anal fin with 61 to 64 rays; pectoral fins equally well developed on both sides, with 8 to 10 rays; base of caudal fin united by a membrane to last ray of dorsal and anal fins, but caudal peduncle still distinct. Lateral line with 90 to 114 tubed scales, its supratemporal prolongation describing a smooth curve on head.

Colour: eyed side with 3 eyespots on lateral line and some small black spots scattered on body; blind side white; pectoral fin of eyed side with a black spot distally.

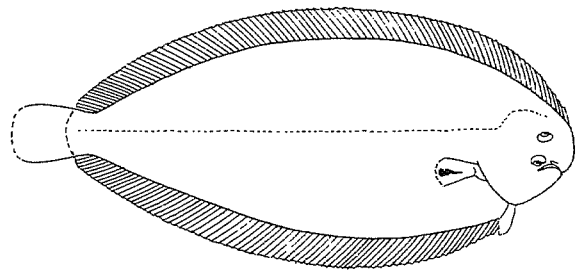
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Pegusa lascaris: eyed side without eyespots; lateral line with 98 to 145 tubed scales (90 to 114 in P. triophthalmus).

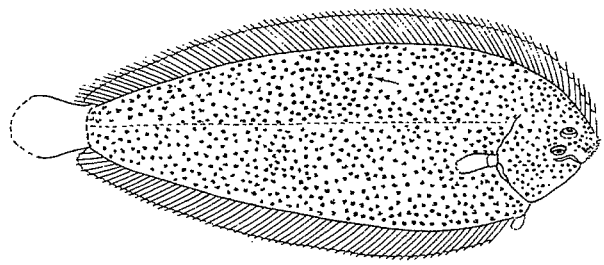
P. cadenati: a small species (maximum size 18 cm); eyed side without eyespots and covered with numerous brown or black spots.

Synapturichthys kleinii: a small species (maximum size 10 cm); anterior nostril of blind side enlarged and vault-shaped; its outer margin smooth or with short fringes; posterior nostril of blind side well separated from anterior nostril.

Other species of Soleidae: anterior nostril of blind side not enlarged.



P. lascaris



P. cadenati

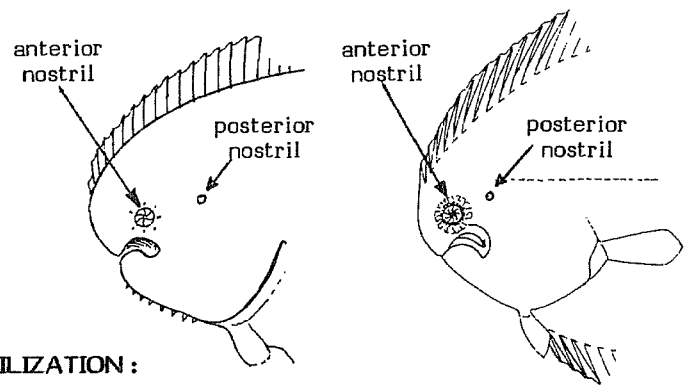
SIZE:

Maximum: 28 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Off West Africa from Cape Blanc (Mauritania) to Cape Lopez (Gulf of Guinea).

Inhabits sand bottoms, mainly between 15 and 25 m depth.



Synapturichthys kleinii

Pegusa sp.

PRESENT FISHING GROUNDS:

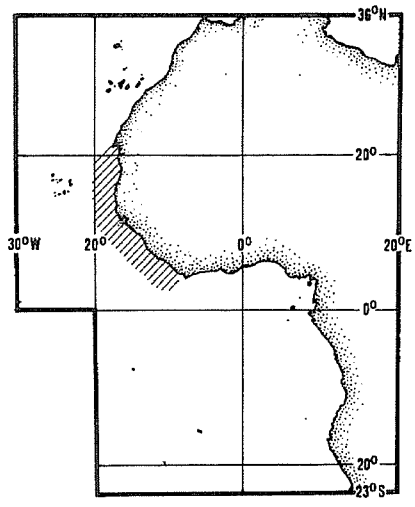
Coastal areas off Central West Africa.

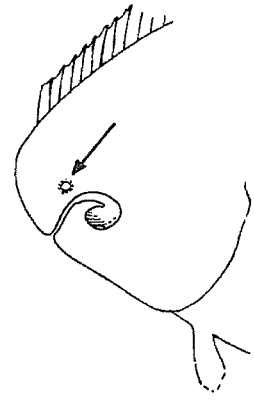
CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken in bottom trawls.

Marketed mostly fresh.





other Soleidae

blind side of head

SOL Sol 1

1981

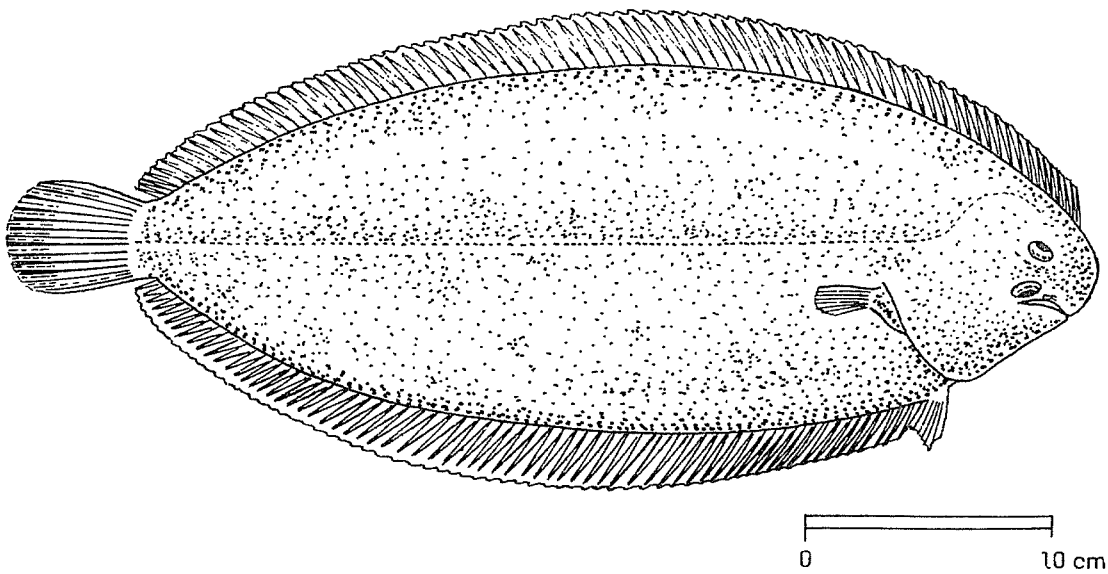
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SOLEIDAE

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

Solea vulgaris Quensel, 1806

OTHER SCIENTIFIC NAMES STILL IN USE : Solea solea of authors (since Linnaeus' original description is doubtful)



VERNACULAR NAMES:

FAO : En - Common sole
Fr - Sole commune
Sp - Lenguado común

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval. Blind side of head covered with numerous small hair-like fringes; upper eye separated from dorsal profile of head by a distance distinctly greater than its diameter; anterior nostril of blind side surrounded by a small ridge but not enlarged, distance from this nostril to head profile contained 1.5 to 1.8 times in distance from nostril to mouth cleft; anterior nostril on eyed side with tube directed backwards, not reaching anterior margin of eye. Dorsal fin with 72 to 95 rays, its origin on dorsal profile of head before the eyes; anal fin with 53 to 80 rays; pectoral fins equally well developed on both sides, with 7 to 10 rays, the fin on eyed side asymmetrical in shape; base of caudal fin united by a membrane to last ray of dorsal and anal fins, but caudal peduncle still distinct. Lateral line with 116 to 163 tubed scales, its supratemporal prolongation describing a smooth curve on head.

Colour: eyed side greyish brown to reddish brown; blind side white; pectoral fin of eyed side with a black blotch restricted to distal end of fin; hind part of caudal darker than rest of fin.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

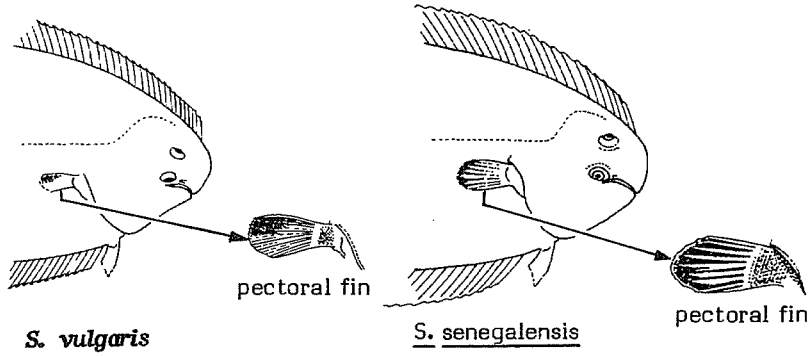
Solea senegalensis: pectoral fin of eyed side symmetrical with an almost black membrane and lighter, greyish white rays; caudal fin uniformly coloured.

Dicologoglossa cuneata: body more elongated; supratemporal prolongation of lateral line describing an angular S on head.

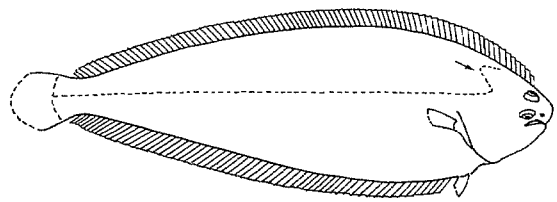
Pegusa and Synapturichthys species: anterior nostril of blind side enlarged.

Synaptura species: caudal fin fused with dorsal and anal fins.

Other species of Soleidae: pectoral fin of blind side absent or less developed than the one on eyed side.



S. vulgaris S. senegalensis



Dicologoglossa cuneata

SIZE:

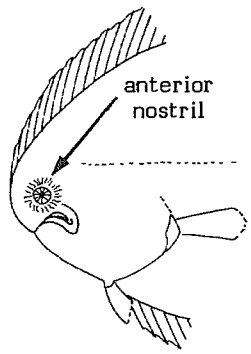
Maximum: 60 cm; common to 45 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from Gibraltar to Cape Verde (Senegal); northward extending into the Mediterranean and along the Atlantic coast of Europe to the Faroe Islands.

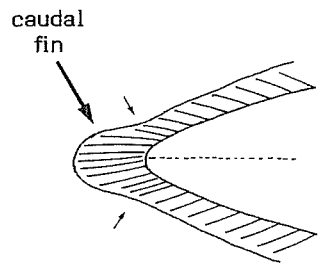
Inhabits sand and mud bottoms from the coastline to about 130 m depth.

Feeds on small soft-shelled bivalves, worms, crustaceans and small fish.



Pegusa sp.

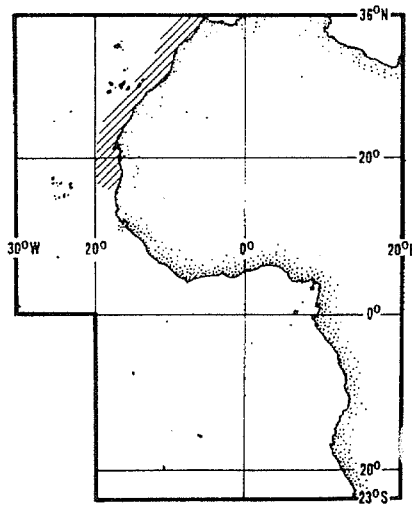
blind side of head



Synaptura sp.

PRESENT FISHING GROUNDS:

Continental shelf off Morocco and Mauritania.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catches reported for this species in the area slightly exceeded 3 000 t. However, most probably this category comprises several different species. The Congo and Liberia, for example, provide statistics for Solea vulgaris although this species does not extend south of Senegal.

Taken in bottom trawls.

Marketed fresh; flesh highly esteemed.

SOL Sol 3

1981

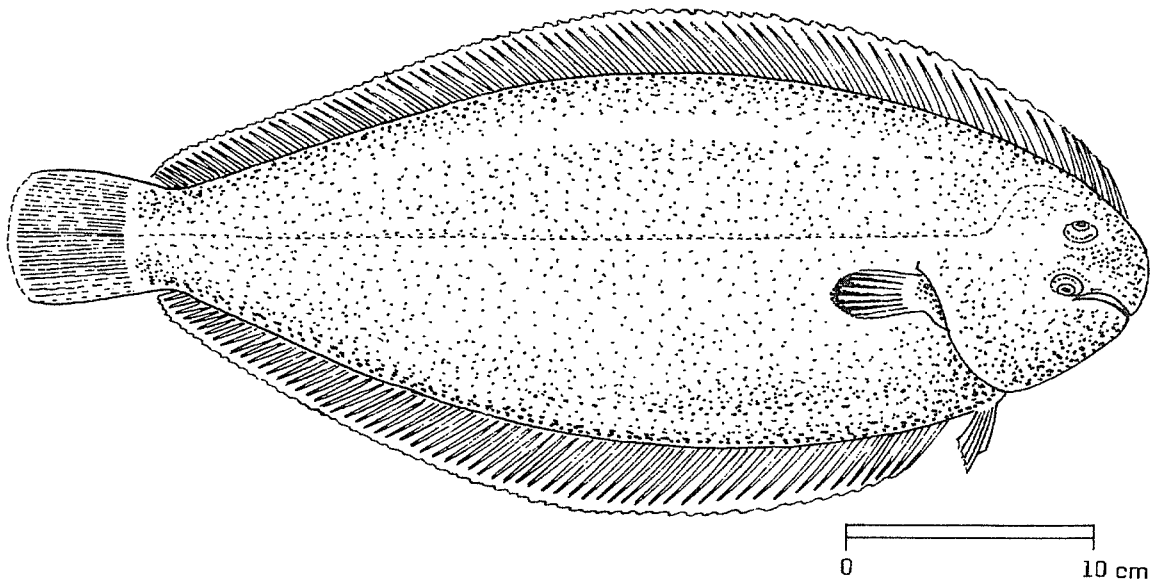
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SOLEIDAE

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

Solea senegalensis Kaup, 1858

OTHER SCIENTIFIC NAMES STILL IN USE : Solea melanochir (Moreau, 1874)



VERNACULAR NAMES:

FAO : En - Senegalese sole
Fr - Sole du Sénégal
Sp - Lenguado senegalés

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval. Upper eye separated from dorsal profile of head by a distance distinctly greater than its diameter; anterior nostril on blind side not enlarged, distance from this nostril to head profile contained 2 to 2.5 times in distance from nostril to mouth cleft; anterior nostril on eyed side with tube directed backwards, not reaching anterior margin of eye. Dorsal fin with 72 to 95 rays, its origin on dorsal profile of head before the eyes; anal fin with 61 to 75 rays; pectoral fins equally well developed on both sides, with 8 to 12 rays, the fin on eyed side symmetrically rounded; base of caudal fin united by a membrane to last ray of dorsal and anal fins, but caudal peduncle still distinct. Lateral line with 120 to 138 tubed scales, its supratemporal prolongation describing a smooth curve on head.

Colour: eyed side greyish brown to reddish brown, in life with small blue spots tending to disappear after death; eyed side white; pectoral fin with an almost black membrane and lighter greyish white rays; caudal fin uniformly coloured.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

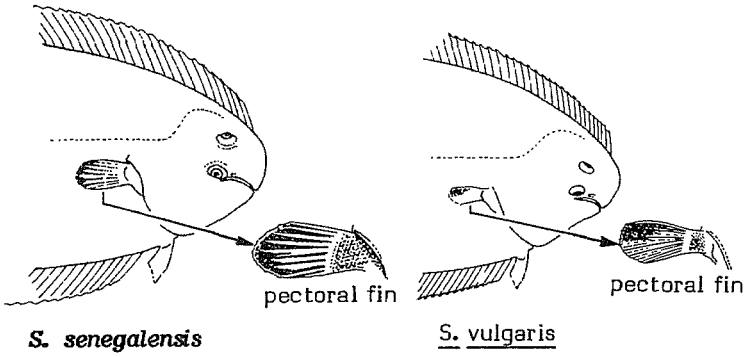
Solea vulgaris: pectoral fin of eyed side asymmetrical, with a black blotch restricted to upper posterior region; hind part of caudal darker than rest of fin.

Dicologoglossa cuneata: body more elongated; supratemporal prolongation of lateral line describing an angulate S on head.

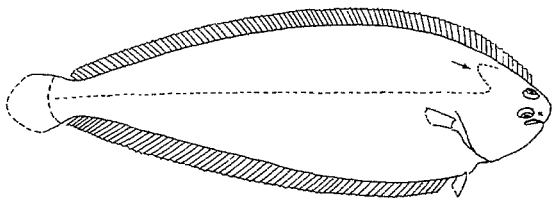
Pegusa and Synapturichthys species: anterior nostril of blind side enlarged.

Synaptura species: caudal fin fused with dorsal and anal fins.

Other species of Soleidae: pectoral fin of blind side absent or less developed than the one on eyed side.



S. senegalensis S. vulgaris



Dicologoglossa cuneata

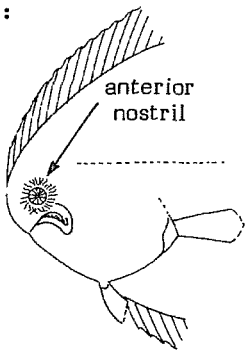
SIZE :

Maximum: 60 cm; common to 45 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

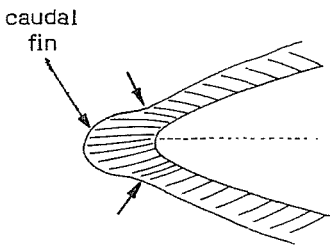
In the area, from Gibraltar to Southern Senegal; northward extending to the Bay of Biscay.

Apparently, a predominantly littoral species caught from the shore line to about 65 m depth.



Pegusa sp.

blind side of head



Synaptura sp.

PRESENT FISHING GROUNDS :

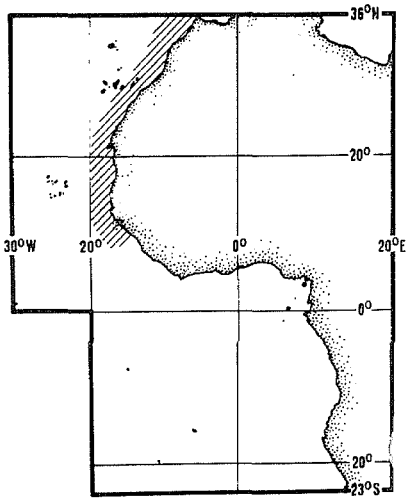
Coastal waters off Morocco and Mauritania.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Taken in bottom trawls.

Marketed mostly fresh.



SOL Syn 2

1981

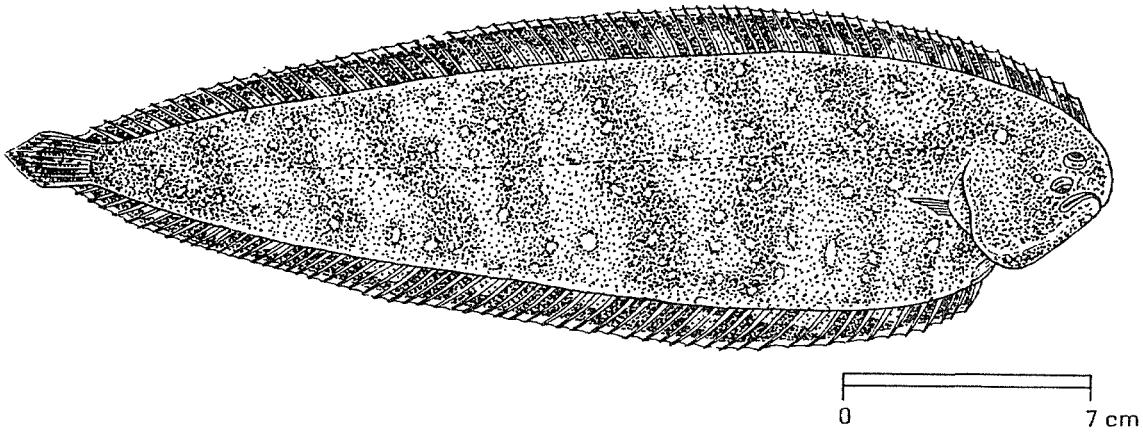
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SOLEIDAE

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

Synaptura cadenati Chabanaud, 1948 9

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Guinean sole
Fr - Sole-ruardon du Golfe
Sp - Lenguado de Guinea

NATIONAL :

DISTINCTIVE CHARACTERS :

Body ovally elongated, tapering backwards. Head length 15 to 19% of standard length (without tail); eye diameter 15% of head length. Dorsal fin with 75 to 79 rays; anal fin with 59 to 62 rays; pectoral fins with 6 to 8 rays; caudal fin confluent with dorsal and anal fins, its outer rays broadly attached by a membrane to the last ray of each of these fins, which is about equal in length to the preceding rays. Urinary papilla near to anus. Lateral line with 105 to 110 tubed scales.

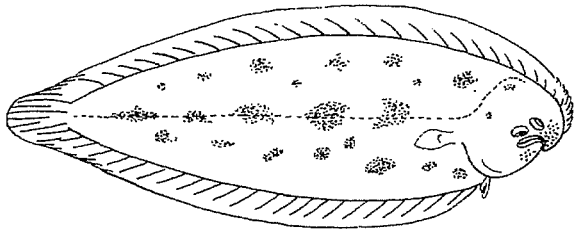
Colour: eyed side greyish brown to brownish violet with numerous randomly scattered darker blotches of different sizes and many white spots; lateral line pores white; blind side whitish; vertical fins margined with white.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Synaptura lusitanica: no white spots on eyed side.

Other species of Soleidae: dorsal and anal fins not confluent with caudal fin; caudal peduncle free.

Species of Cynoglossidae: eyes on left side.



S. lusitanica

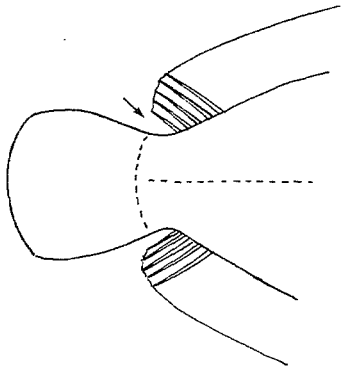
SIZE:

Maximum: 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Off West Africa from Senegal to Congo.

Inhabits sand or mud bottoms from the coastline to about 50 m depth.



other Soleidae

PRESENT FISHING GROUNDS:

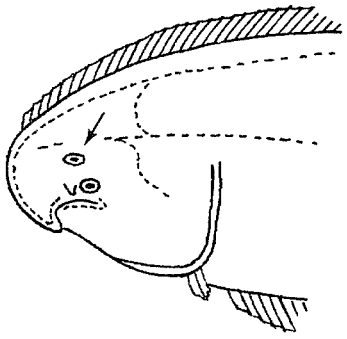
Coastal waters in the Gulf of Guinea.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

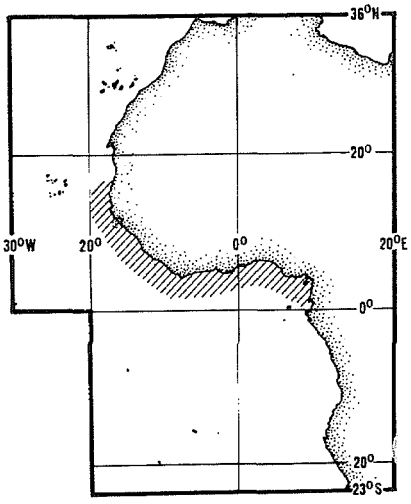
Separate statistics are not reported for this species.

Taken in bottom trawls.

Marketed fresh.



Cynoglossidae



SOL Syn 3

1981

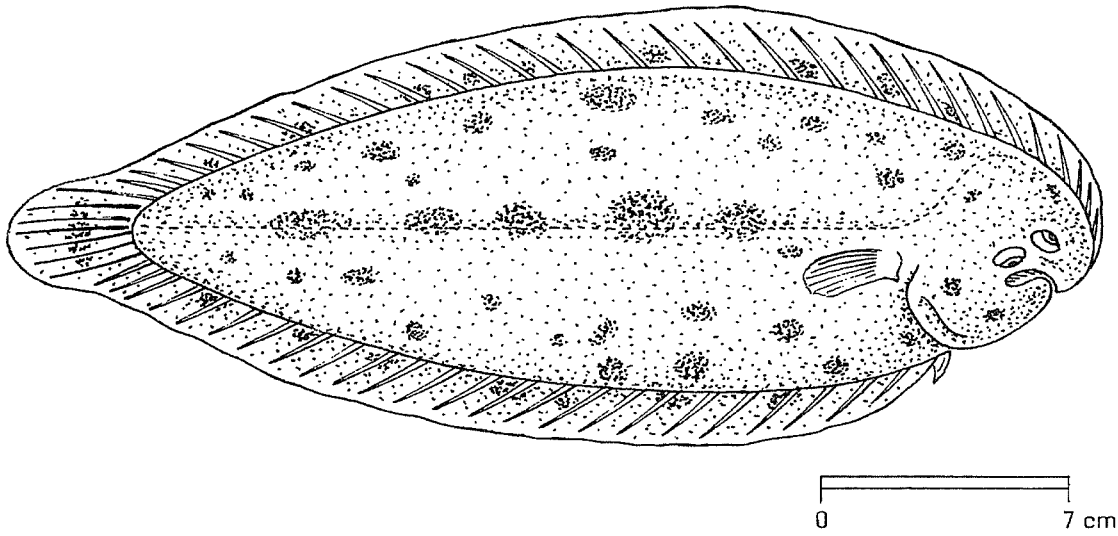
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SOLEIDAE

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

Synaptura lusitanica Capello, 1868

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Portuguese sole
Fr - Sole-ruardon commune
Sp - Lenguado portugués

NATIONAL :

DISTINCTIVE CHARACTERS :

Body ovally elongated, tapering backwards. Head length 15 to 20% of standard length (without tail); eye diameter 15% of head length. Dorsal fin with 71 to 83 rays; anal fin with 58 to 67 rays; pectoral fins with 6 to 10 rays; caudal fin confluent with dorsal and anal fins, its outer rays broadly attached by a membrane to the last of each of these fins, which is about equal in length to the preceding rays. Urinary papilla near to anus. Lateral line with 100 to 120 tubed scales.

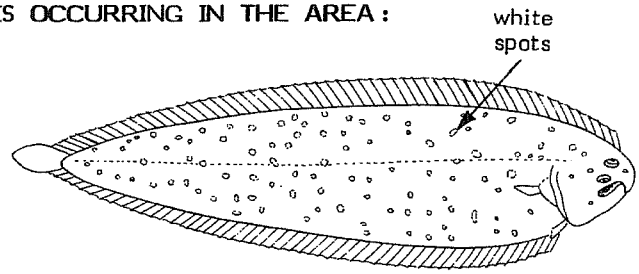
Colour: eyed side greyish brown with blackish blotches tending to form longitudinal series; the largest of these blotches are concentrated on the lateral line.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Synaptura cadenati: white spots present on eyed side.

Other species of Soleidae: dorsal and anal fins not confluent with caudal fin; caudal peduncle free.

Species of Cynoglossidae: eyes on left side.



S. cadenati

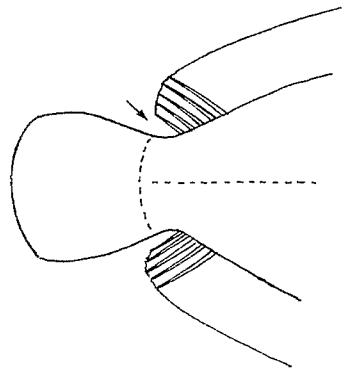
SIZE :

Maximum: 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the area, from Gibraltar to Congo; northward extending to Portugal; also recorded from the Mediterranean.

Inhabits mud and sand bottoms between the coastline and about 60 m depth.



other Soleidae

PRESENT FISHING GROUNDS :

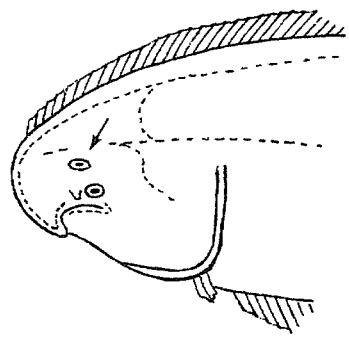
Coastal waters off Northwest Africa.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

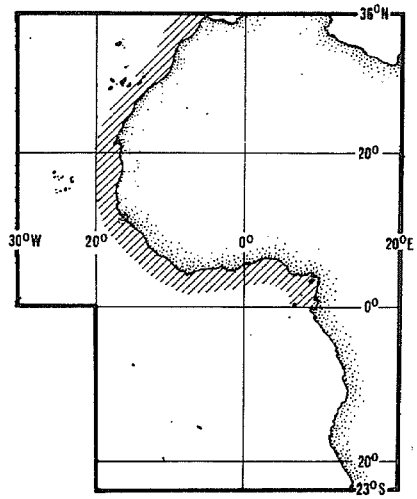
Separate statistics are not reported for this species.

Taken in bottom trawls.

Marketed fresh.



Cynoglossidae



SOL Van 1

1981

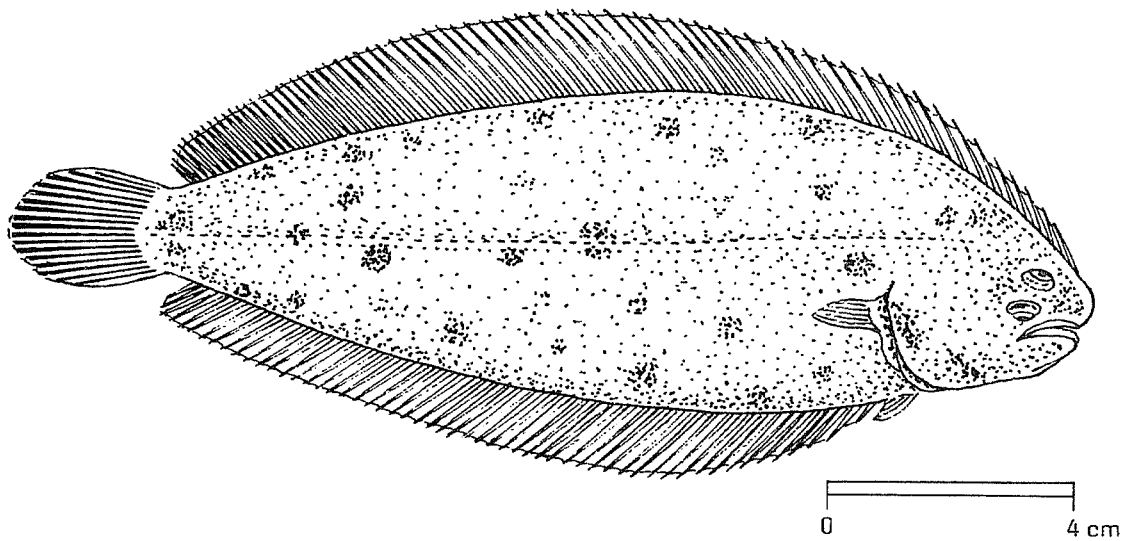
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SOLEIDAE

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

Vanstraelenia chirophthalmus (Regan, 1915)

OTHER SCIENTIFIC NAMES STILL IN USE : Vanstraelenia insignis Chabanaud, 1950
Xenobuglossus elongatus Chabanaud, 1950
Vanstraelenia chirophthalma (Regan, 1915)



VERNACULAR NAMES:

FAO : En - African solenette
Fr - Sole-pole
Sp - Lenguadillo africano

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval. Mouth cleft posterior to centre of lower eye; interocular space very narrow; anterior nostril of eyed side with tube directed backwards, scarcely reaching anterior eye margin. Dorsal fin with 61 to 79 thin rays, all of them, but especially the anterior ones, well prolonged beyond the fin membrane; anal fin with 50 to 63 rays; pectoral fin of eyed side with 8 or 9 rays, that of blind side less developed, with 6 to 8 rays; caudal fin rounded, united by a membrane to last ray of dorsal and anal fins. Lateral line with 65 to 85 tubed scales, its supratemporal prolongation describing a clearly visible angular S on head.

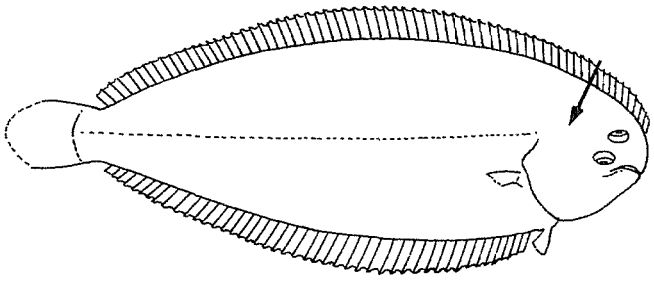
Colour: eyed side brownish violet with black blotches arranged more or less distinctly in 3 rows; eyed side whitish.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Buglossidium luteum: supratemporal prolongation of lateral line not visible.

Microchirus species: mouth cleft anterior to centre of lower eye; pectoral fin of eyed side with 7 or less rays (8 or 9 in V. chirophthalmus).

Other species of Soleidae: either dorsal and anal fins confluent with caudal fin, or pectoral fin missing on one or both sides, or both pectoral fins equally well developed on both sides.



Buglossidium luteum

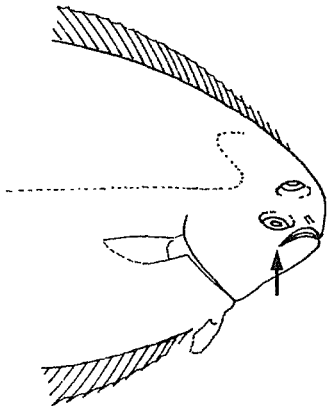
SIZE:

Maximum: 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Off West Africa, from Senegal to Angola.

Inhabits mud or sand bottoms between 20 and 100 m depth.



Microchirus spp.

PRESENT FISHING GROUNDS:

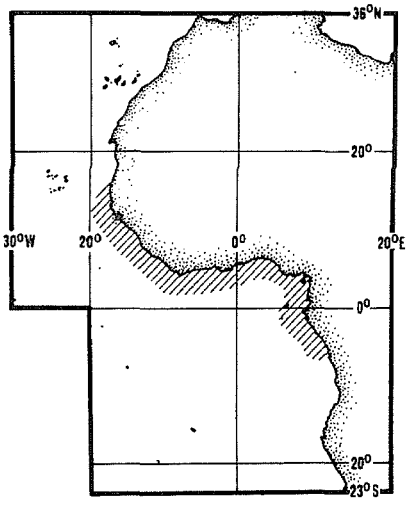
Continental shelf in the Gulf of Guinea.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken in bottom trawls.

Marketed fresh.



SPARID

1981

FAO SPECIES IDENTIFICATION SHEETS

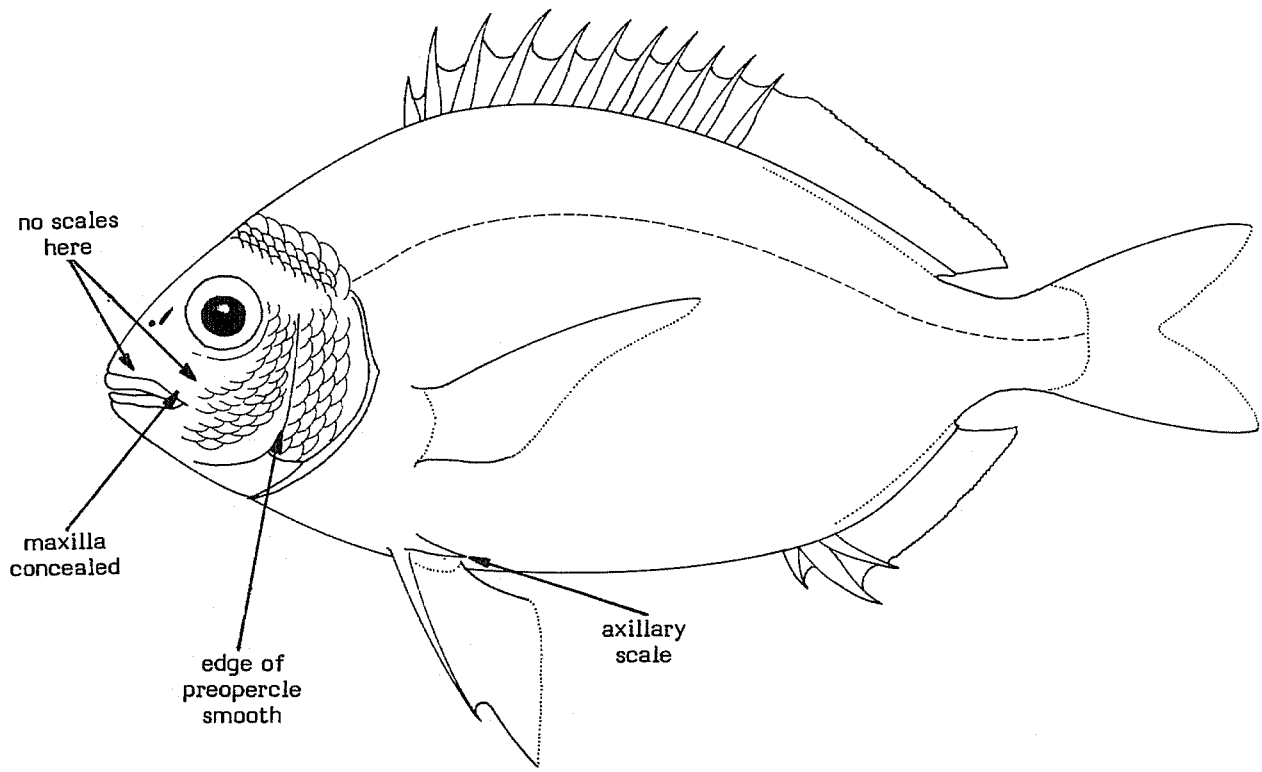
FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

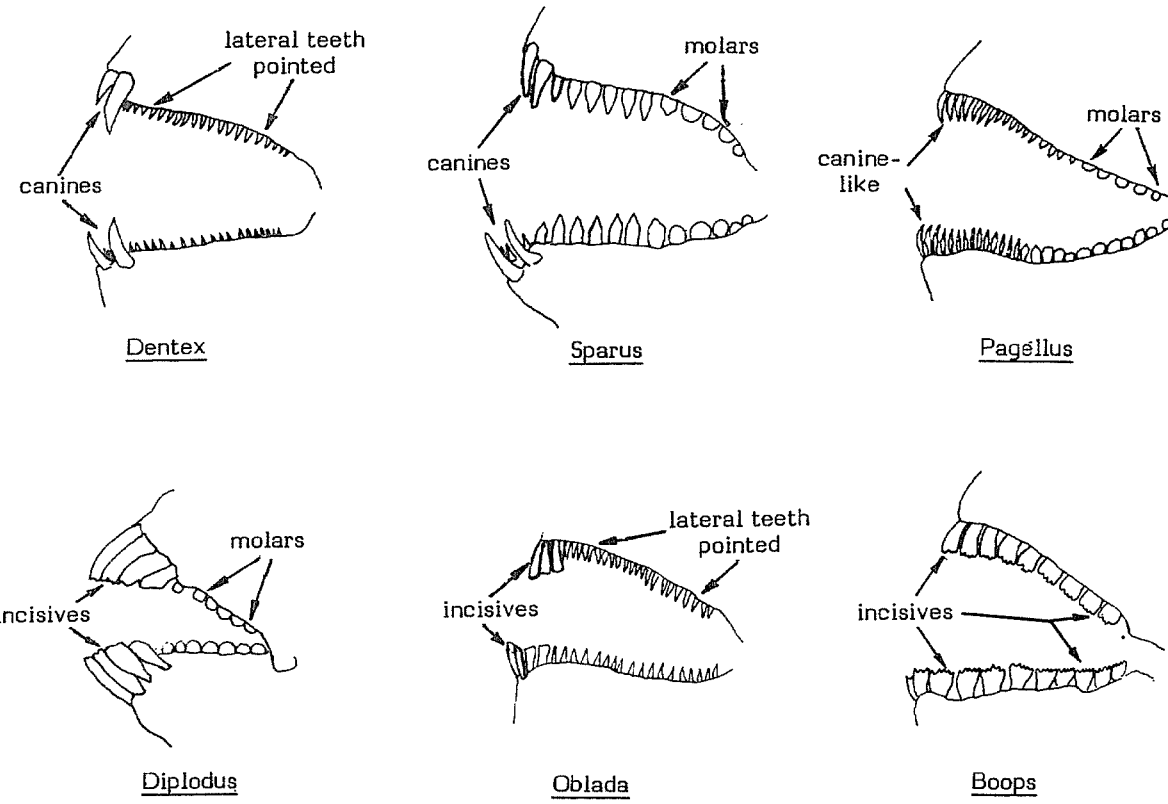
SPARIDAE

Bogues, dentex, hottentots, pandoras, porgies, salemas, seabreams, stumpnoses

Body fusiform to oval, more or less deep and compressed. Head often large; snout and suborbital region scaleless, cheeks scaly, preopercle with or without scales, its posterior edge without spines or denticulations; opercle scaly, without spines; mouth small, horizontal or oblique, slightly protrusible; upper jaw never extending backward beyond a vertical line through middle of eye; maxilla concealed under the preorbital bone when mouth is closed; teeth well developed, differentiated in conical (canine-like), flattened (incisor-like) or rounded, forming a pavement (molar-like); roof of mouth (vomer and palatines) toothless. A single dorsal fin with 10 to 15 spines and 9 to 17 soft rays, the spiny and soft portions not separated by a notch; first two spines sometimes very short, the 2 or 3 following ones occasionally prolonged and filamentous; pectoral fins usually long and pointed; pelvic fins inserted on, or just behind, a vertical line through pectoral fin bases, with 1 spine and 5 soft rays and an axillary scale at their bases; anal fin with 3 spines and 7 to 16 soft rays; caudal fin more or less deeply forked. A single, well developed and continuous lateral line extending backward to base of caudal fin. Scales cycloid or slightly ctenoid.

Colour: highly variable: more or less dark pink, red or grey, often with silvery reflections, dark spots, lines, bands or bars. Yellow spots on head often appear during the spawning season.





Main types of dentition

Fishes from tropical and temperate waters, only exceptionally found in cold waters and rarely entering brackish areas. They are demersal inhabitants of the continental shelf and the slope, gradually descending to deeper waters toward the equator in the northern hemisphere; the young usually occur in waters shallower than the adults. The smaller species, as well as the young of large species usually form aggregations, while the adults are solitary. Many species are hermaphroditic, although hermaphroditism is never simultaneous: at the age of first sexual maturity, the majority of individuals are males (protandric hermaphroditism) or females (protogynic hermaphroditism). The importance of this family for fisheries is based rather on its richness in food species than on the abundance of any species in particular. Since the best yields are obtained on fishing grounds between 30 and 100 m depth the sparid fisheries along the West African coast have been very intensive and this has led to a drop in the catches.

The annual catch of sparids reported from the area is well above 100 000 metric tons. In 1977, it totalled about 134 000 t, of which 73 000 were taken in the northern part of the area (36°N to 9°N), 19 000 t from the equatorial waters (9°N to 7°S) and 42 000 t from the southern part (7°S to 23°S). Foreign fishing fleets operating in the area have taken 94 000 t of the 1977 catch, while coastal West African countries landed only 40 000 t. The greater part of the catch (85 000 t in 1977) is broken down to genera and species. The species dominating in the reported landings (1977) are: Dentex macrophthalmus (30 000 t), Pagellus bellottii (19 000 t), Sparus pagrus (13 000 t), and Dentex angolensis (4 000 t). These figures are doubtless under-estimates, since many species are recorded in larger categories such as "sparids not elsewhere identified", or "marine fishes not elsewhere identified". The CECAF Working Group on Resources Evaluation has recently recommended that all countries fishing in the area keep separate landing statistics for Dentex macrophthalmus, D. angolensis, all coastal sparids (Dentex species not elsewhere reported), Pagellus acarne, P. bellottii, P. erythrinus, Pagellus spp., Spondyliosoma cantharus and offshore species (genera other than Dentex not elsewhere reported). Furthermore, the working group has recommended that length-frequency distributions be taken for the following species: Pagellus erythrinus, P. bellottii (= P. coupei), P. acarne and Dentex macrophthalmus.

SIMILAR FAMILIES OCCURRING IN THE AREA:

Lethrinidae: cheek and preopercle scaleless (cheek always scaled in Sparidae)

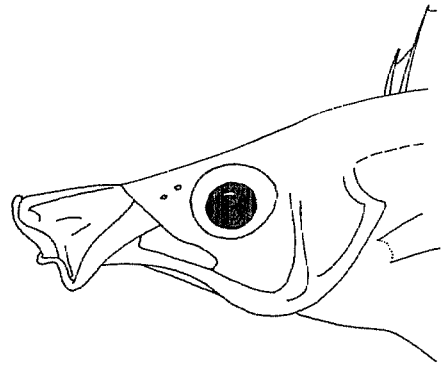
Centracanthidae: mouth strongly protrusible (very little so in Sparidae).

Kyphosidae: fins covered to a large extent (except the spinous portion of dorsal fin) with very small scales (scaleless in Sparidae); suborbital space very narrow, leaving the maxilla largely exposed; characteristic teeth shaped like hockey-sticks.

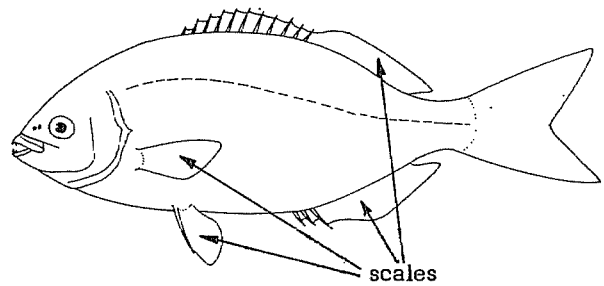
Lutjanidae: edge of preopercle denticulated; teeth usually present on roof of mouth (cheeks never scaled and roof of mouth toothless in Sparidae).

Pomadasyidae: edge of preopercle serrated; at least 2 mental pores and a depression or groove behind the symphysis of lower jaws.

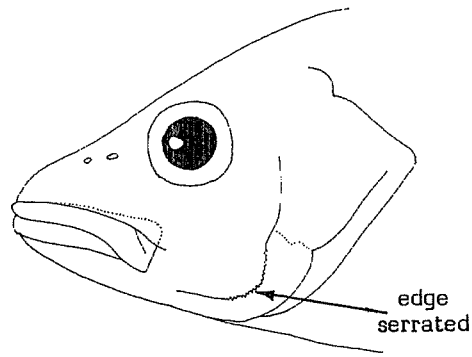
Serranidae: suborbital region entirely scaled (scaleless in Sparidae); maxilla completely free (largely concealed by the suborbital bone in Sparidae); opercle with 1 to 3 spines (none in Sparidae).



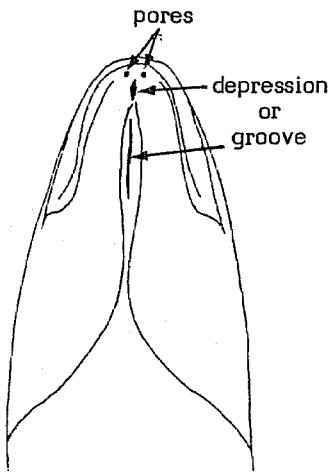
Centracanthidae



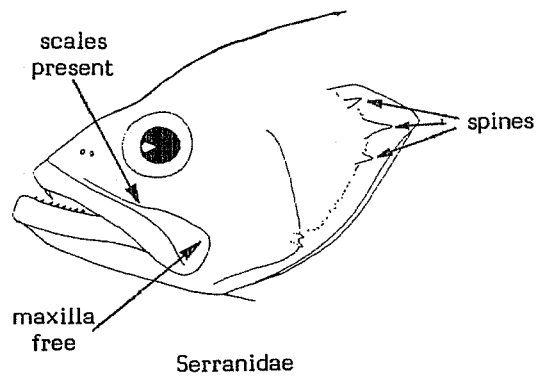
Kyphosidae



Lutjanidae



Pomadasyidae



Serranidae

KEY TO GENERA OCCURRING IN THE AREA:

1 a. Lateral teeth cutting or pointed (no molars)

2 a. 4 to 8 strong canines, sometimes fang-like, anteriorly in each jaw (Fig. 1)

3 a. Jaws subequal, chin indistinct; scalation interrupted between cheek and preopercle (Fig. 2a) ..... Dentex

3 b. Lower jaw prominent, chin prominent; scalation continuous from cheek to preopercle (Fig. 2b) ..... Viridentex

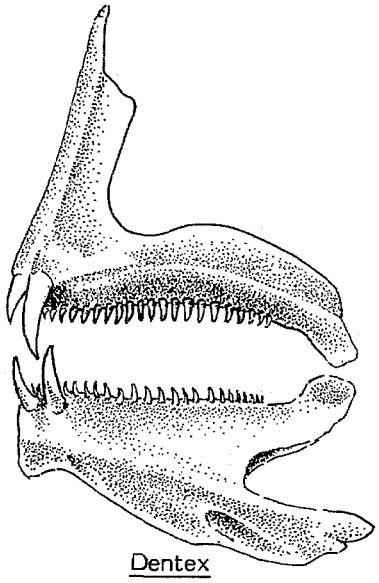
2 b. Numerous incisors (Figs. 3,6) or at least 10 conical teeth (Fig. 8) anteriorly in each jaw

4 a. A single row of incisors in both jaws (Fig. 3)

5 a. Dorsal fin with 11 or 12 spines; body oblong (Fig. 4) ..... Sarpa

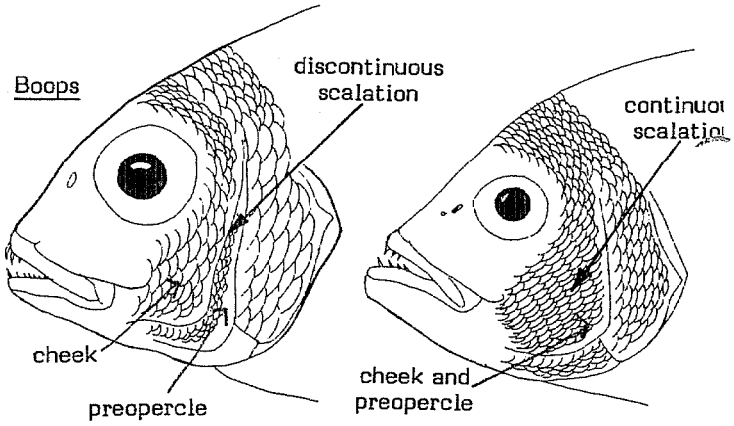
5 b. Dorsal fin with 13 to 15 spines; body fusiform (Fig. 5) ..... Boops

4 b. Several rows of teeth in each jaw (Fig. 6)

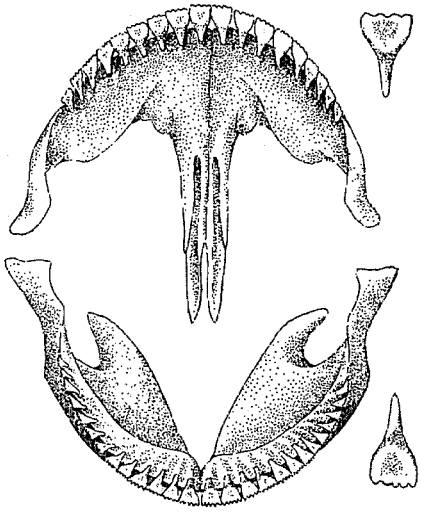


Dentex

jaws and teeth Fig. 1



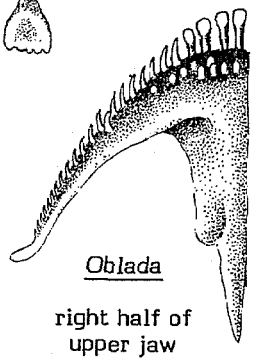
a. Dentex b. Viridentex Fig. 2



Boops

jaws and teeth

Fig. 3

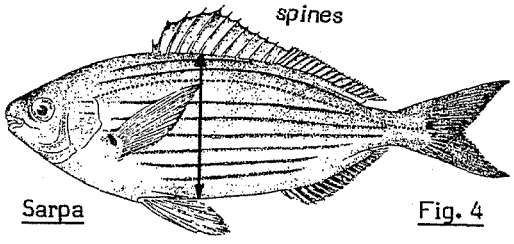


Oblada

right half of upper jaw

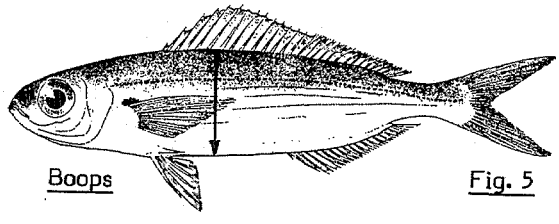
Fig. 6

11 or 12 *spines*



Sarpa Fig. 4

13 to 15 spines



Boops Fig. 5

6 a. Each jaw anteriorly with one outer row of incisors flanked posteriorly by small granular teeth (Fig. 6); a black blotch margined with white on caudal peduncle (Fig. 7) ..... Oblada

6 b. Each jaw anteriorly with an outer row of pointed teeth followed by cardiform teeth (Fig. 8); no blotch on caudal peduncle

7 a. Bases of soft portions of dorsal and anal fins unscaled but inserted in a scaly sheath (Fig. 9); longitudinal yellow-golden lines on sides ..... Spondyliosoma

7 b. Bases of soft portions of dorsal and anal fins scaly, not inserted in a sheath (Fig. 10); no longitudinal lines on sides ..... Pachymetopon

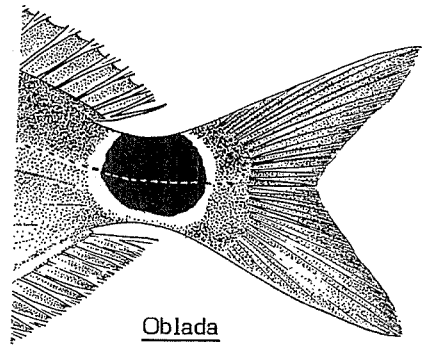
1 b. Lateral teeth molar-like (Figs. 11,12)

8 a. Anterior teeth incisor-like (Fig. 11)

9 a. 4 to 6 medial incisors in upper jaw ..... Rhabdosargus

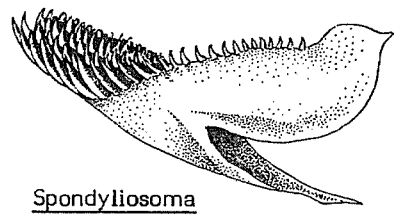
9 b. 8 to 12 medial incisors in upper jaw (Fig. 11) ..... Diplodus

8 b. Anterior teeth not incisor-like (Fig. 12)



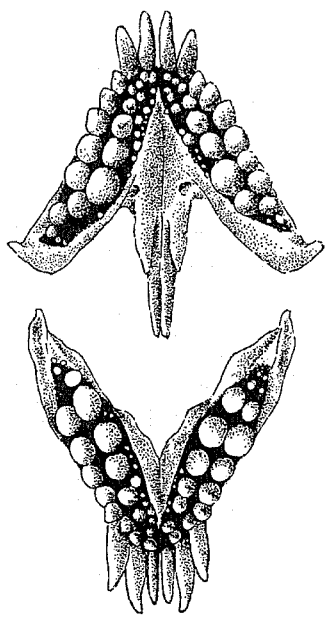
Oblada

Fig. 7



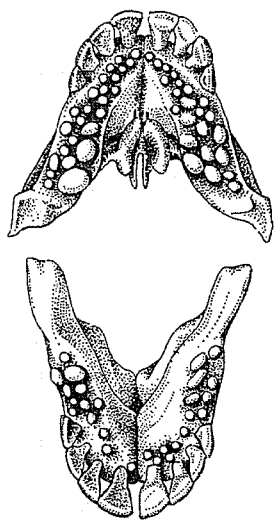
Spondyliosoma

lower jaw Fig 8



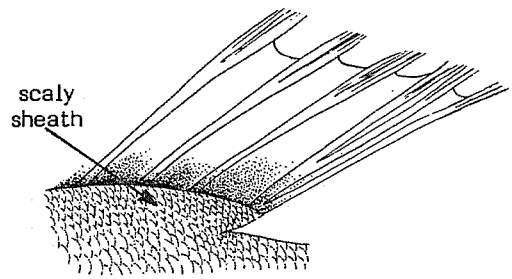
Sparus Fig. 12

jaws and teeth



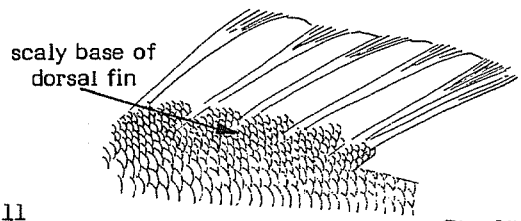
Diplodus Fig. 11

jaws and teeth



Spondyliosoma Fig. 9

posterior region of dorsal fin



Pachymetopon Fig. 10

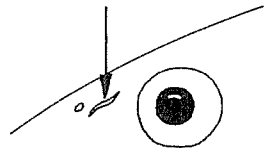
posterior region of dorsal fin

10 a. 4 to 6 stronger canines anteriorly in each jaw (Fig. 12) ..... Sparus

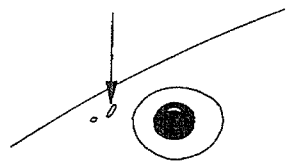
10 b. Numerous small and pointed teeth (at least 8) anteriorly in each jaw

11 a. Posterior nostril slit-like (Fig. 13a); numerous grey cross bars ..... Lithognathus

11 b. Posterior nostril circular or oval (Fig. 13b); no permanent cross bars (exceptionally faint pink cross bars corresponding to a fright pattern) ..... Pagellus



a. Lithognathus



b. Pagellus Fig. 13

KEY TO SPECIES AND SUBSPECIES :

Genus Dentex

1 a. First and second dorsal fin spines very short, the following more or less filamentous and decreasing in length from the third to the fourth (Fig. 1); a dark blotch at end of dorsal fin base (Figs 2,3)

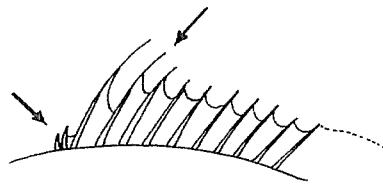
2 a. A small black spot just behind dorsal fin (Fig. 2) ..... D. gibbosus

2 b. A large, dark red blotch on bases of last dorsal fin rays (Fig. 3)

3 a. 10 to 13 lower gill rakers ..... D. canariensis

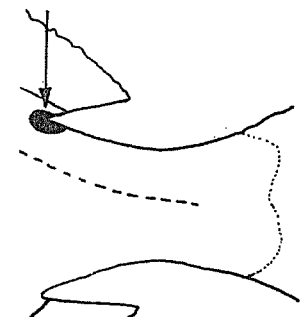
3 b. 14 to 16 lower gill rakers ..... D. barnardi

1 b. Dorsal fin spines increasing in length from first to fourth or fifth, equal in length thereafter; no spot or blotch on base of soft portion of dorsal fin (Fig. 4)

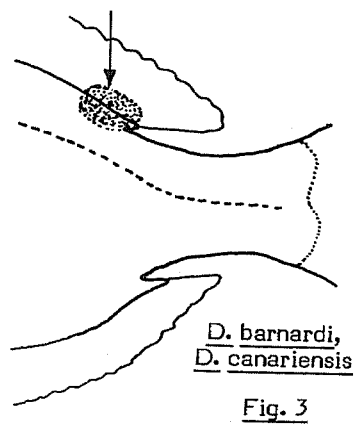


D. barnardi, D. canariensis, D. gibbosus

spiny portion of dorsal fin Fig. 1

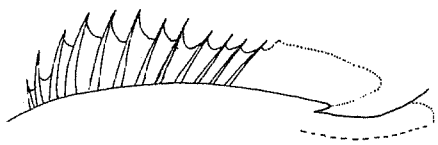


D. gibbosus Fig. 2



D. barnardi, D. canariensis

Fig. 3



D. maroccanus
other Dentex species Fig. 4

4 a. 62 to 68 scales along lateral line; 11 dorsal fin spines ..... D. dentex

4 b. Less than 62 scales along lateral line; 12 dorsal fin spines (exceptionally 11)

5 a. 17 to 20 lower gill rakers; lower canines clearly less well developed than uppers (Fig. 5) ..... D. macrophthalmus

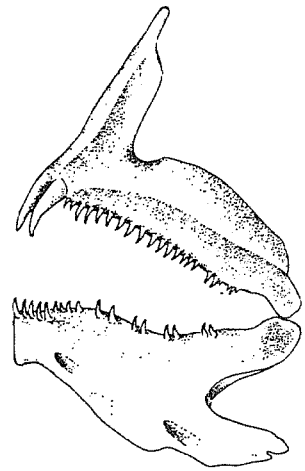
5 b. Less than 15 lower gill rakers; upper and lower canines equally developed (Fig. 6)

6 a. Fork of caudal fin margined with dark red (Fig. 7) ..... D. maroccanus

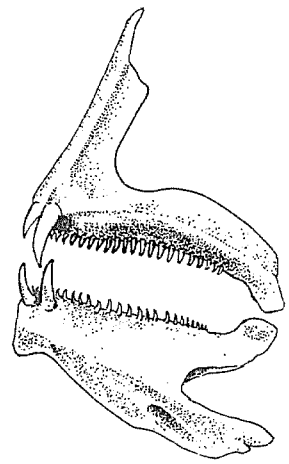
6 b. Caudal fin uniform reddish

7 a. 12 to 14 lower gill rakers on first arch; dorsal profile of head convex; suborbital space narrow (12 to 14% of head length, Fig. 8a); interorbital space wide (27 to 32% of head length) ..... D. congoensis

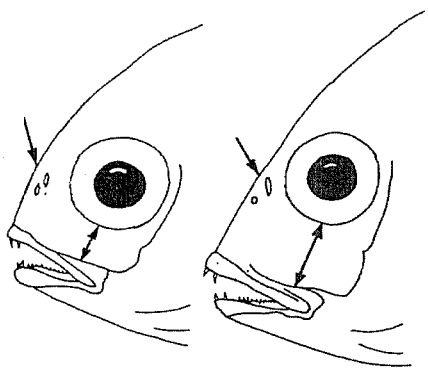
7 b. 9 or 10 lower gill rakers on first arch; dorsal profile of head straight; suborbital space wide (17 to 21% of head length, Fig. 8b); interorbital space narrow (21 to 25% of head length) ..... D. angolensis



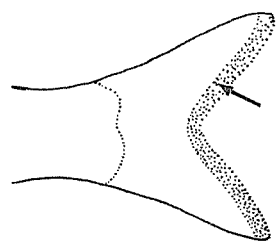
D. macrophthalmus Fig. 5



other Dentex species Fig. 6



a. D. congoensis b. D. angolensis Fig. 8



D. maroccanus Fig. 7

Genus Diplodus*

1 a. 10 to 12 upper incisors; no small molars behind the row of incisors (Fig. 1); more or less wide, dark cross bars on sides (Figs. 2,3)

2 a. Background colour dark, with light cross bars on upper two thirds of sides (Fig. 2); 15 to 21 total gill rakers on first arch ..... D. fasciatus

2 b. Background colour light, with dark cross bars on sides (Fig. 3); 15 to 19 total gill rakers on first arch ..... D. cervinus

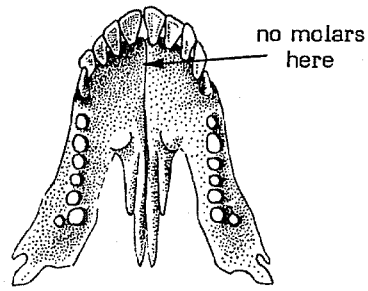
1 b. 8 (exceptionally 10) upper incisors (Figs. 4 to 6); small molars behind the incisors (except in D. puntazzo); sides with or without dark cross bars; these bars, when present, much narrower than lighter interspaces

3 a. Molars very rudimentary (Fig. 4) ..... D. puntazzo

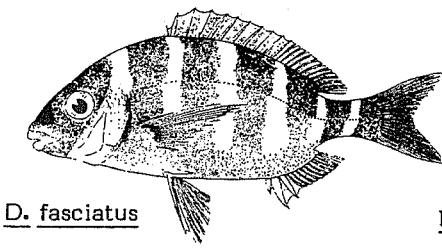
3 b. Molars well developed (Figs. 5,6)

4 a. A single row of molars behind the row of incisors (Fig. 5); scales along lateral line 48 to 54; 10 or 11 dorsal fin spines ..... D. bellottii

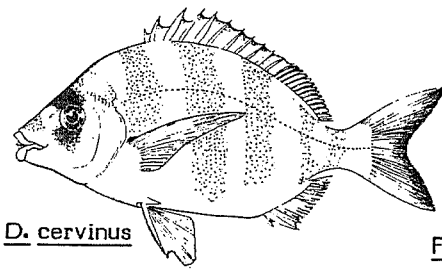
4 b. More than one row of small molars behind the row of incisors (Fig. 6); scales along lateral line 48 to 71; 11 or 12 dorsal fin spines



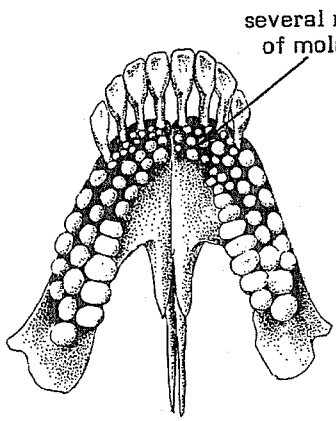
D. fasciatus Fig. 1



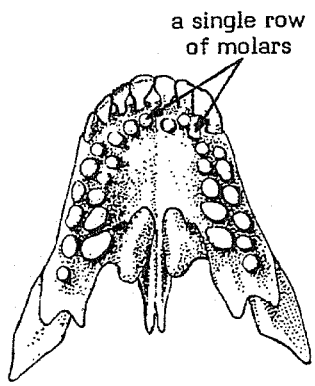
D. fasciatus Fig. 2



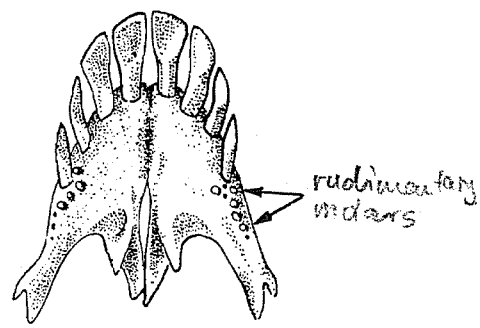
D. cervinus Fig. 3



D. prayensis
upper jaw
Fig. 6



D. bellottii
upper jaw
Fig. 5



D. puntazzo
upper jaw
Fig. 4

* Diplodus sargus ascensionis and D. s. helenae excluded

5 a. Nuchal band present (Figs. 7,8)

6 a. Nuchal band large, triangular; hind edge of branchiostegal membrane light coloured (Fig. 7) ..... D. vulgaris

6 b. Nuchal band faint; hind edge of branchiostegal membrane black. Restricted to the Cape Verde Islands (Fig. 8) ..... D. prayensis

5 b. Nuchal band absent

7 a. Peduncular bar annular (Fig. 9); scales in lateral line 48 to 56; dorsal fin spines 11 ..... D. annularis

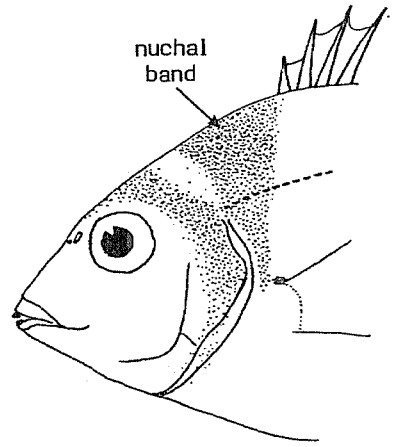
7 b. Peduncular bar saddle-shaped (Fig. 10); lateral line scales 57 to 71; dorsal fin spines 11 or 12

8 a. 4 or 5 very distinct cross bars on sides (Fig. 11). Restricted to the Cape Verde Islands ..... D. sargus lineatus

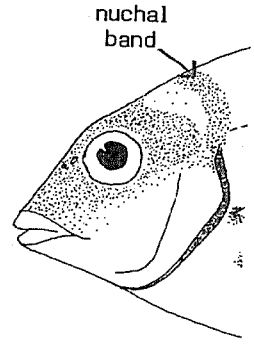
8 b. 8 or 9 cross bars on sides (Figs. 12,13)

9 a. Cross bars uniform in colour tone (Fig. 12). South of Angola ..... D. sargus capensis

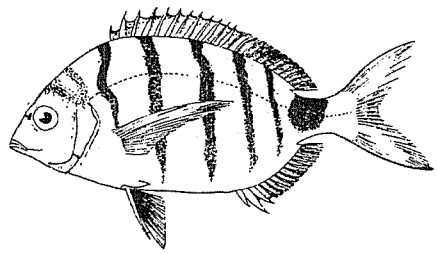
9 b. Cross bars alternately light and dark (Fig. 13). North of Cape Verde ..... D. sargus cadenati



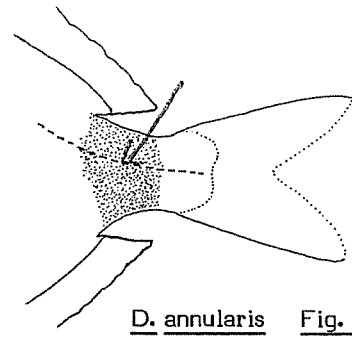
D. vulgaris Fig. 7



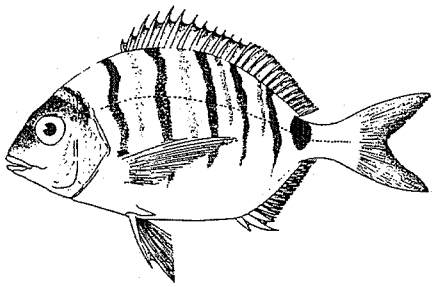
D. prayensis Fig. 8



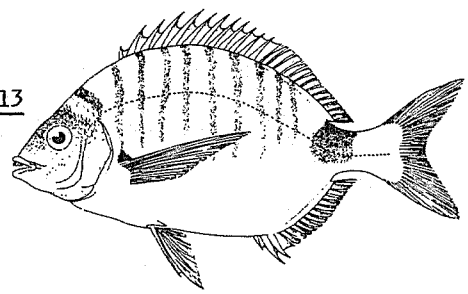
D. sargus lineatus Fig. 11



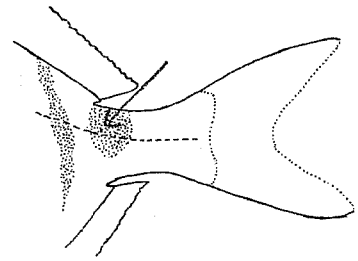
D. annularis Fig. 9



D. sargus cadenati Fig. 13



D. sargus capensis Fig. 12



D. sargus cadenati Fig. 10

Genus Pagellus

1 a. Scalation on top of head ending behind a transverse line through middle of eyes (Figs 1,2); interior of mouth orange red

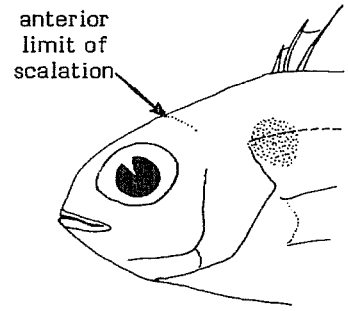
2 a. 11 or 12 anal fin rays; eye diameter greater than length of snout; a dark blotch at origin of lateral line (Fig. 1) ..... P. bogaraveo

2 b. 9 or 10 anal fin rays; eye diameter smaller than, or equal to length of snout; a very dark red blotch at upper level of pectoral fin insertion (Fig. 2) ..... P. acarne

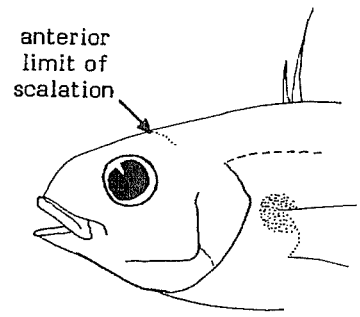
1 b. Scalation on top of head ending in front of a transverse line through middle of eye (Fig. 3); interior of mouth whitish or greyish

3 a. Length of anal fin base greater than distance from snout tip to posterior margin of eye (Fig. 4); 10 soft anal fin rays ..... P. bellottii

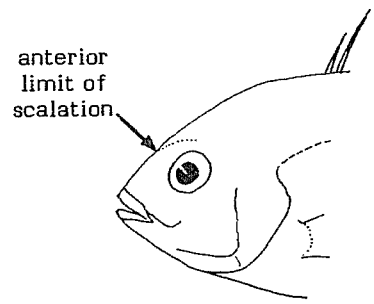
3 b. Length of anal fin base shorter than distance from snout tip to posterior margin of eye (Fig. 5); 8 or 9 soft anal fin rays ..... P. erythrinus



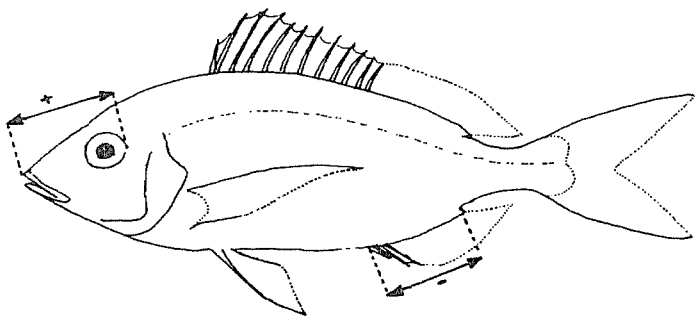
P. bogaraveo Fig. 1



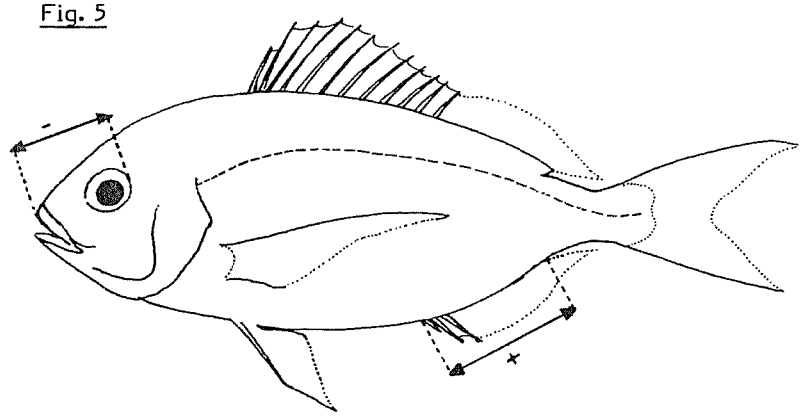
P. acarne Fig. 2



P. bellottii Fig. 3



P. erythrinus Fig. 5



P. bellottii Fig. 4

Genus Sparus

1 a. First 2 dorsal fin spines very short, third to fifth long and filamentous in young (Figs. 1,2)

2 a. Pelvic fins wine red, their first soft ray non-filamentous; edge of opercle dark; 4 or 5 dark cross bars, especially well visible in young (Fig. 1) ..... S. auriga

2 b. Pelvic fins greyish white, their first soft rays filamentous; edge of opercle light-coloured; no dark cross bars, but large, blue-black spots on back and sides (Fig. 2) ..... S. caeruleostictus

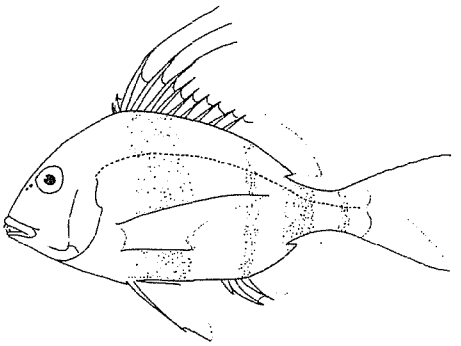
1 b. First 2 dorsal fin spines not much shorter than the following, none of the latter filamentous

3 a. A golden band present on front; a large black blotch at origin of lateral line (Fig. 3); more than 70 scales along lateral line ..... S. aurata

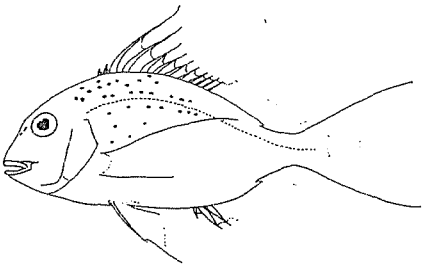
3 b. No golden band on front or black blotch at origin of lateral line; less than 70 scales along lateral line

4 a. Tips of caudal fin white; no distinct spot at pectoral fin axil; first soft ray of pelvic fins not filamentous; $5\frac{1}{2}$ scale rows between upper profile (at midpoint of spinous dorsal fin base) and lateral line ..... S. pagrus pagrus

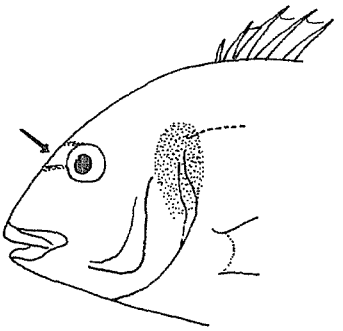
4 b. Caudal fin without white tips; a large, dark red blotch at bases of pectoral fins; first soft ray of pelvic fins filamentous; $4\frac{1}{2}$ scale rows between upper profile (at midpoint of spinous dorsal fin base) and lateral line ..... S. pagrus africanus



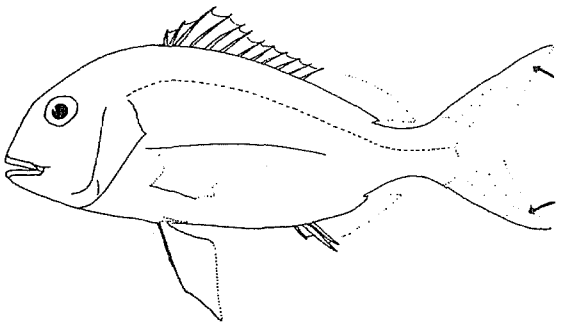
S. auriga Fig. 1



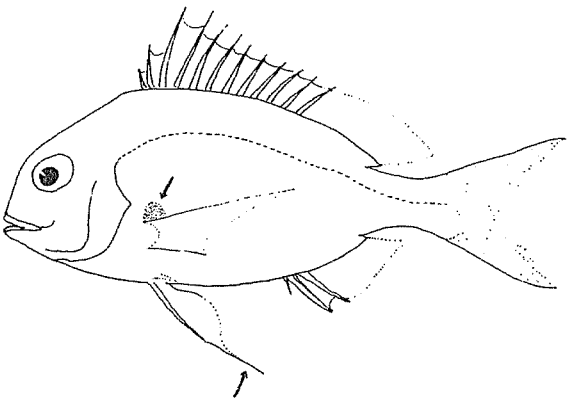
S. caeruleostictus Fig. 2



S. aurata Fig. 3



S. pagrus pagrus Fig. 4



S. pagrus africanus Fig. 5

LIST OF SPECIES OCCURRING IN THE AREA :

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

Boops boops (Linnaeus, 1758)	SPARID Boop 1
* Chrysoblephus gibbiceps (Valenciennes, 1830)	
Dentex angolensis Poll & Maul, 1953	SPARID Dent 5
Dentex barnardi Cadenat, 1970	SPARID Dent 6
Dentex canariensis Steindachner, 1881	SPARID Dent 7
Dentex congoensis Poll, 1954	SPARID Dent 8
Dentex dentex (Linnaeus, 1758)	SPARID Dent 1
Dentex gibbosus (Rafinesque, 1810)	SPARID Dent 2
Dentex macrophthalmus (Bloch, 1791)	SPARID Dent 3
Dentex maroccanus Valenciennes, 1830	SPARID Dent 4
Diplodus annularis (Linnaeus, 1758)	SPARID Diplod 5
Diplodus bellottii (Steindachner, 1882)	SPARID Diplod 6
Diplodus cervinus cervinus (Lowe, 1838)	SPARID Diplod 7
Diplodus fasciatus (Valenciennes, 1830)	SPARID Diplod 8
Diplodus prayensis (Cadenat, 1964)	SPARID Diplod 9
Diplodus puntazzo (Cetti, 1777)	SPARID Diplod 10
Diplodus sargus ascensionis (Valenciennes, 1830)	
Diplodus sargus cadenati de la Paz, Bauchot & Daget, 1974	SPARID Diplod 1b
Diplodus sargus capensis (Smith, 1846)	SPARID Diplod 1c
Diplodus sargus helenae (Sauvage, 1878)	
Diplodus sargus lineatus (Valenciennes, 1830)	SPARID Diplod 1d
Diplodus vulgaris (E. Geoffroy Saint Hilaire, 1817)	SPARID Diplod 4
Lithognathus aureti Smith, 1962	
Lithognathus mormyrus (Linnaeus, 1758)	SPARID Litho 1
Lithognathus olivieri Penrith & Penrith, 1959	
Oblada melanura (Linnaeus, 1758)	SPARID Obla 1
Pachymetopon blochii (Valenciennes, 1830)	SPARID Pachy 1
Pagellus acarne (Risso, 1826)	SPARID Page 2
Pagellus bellottii Steindachner, 1882	SPARID Page 4
Pagellus bogaraveo (Brünnich, 1768)	SPARID Page 3
Pagellus erythrinus (Linnaeus, 1758)	SPARID Page 1
Rhabdosargus globiceps (Valenciennes, 1830)	SPARID Rhab 1
Sarpa salpa (Linnaeus, 1758)	SPARID Sarpa 1 **
Sparus aurata Linnaeus, 1758	SPARID Spar 1
Sparus auriga (Valenciennes, 1843)	SPARID Spar 3
Sparus caeruleostictus (Valenciennes, 1830)	SPARID Spar 4
Sparus pagrus africanus Akazaki, 1962	SPARID Spar 5a
Sparus pagrus pagrus (Linnaeus, 1758)	SPARID Spar 5b
Spondyliosoma cantharus (Linnaeus, 1758)	SPARID Spond 1
Virididentex acromegalus (Osorio, 1909)	SPARID Virid 1

Prepared by M.L. Bauchot, J.C. Hureau, Museum National d'Histoire Naturelle, Ichtyologie générale et appliquée, Paris, France, et J.C. Miquel, Station Marine d'Endoume, Marseilles, France

* Presence doubtful in the area

** Code modified after the publication of Identification Sheets for Mediterranean and Black Sea

SPARID Boop 1

1981

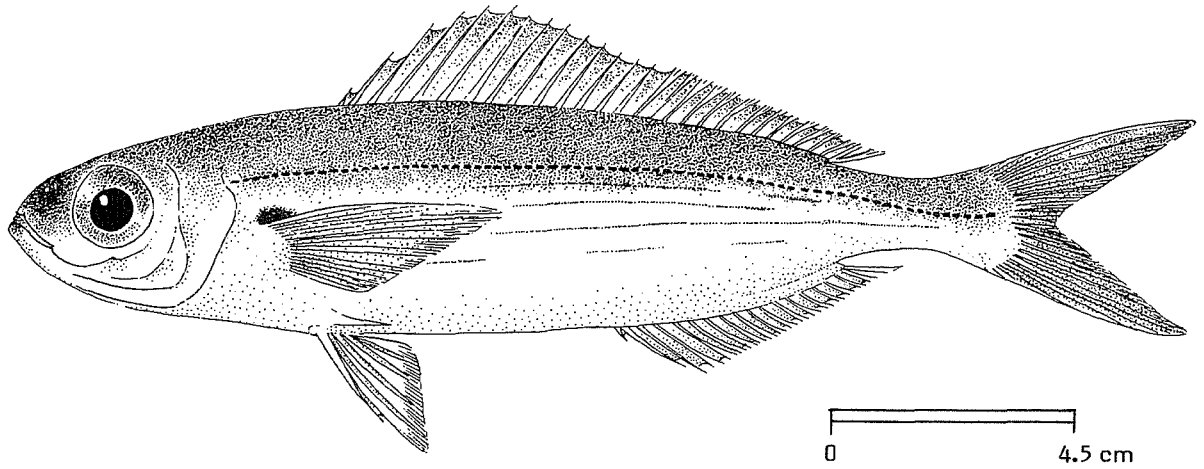
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Boops boops (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Box boops (Linnaeus, 1758)



VERNACULAR NAMES:

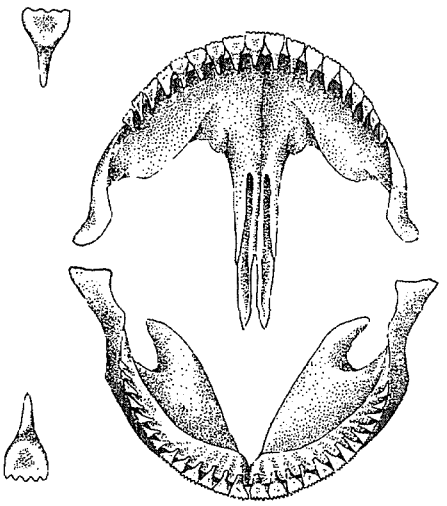
FAO : En - Bogue
Fr - Bogue
Sp - Boga

NATIONAL :

DISTINCTIVE CHARACTERS :

Body fusiform, rather low and very slightly compressed, its anterior part subcylindrical in cross section. Eye large, its diameter greater than snout length; scales on top of head reaching forward just beyond level of posterior eye margins; mouth small, oblique; lips very thin; all teeth incisor-like, set in a single row in both jaws; cutting edges of upper teeth with 4, of lower teeth with 5 points (the central point largest); gill rakers on first arch 16 to 20 lower and 7 or 8 upper. Dorsal fin with 13 to 15 spines and 12 to 16 soft rays; anal fin with 3 spines and 14 to 16 soft rays; pectoral fins short, not reaching to anus; caudal fin forked. Scales along lateral line 69 to 80.

Colour: back bluish or greenish, sides with silvery or golden reflections and with 3 to 5 golden longitudinal lines; a small brown spot restricted to pectoral fin axils; lateral line dark; fins light.



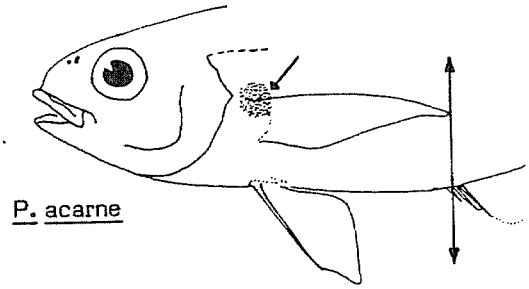
jaws and teeth

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

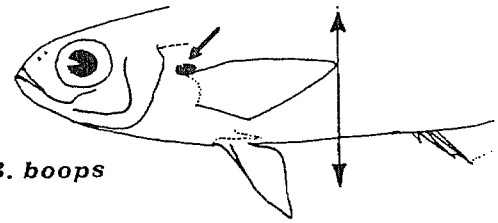
Pagellus acarne: pectoral fins long, reaching to anus; spot at pectoral fin axils extending over fin base; anterior teeth canine-like and lateral teeth molar-like.

Other species of Sparidae: body deep, its anterior part oval in cross section. Furthermore, dentition rather different (except in Sarpa salpa).

Species of the family Emmelichthyidae: mouth strongly protrusible (only slightly so in B. boops); no incisor-like teeth; some species with a large black spot on caudal peduncle or more anteriorly on sides.



P. acarne



B. boops

SIZE:

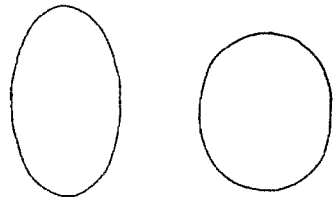
Maximum: 36 cm; common to 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Coast of West Africa from the Straits of Gibraltar to Angola and around Madeira, the Canary, Cape Verde and Sao Tomé-Principe islands. Also occurring in the Mediterranean and the North Atlantic up to Norway.

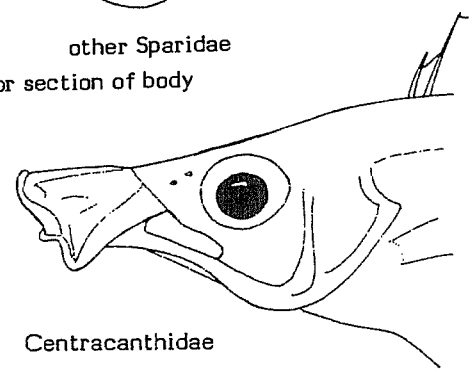
A demersal, as well as semi-pelagic, species living on all types of bottom (sand, mud, rock, seagrass beds) over the continental shelf and upper slope to depths of 250 m, more common in the upper 100 m and sometimes in coastal waters. Moves in aggregations, ascending to the surface mainly at night. In the northern part of the area, spawning takes place from March to May.

Omnivorous, feeding on crustaceans and plankton.



B. boops other Sparidae

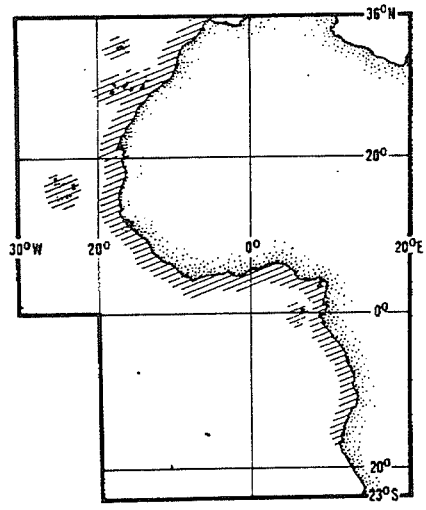
anterior section of body



Centracanthidae

PRESENT FISHING GROUNDS:

A rather abundant species, but not intensively fished in this area; scarcely exploited in the Gulf of Guinea.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics for this species are reported by Romania: 660 t, Portugal: 50 t and Greece, less than 50 t (for 1977).

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

Marketed fresh frozen, dried-salted or smoked; also used for fishmeal and oil and commonly as bait in tuna fisheries.

SPARID Dent 1

1981

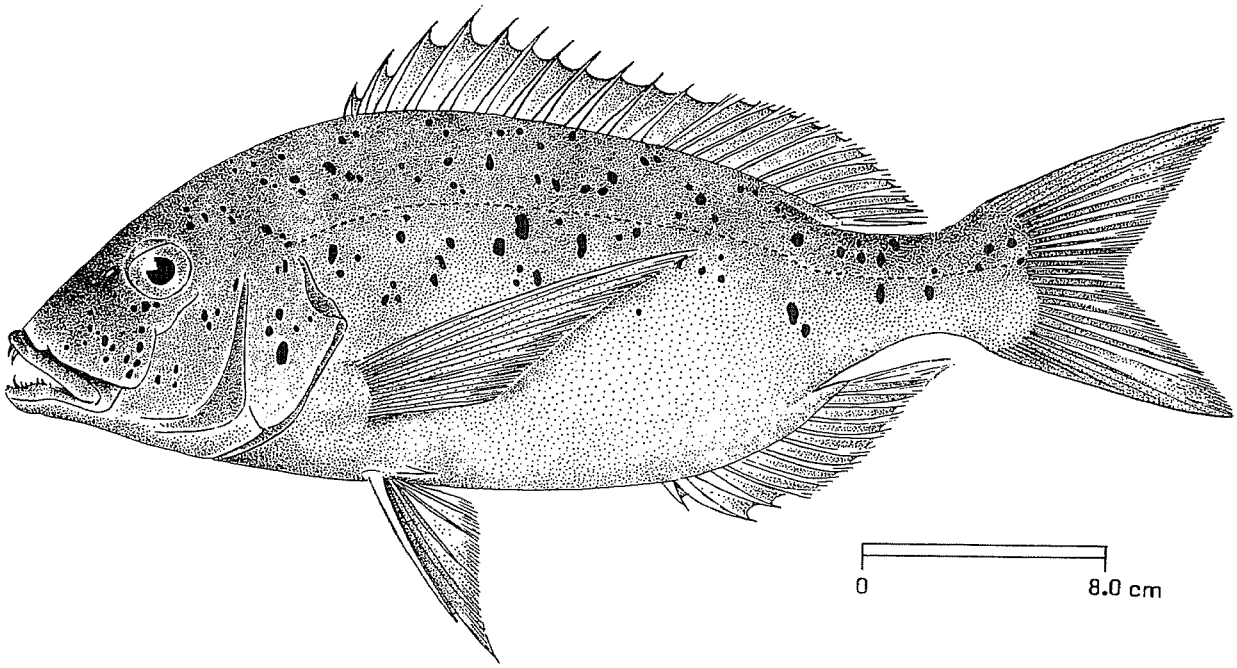
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Dentex dentex (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Dentex vulgaris Valenciennes, 1830



VERNACULAR NAMES:

FAO : En - Common dentex
Fr - Denté commun
Sp - Dentón comun (= Denton)

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval, rather deep and compressed. Head profile smoothly rounded in adults but almost straight in young; a slight frontal hump in very large individuals; eye small, suborbital space wide; cheeks scaly; scales also present on preopercle except at its posterior margin; mouth low, slightly oblique; several rows of canine-like teeth, outer row by far the strongest with 4 to 6 very well developed anterior teeth in each jaw; gillrakers on first arch 9 or 10 lower and 8 or 9 upper. Dorsal fin with 11 spines and 11 or 12 soft rays, the spines increasing in length from the first to the fourth or fifth and subequal thereafter; anal fin with 3 spines and 7 to 9 soft rays. Scales along lateral line 62 to 68.

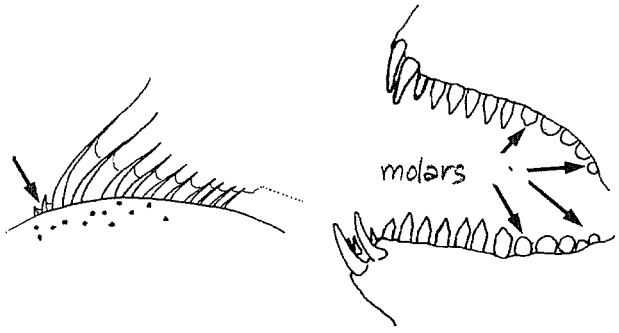
Colour: the young are greyish, spotted with black on back and upper sides, becoming pink with sexual maturity; old individuals are bluish grey and the dark spots become more or less diffuse with age. Some individuals have a yellow tinge behind the mouth and on the gill cover.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Sparus caeruleostictus: first 2 dorsal fin spines very short (comparatively long in Dentex species); molar teeth present in both jaws (absent in Dentex species).

Other Dentex species: never numerous dark spots on back and upper sides (these spots always visible in D. dentex); 12 dorsal fin spines (11 in D. dentex).

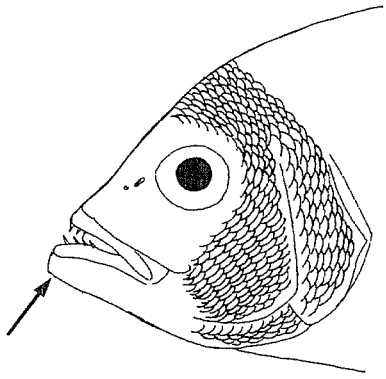
Other species of Sparidae: either more than one type of teeth present, or all teeth incisor-like (only canine-like teeth in Dentex species); lower jaw projecting in Viridentex).



S. caeruleostictus Sparus sp.

SIZE:

Maximum: 100 cm; common to 50 cm.



Viridentex acromegalus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

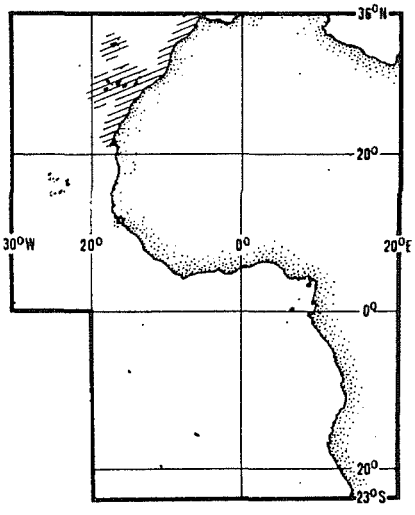
Along the West African coast north of Cape Blanc (exceptionally further south) and around the Canary Islands and Madeira. Also present in the Mediterranean and in the North Atlantic to the British Isles.

A demersal species inhabiting hard bottoms (rock or rubble) down to 200 m depth. Adults solitary, the young gregarius.

A carnivore feeding on fish, molluscs and cephalopods.

PRESENT FISHING GROUNDS:

Of limited importance to fisheries along West Africa.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Within the area, separate statistics for this species are reported only by Spain (about 1 100 t in 1977).

Caught with bottom trawls, lines, traps (young) and sometimes trammel nets.

Marketed fresh or frozen (flesh highly esteemed); also used for fishmeal and oil.

SPARID Dent 2

1981

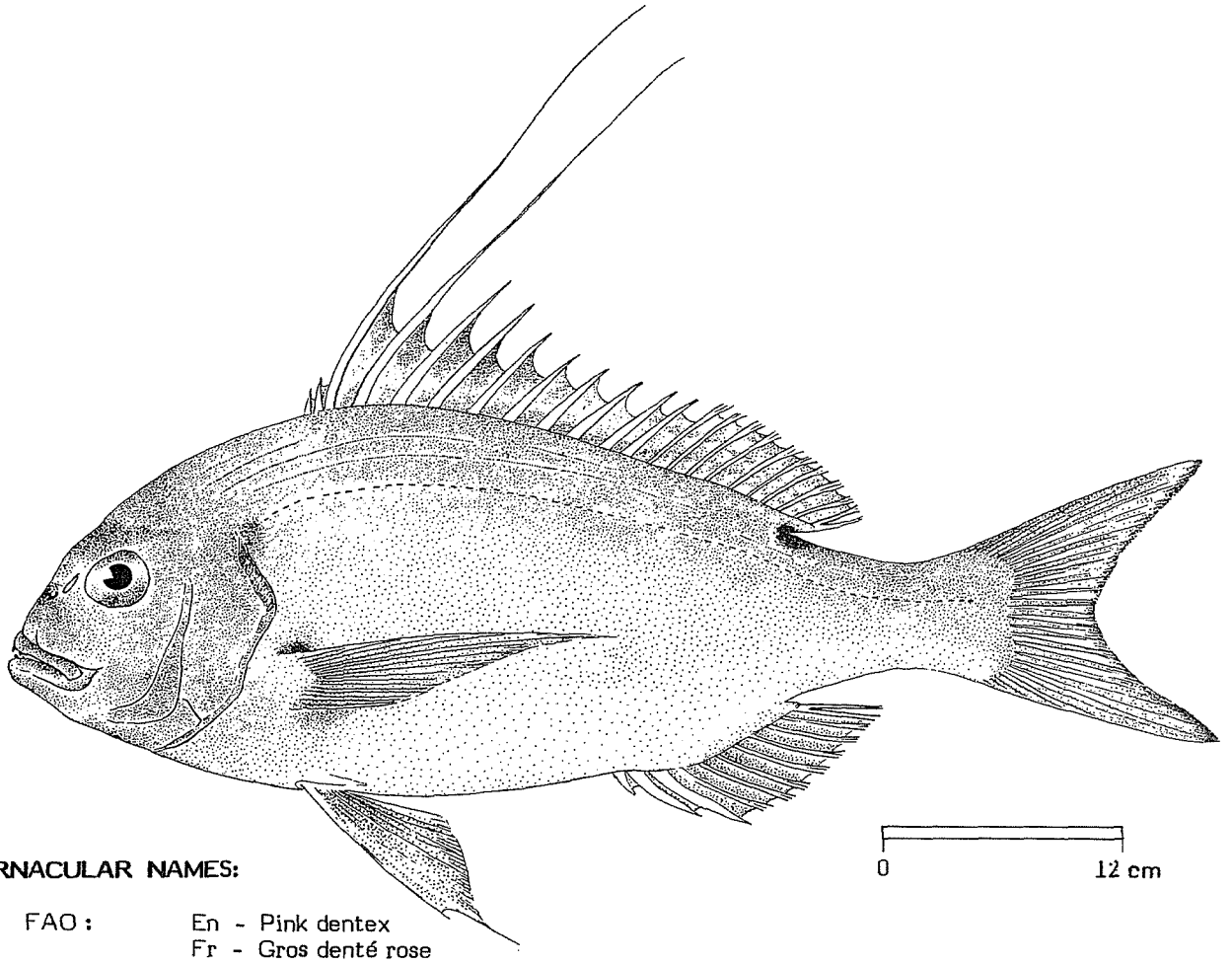
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Dentex gibbosus (Rafinesque, 1810)

OTHER SCIENTIFIC NAMES STILL IN USE : Dentex filosus Valenciennes, 1843



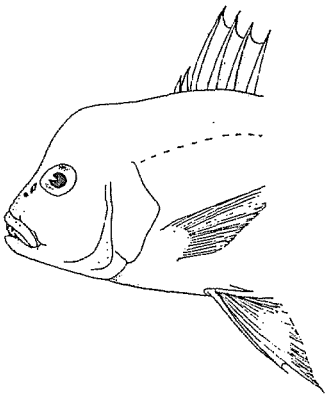
VERNACULAR NAMES:

FAO : En - Pink dentex
Fr - Gros denté rose
Sp - Sama de pluma

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval, more or less elongate, compressed. Head profile regularly convex in the young, but older individuals develop a conspicuous hump on front; eye diameter about equal to width of suborbital space; cheeks scaly; sometimes also small scales present on entire height of preopercle; mouth low, slightly oblique; jaws subequal; several rows of canine-like teeth, outer row much the strongest with 4 to 6 better developed anterior teeth in each jaw; gillrakers on first arch 8 to 10 lower and 6 to 8 upper. Dorsal fin with 12 spines and 10 or 11 soft rays; first two dorsal spines very short; those following very long and filamentous in young individuals and decreasing in length from the third backward; anal fin with 3 spines and 7 to 9 soft rays; first soft ray of pelvic fins filamentous. Scales along lateral line 52 to 62.



head of adult

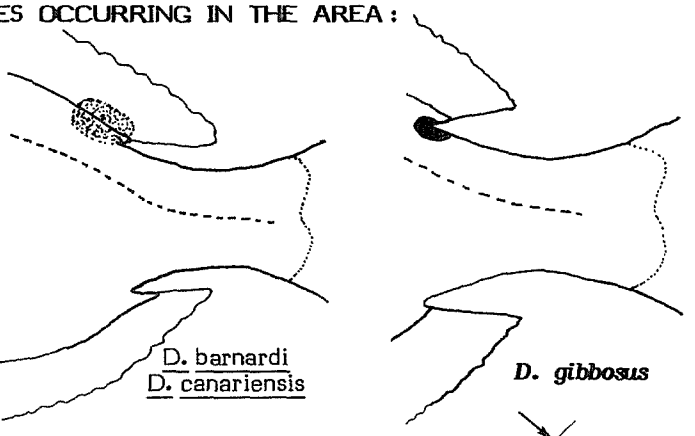
Colour: reddish with bluish silvery reflections; belly lighter and head darker; a small black spot behind posterior end of dorsal fin; a brownish black spot at pectoral fin axils; a dark area at upper angle of opercle; 1 or 2 dark lines on soft part of dorsal fin; caudal fin red, edged with black. Large individuals are often tinged wine red and spotted with black on head (males) or greyish (females).

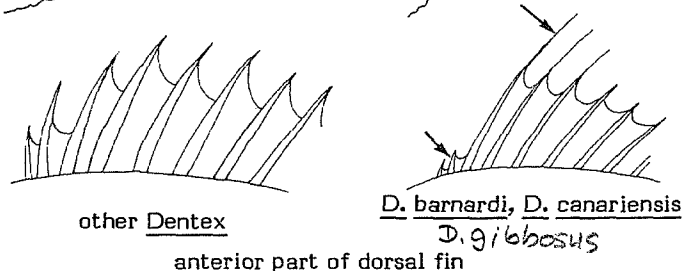
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Dentex canariensis and D. barnardi: a large dark red spot on base of posterior soft dorsal fin rays (a small black spot just behind dorsal fin in D. gibbosus).

Other Dentex species: no black spot behind dorsal fin; dorsal fin spines regularly increasing in length up to the fifth spine (decreasing from third spine backward in D. gibbosus).

Other species of Sparidae: either more than one type of teeth present, or all teeth incisor-like (only canine-like teeth in Dentex species); lower jaw projecting in Viridentex).





SIZE:

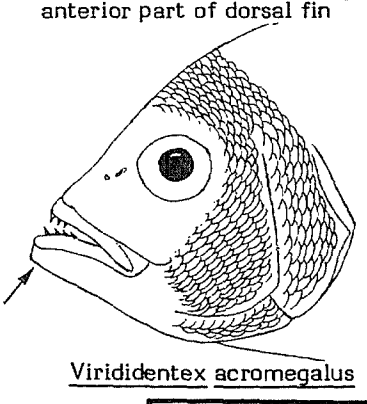
Maximum: 100 cm; common to 60 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Along the West African coast from the Straits of Gibraltar to Angola, and around the Canary and São Tomé-Principe Islands. Also present off Portugal and in the Mediterranean.

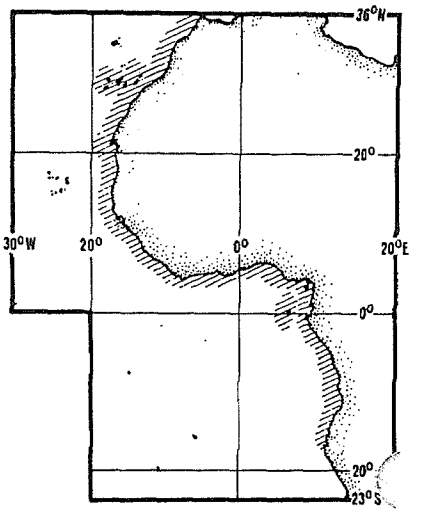
A demersal fish inhabiting rocky and rubble bottoms as well as sand around rocks, from 20 to about 220 m depth. The young are found close to the shore, while the adults occur in offshore waters in the vicinity of the continental slope. A protandric hermaphrodite (the majority are males up to 50 cm length, transforming into females thereafter).

Carnivorous, feeding chiefly on crustaceans, fish and cephalopods.



PRESENT FISHING GROUNDS:

Mainly in the central region of its distributional range.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with line gear (adults), bottom trawls and traps (young on the Canary Islands).

Marketed fresh, frozen or dried salted (flesh highly esteemed); also used for fishmeal and oil.

SPARID Dent 3

1981

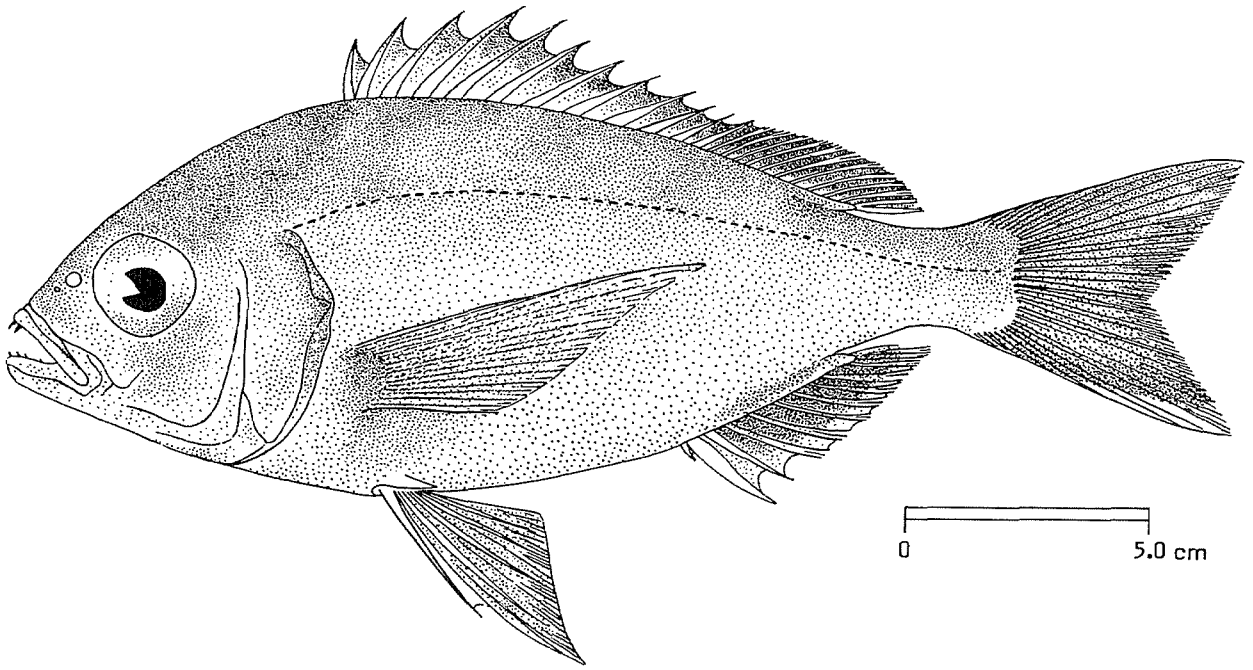
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Dentex macrophthalmus (Bloch, 1791)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Large-eye dentex
Fr - Denté à gros yeux
Sp - Cachucho

NATIONAL :

DISTINCTIVE CHARACTERS :

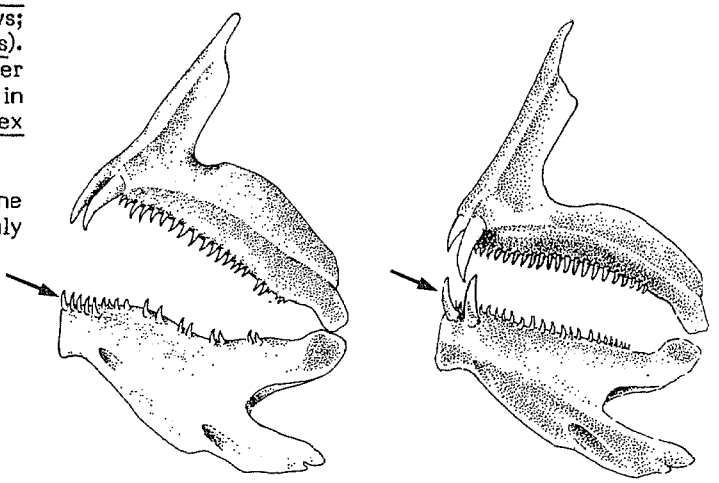
Body oval and compressed. Head profile regularly inclined from nape; eye very large, its diameter greater than snout lenght; suborbital space narrow; posterior nostril rounded; cheeks scaly; scales also on preopercle, except at its posterior margin; mouth low and oblique; several rows of canine-like teeth, outer row the strongest, with 4 well developed anterior teeth (in upper jaw (visible when mouth is closed) and 10 small anterior teeth (clearly smaller than the upper canines) in lower jaw; gillrakers in first arch 17 to 20 lower and 9 to 12 upper. Dorsal fin with 11 or 12 spines and 10 or 11 soft rays, the spines increasing in length from the first to the fourth or fifth and subequal thereafter; anal fin with 3 spines and 8 soft rays. Scales along lateral line 49 to 55.

Colour: body and fins reddish, lateral line more bright red; spinous portion of dorsal fin whitish at base; anal fin edged with white; inferior margin of lower caudal fin lobe white. The coloration becomes more intense during the spawning season.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other Dentex species and Viridentex acromegalus: canines equally well developed in both jaws; lower canines less developed in D. macrophthalmus). Furthermore, lower gillrakers less than 17 in all other Dentex species; fork of caudal fin margined with red in D. maroccanus and lower jaw projecting in Viridentex acromegalus.

Other species of Sparidae: either more than one type of teeth present, or all teeth incisor-like (only canine-like teeth in Dentex species).



D. macrophthalmus dentition

Dentex sp.

SIZE:

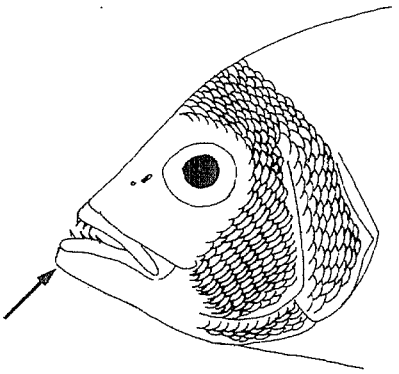
Maximum: 65 cm; common to 24 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Along the West African coast from the Straits of Gibraltar to Cape Verde including the Canary Islands, and from Congo to Namibia. Also off Portugal and in the Mediterranean.

A demersal species inhabiting rocky or sandy bottoms from 30 to 500 m, the idividuals gradually descending to greater depths with growth. The stocks migrate seasonally between the coast and deeper waters in accordance with local hydrographic conditions and their life cycle. Reproduction takes place from the second year onward, with intermittent spawning activity from October to April north of Cape Verde over the edge of the continental shelf and the slopes of canyons (cold waters).

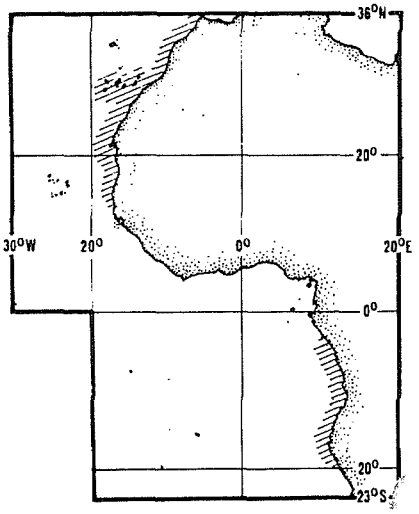
Adults are carnivorous, feeding chiefly on fish and crustaceans; the young are plankton-feeders.



Viridentex acromegalus

PRESENT FISHING GROUNDS:

Throughout its range; in the northern part of the area this is the most abundant among the species of Dentex. A seasonal fishery takes place at the time of spawning concentrations.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Within the area, catch statistics reported for this species totalled 29 000 t in 1977; most of the catch (about 23 000 t) was taken by the USSR in the southern part of the area.

Caught with bottom trawls, bottom longlines and on hook and line.

Marketed fresh or frozen (flesh highly esteemed); also used for fishmeal and oil.

SPARID Dent 4

1981

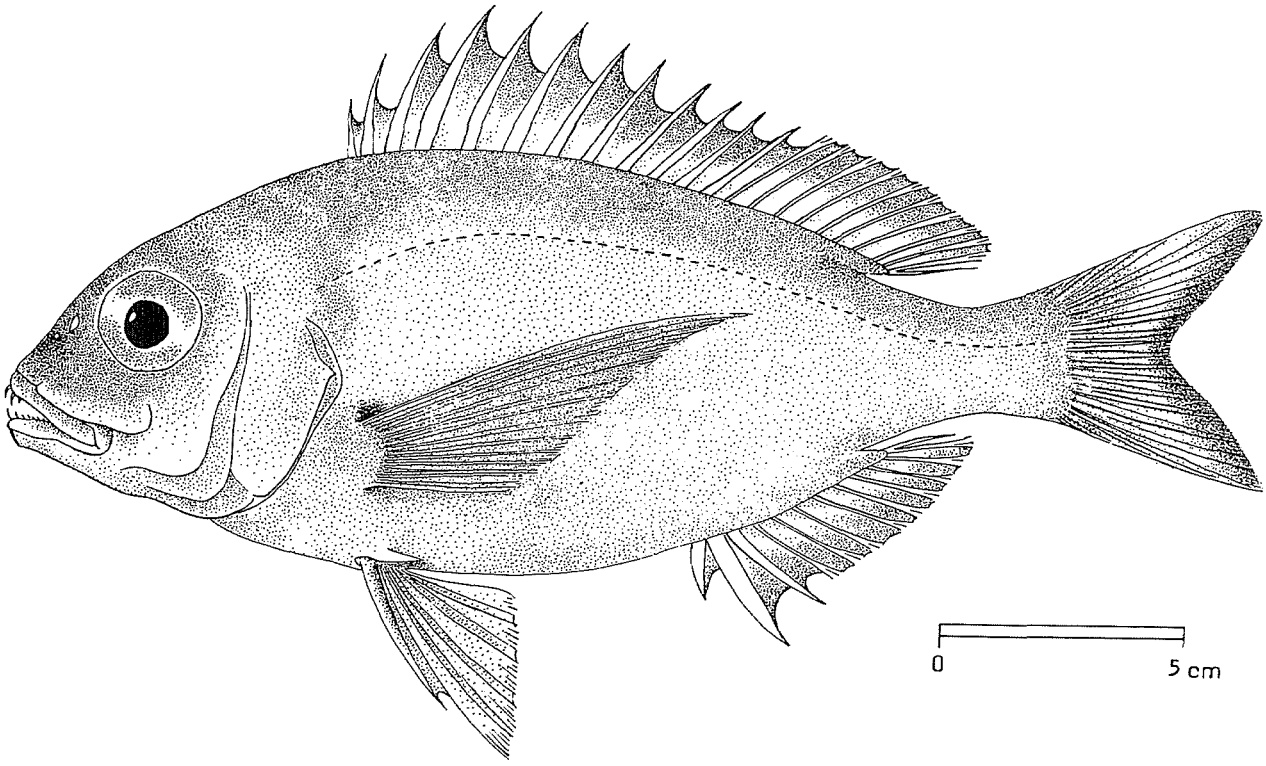
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Dentex maroccanus Valenciennes, 1830

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Morocco dentex
Fr - Denté du Maroc
Sp - Sama marroquí (= Sama)

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval and compressed. Head profile rather regular, steeper in front of eye; cheeks scaly; scales also on preopercle except at its posterior margin; mouth low, very slightly oblique; several rows of canine-like teeth, outer row much the strongest with 4 to 6 very well developed anterior teeth in each jaw, the uppers visible when mouth is closed; gillrakers on first arch 9 to 12 lower and 7 to 9 upper. Dorsal fin with 12 spines and 10 or 11 soft rays, the spines increasing in length up to the fourth or fifth and subequal thereafter (longest spine 44 to 51% of head length); anal fin with 3 spines and 8 or 9 soft rays. Scales along lateral line 46 to 51.

Colour: light red with silvery reflections; head darker and fins pinkish; distal part of dorsal and anal fins more intensely reddish; fork of caudal fin edged with dark red; a very small dark spot above pectoral fin insertions. Males display a more intense coloration during the spawning season.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Dentex macrophthalmus: lower canines less developed than uppers (equally well developed in D. maroccanus); lower gill rakers 17 to 20 (9 to 12 in D. maroccanus).

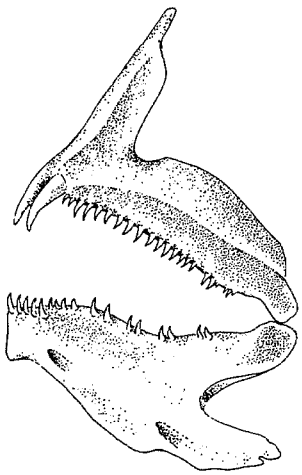
D. angolensis: caudal fin uniformly red (edged with dark red in D. maroccanus); longest dorsal fin spine 33 to 44% of head length (44 to 51% in D. maroccanus).

D. congoensis: caudal fin uniformly red; lower gill-rakers 12 to 14.

D. dentex: dorsal fin spines 11 (12 in D. maroccanus).

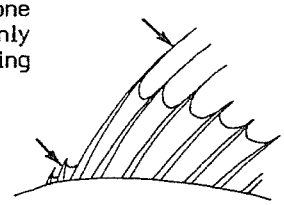
Other Dentex species: first two dorsal fin spines very short, those following often filamentous; a dark spot posteriorly on dorsal fin base or on body behind dorsal fin.

Other species of Sparidae: either more than one type of teeth present, or all teeth incisor-like (only canine-like teeth in Dentex species); lower jaw projecting in Viridentex).

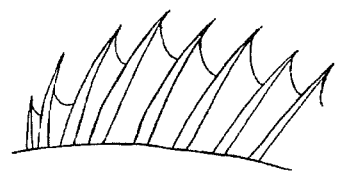


D. macrophthalmus

jaw and teeth

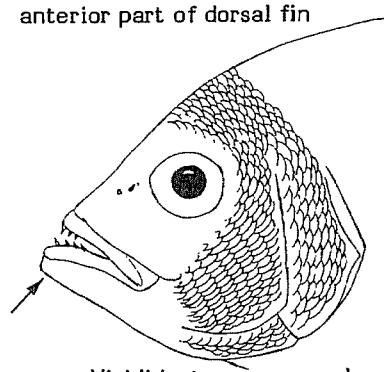


D. barnardi, D. canariensis, D. gibbosus



D. maroccanus

anterior part of dorsal fin



Viridentex acromegalus

SIZE:

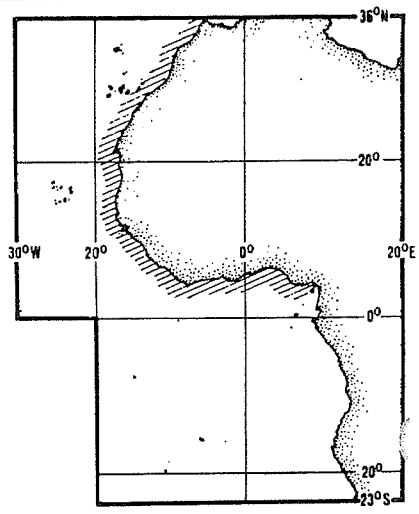
Maximum: 45 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Along the West African coast from Gibraltar to the Gulf of Guinea, possibly even further south. Northward extending to the Bay of Biscay (occasionally further north) and into the southwestern Mediterranean.

A demersal species inhabiting various types of bottom but preferring gravel or rubble, from 20 to about 500 m depth, abundance varying with depth according to the latitudes. Seasonal spawning activities between 50 and 100 m depth with a peak from May to August north of Cape Verde.

Carnivorous feeding chiefly on crustaceans, fish, and secondarily on molluscs



PRESENT FISHING GROUNDS:

Fished south of Agadir, particularly south of Cape Blanc. Together with D. macrophthalmus, this is the most abundant among the Dentex species on the northwest African coast.

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 or frozen (flesh highly esteemed); also used for fishmeal and oil.

SPARID Dent 5

1981

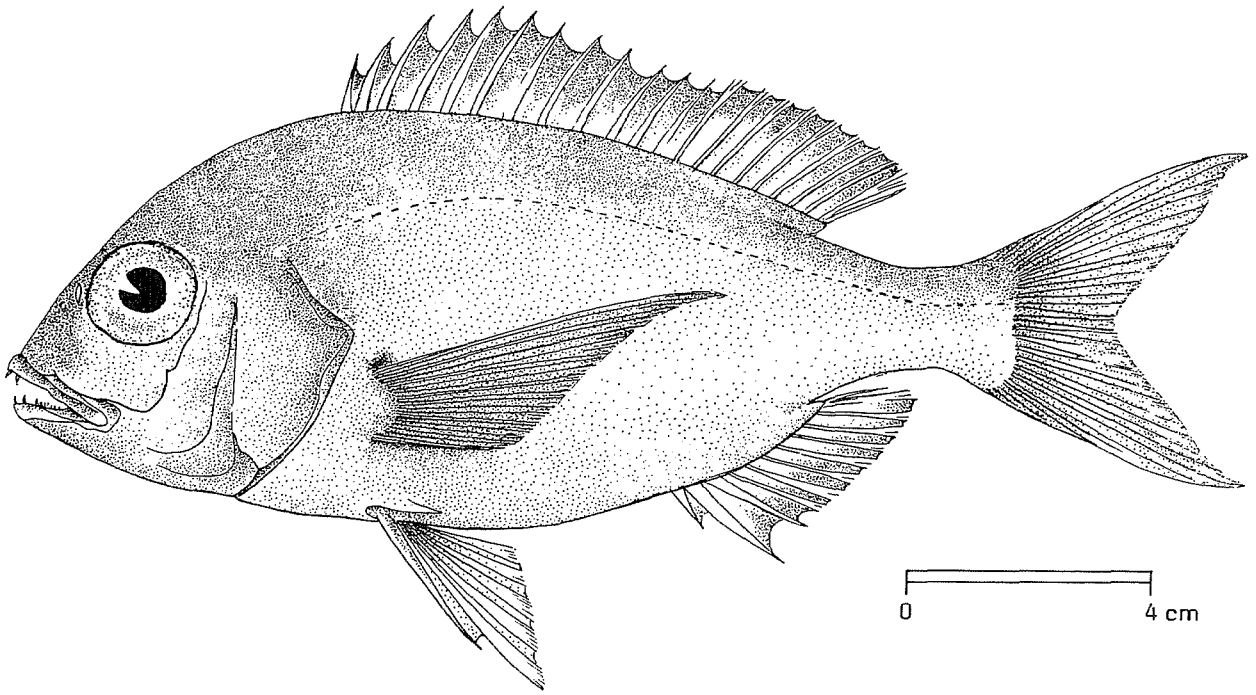
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Dentex angolensis Poll & Maul, 1953

OTHER SCIENTIFIC NAMES STILL IN USE : Dentex polli Roux, 1954



VERNACULAR NAMES:

FAO : En - Angola dentex
Fr - Denté angolais
Sp - Dentón angolés

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval, rather deep and compressed. Head profile straight; interorbital space narrow (21 to 25% of head length); suborbital space wide (17 to 21% of head length); scales present on cheeks and anterior part of preopercle; mouth low, slightly oblique; several rows of canine-like teeth, outer row the strongest with 4 to 6 better developed anterior teeth in each jaw, the uppers visible when mouth is closed; gillrakers on first arch 9 or 10 lower and 6 to 9 upper. Dorsal fin with 12 spines increasing in length up to the fourth or fifth and subequal thereafter, and 9 or 10 soft rays; anal fin with 3 spines and 7 or 8 soft rays. Scales along lateral line 45 to 49.

Colour: red with silvery reflections, head darker and belly lighter; a small dark area above the insertions of pectoral fins; dorsal and anal fins red except on their bases; pelvic fins light-coloured; pectoral fins and caudal fin reddish.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

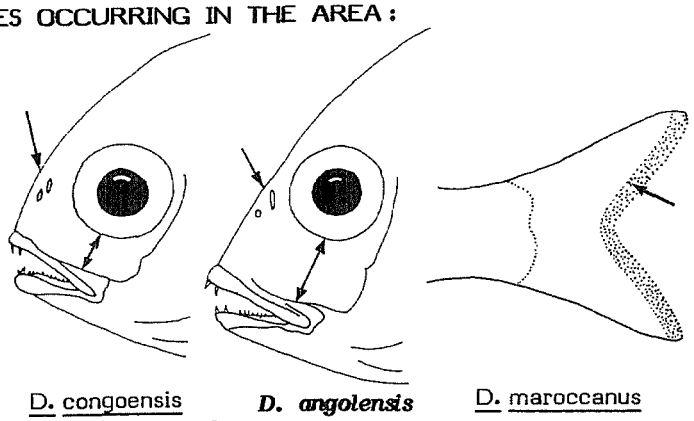
Dentex congoensis: head profile rounded, interorbital space wide, 28 to 32% of head length (21 to 25% in D. angolensis); suborbital space narrow, 12 to 14% of head length (17 to 21% in D. angolensis) lower gillrakers 12 to 14 (9 or 10 in D. angolensis).

D. maroccanus: fork of caudal fin margined with dark red; longest dorsal fin spine 44 to 51% of head length (33 to 44% in D. angolensis).

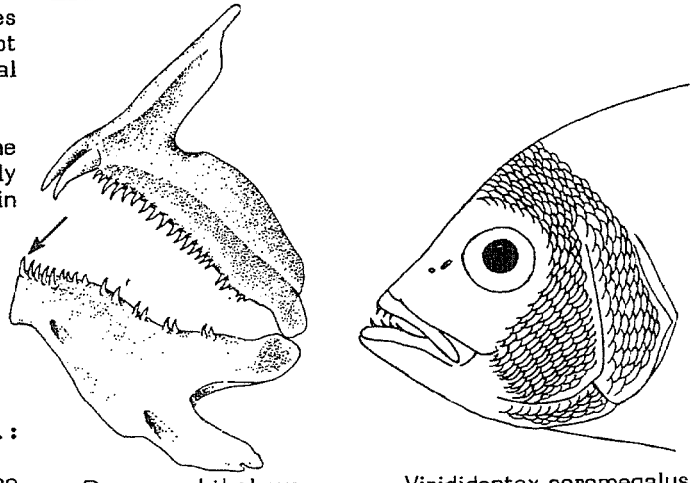
D. macrophthalmus: lower gillrakers 17 to 20; lower canines less developed than uppers (equally well developed in D. angolensis).

Other Dentex species: first two dorsal fin spines very short, the following often filamentous; a dark spot posteriorly on dorsal fin base or on body behind dorsal fin.

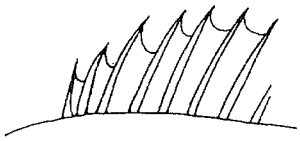
Other species of Sparidae: either more than one type of teeth present, or all teeth incisor-like (only canine-like teeth in Dentex); lower jaw projecting in Viridentex).



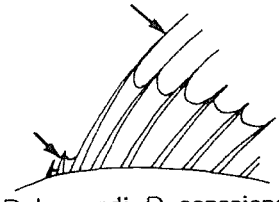
D. congoensis — *D. angolensis* — D. maroccanus



D. macrophthalmus dentition — Viridentex acromegalus



D. angolensis



D. barnardi, D. canariensis, D. gibbosus

anterior part of dorsal fin

SIZE:

Maximum: 35 cm; common to 24 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

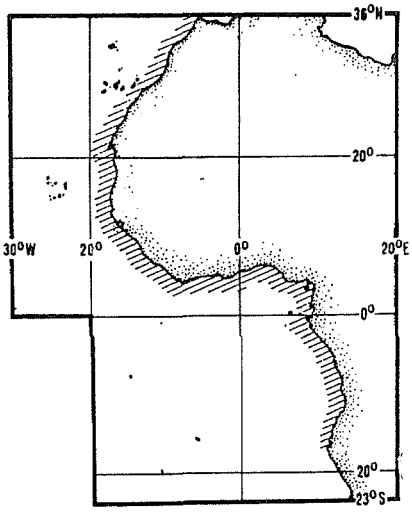
Along the West coast of Africa from Morocco (33°N) to Angola.

Inhabits various types of bottoms on the continental shelf and the slope, from 15 to 300 m depth; the old individuals occurring in the deeper waters. A protogynic hermaphrodite (the majority of individuals are first females and become males at 18 to 23 cm length). In the Gulf of Guinea there are two spawning seasons, the most important extending from May to July.

Carnivorous, feeding chiefly on crustaceans; also on fish, sometimes on molluscs and worms.

PRESENT FISHING GROUNDS:

From Agadir to Angola; a seasonal fishery linked to upwellings (maximum landings from June to October).



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics for this species are reported by Ghana only (about 4 300 t in 1977).

Caught with bottom trawls and bottom longlines.

Marketed fresh or frozen, sometimes dried salted (flesh highly esteemed); also used for fishmeal and oil.

SPARID Dent 6

1981

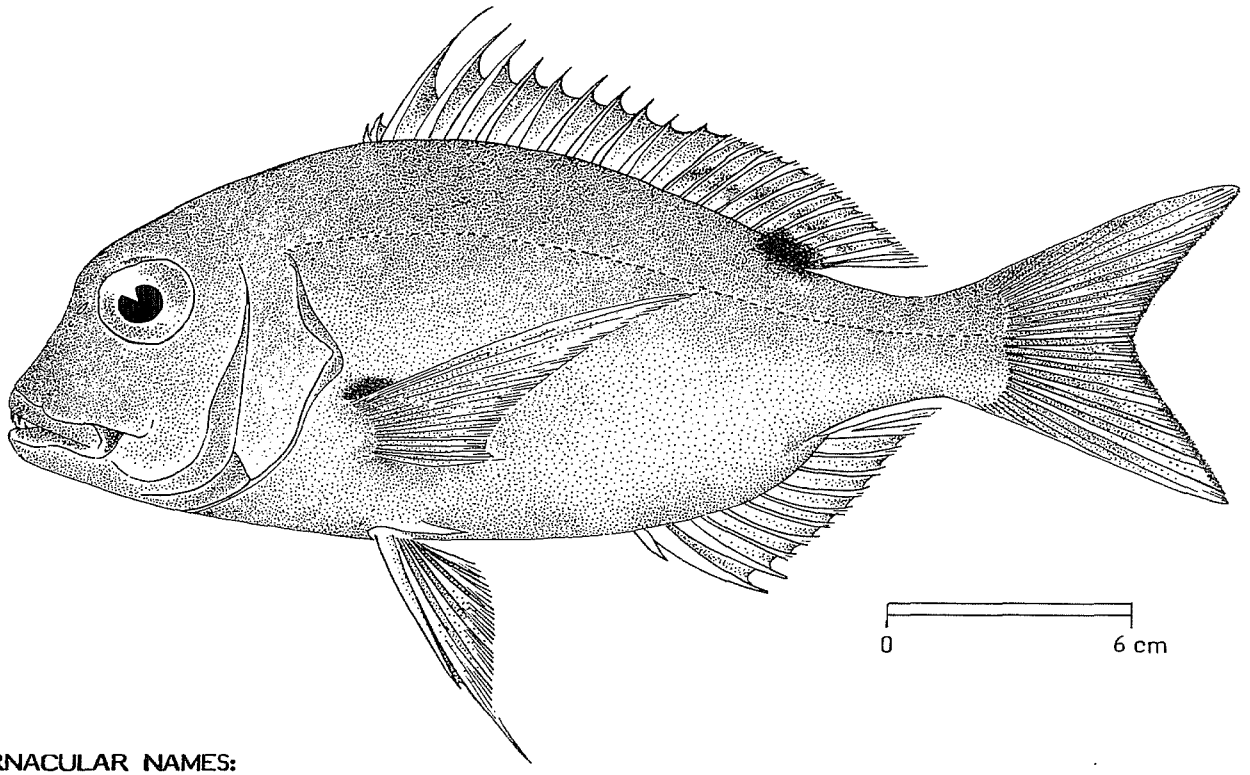
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Dentex barnardi (Cadenat, 1970)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Barnard dentex
Fr - Denté austral
Sp - Chacarona sureña

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval, rather deep and compressed. Head profile regularly inclined from nape downward and more abrupt below eye; a frontal hump developing with age; eye diameter greater than width of suborbital space in large idividuals; 5 to 8 scales on cheeks, some scarcely visible scales on lower part of preopercle; mouth low, slightly oblique, jaws subequal; several rows of canine-like teeth, outer row the strongest with 4 to 6 better developed anterior teeth in each jaw; gill rakers on first arch 14 to 16 lower and 8 to 11 upper. Dorsal fin with 12 spines and 9 or 10 soft rays; the first two spines extremely short, the following long and more or less filamentous, especially in the young, and decreasing in length from the third or fourth backward; anal fin with 3 spines and 8 soft rays; first soft ray of pelvic fins filamentous. Scales along lateral line 58 to 63.

Colour: more or less bright red with silvery reflections; a dark red spot posteriorly on dorsal fin base extending well beyond the scaly sheath; a dark area at pectoral fin axils; more or less aligned dark spots on soft portion of dorsal fin; caudal fin red with a fine black edge.

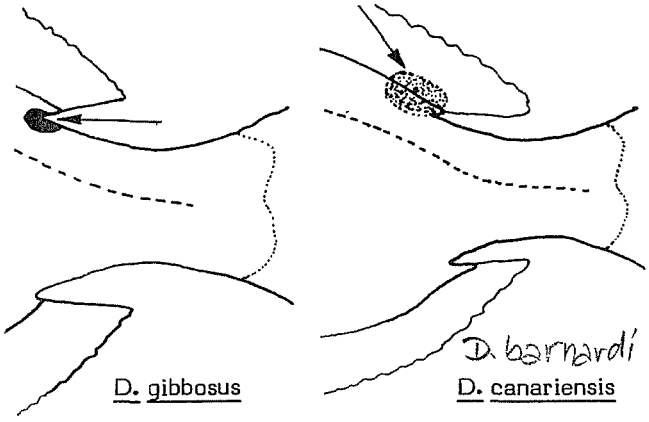
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Dentex canariensis: lower gillrakers less than 14 (14 to 16 in D. barnardi).

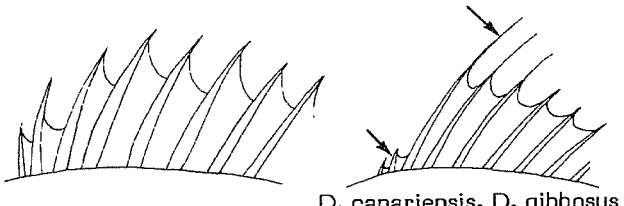
D. gibbosus: a deep black spot on body behind dorsal fin (a dark red spot posteriorly on dorsal fin in D. barnardi).

Other Dentex species: no dark red spot posteriorly on dorsal fin; dorsal fin spines regularly increasing in length up to the fifth (decreasing from third backward, and first two spines very short in D. barnardi).

Other species of Sparidae: either more than one type of teeth present, or all teeth incisor-like (only canine-like teeth in D. barnardi); lower jaw projecting in Viridentex).



D. gibbosus D. canariensis



other Dentex D. canariensis, D. gibbosus

D. barnardi

anterior part of dorsal fin

SIZE:

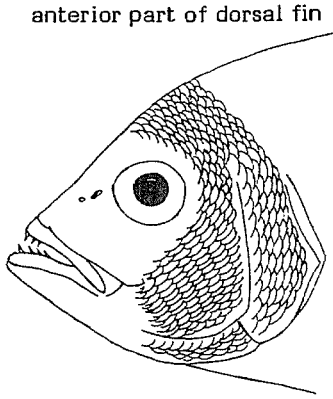
Maximum: 40 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Along the West African coast from Gabon (3°S) to Angola (17°S).

A demersal fish inhabiting trawlable bottoms from 40 to 100 m depth.

Carnivorous.



Viridentex acromegalus

PRESENT FISHING GROUNDS:

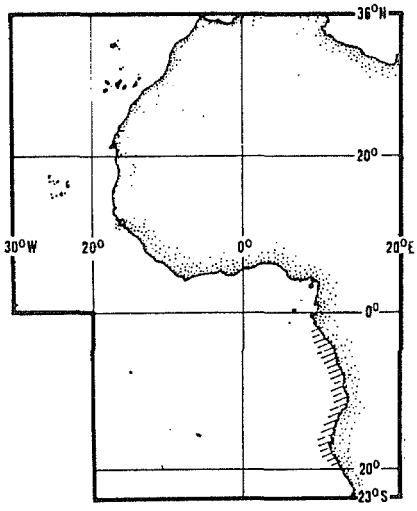
Throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls.

Marketed fresh; flesh highly esteemed.



SPARID Dent 7

1981

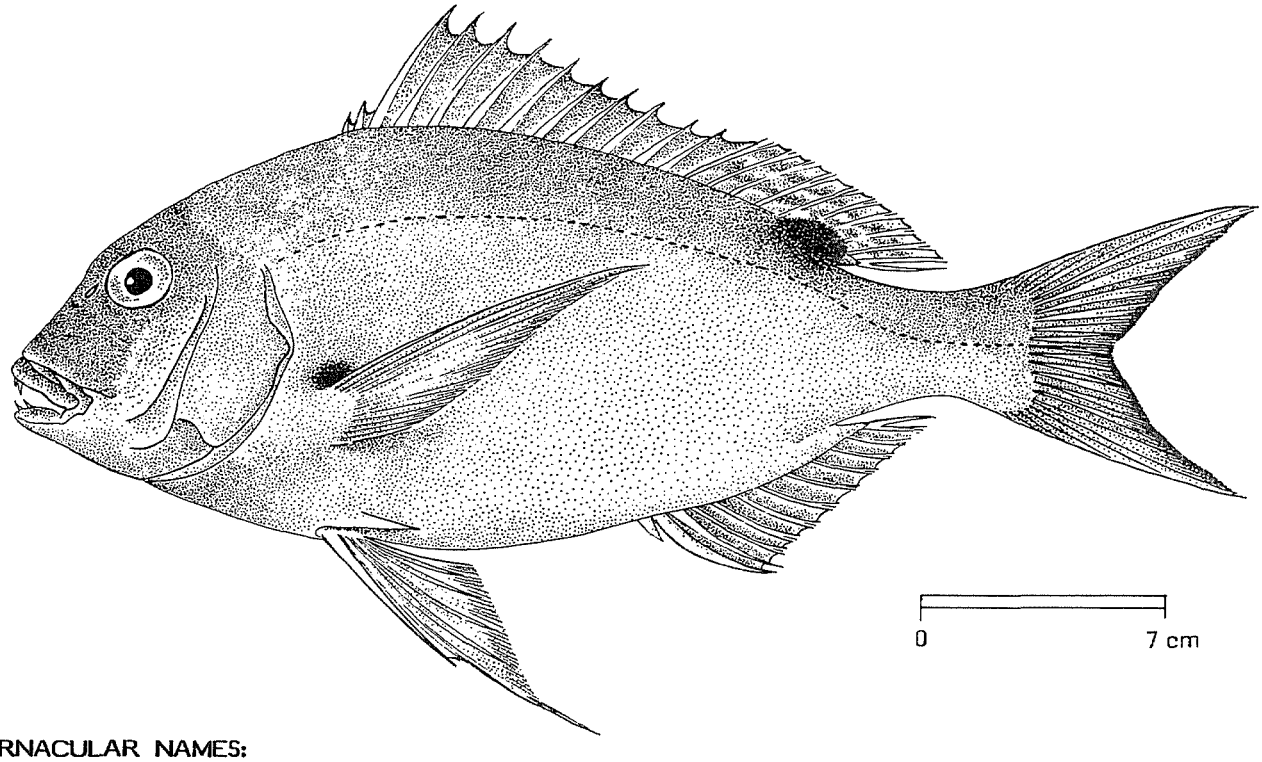
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Dentex canariensis Steindachner, 1881

OTHER SCIENTIFIC NAMES STILL IN USE : Dentex nufar Valenciennes, 1830 (sensu Poll, 1971)



VERNACULAR NAMES:

FAO : En - Canary dentex
Fr - Denté à tache rouge
Sp - Chacarona de Canarias

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval, rather deep and compressed. Head profile regularly convex except for a slight hump on front; eye diameter smaller than width of suborbital space in large individuals; cheeks scaly (7 to 9 rows); some small, scarcely visible scales also present on preopercle throughout its height; mouth low, slightly oblique; jaws subequal; several rows of canine-like teeth, outer row the strongest with 4 to 6 very well developed anterior teeth in each jaw; gillrakers on first arch 10 to 13 lower and 6 to 9 upper. Dorsal fin with 12 spines and 9 or 10 soft rays; first two spines very short, the following more or less filamentous and decreasing in length from the third or fourth backward; anal fin with 3 spines and 8 or 9 soft rays; first soft ray of pelvic fins filamentous. Scales along lateral line 61 to 68.

Colour: reddish with silvery reflections; belly lighter and head darker; a dark red spot posteriorly on base of dorsal fin extending well beyond the scaly sheath; a dark area at pectoral fin axils; more or less aligned dark spots on soft portion of dorsal fin; caudal fin dark red, very finely edged with black. In some individuals, a greenish yellow band between eyes.

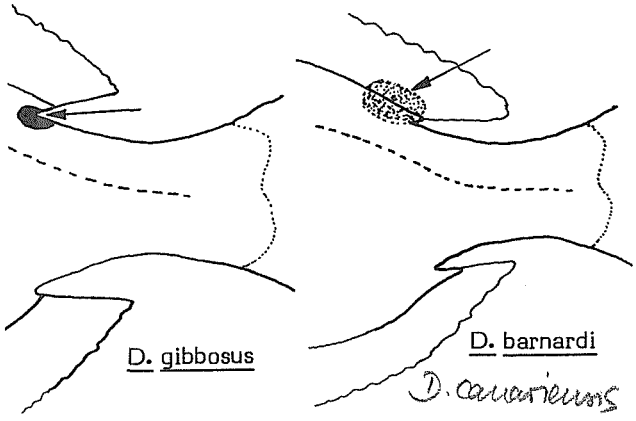
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

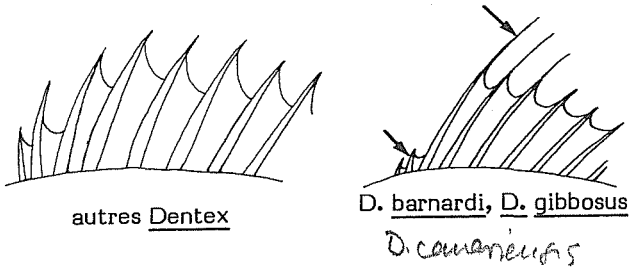
Dentex barnardi: lower gillrakers 14 to 16 (10 to 13 in D. canariensis).

D. gibbosus: a small, very distinct, black spot on body behind dorsal fin (a large, dark red spot posteriorly on dorsal fin in D. canariensis).

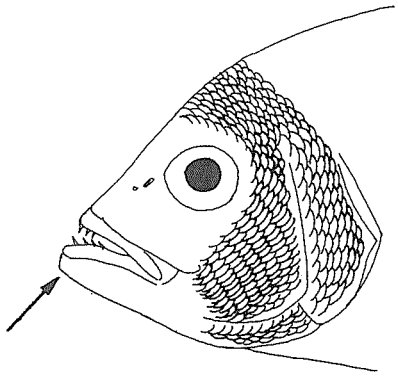
Other Dentex species: no dark red spot posteriorly on dorsal fin; dorsal fin spines regularly increasing in length up to the fifth (decreasing from the third backward in D. canariensis).

Other species of Sparidae: either more than one type of teeth present, or all teeth incisor-like (only canine-like teeth in Dentex species); lower jaw projecting in Viridentex).





anterior part of dorsal fin



Viridentex acromegalus

SIZE:

Maximum: 100 cm; common to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

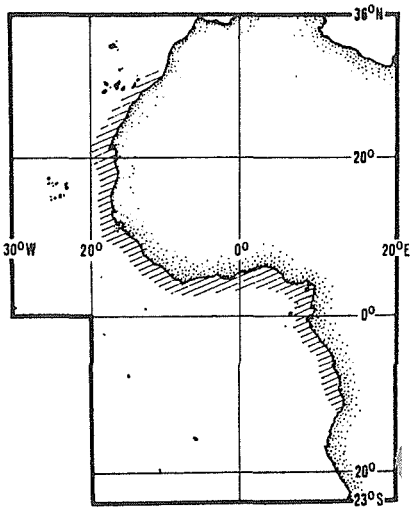
Along the West African coast from Cape Bojador to Angola; absent around islands, including the Canaries.

A demersal fish inhabiting various types of bottom, but especially rocky substrate usually to depths of about 150 m (rarely reported to 450 m), the depth range increasing with age. Sexual maturity is reached in the second year, and in the northern part of the Gulf of Guinea, intermittent spawning occurs from July to September, with a second, shorter spawning period in January.

Carnivorous; the young are plankton-feeders, the adults feed particularly on fish, crustaceans and cephalopods.

PRESENT FISHING GROUNDS:

A seasonal fishery linked to upwellings.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

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

Marketed fresh or frozen (flesh highly esteemed); also used for fishmeal and oil.

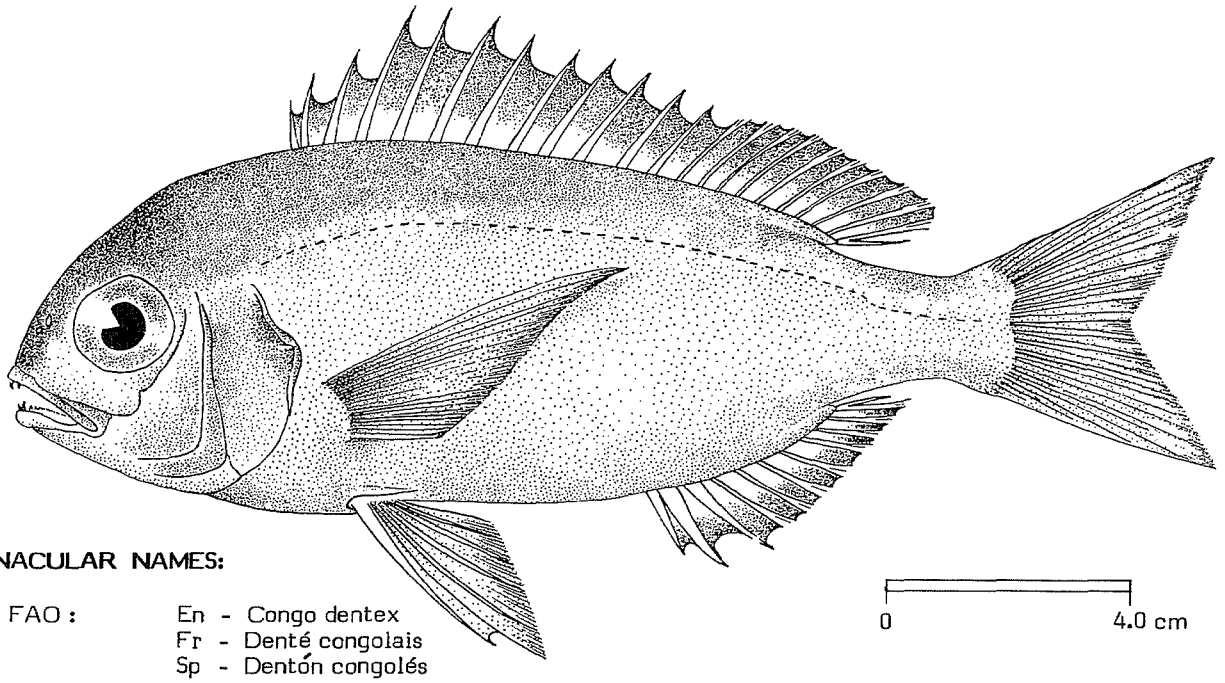
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Dentex congoensis Poll, 1954

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Congo dentex
Fr - Denté congolais
Sp - Dentón congolés

NATIONAL :

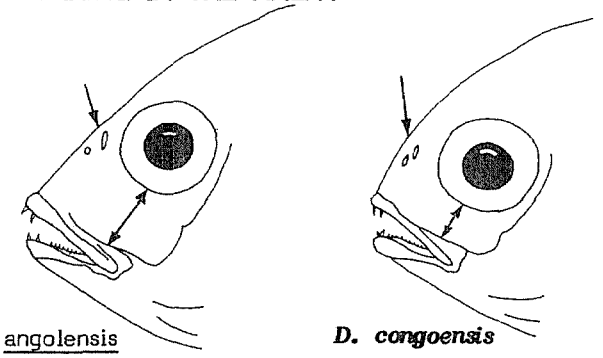
DISTINCTIVE CHARACTERS :

Body oval and compressed. Head profile regularly convex; interorbital space wide (27 to 32% of head length); suborbital space narrow (12 to 14% of head length); cheeks scaly; scales also present on preopercle except at its posterior margin; mouth low, slightly oblique; jaws subequal; several rows of canine-like teeth, outer row much the strongest, with 4 to 6 better developed anterior teeth in each jaw, the uppers visible when mouth is closed; gillrakers on first arch 12 to 14 lower and 6 to 9 upper. Dorsal fin with 12 spines and 9 or 10 soft rays, the spines increasing in length up to the fourth or fifth, the following subequal; anal fin with 3 spines and 7 or 8 soft rays. Scales along lateral line 45 to 47.

Colour: red with silvery reflections, head darker and belly lighter; dorsal and anal fins red distally, whitish at bases; pectoral fins and caudal fin pinkish red; pelvic fins whitish.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Dentex angolensis: head profile straight; interorbital space narrow, 21 to 25% of head length (27 to 32% in D. congoensis); suborbital space wide, 17 to 21% of head length (12 to 14% in D. congoensis); lower gillrakers 9 or 10 (12 to 14 in D. congoensis).



D. angolensis

D. congoensis

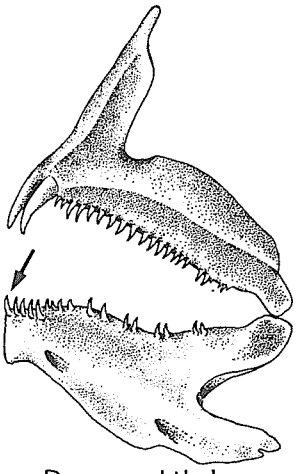
D. macrophthalmus: lower canines less developed than uppers (equally well developed in D. congoensis); 17 to 20 lower gillrakers.

D. maroccanus: fork of caudal fin edged with dark red; lower gillrakers 10 or 11.

D. dentex: 11 dorsal fin spines (12 in D. congoensis).

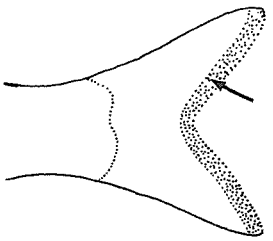
Other Dentex species: first two dorsal fin spines very short, those following often filamentous; a dark spot posteriorly on dorsal fin or on body behind dorsal fin.

Other species of Sparidae: either more than one type of teeth present, or all teeth incisor-like only canine-like teeth in Dentex species); lower jaw projecting in Viridentex.



D. macrophthalmus

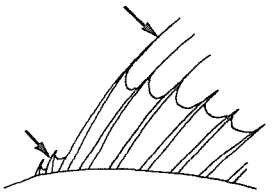
dentition



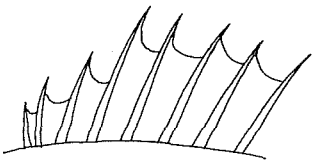
D. maroccanus

SIZE :

Maximum: 30 cm; common to 20 cm.



D. barnardi, D. canariensis, D. gibbosus



D. congoensis

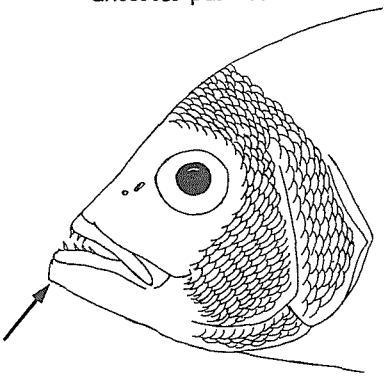
anterior part of dorsal fin

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Along the West African coast from Senegal to Angola.

Inhabits various types of bottoms on the continental shelf and upper slope, down to at least 200 m, older individuals occurring at greater depths.

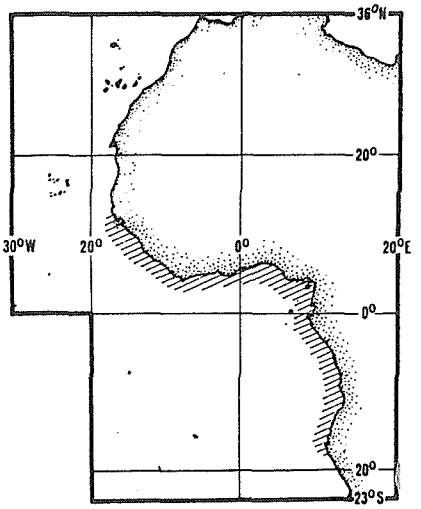
A carnivore feeding chiefly on fish, and to a lesser extend, on tunicates and molluscs



Viridentex acromegalus

PRESENT FISHING GROUNDS :

Throughout its range. A seasonal fishery linked to upwellings (peak from July to October).



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with bottom trawls, bottom longlines and on other line gear.

Marketed fresh or frozen, rarely smoked (flesh highly esteemed); also used for fishmeal and oil.

SPARID Diplod 1b

1981

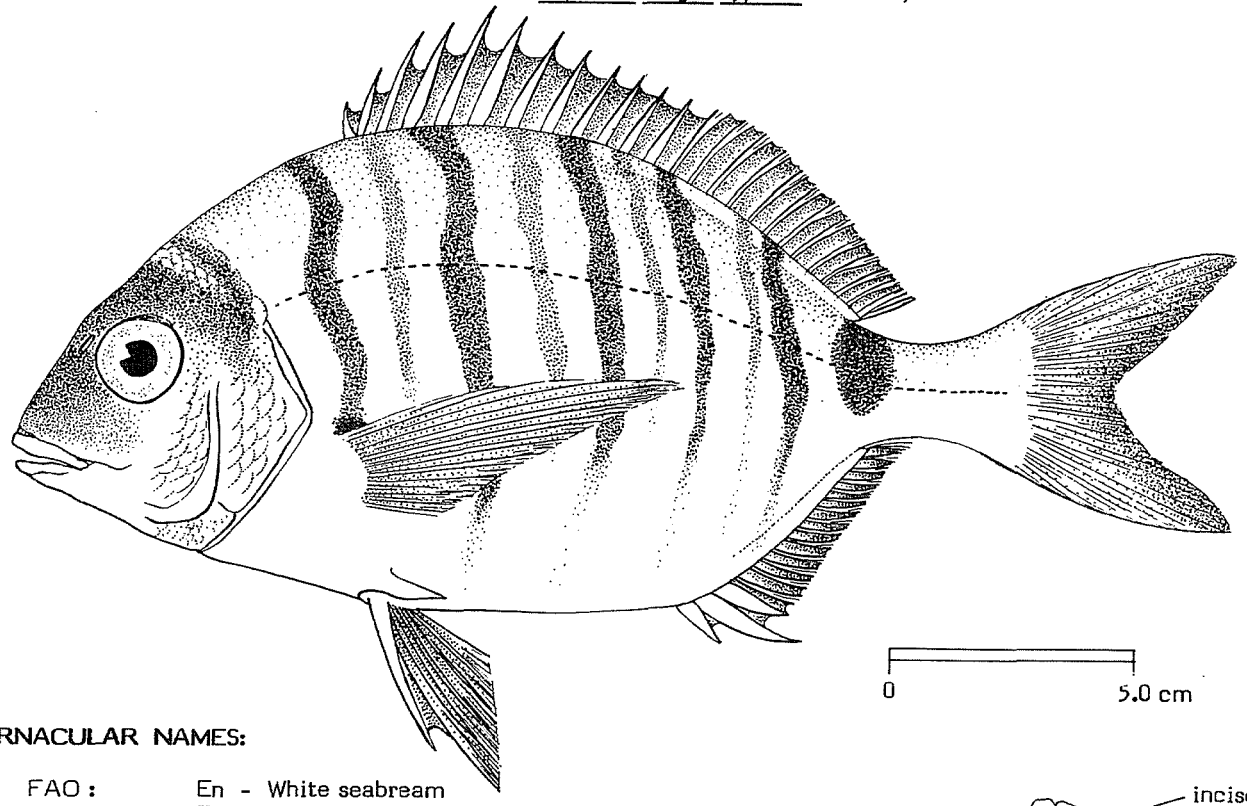
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Diplodus sargus cadenati de la Paz, Bauchot & Daget, 1974

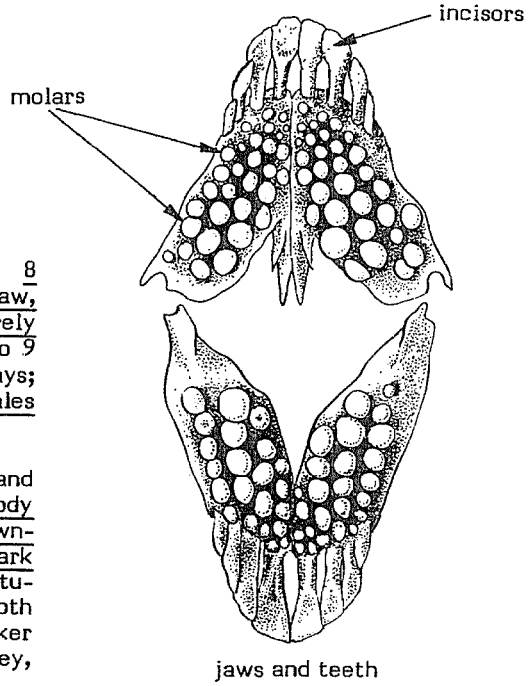
OTHER SCIENTIFIC NAMES STILL IN USE : Diplodus sargus typicus Cadenat, 1964



VERNACULAR NAMES:

FAO : En - White seabream
Fr - Sar commun du Maroc
Sp - Sargo marroquí

NATIONAL :



jaws and teeth

DISTINCTIVE CHARACTERS :

Body oval, rather deep. Mouth slightly protrusible, lips thin; 8 incisor-like teeth (exceptionally 10) in upper, and 8 in lower jaw, followed by molars set in 3 or 4 (rarely 5) rows in upper and 2 or 3 (rarely 4) rows in lower jaw; gillrakers on first arch 9 to 12 lower and 6 to 9 upper. Dorsal fin with 11 or 12 (rarely 13) spines and 12 to 15 soft rays; anal fin with 3 spines and 12 to 14 soft rays; caudal fin forked. Scales along lateral line 58 to 67 (scales on caudal fin base excluded).

Colour: background colour silvery grey, interorbital space and snout darker; 9 alternating dark and attenuated vertical bars on body covering about two thirds of body depth from the dorsal profile downward (in juveniles only the 5 darker bars are visible); a saddle-like dark blotch on caudal peduncle, just behind end of dorsal fin; dark longitudinal lines on sides running along scale rows throughout the entire depth of the body; pectoral fin axils black; dorsal and anal fins grey, darker distally; pectoral and pelvic fins more or less dark; caudal fin grey, margined with black.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Diplodus sargus capensis: (from Angola to South Africa): all crossbars on body equally dark.

D. sargus ascensionis (the only Diplodus from Ascension Island unknown elsewhere): very similar in shape and colour; vertical crossbars sometimes absent.

D. sargus helenae (the only Diplodus from St. Helena, unknown elsewhere): the 9 vertical crossbars disappear completely in large individuals.

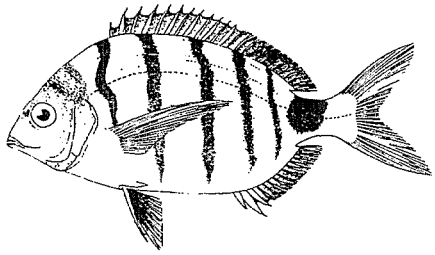
D. sargus lineatus (only known from the Cape Verde Islands): only 4 or 5 cross-bars (9 in D. sargus cadenati).

D. puntazzo: molar teeth very rudimentary (well developed in all subspecies of D. sargus).

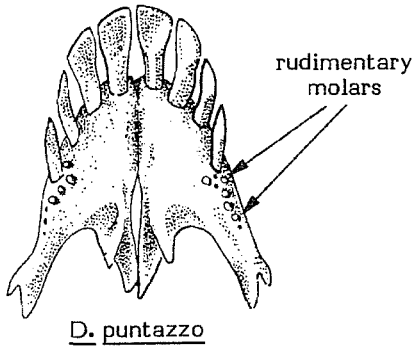
Other Diplodus species: crossbars less than 9 or absent.

Species of Sparus, Lithognathus and Pagellus: anterior teeth not incisor-like.

Other species of Sparidae: lateral teeth cutting or pointed (molar-like in Diplodus species).



D. sargus lineatus



D. puntazzo

upper jaw and teeth

SIZE:

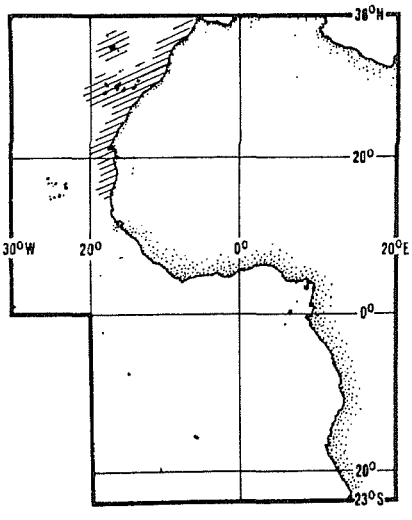
Maximum: 45 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Common along the West African coast from the Straits of Gibraltar to Cape Verde, and around Madeira and the Canary Islands, but absent from the Cape Verde Islands. Northward extending up to the Bay of Biscay; in the Mediterranean it is replaced by the subspecies D. sargus sargus.

A coastal, schooling species inhabiting rocky bottoms down to depths of 150 m, but especially abundant in the surf zone. The young occur in Zostera seagrass beds. Probably a protandric hermaphrodite (first male and then becoming female).

Omnivorous, but prefers small crustaceans and molluscs; also feeds on seaweeds and may attack small corals.



PRESENT FISHING GROUNDS:

Throughout its range, mainly exploited by artisanal fisheries.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with trammel nets, beach seines and on hook and line on the Canary Islands; also with trawls.

Marketed fresh or frozen (but the flesh is not very highly esteemed); also used for fishmeal and oil.

SPARID Diplod 1c

1981

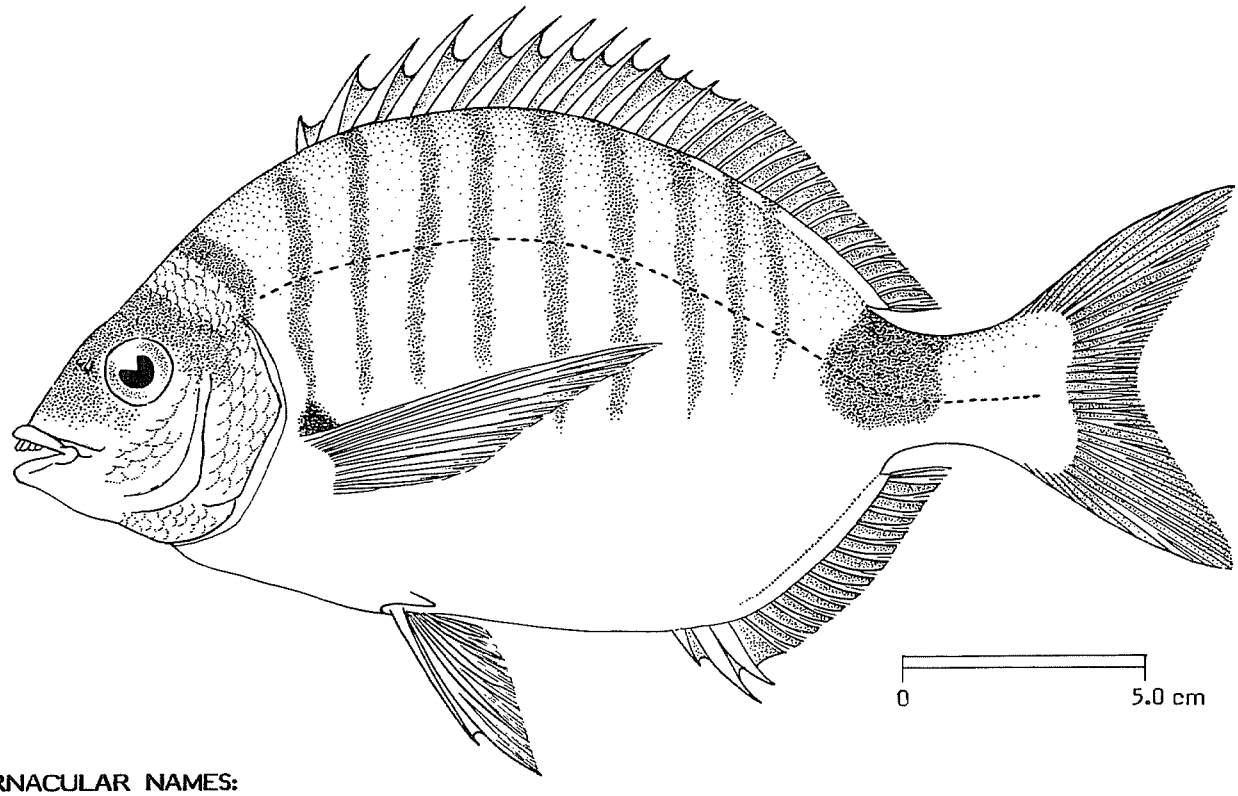
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Diplodus sargus capensis (Smith, 1846)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - White seabream (Cape)
Fr - Sar commun du Cap
Sp - Sargo del Cabo

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval and deep. Mouth slightly protrusible, lips thin; 8 incisor-like teeth in each jaw; 3 rows of molars in upper, and 2 rows in lower jaw; gillrakers on first arch 9 to 12 lower and 6 to 9 upper. Dorsal fin with 12 (rarely 11) spines and 13 to 16 soft rays; anal fin with 3 spines and 13 or 14 soft rays; caudal fin forked. Scales along lateral line 61 to 68 (scales on caudal fin base excluded).

Colour: background colour silvery grey; 9 narrow, equally dark crossbars running from dorsal profile to about two thirds of body depth (tending to disappear in old individuals); a large, dark, saddle-shaped blotch on caudal peduncle; vertical and pelvic fins greyish.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Diplodus sargus ascensionis (the only Diplodus found around Ascension Island unknown elsewhere): dark grey longitudinal lines on sides following scale rows; 4 rows of molars in upper and 3 in lower jaw (3 and 2, respectively, in D. sargus capensis).

D. sargus helenae (the only Diplodus found around Ascension Island, unknown elsewhere): dark longitudinal lines on sides throughout their depth; the 9 vertical bars disappearing completely in large individuals; snout blunt.

D. sargus cadenati (north of Cape Verde): vertical crossbars alternatingly dark and attenuated.

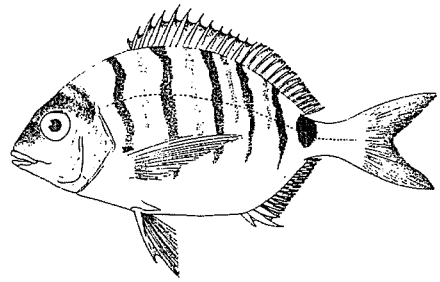
D. sargus lineatus (only from the Cape Verde Islands): only 4 or 5 dark crossbars (9 in D. sargus capensis).

D. puntazzo: molars very rudimentary (well developed in D. sargus).

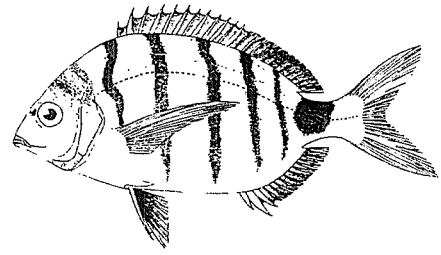
Other Diplodus species: dark crossbars either less than 9, or absent.

Species of Sparus, Lithognathus and Pagellus: anterior teeth not incisor-like.

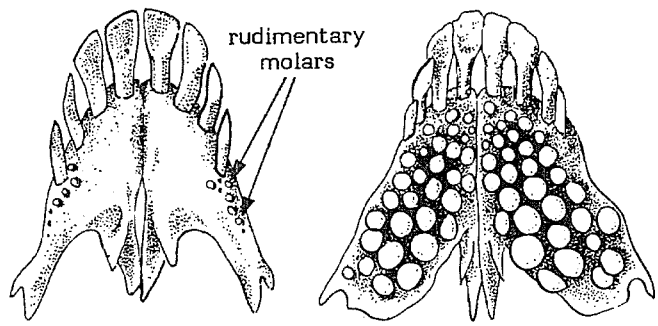
Other species of Sparidae: lateral teeth either pointed or with cutting edges (molar-like in Diplodus species).



D. sargus cadenati



D. sargus lineatus



D. puntazzo — *D. s. capensis*

upper jaw and teeth

SIZE:

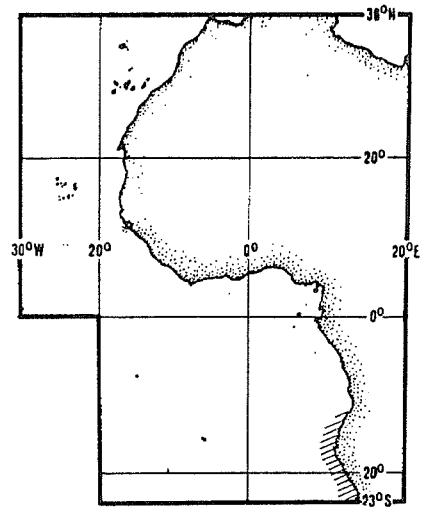
Maximum: 35 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Rather restricted within the area, from Angola southward to South Africa.

Inhabits rocky bottoms to about 50 m depth.

Omnivorous, feeding on seaweeds and benthic invertebrates.



PRESENT FISHING GROUNDS:

Throughout its range, mainly in artisanal fisheries.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly on line gear.

Marketed fresh, the flesh is not highly esteemed.

SPARID Diplod 1d

1981

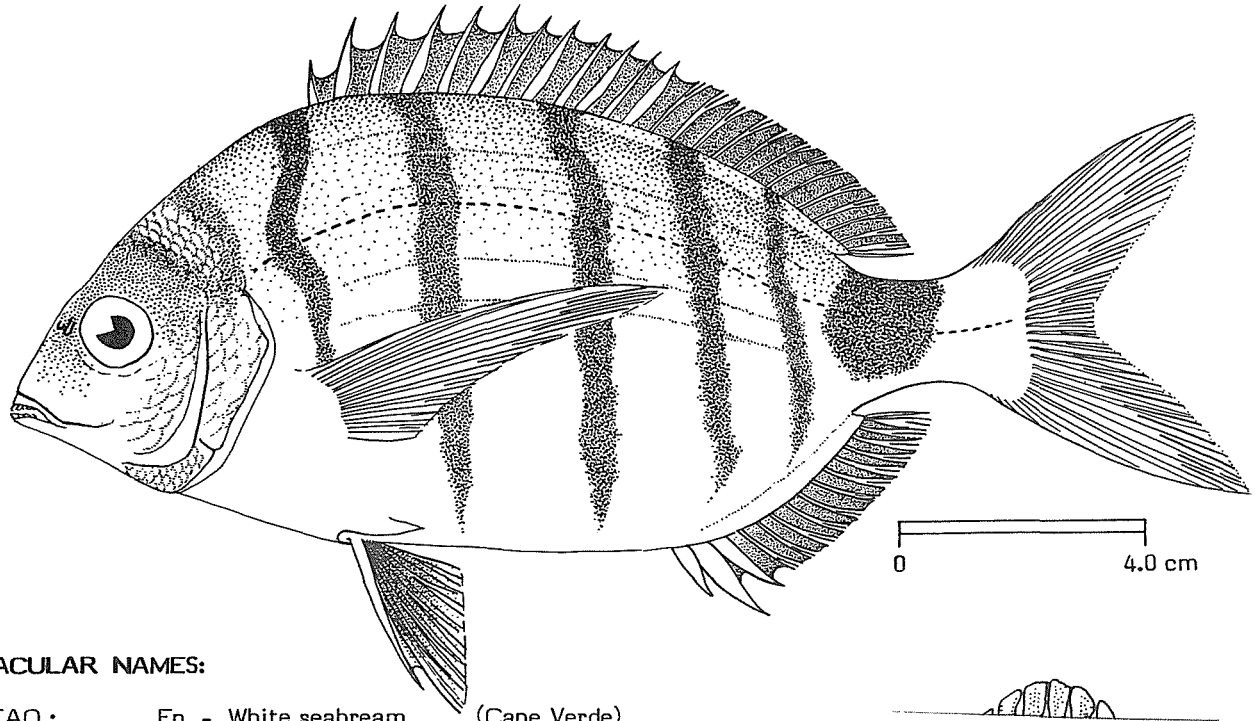
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Diplodus sargus lineatus (Valenciennes, 1830)

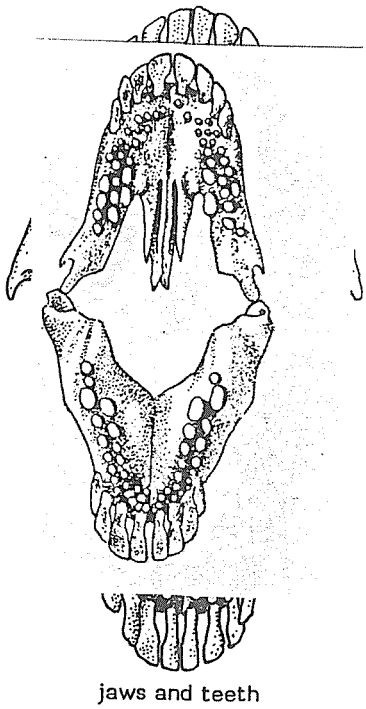
OTHER SCIENTIFIC NAMES STILL IN USE : Diplodus sargus insularum Cadenat, 1964



VERNACULAR NAMES:

FAO : En - White seabream (Cape Verde)
Fr - Sar commun du Cap Vert
Sp - Sargo de Cabo Verde

NATIONAL :



jaws and teeth

DISTINCTIVE CHARACTERS :

Body oval and deep. Mouth slightly protrusible; lips thin; 8 incisor-like teeth in each jaw; 3 (rarely 2) rows of molar teeth in upper, and 2 or 3 rows in lower jaw; in addition, 2 or 3 irregular rows of small molars behind the incisors; gill rakers on first arch 9 to 12 lower and 6 to 9 upper. Dorsal fin with 11 or 12 spines (every second spine strong and silvery) and 13 to 15 soft rays; anal fin with 3 spines and 12 or 13 soft rays; caudal fin forked. Scales along lateral line 57 to 65 (scales on caudal fin base excluded).

Colour: background colour a light greyish silver; 4 to 5 narrow black crossbars running from dorsal profile to belly; a large, black saddleshaped blotch on caudal peduncle; pelvic fins black except distally; dorsal and anal fins dark; pectoral fins light-coloured.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Other subspecies of Diplodus sargus: 9 vertical crossbars, or sometimes none (D. sargus ascensionis) (4 or 5 crossbars in D. sargus lineatus).

Diplodus cervinus and D. fasciatus: 10 to 12 incisor-like teeth in upper jaw (8 in subspecies of D. sargus); no molars behind the incisors; dark crossbars broader than light interspaces.

D. puntazzo: molars very rudimentary.

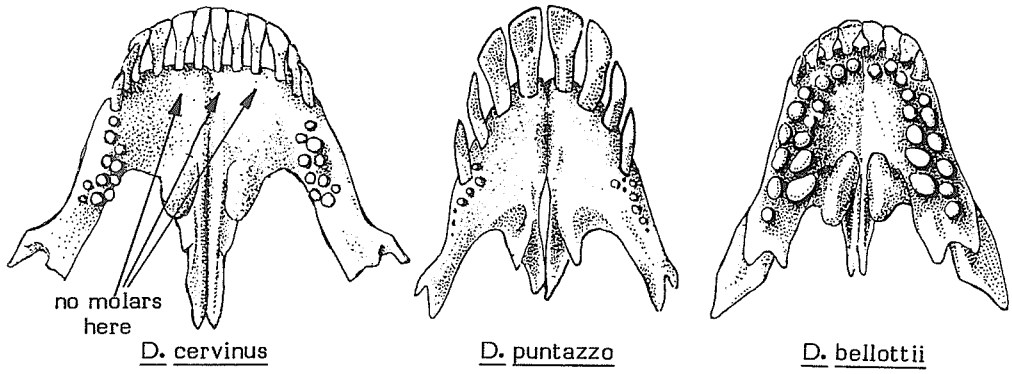
D. bellottii: a single row of small molars behind the incisors (several rows in D. sargus).

D. prayensis and D. vulgaris: a dark nuchal band present (absent in D. sargus).

D. annularis: a dark annular peduncular bar present (a saddle-shaped blotch in D. sargus); scales along lateral line 48 to 56 (57 to 65 in D. sargus lineatus).

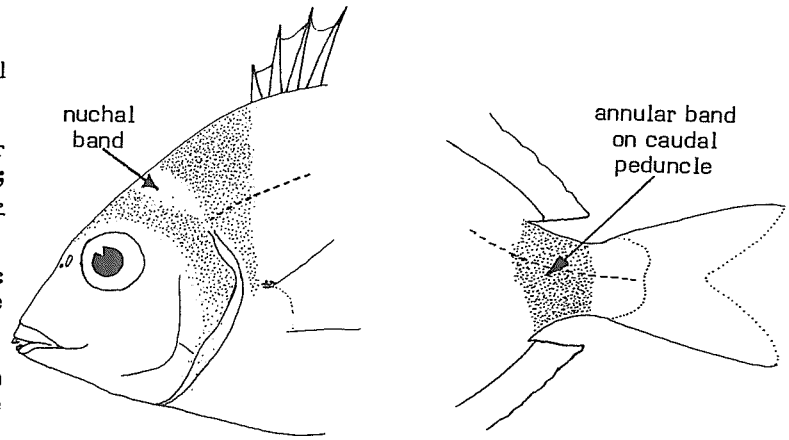
Species of Sparus, Lithognathus and Pagellus: anterior teeth not incisor-like (8 incisor-like teeth in each jaw in D. sargus).

Other species of Sparidae: lateral teeth either pointed or with cutting edges (molar-like teeth in Diplodus species).



D. cervinus D. puntazzo D. bellottii

upper jaw and teeth



D. vulgaris D. annularis

SIZE :

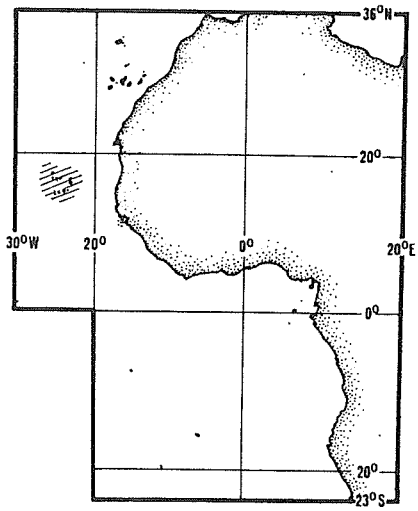
Maximum: 25 cm; common to 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

This species is endemic to the Cape Verde Islands.

Inhabits rocky bottoms interspread with sand in nearshore waters to about 30 m depth or slightly more.

Omnivorous, feeding on seaweeds and benthic invertebrates.



PRESENT FISHING GROUNDS :

Throughout its range; mainly landed in artisanal fisheries.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Mainly caught on hook and line.

Marketed fresh; flesh not highly esteemed.

SPARID Diplod 4

1981

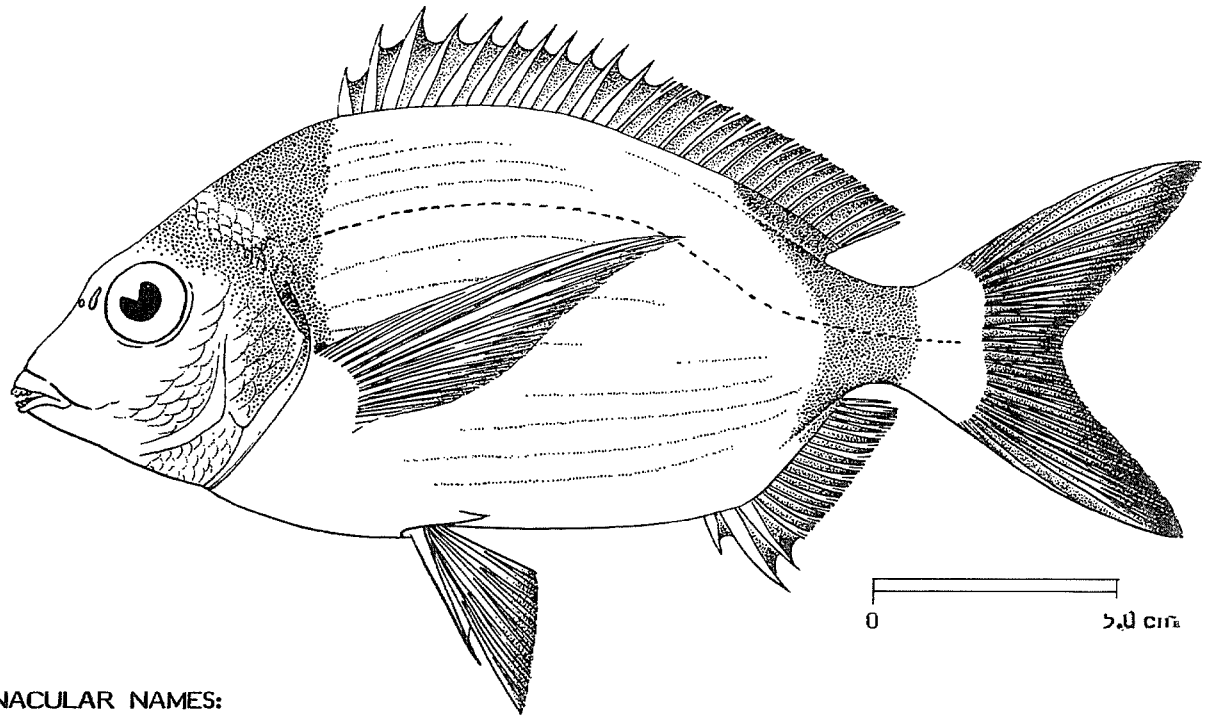
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Diplodus vulgaris (E. Geoffroy Saint Hilaire, 1817)

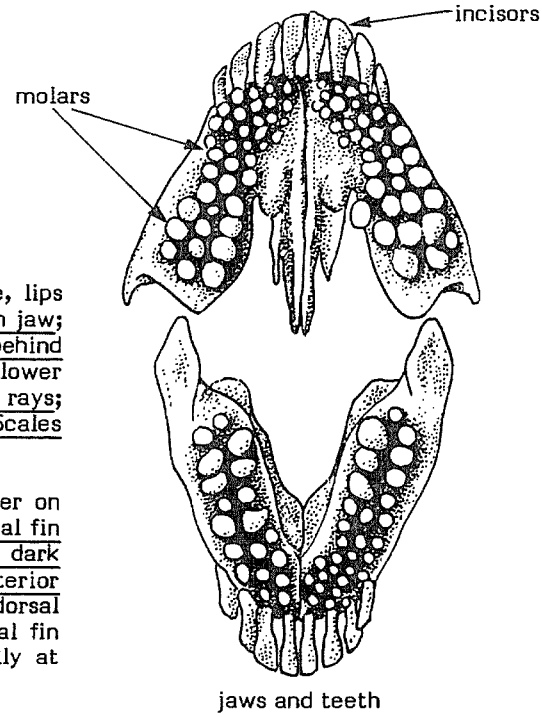
OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Common two-banded seabream
Fr - Sar à tête noire
Sp - Sargo mojarra (= Mojarra)

NATIONAL :



jaws and teeth

DISTINCTIVE CHARACTERS :

Body oval, deep and compressed. Mouth slightly protrusible, lips rather thick; 8 narrow, chestnut-coloured, incisor-like teeth in each jaw; 3 to 5 rows of molars in upper and 2 to 4 rows in lower jaw, set behind the incisors and on sides of jaws; gillrakers on first arch 10 to 12 lower and 6 to 9 upper. Dorsal fin with 11 or 12 spines and 13 to 16 soft rays; anal fin with 3 spines and 12 to 15 soft rays; caudal fin forked. Scales along lateral line 51 to 61 (scales on base of caudal fin excluded).

Colour: background colour grey, brownish or greenish, lighter on belly; a large, very dark nuchal band extending from origin of dorsal fin to pectoral fin insertions and to the posterior margin of opercle; a dark annular band on caudal peduncle extending unto the bases of posterior dorsal and anal finrays (sometimes more restricted, not reaching dorsal and anal fins, in young individuals); pectoral fin axils black; caudal fin dark, almost black distally; other fins more or less dark, especially at margins.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Diplodus prayensis (Cape Verde Islands only): nuchal band narrow; posterior edge of branchiostegal membrane black.

D. cervinus and D. fasciatus 10 to 12 incisor-like teeth in upper jaw (8 in D. vulgaris); no molars behind the incisors; dark crossbands broader than light interspaces.

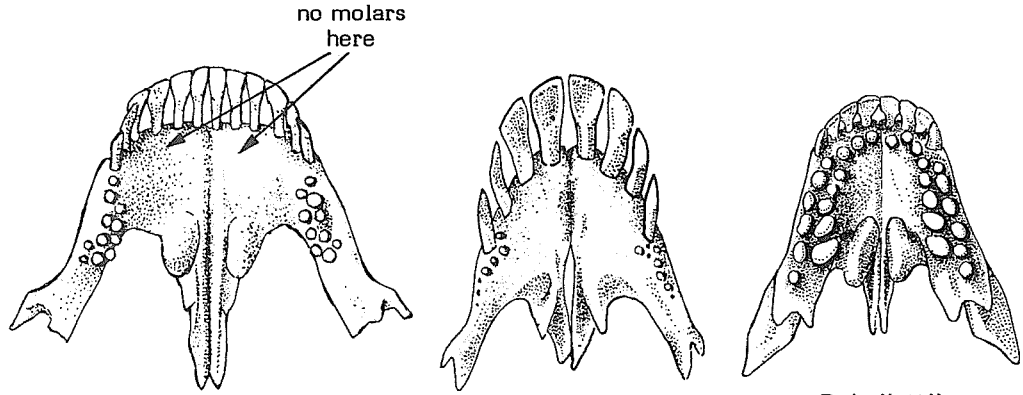
D. puntazzo: molars very rudimentary.

D. bellottii: a single row of small molars behind the incisors (several rows in D. vulgaris).

D. annularis and D. sargus: nuchal band absent.

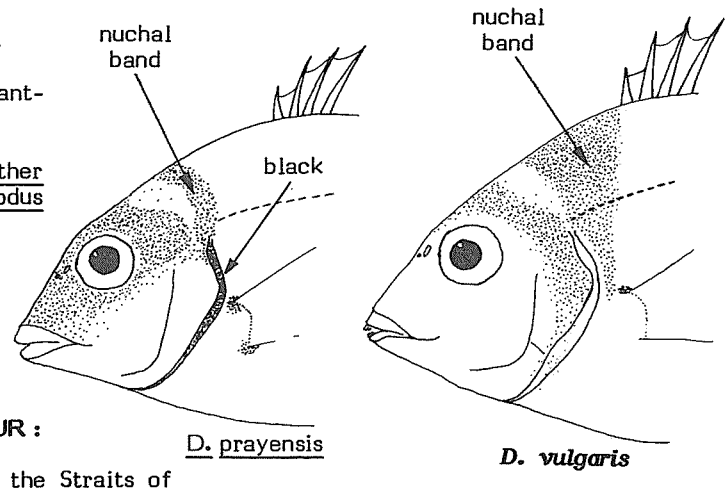
Species of Sparus, Lithognathus and Pagellus: anterior teeth not incisor-like.

Other species of Sparidae: lateral teeth either pointed, or with cutting edges (molar-like in Diplodus species).



D. cervinus D. puntazzo D. bellottii

upper jaw and teeth



D. prayensis *D. vulgaris*

SIZE :

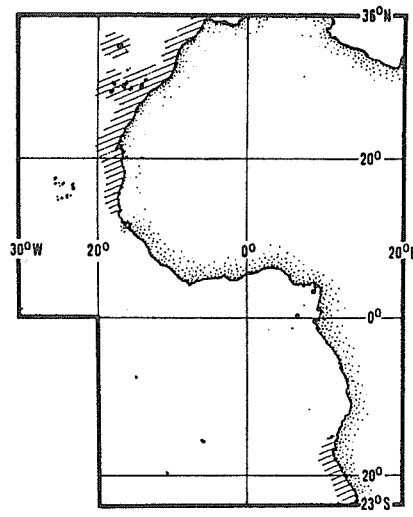
Maximum: 45 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Common along the West African coast from the Straits of Gibraltar to Cape Verde, around Madeira and the Canary Islands, but absent from the Cape Verde Islands; also occurring from Angola to South Africa. Northward extending into the Mediterranean and the Bay of Biscay.

An euryhaline species (tollerating changes in water salinity) inhabiting particularly rocky and sometimes sandy bottoms to depths of 160 m, but more commonly in less than 50 m. The young are sometimes found in seagrass beds.

Carnivorous, feeding on crustaceans, worms and molluscs.



PRESENT FISHING GROUNDS :

Throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with trammel nets, trawls, on hook and line, in traps (Canary Islands) and with beach seines (young fish).

Marketed fresh, frozen or dried salted (flesh not very highly esteemed); also used for fishmeal and oil.

SPARID Diplod 5

1981

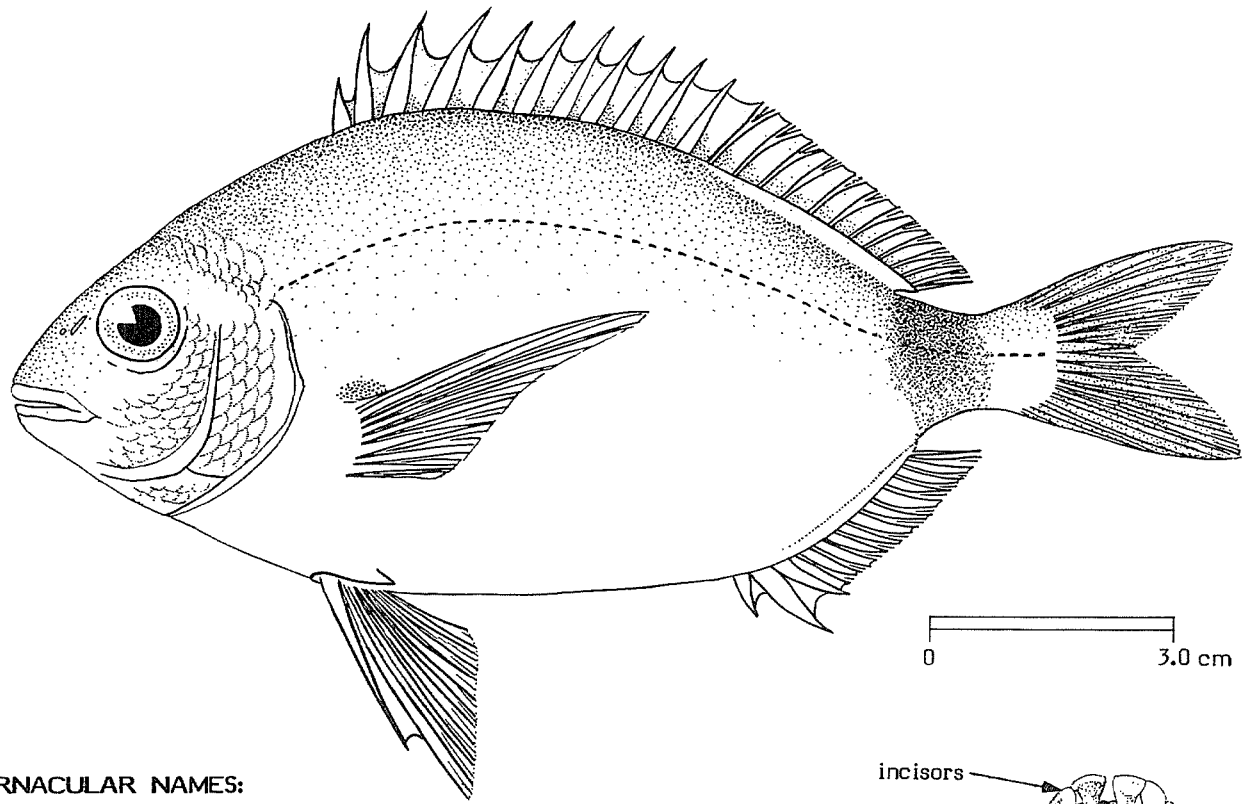
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Diplodus annularis (Linnaeus, 1758)

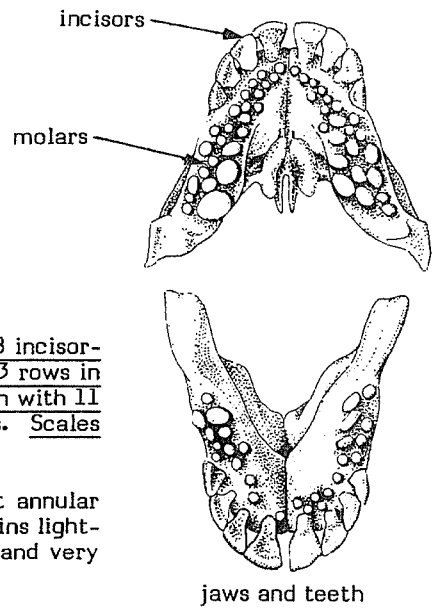
OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Annular seabream
Fr - Sparaillon commun
Sp - Raspallón

NATIONAL :



jaws and teeth

DISTINCTIVE CHARACTERS :

Body oval, rather dep and compressed. Mouth slightly protrusible; 8 incisor-like teeth in each jaw, followed by 2 to 4 rows of molars in upper and 2 or 3 rows in lower jaw; gillrakers on first arch 9 to 12 lower and 7 or 8 upper. Dorsal fin with 11 spines and 11 to 13 soft rays; anal fin with 3 spines and 11 or 12 soft rays. Scales along lateral line 48 to 56 (scales on base of caudal fin excluded).

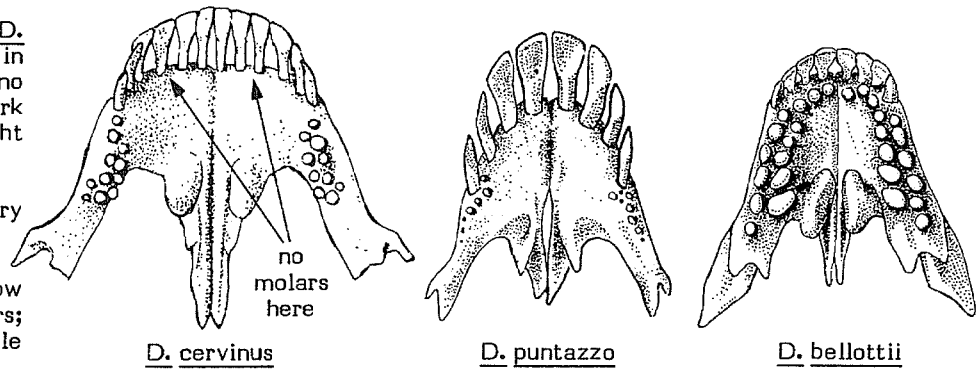
Colour: adults are yellowish grey with silvery reflections; an almost annular black band on caudal peduncle, behind dorsal fin; pelvic fins yellow, other fins light-coloured. Juveniles with 5 narrow crossbars on sides and the peduncular band very distinctly annular.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Diplodus cervinus and D. fasciatus: 10 to 12 incisors in upper jaw (8 in D. annularis); no molars behind the incisors; dark crossbands broader than light interspaces.

D. puntazzo: molars very rudimentary.

D. bellottii: a single row of molars behind the incisors; dark bar on caudal peduncle saddle-shaped.



D. cervinus D. puntazzo D. bellottii

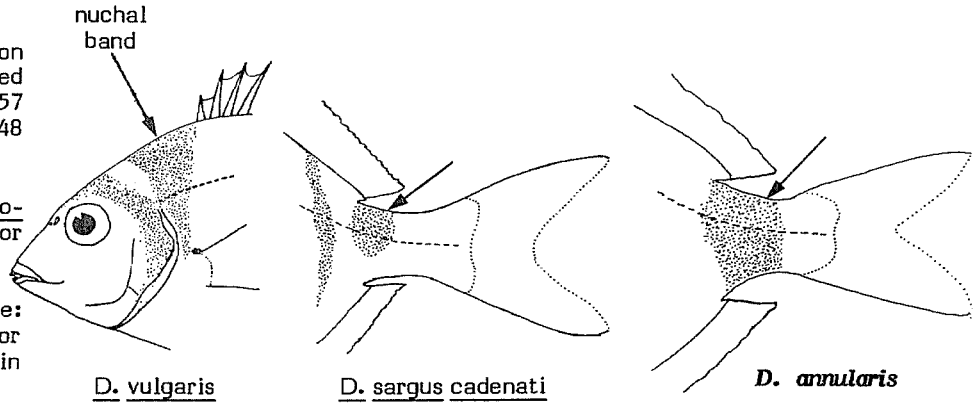
upper jaw and teeth

D. vulgaris and D. prayensis: a dark nuchal band present (absent in D. annularis).

D. sargus: dark bar on caudal peduncle saddle-shaped (annular in D. annularis) and 57 to 71 scales along lateral line (48 to 56 in D. annularis).

Species of Sparus, Lithognathus and Pagellus: anterior teeth not incisor-like.

Other species of Sparidae: lateral teeth either pointed or with cutting edges (molar-like in Diplodus species).



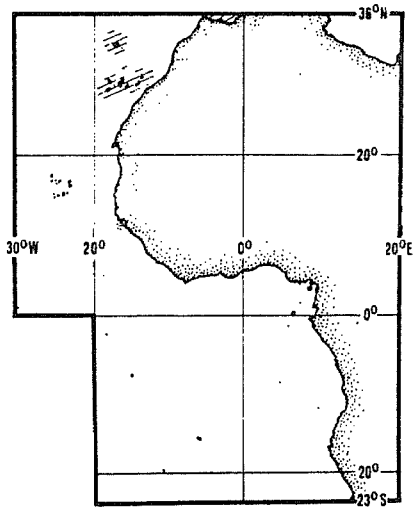
D. vulgaris D. sargus cadenati ***D. annularis***

SIZE:

Maximum: 20 cm; common to 15 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Madeira and Canary Islands. Also in the Mediterranean and northward to the Bay of Biscay.



Inhabits chiefly zostera seagrass beds but is also found on rocky bottoms from the coastline to about 20 m depth. The sexes are separated, although these fish are potential hermaphrodites; certain individuals are protandric hermaphrodites (first males, then becoming females).

Carnivorous, feeding on worms, crustaceans and molluscs occurring in seagrass beds.

PRESENT FISHING GROUNDS:

Regularly fished for, this being the most abundant species of Diplodus within its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with beach seines, bottom trawls and in traps.

Marketed fresh, frozen or dried salted (flesh not highly esteemed); also apparently used for fishmeal and oil.

SPARID Diplod 6

1981

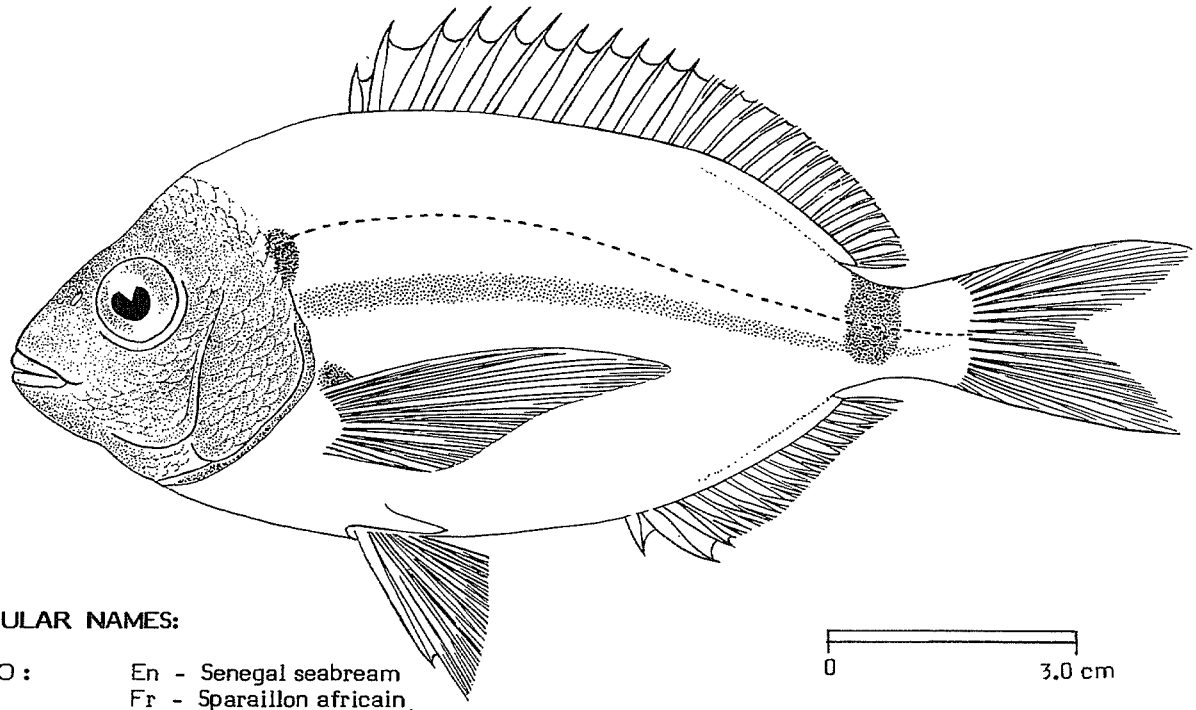
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Diplodus bellottii (Steindachner, 1882)

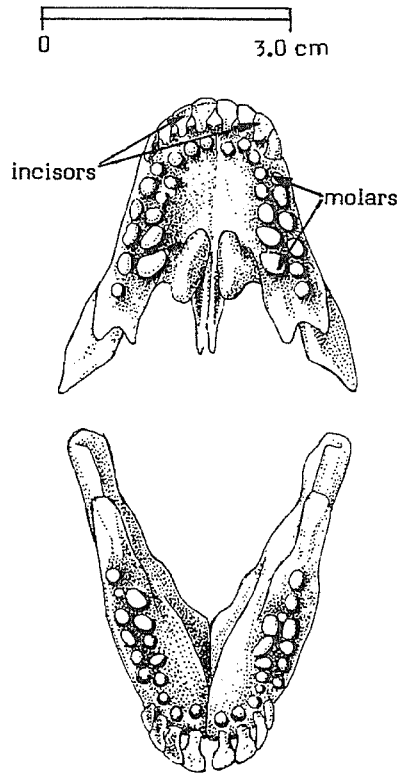
OTHER SCIENTIFIC NAMES STILL IN USE : Diplodus senegalensis Cadenat, 1964



VERNACULAR NAMES:

FAO : En - Senegal seabream
Fr - Sparaillon africain
Sp - Raspallón senegalés

NATIONAL :



jaws and teeth

DISTINCTIVE CHARACTERS :

Body oval, rather deep and compressed. Mouth slightly protrusible; 8 chestnut-coloured, incisor-like teeth in each jaw, followed by 2, or exceptionally 3 rows of molars; a single row of molars behind the incisors; gill rakers on first arch 12 to 14 lower and 6 to 9 upper. Dorsal fin with 10 or 11 spines and 13 to 15 soft rays; anal fin with 3 spines and 13 to 16 soft rays; caudal fin forked. Scales along lateral line 48 to 54 (scales on caudal fin base excluded).

Colour: background colour silvery grey, head darker; a dark, saddle-shaped bar on caudal peduncle; a dark blotch at origin of lateral line extending unto upper angle of opercle; a small, more or less well defined, dark, spot at upper angle of pectoral fin base; a more or less visible dark longitudinal line runs along middle of sides from opercle to caudal peduncle. Apart from the above described adult colour pattern, the juveniles have 5 broad cross bars on sides.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

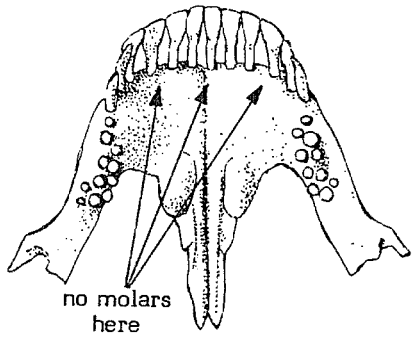
Diplodus cervinus and D. fasciatus: 10 to 12 incisors in upper jaw (8 in D. bellottii); no molars behind the incisors; dark crossbars broader than light interspaces.

D. puntazzo: molars very rudimentary on sides of jaws.

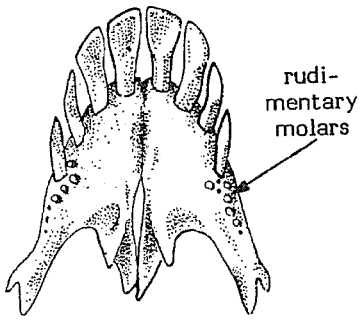
Other Diplodus species: several rows of more or less small molars behind the incisors (a single row of molars behind the incisors in D. bellottii).

Species of Sparus, Lithognathus and Pagellus: anterior teeth not incisor-like.

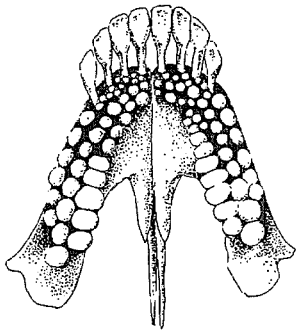
Other species of Sparidae: lateral teeth either pointed or with cutting edges (molar-like in Diplodus species).



D. cervinus



D. puntazzo



several rows of molars

D. prayensis

SIZE:

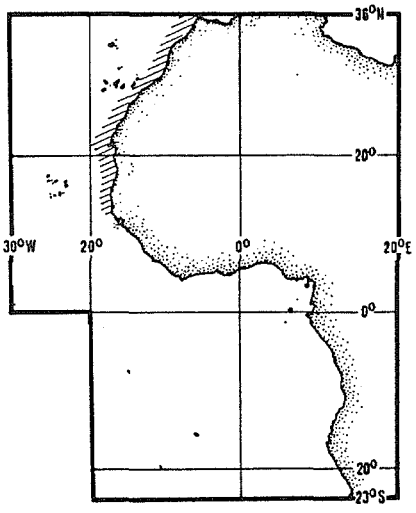
Maximum: 30 cm; common to 15 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Common from the Straits of Gibraltar to Cape Verde; absent from Madeira, the Canaries and the Cape Verde Islands.

Found on the upper portions of the continental shelf, from the coastline to 100 m depth, but especially from 30 to 50 m. Occurs on various types of bottom and sometimes forms sizeable aggregations.

Carnivorous, feeding on small benthic invertebrates.



PRESENT FISHING GROUNDS:

Not fished for intensively, but taken incidentally throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

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

Marketed fresh, frozen or dried salted (flesh not esteemed); also used for fishmeal and oil.

SPARID Diplod 7

1981

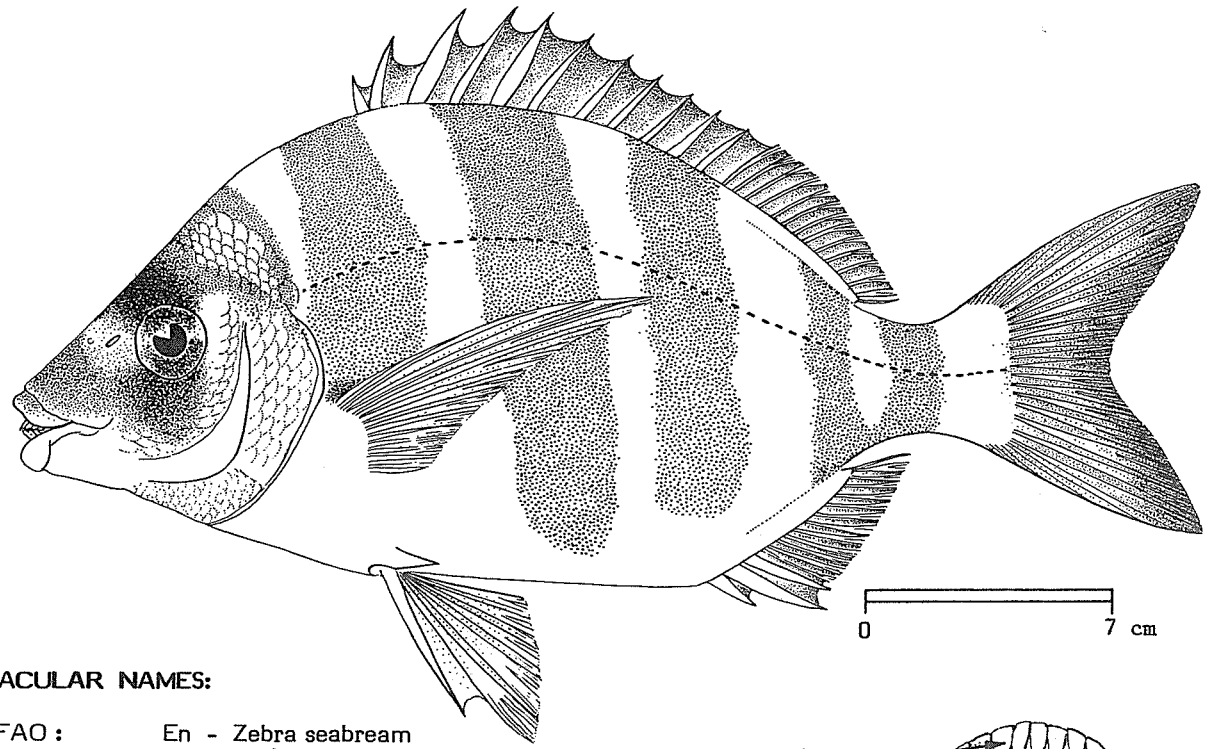
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Diplodus cervinus cervinus (Lowe, 1838)

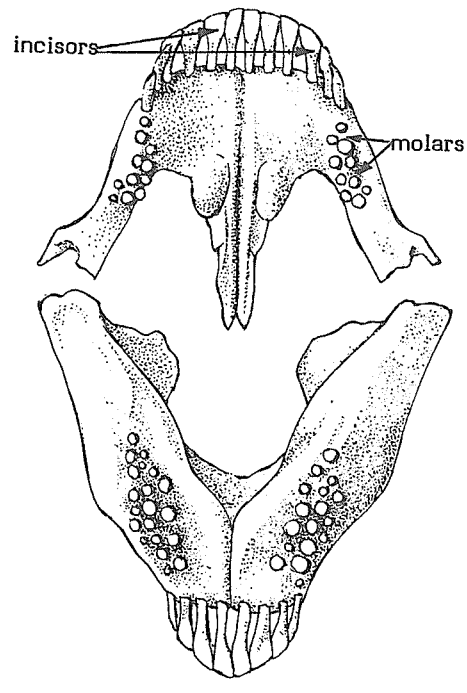
OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Zebra seabream
Fr - Sar à grosses lèvres
Sp - Sargo breado

NATIONAL :



jaws and teeth

DISTINCTIVE CHARACTERS :

Body oval, deep and compressed. Snout rather pointed, mouth slightly protrusible, lips thick; 10 to 12 incisor-like teeth in upper jaw 8 in lower jaw, followed by 1 to 3 (usually 2) rows of small molars; gillrakers on first arch 8 to 10 lower and 7 to 9 upper. Dorsal fin with 11 or 12 spines increasing in length up to the fourth, and 11 to 14 soft rays; anal fin with 3 spines and 10 to 12 soft rays; caudal fin forked. Scales along lateral line 51 to 62 (scales on caudal fin base excluded).

Colour: background colour silvery grey with golden reflections; 5 broad, dark, crossbars on sides, the first before dorsal fin, the last on caudal peduncle; a dark band on interorbital space extending unto eyes and cheeks; snout tip dark brown; a black spot at upper part of pectoral fin axils; vertical fins greyish, darker distally; pelvic fins dark. A yellow subocular spot appears during the reproduction period.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

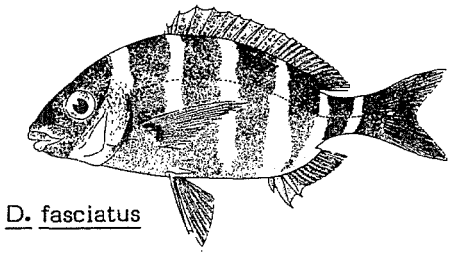
Diplodus fasciatus (endemic to Cape Verde Islands): background colour dark, with narrow light crossbars (dark crossbars on a light background in D. cervinus).

Other Diplodus species: 8 incisors in upper jaw (10 to 12 in D. cervinus); small molars present behind the incisors; dark crossbars, if present, much narrower than light interspaces (example D. sargus lineatus).

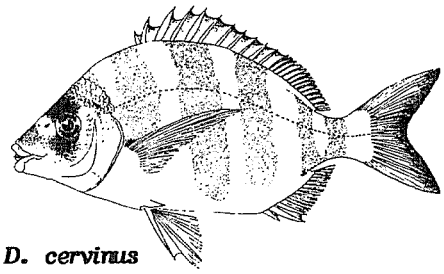
Rhabdosargus globiceps: 4 to 6 incisor-like teeth in upper jaw.

Species of Sparus, Lithognathus and Pagellus: anterior teeth not incisor-like (long and narrow incisors in D. cervinus).

Other species of Sparidae: lateral teeth either pointed or with cutting edges (molar-like in Diplodus species).



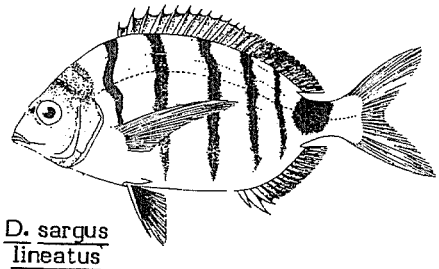
D. fasciatus



D. cervinus

SIZE:

Maximum: 55 cm; common to 35 cm.



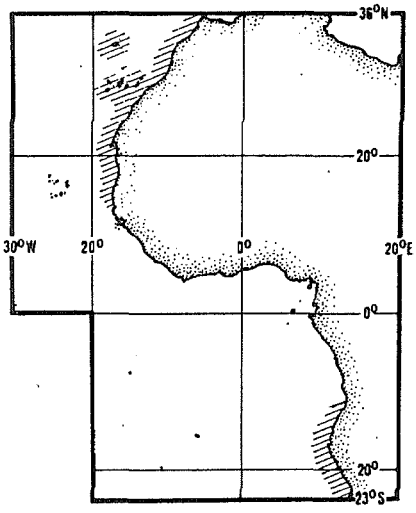
D. sargus lineatus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Common from the Straits of Gibraltar to Cape Verde, including Madeira and the Canary Islands, but absent from the Cape Verde Islands off Senegal and from the Gulf of Guinea; also occurring from Angola to South Africa. Northward extending into the Mediterranean.

Inhabits rocky bottoms from 30 to 80 m depth; may also occur down to 300 m on muddy bottoms; forms aggregations of 4 or 5 individuals of various sizes.

Omnivorous, feeding on small invertebrates and seaweeds.



PRESENT FISHING GROUNDS:

Throughout its range; fished throughout the year on the Canary Islands.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught on line gear, with trammel nets, trawls and in traps.

Marketed fresh or frozen (flesh esteemed); also used for fishmeal and oil.

SPARID Diplod 8

1981

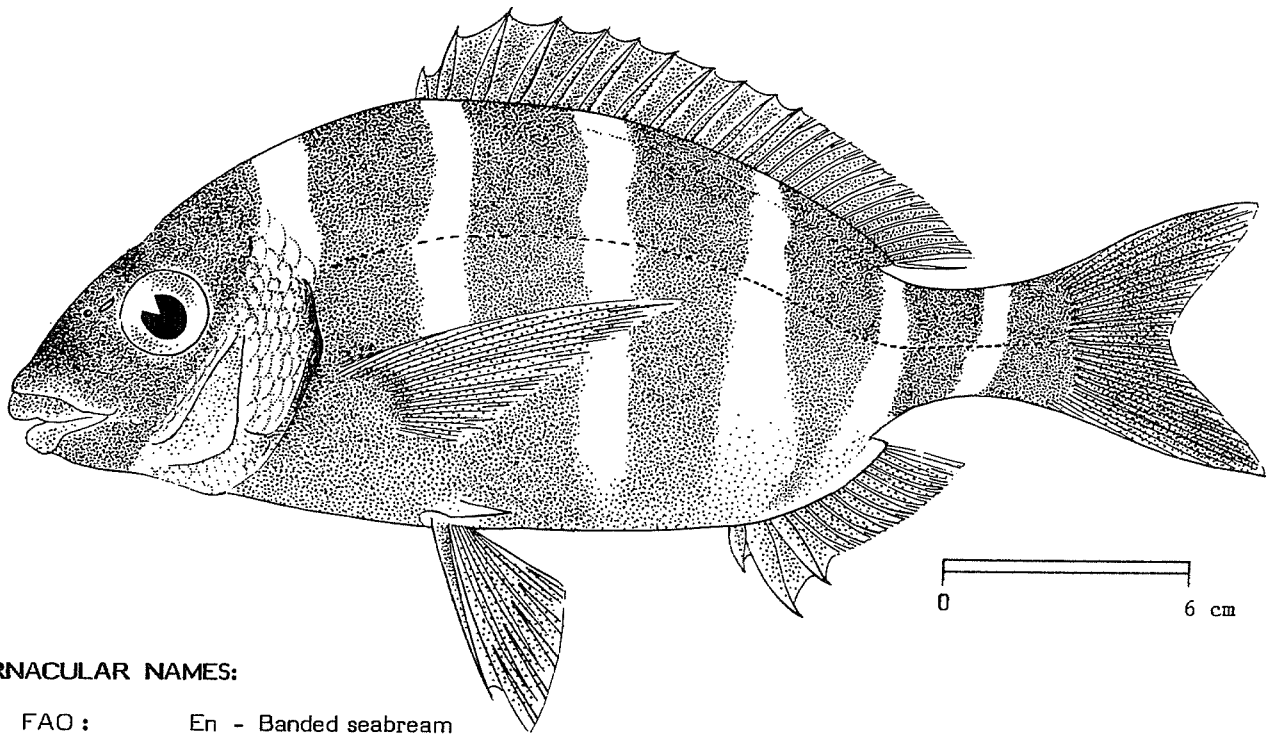
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Diplodus fasciatus (Valenciennes, 1830)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

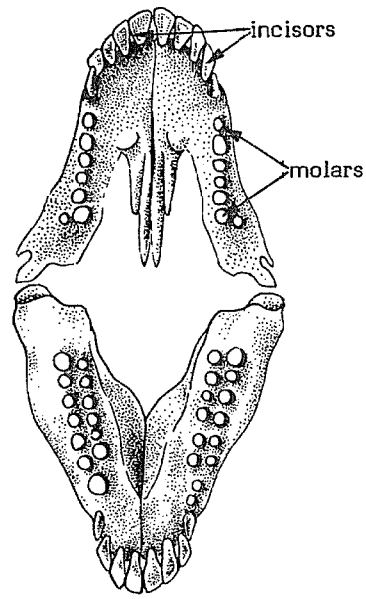
FAO : En - Banded seabream
Fr - Sar noir du Cap Vert
Sp - Sargo listado

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval and compressed. Mouth slightly protrusible, lips very thick; 10 to 12 incisor-like teeth in upper and 8 in lower jaw, followed by 1 to 3 (generally 2) rows of molars; gillrakers on first arch 10 to 12 lower and 9 upper. Dorsal fin with 10 to 12 spines increasing in length up to the fourth, and 11 to 13 soft rays; anal fin with 3 spines and 9 or 10 soft rays; caudal fin forked. Scales along lateral line 55 to 64 (scales on caudal fin base excluded).

Colour: background colour dark, belly lighter in the young; 6 narrow, light crossbars on upper two thirds of sides, the posteriormost at base of caudal fin; lips pink; pectoral fins yellow, other fins dark yellowish; a black bar covering the interorbital space and snout; hind margin of opercle black.



jaws and teeth

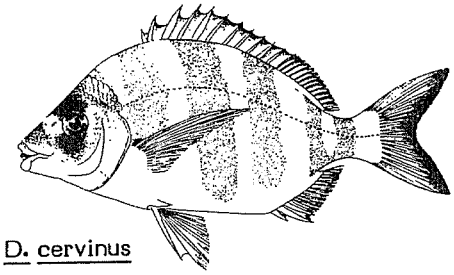
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Diplodus cervinus (absent from the Cape Verde Islands): background colour light, with broad dark crossbars (background dark with narrow light bars in D. fasciatus).

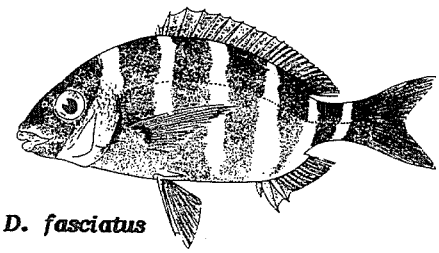
Other Diplodus species: 8 incisor-like teeth in upper jaw (10 to 12 in D. fasciatus and D. cervinus); small molars behind the incisors; dark crossbars, if present, much narrower than light interspaces (example D. sargus lineatus).

Species of Sparus, Lithognathus and Pagellus: anterior teeth not incisor-like (long and narrow incisors in D. fasciatus).

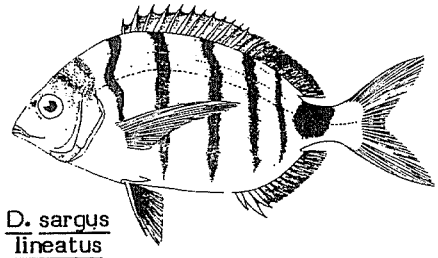
Other species of Sparidae: lateral teeth either pointed or with cutting edges (molar-like in Diplodus species).



D. cervinus



D. fasciatus



D. sargus lineatus

SIZE :

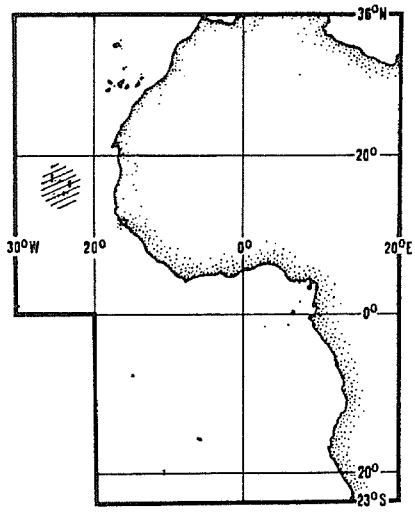
Maximum: 40 cm; common to 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Endemic to the Cape Verde Islands.

Inhabits rocky bottoms to about 100 m depth; may also live on sandy bottoms in deeper waters; occurs in groups of 5 individuals of different sizes.

Omnivorous with predominantly carnivorous habits (small invertebrates).



PRESENT FISHING GROUNDS :

Throughout its range to depths of about 100 m.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught on line gear.

Marketed fresh (flesh esteemed).

SPARID Diplod 9

1981

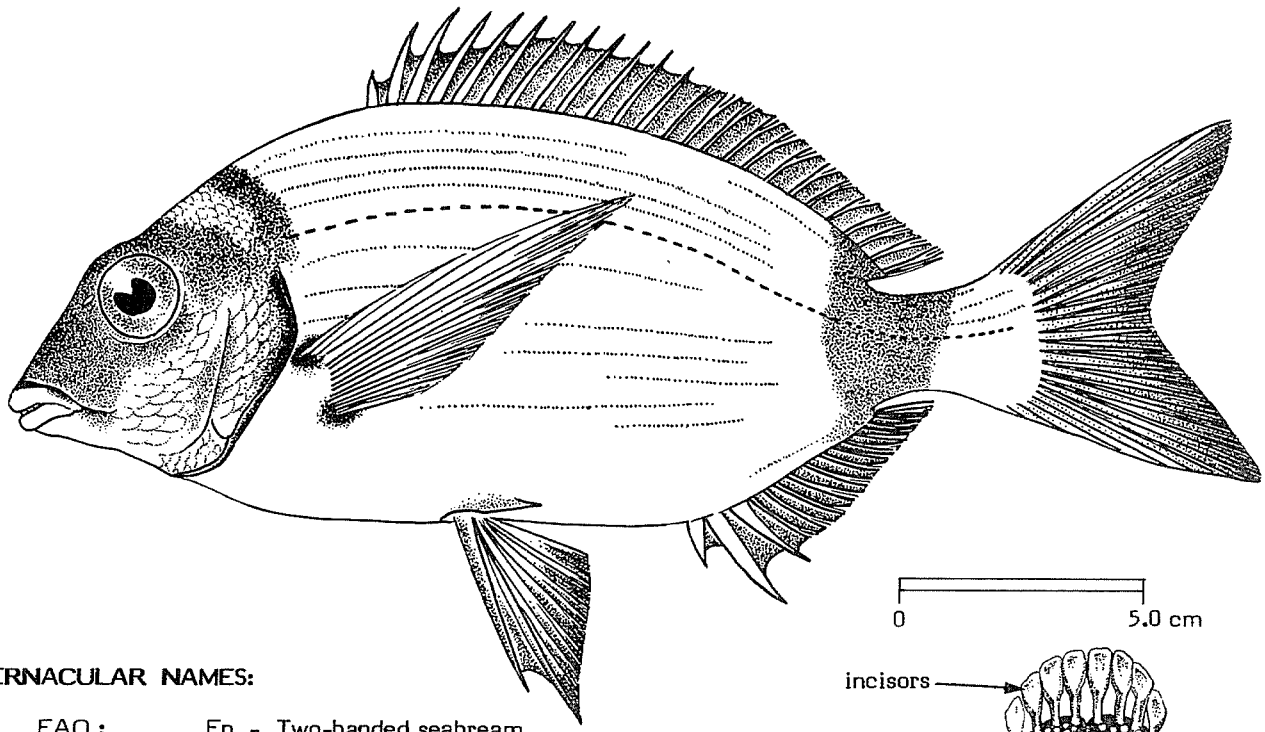
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Diplodus prayensis Cadenat, 1964

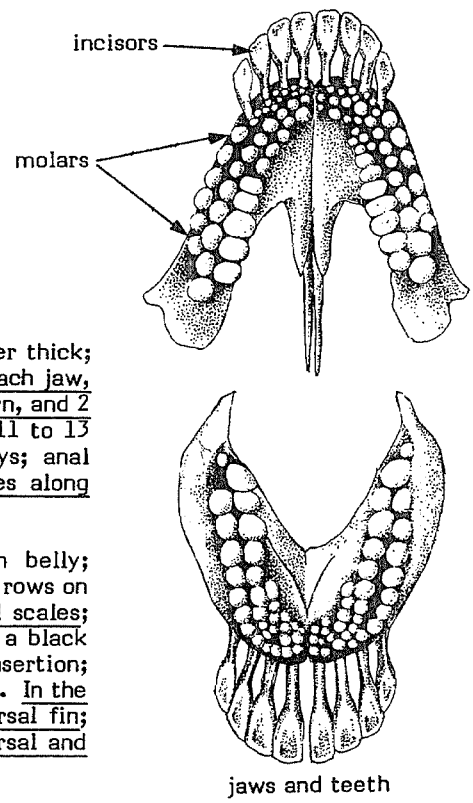
OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Two-banded seabream
Fr - Sar à tête noire du Cap Vert
Sp - Sargo dorado

NATIONAL :



jaws and teeth

DISTINCTIVE CHARACTERS :

Body oval and compressed. Mouth slightly protrusible, lips rather thick; 8 chestnut-coloured, narrow (longer than broad) incisor-like teeth in each jaw, followed by 3 or 4 rows of small molars arranged in a horse-shoe pattern, and 2 or 3 rows of strong molars at sides of jaws; gillrakers on first arch 11 to 13 lower and 6 to 10 upper. Dorsal fin with 12 spines and 13 to 15 soft rays; anal fin with 3 spines and 12 or 13 soft rays; caudal fin forked. Scales along lateral line 56 to 63 (scales on caudal fin base excluded).

Colour: background colour brownish to greenish, lighter on belly; alternatingly golden and greyish, longitudinal lines, running along scale rows on sides; head dark from nape to mouth, with a light oval spot on nuchal scales; posterior margin of opercle and of branchiostegal membrane black; a black spot at pectoral fin axils extending slightly above and below the fin insertion; pectoral fins light-coloured, other fins dark, almost black near margins. In the young, the dark peduncular bar is saddle-shaped and located behind dorsal fin; in adults, this bar extends well unto base of posterior soft rays of dorsal and anal fins.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Diplodus vulgaris (absent from the Cape Verde Islands): nuchal band triangular and very broad; posterior margin of branchiostegal membrane light-coloured.

D. cervinus and D. fasciatus: 10 to 12 incisor-like teeth in upper jaw (8 in D. prayensis); no molars behind the incisors; dark crossbars broader than light interspaces.

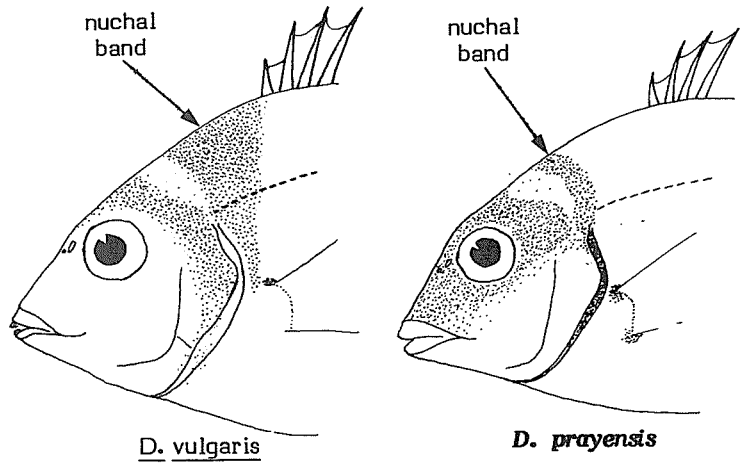
D. puntazzo: molars very rudimentary.

D. bellottii: a single row of small molars behind the incisors (3 or 4 rows in D. prayensis).

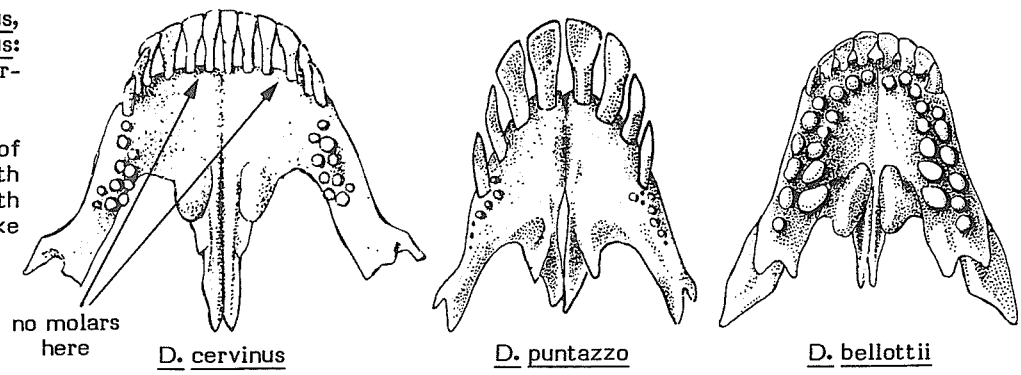
D. annularis and D. sargus: nuchal band absent.

Species of Sparus, Lithognathus and Pagellus: anterior teeth not incisor-like.

Other species of Sparidae: lateral teeth either pointed, or with cutting edges (molar-like in Diplodus species).



D. vulgaris — ***D. prayensis***



D. cervinus — D. puntazzo — D. bellottii

upper jaw and teeth

SIZE :

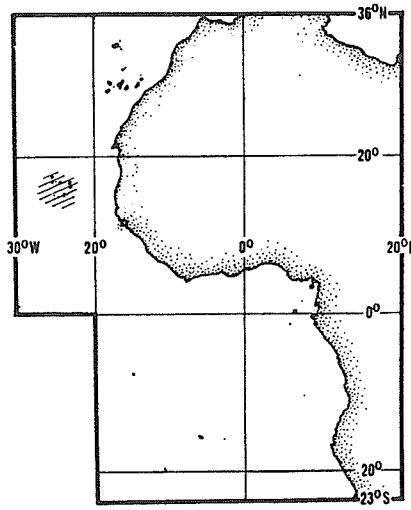
Maximum: 35 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Endemic to the Cape Verde Islands, where it replaces D. vulgaris.

Inhabits rocky bottoms down to 100 m depth; may occur in deeper waters on muddy bottoms.

Feeds on invertebrates and seaweeds.



PRESENT FISHING GROUNDS :

Throughout its range to depths of 100 m.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught on line gear.

Marketed fresh (flesh esteemed).

SPARID Diplod 10

1981

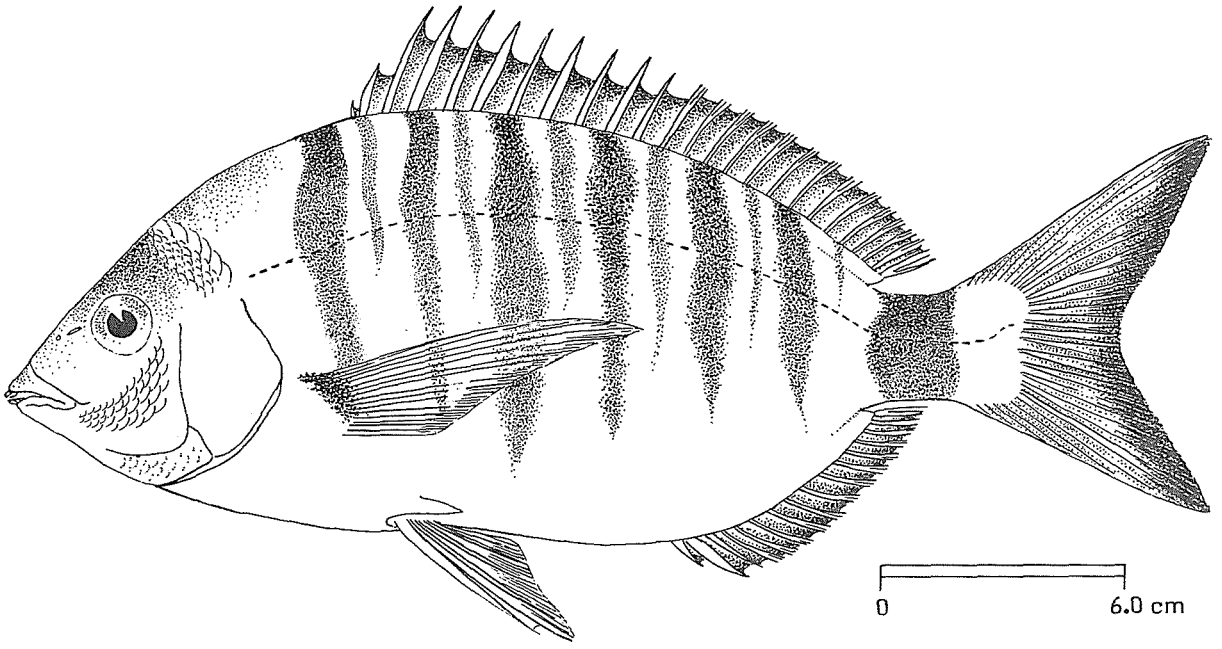
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Diplodus puntazzo (Cetti, 1777)

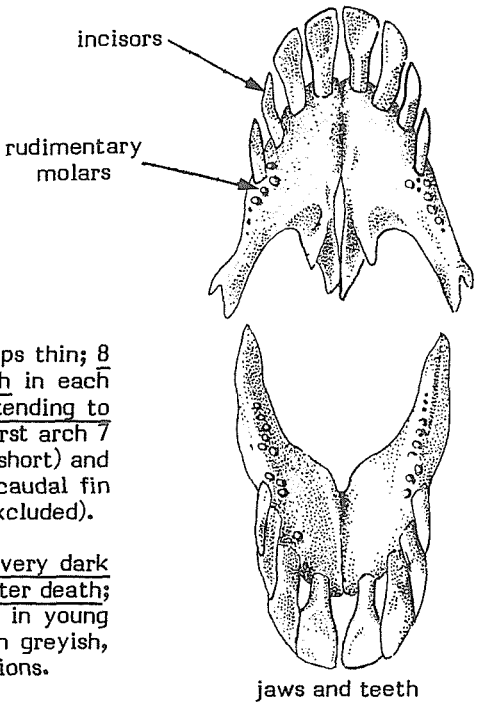
OTHER SCIENTIFIC NAMES STILL IN USE : Puntazzo puntazzo (Cetti, 1777)



VERNACULAR NAMES:

FAO : En - Sharpsnout seabream
Fr - Sar à museau pointu
Sp - Sargo picudo

NATIONAL :



jaws and teeth

DISTINCTIVE CHARACTERS :

Body oval and compressed. Snout pointed, jaws protrusible, lips thin; 8 conspicuously forward-pointing, chestnut-coloured, incisor-like teeth in each jaw, followed by 1 or 2 rows of small, very rudimentary molars tending to disappear in adults; cheeks scaly, preopercle naked; gillrakers on first arch 7 to 11 lower and 5 to 7 upper. Dorsal fin with 11 spines (first spine short) and 12 to 15 soft rays; anal fin with 3 spines and 11 to 13 soft rays; caudal fin forked. Scales along lateral line 53 to 64 (scales on caudal fin base excluded).

Colour: background colour silvery grey; 6 or 7 alternatingly very dark and lighter crossbars on sides, sometimes disappearing completely after death; a large, dark, nearly annular bar on caudal peduncle, more intense in young individuals; fork of caudal fin often edged with black; fins often greyish, darker distally; a very dark spot on upper angle of pectoral fin insertions.

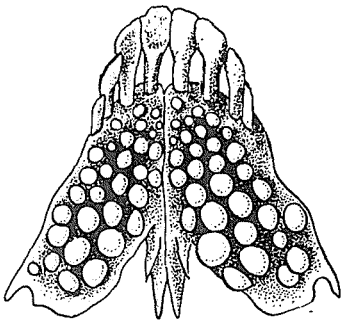
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Other Diplodus species: molars always well developed, at least at sides of jaws; incisors never so strongly forward-pointing.

Rhabdosargus globiceps: 4 to 6 incisor-like teeth in upper jaw (8 in D. puntazzo).

Species of Sparus, Lithognathus and Pagellus: anterior teeth no incisor-like.

Other species of Sparidae: lateral teeth either pointed or with cutting edges (rudimentary molars in D. puntazzo).

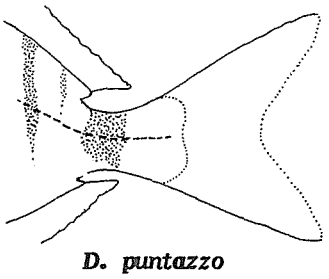


D. sargus cadenati

upper jaw

SIZE :

Maximum: 60 cm; common to 30 cm.



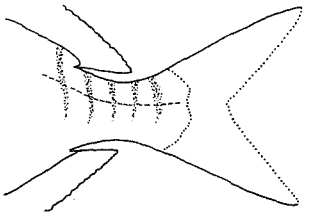
D. puntazzo

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Common from the Straits of Gibraltar to Sierra Leone; also present around the Canary and Cape Verde Islands but not off Madeira. Outside the area, recorded northward to the Bay of Biscay and also off South Africa.

Inhabits rocky bottoms down to about 150 m depth, but is more common to 60 m. Forms small aggregations, the young living in littoral pools, the adults often occurring in the surf zone.

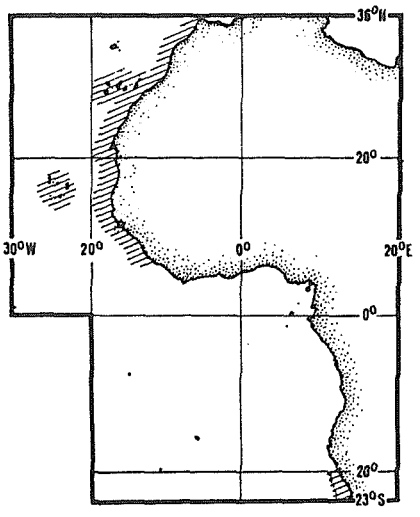
Omnivorous, feeding on seaweeds, worms, molluscs and shrimps.



L. mormyrus

PRESENT FISHING GROUNDS :

A seasonal fishery along the Moroccan coast, but fished the year round on the Canary Islands.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught on line gear, in traps (Canary Islands), with trammel nets and trawls.

Marketed fresh or frozen (flesh not highly esteemed); also used for fishmeal and oil.

SPARID Litho 1

1981

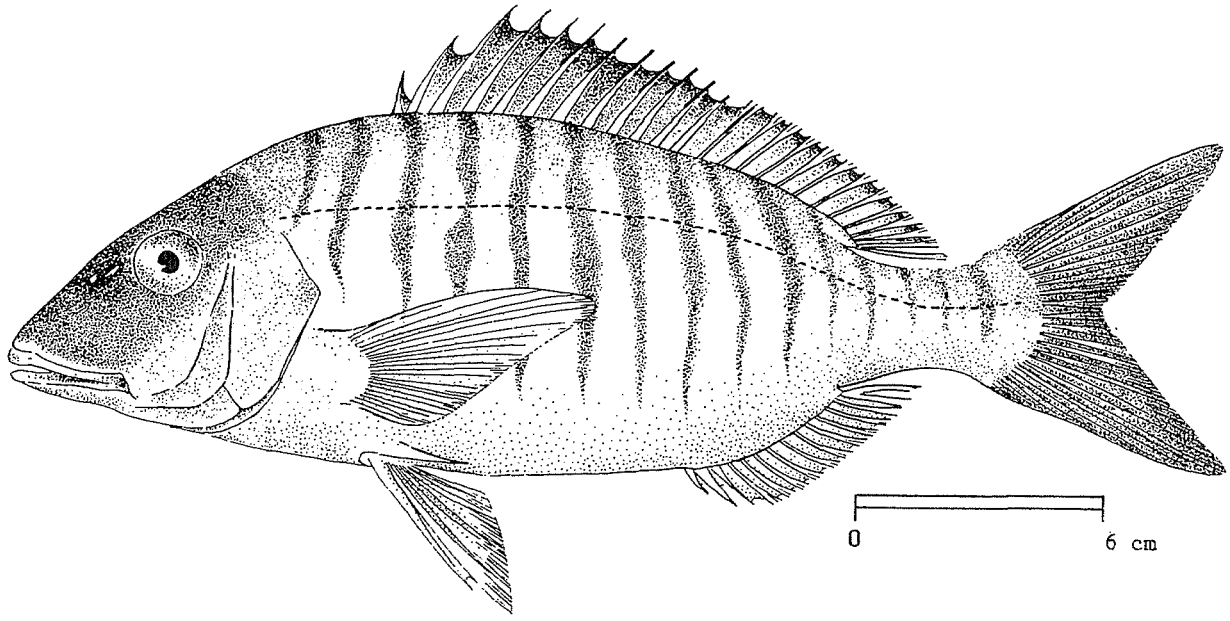
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Lithognathus mormyrus (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Pagellus mormyrus (Linnaeus, 1758)



VERNACULAR NAMES:

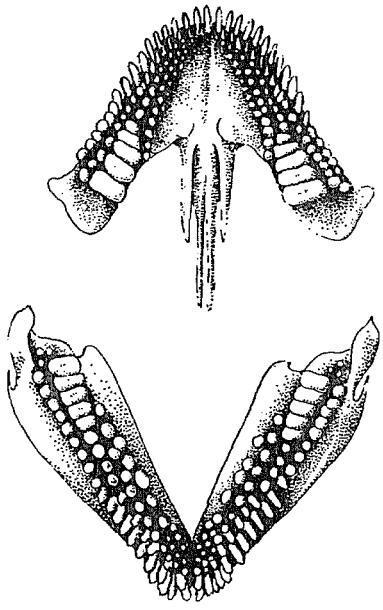
FAO : En - Striped seabream
Fr - Marbré
Sp - Herrera

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oblong and compressed. Head profile straight; snout elongated and pointed; eye small; posterior nostril slit-like; scales on top of head not extending forward beyond level of posterior eye margin; preopercle broad, naked; mouth low and nearly horizontal, lips thick; anterior teeth small, set in bands, followed by 3 to 6 rows of molar in upper, and 2 to 4 rows in lower jaw; gill rakers on first arch 14 to 17 lower and 9 to 11 upper. Dorsal fin with 11 or 12 spines and 11 or 12 soft rays; anal fin with 3 spines and 10 or 11 soft rays; pectoral fins short, not reaching beyond anus. Scales along lateral line 59 to 65.

Colour: grey with silvery reflections, darker dorsally; 14 or 15 narrow dark brown to grey vertical bars on sides; interorbital space and snout dark brown; dorsal and caudal fins usually dark; other fins lighter, more or less yellow or pinkish.



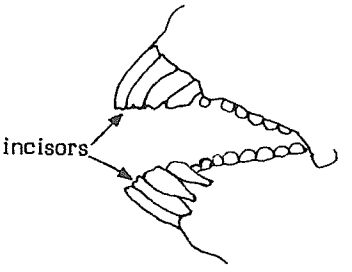
jaws and teeth

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

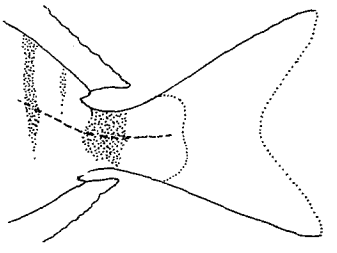
Lithognathus aureti and L. olivieri (South African coast from 18° southward): at most 6 or 7 vertical bars (14 or 15 in L. mormyrus); lateral-line scales 45 to 49 (59 to 65 in L. mormyrus); lower gill rakers 12 or 13 (14 to 17 in L. mormyrus).

Rhabdosargus globiceps and Diplodus species: large median incisors in each jaw; furthermore, a large dark bar on caudal peduncle in Diplodus species (narrow vertical bars on caudal peduncle in L. mormyrus).

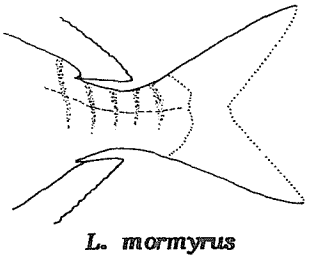
Other species of Sparidae: no narrow vertical bars on sides.



Diplodus sp.



Diplodus puntazzo



L. mormyrus

SIZE:

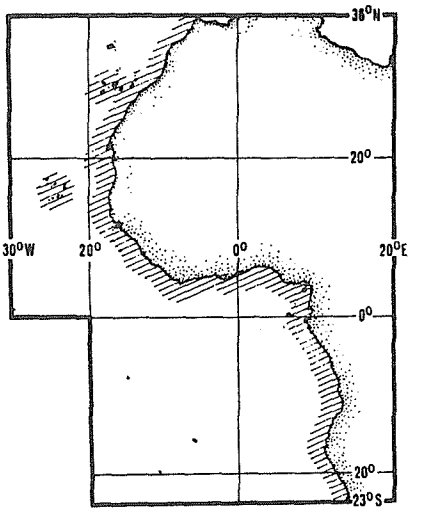
Maximum: 55 cm; common to 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Coast of West Africa from the Straits of Gibraltar to the Cape of Good Hope, and around the Canary and Cape Verde islands. Also northward to the Bay of Biscay, in the Mediterranean, the Red Sea and the Indian Ocean from the Cape of Good Hope to Natal.

Lives over sandy or mud-sandy bottoms, as well as on seagrass beds, to about 150 m depth; sometimes enters brackish waters. Gregarious, occasionally forming sizeable schools. A protandric hermaphrodite (the majority of individuals are first males, then become females).

Carnivorous, searching the bottom for worms, molluscs and small crustaceans.



PRESENT FISHING GROUNDS:

Throughout its range; present throughout the year, but not sustaining an important fishery.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics for this species are reported only by Angola (300 t in 1977).

Caught on line gear, with bottom trawls, beach seines, trammel nets and traps (Canary Islands).

Marketed fresh or frozen (flesh esteemed); also used for fishmeal and oil.

SPARID Obla 1

1981

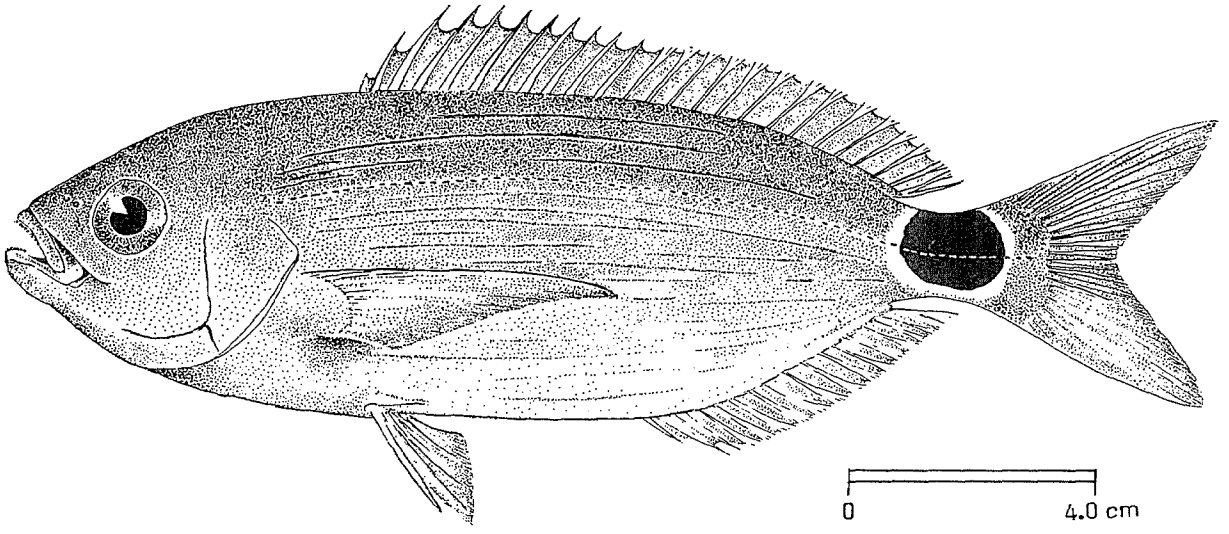
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Oblada melanura (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : None



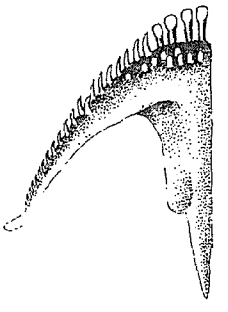
VERNACULAR NAMES:

FAO : En - Saddled seabream
Fr - Oblade
Sp - Oblada

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oblong, slightly compressed. Head profile straight from nape forward; eye diameter at least twice the width of suborbital space; scales on top of head reaching forward to a line through middle of eyes or beyond; cheeks scaly; scales also present on preopercle except at its posterior margin; mouth oblique; each jaw with an outer row of 8 to 10 median incisor-like teeth (their cutting edges very slightly notched), followed by small, slightly inward-curving, conical teeth; anteriorly, the external row of incisors is followed by 2 or more rows of small granular teeth; gill rakers on first arch 20 lower and 12 upper. Dorsal fin with 11 spines and 13 or 14 soft rays; anal fin with 3 spines and 12 to 14 soft rays. Scales along lateral line 64 to 67 (plus 5 or 6 scales on base of caudal fin).



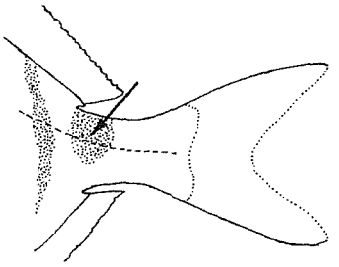
half of upper jaw

Colour: silvery grey; back dark with bluish reflections; more or less visible dark longitudinal lines following the scale rows; a large black, saddle-shaped blotch on caudal peduncle, margined with white; fins light-coloured.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Diplodus species: blotch on caudal peduncle more or less large, but never margined with white; well developed incisor-like teeth followed by molars (molars absent in Oblada melanura).

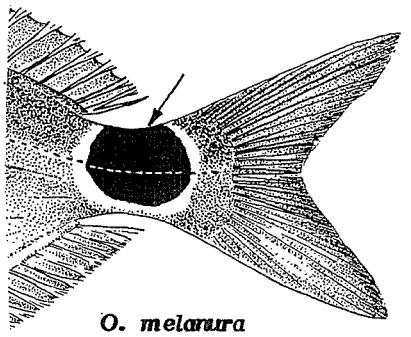
Other species of Sparidae: no large dark blotch on caudal peduncle.



D. sargus cadenati

SIZE:

Maximum: 30 cm; common to 20 cm.



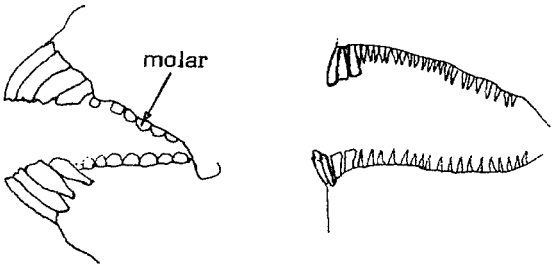
O. melanura

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Coast of West Africa from the Straits of Gibraltar to Angola, as well as around Madeira and the Canary and Cape Verde Islands. Northward extending into the Mediterranean and to the Bay of Biscay.

A coastal species forming aggregations over rocky bottoms or seagrass beds (zosteras and seaweeds) to depths of about 30 m.

Omnivorous (but especially feeding on small invertebrates).



Diplodus sp. *Oblada*

PRESENT FISHING GROUNDS:

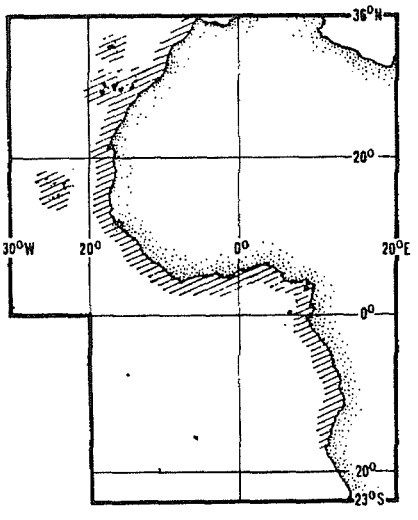
Throughout its range, but no special fishery.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught on line gear; sometimes with trammel nets and trawls.

Marketed fresh or frozen (flesh not highly appreciated); also used for fishmeal and oil.



SPARID Pachy 1

1981

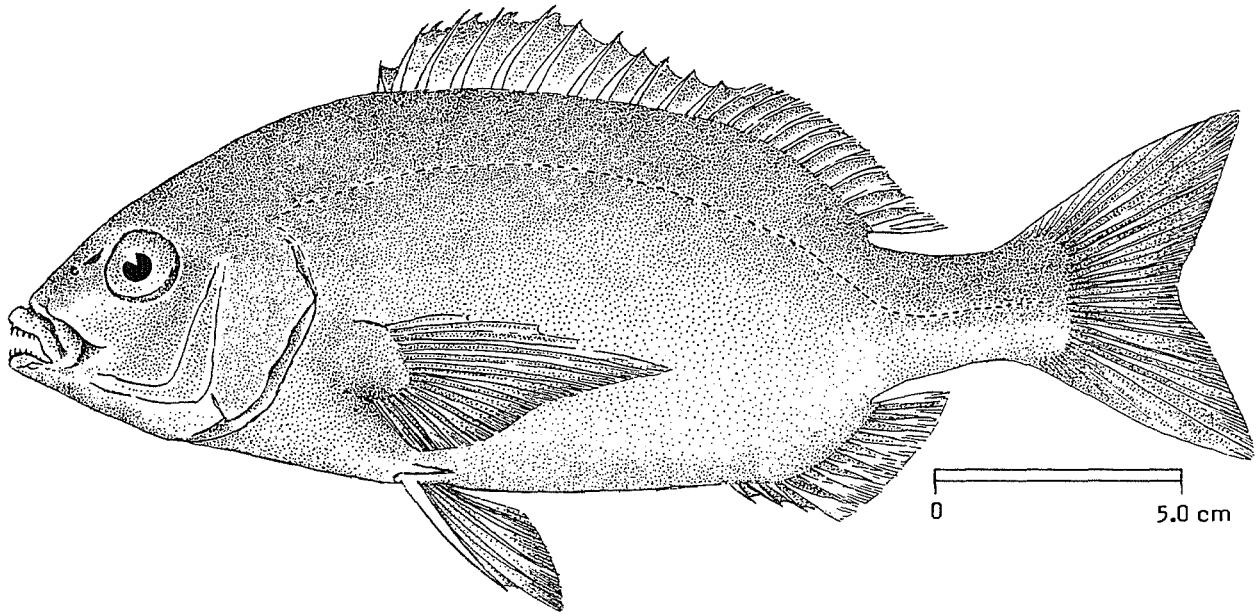
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Pachymetopon blochii (Valenciennes, 1830)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Hottentot seabream
Fr - Hottentot
Sp - Sargo hotentote

NATIONAL :

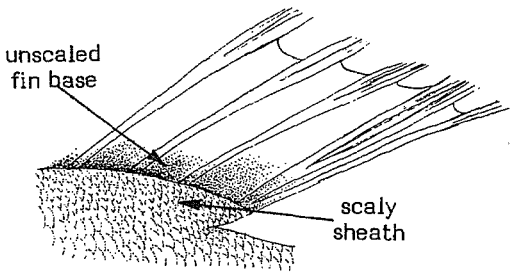
DISTINCTIVE CHARACTERS :

Body oval and compressed. Head profile almost straight from the nape downward; many rows of scales on cheeks but preopercle scaleless; · mouth small, oblique; 4 or 5 rows of conical, pointed teeth, those in outer range strongest, especially the anteriors; gill rakers on first arch 13 or 14 lower and 8 or 9 upper. Dorsal fin with 10 or 11 spines and 11 or 12 soft rays; anal fin with 3 spines and 10 soft rays; bases of soft dorsal and anal fin rays scaly, but not embedded in a sheath. Lateral-line scales 60 to 70.

Colour: grey to brown with bronze reflections, paler on belly. Some individuals show a lighter colour with dark spots on cheeks, behind eye and on upper part of body.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Other species of Sparidae: bases of soft dorsal and anal fin rays unscaled but embedded in a scaly sheath.



Spondyliosoma sp. and other sparids

SIZE :

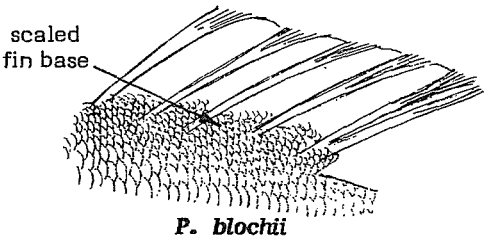
Maximum: 45 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

West African coast from Namibia to Cape Agulhas.

Inhabits rocky bottoms; spawning occurs throughout the year.

Omnivorous (seaweeds, echinoderms, crustaceans, molluscs and worms).



P. blochii

posterior region
of dorsal fin

PRESENT FISHING GROUNDS :

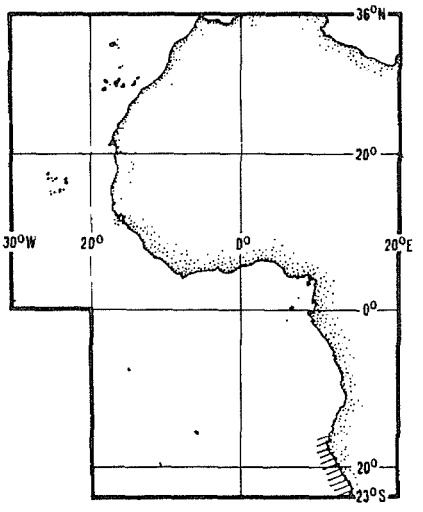
Throughout its range; more common around the Cape of Good Hope.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught on line gear.

Marketed fresh (flesh esteemed).



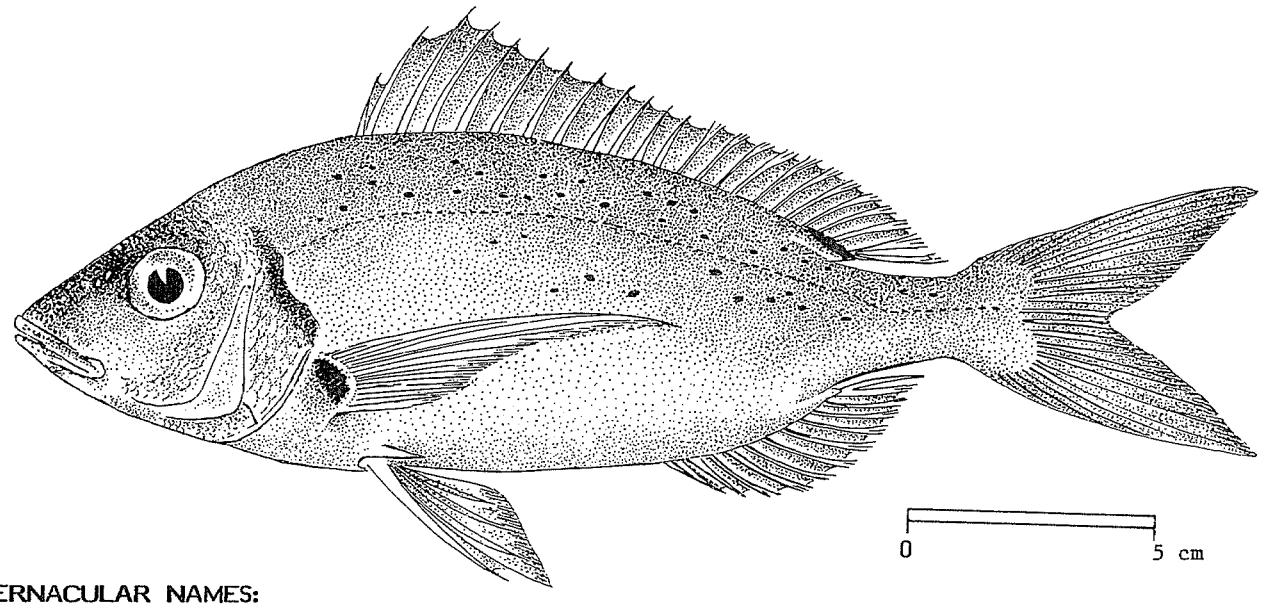
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Pagellus erythrinus (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Pagellus canariensis Valenciennes, 1838



VERNACULAR NAMES:

FAO : En - Common pandora
Fr - Pageot commun
Sp - Breca

NATIONAL :

DISTINCTIVE CHARACTERS :

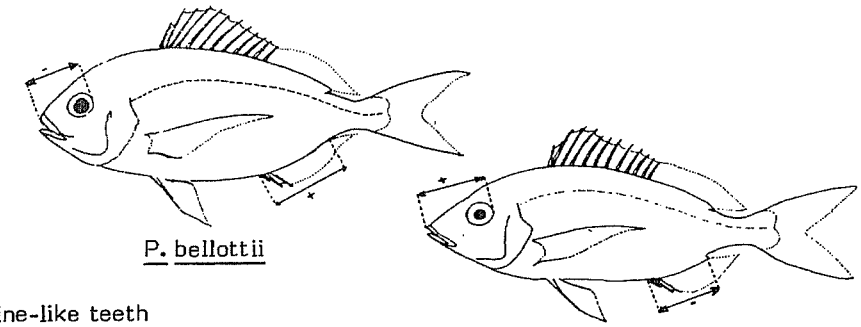
Body oval and compressed. Head profile straight; eye diameter clearly smaller than snout length; scales on top of head reaching forward to level of anterior eye margin or beyond; cheeks scaly, preopercle unscaled; mouth low, slightly oblique; lips thick; both jaws with pointed teeth anteriorly and molar-like teeth posteriorly; an inner band of numerous, slightly smaller, cardiform teeth behind the outer row of pointed teeth; molars in 2 or 3 (rarely 4) rows in upper and 2 (rarely 3) rows in lower jaw; gill rakers on first arch 8 to 10 lower and 5 or 6 upper. Dorsal fin with 12 spines and 10 or 11 soft rays; anal fin with 3 spines and 8 or 9 soft rays; anal fin base shorter than distance from snout to posterior eye margin. Lateral-line scales 55 to 65.

Colour: a rather bright pink marked with small blue spots on sides; head darker, especially between eyes and on snout profile; postero-dorsal margin of opercle crimson red; a reddish spot on bases of pectoral fins; inside of mouth whitish or greyish; sometimes a reddish spot on base of last dorsal finrays. The dark crossbars described by some authors may correspond to a fright pattern.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Pagellus bellottii: anal fin with 10 soft rays (8 or 9 in P. erythrinus); base of anal fin longer than distance from snout to posterior eye margin (shorter in P. erythrinus).

P. acarne and P. bogaraveo: scales on top of head not reaching forward to a line through middle of eyes; inside of mouth orange-red.



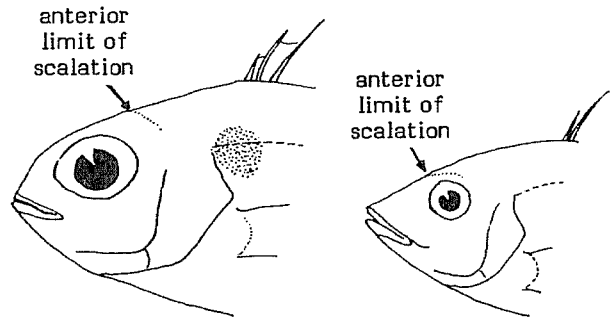
P. bellottii

P. erythrinus

Sparus species: 4 to 6 stronger canine-like teeth anteriorly in each jaw (at least 8 small, pointed teeth in Pagellus species); furthermore, a golden frontal band present in S. aurata.

Lithognathus mormyrus: teeth rather similar to those of Pagellus, but 14 or 15 narrow dark brown to grey crossbars on sides, and posterior nostril slitlike (round or oval in Pagellus species).

Other species of Sparidae: lateral molars combined with anterior incisors (Diplodus, Rhabdosargus), or lateral teeth either pointed or with cutting edges (instead of molars).



P. bogaraveo

P. erythrinus

SIZE:

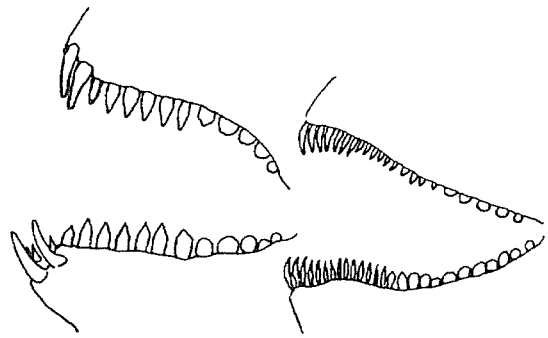
Maximum: 60 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Coast of West Africa from the Straits of Gibraltar to Cape Verde including Madeira and Canary Islands. Also in the Mediterranean and northward to Norway.

A demersal species inhabiting various types of bottom (rock, gravel, sand, mud) to depths of 220 m, but mainly in the upper 100 m, the young occurring nearer to the shore. During winter, the stocks move into deeper waters. A protogynic hermaphrodite (first females, becoming males in their third year at sizes of about 17 to 18 cm).

Omnivorous, with a predominantly carnivorous diet (small fish, benthic invertebrates).

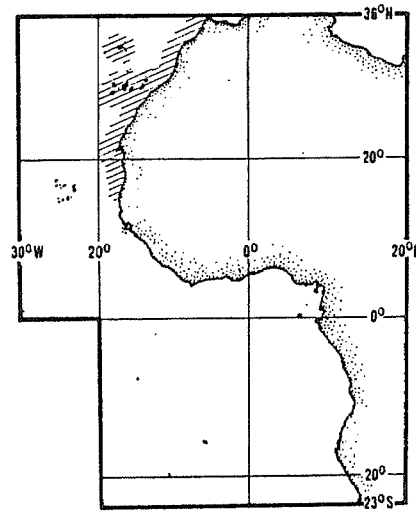


Sparus

Pagellus

PRESENT FISHING GROUNDS:

Fished throughout its range; less common south of 19°N.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics for this species are reported by Spain: 420 t; Romania: 40 t and Togo: 20 t (1977).

Caught with bottom trawls, beach seines, on line gear and in traps (Canary Islands).

Marketed fresh, frozen, smoked or dried salted (flesh esteemed); also used for fishmeal and oil.

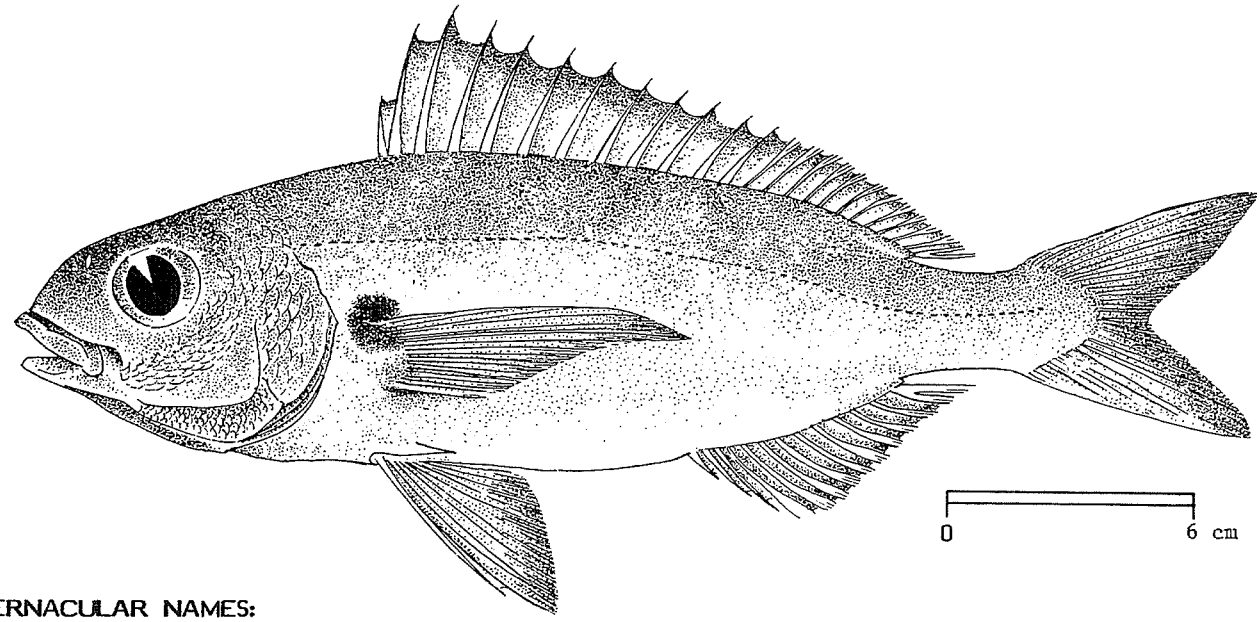
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Pagellus acarne (Risso, 1826)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

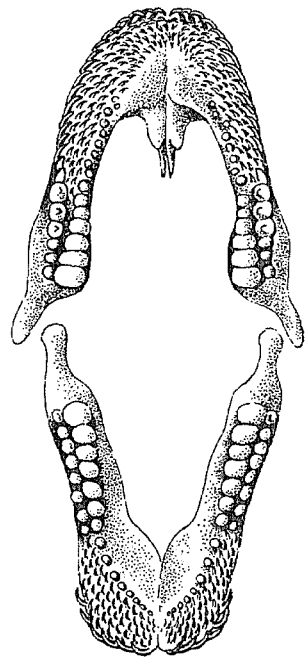
FAO : En - Axillary seabream
Fr - Pageot acarné
Sp - Aligote

NATIONAL :

DISTINCTIVE CHARACTERS :

Body fusiform, moderately compressed. Head profile depressed above eye, snout conical; interorbital space flat; eye diameter smaller than snout length; scales on top of head reaching forward to or beyond a line through posterior eye margins; cheeks scaly, preopercle scaleless; mouth low, nearly horizontal; lips thick; both jaws with pointed teeth anteriorly and molar-like teeth posteriorly; an inner band of numerous slightly smaller, cardiform teeth behind the outer row of pointed teeth; gill rakers 13 to 16 lower and 9 to 12 upper. Dorsal fin with 12 or 13 spines and 10 to 12 soft rays; anal fin with 3 spines and 9 or 10 soft rays; last dorsal and anal finrays clearly stronger than the preceding ones. Scales along lateral line 65 to 72.

Colour: greyish pink, darker on back, lighter on belly; head darker, particularly between eyes; a reddish black spot at pectoral fin axils extending unto upper part of fin base; fins more or less light pinkish; dorsal, anal and caudal fins sometimes margined with brownish red; inside of mouth orange red.

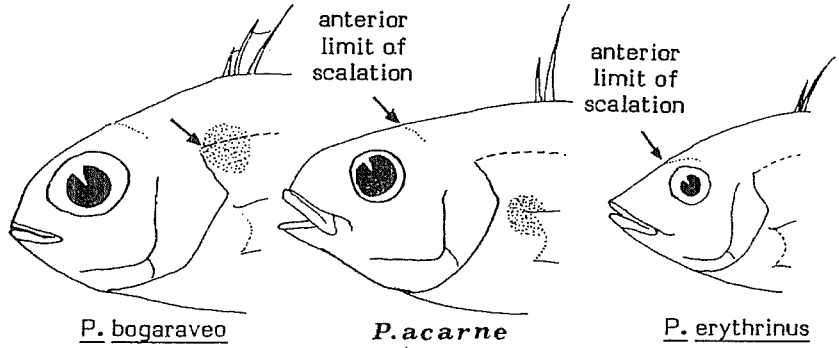


jaws and teeth

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Pagellus bogaraveo: 11 or 12 soft rays in anal fin (9 or 10 in P. acarne); eye diameter greater than snout length (smaller in P. acarne); a black spot at origin of lateral line.

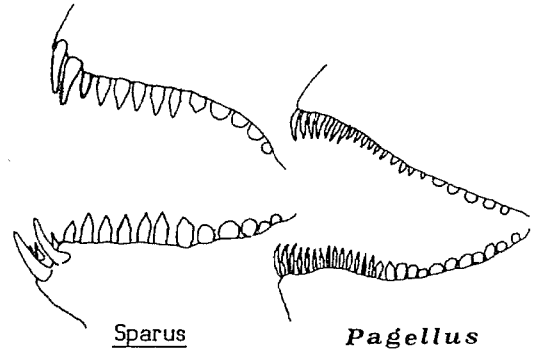
P. erythrinus and P. bellottii: scales on tops of head reaching beyond a line through middle of eyes (to behind this line in P. acarne); inside of mouth whitish or greyish; spot at pectoral fin axils not extending on fin base.



Sparus species: 4 to 6 stronger canines in front at each jaw (at least 8 small, pointed teeth in Pagellus); furthermore, a golden frontal band in S. aurata.

Lithognathus mormyrus: teeth more or less similar to those of Pagellus, but 14 or 15 narrow dark-brown to grey crossbars, and posterior nostril slit-like (round or oval in Pagellus species).

Other species of Sparidae: lateral molar combined with anterior incisors (Diplodus, Rhabdosargus), or lateral teeth either pointed or with cutting edges (instead of molars). Boops boops, which is rather similar in shape, has short pectoral fins not reaching to anus, and the spot in pectoral fin axils does not extend unto fin base.



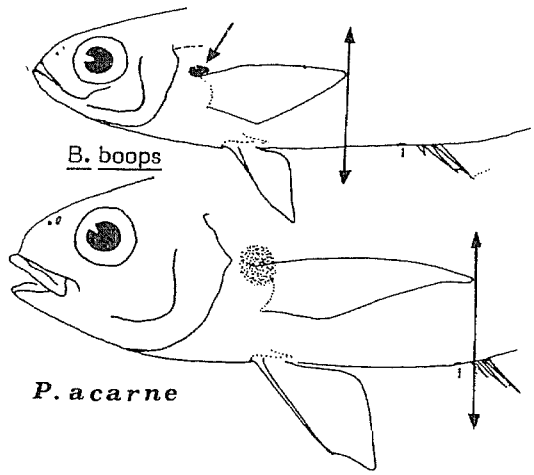
SIZE:

Maximum: 35 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

From the Straits of Gibraltar to northern Senegal and around Madeira, the Canaries and the Cape Verde islands. Also in the Mediterranean and northward to the British Isles; occasionally to Denmark.

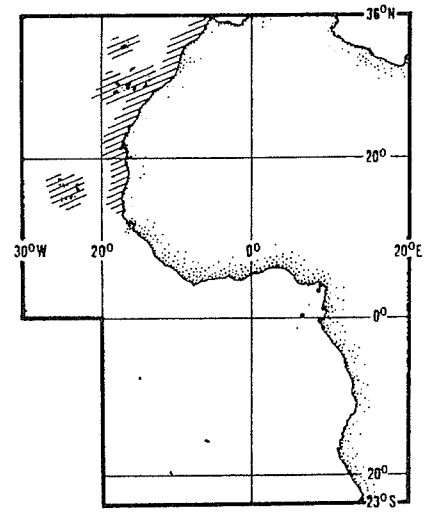
A demersal species inhabiting various types of bottom, especially seagrass beds and sand down to 500 m depth, but more common between 40 and 100 m, the young nearer to the shore. Intermittent spawning takes place from March to August. A protandric hermaphrodite (most individuals are first males, then become females at a size of about 24 to 30 cm).



Omnivorous, with preference for a carnivorous diet (searches sand for worms, molluscs, small crustaceans).

PRESENT FISHING GROUNDS:

A very abundant species, especially in the northern part of its range.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics for this species are reported by Romania only (600 t in 1966 and 82 t in 1977).

Caught with bottom trawls, on line gear and with beach seines (young).

Marketed fresh, frozen, or dried salted (flesh not highly esteemed); also used for fishmeal and oil.

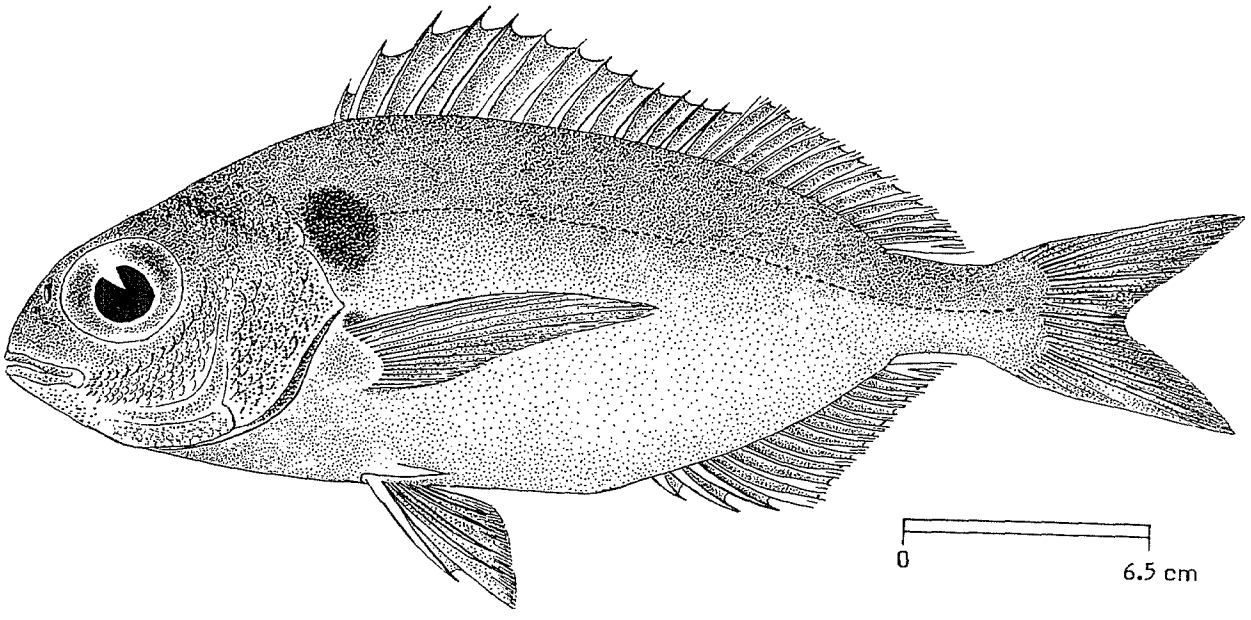
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Pagellus bogaraveo (Brünnich, 1768)

OTHER SCIENTIFIC NAMES STILL IN USE : Pagellus centrodontus Delaroche, 1809



VERNACULAR NAMES:

FAO : En - Blackspot seabream
Fr - Dorade rose
Sp - Goraz

NATIONAL :

DISTINCTIVE CHARACTERS :

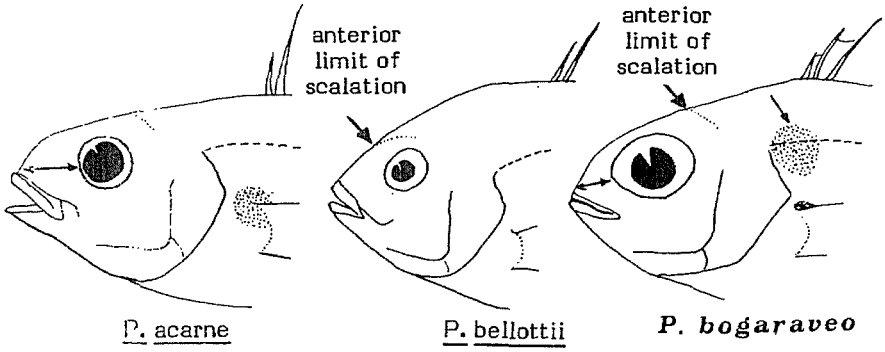
Body oblong. Head profile rounded, snout short; eye diameter greater than snout length; scales on top of head reaching to a line between posterior halves of eyes; cheeks scaly, preopercle scaleless; mouth low, nearly horizontal; both jaws with pointed teeth anteriorly and molar-like teeth posteriorly; an inner band of numerous, slightly smaller, cardiform teeth behind the outer row of pointed teeth; gillrakers on first arch 18 or 19 lower and 11 to 13 upper. Dorsal fin with 12 or 13 spines and 11 to 13 soft rays; anal fin with 3 spines and 11 or 12 soft rays; last dorsal and anal fin rays stronger than the preceding ones. Scales along lateral line 68 to 74.

Colour: a more or less reddish grey, darker on head, lighter on belly; a dark spot at pectoral fin axils and a large black blotch at origin of lateral line (sometimes absent in young); fins more or less bright pink; inside of mouth orange red.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Pagellus acarne: 9 or 10 soft rays in anal fin (11 or 12 in P. bogaraveo); eye diameter smaller than snout length (larger than snout length in P. bogaraveo); no black blotch at origin of lateral line.

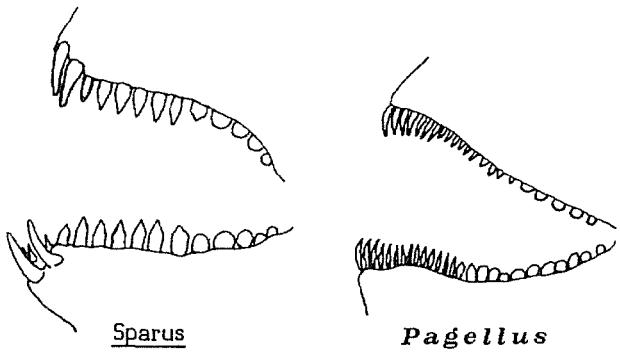
P. erythrinus and P. bellottii: scales on top of head reaching to or beyond a line through middle of eyes (behind that line in P. bogaraveo); inside of mouth whitish or greyish.



Sparus species: 4 to 6 stronger canines in front at each jaw (at least 8 small pointed teeth in Pagellus species); furthermore, a golden frontal band in S. aurata.

Lithognathus mormyrus: teeth more or less similar to those of Pagellus, but 14 or 15 narrow dark brown to grey crossbars on sides, and posterior nostril slitlike (round or oval in Pagellus species).

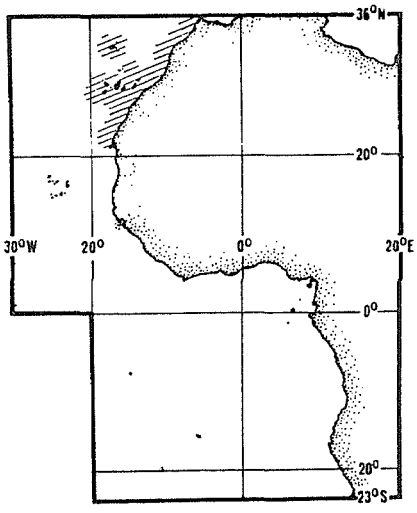
Other species of Sparidae: lateral molars combined with anterior incisors (Diplodus, Rhabdosargus), or lateral teeth either pointed or with cutting edges (instead of molars).



SIZE:

Maximum: 65 cm; common to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:



From Gibraltar to Cape Blanc, exceptionally further south, and around Madeira and the Canary Islands. Also in the Mediterranean and northward to Norway.

A demersal fish inhabiting various types of bottom (rock, sand, mud) to depths of about 700 m, the young nearer to the shore, the adults on the continental slope, especially over muddy bottoms. Forms aggregations; spawning occurs from January to June when the adults move towards the coast up to the edge of the continental shelf. A protandric hermaphrodite (the majority of individuals are first males, then become females, at sizes of about 20 to 30 cm).

Omnivorous, with a predominantly carnivorous diet (crustaceans, molluscs, worms, small fish).

PRESENT FISHING GROUNDS:

The West African coast represents the southern limit of the geographical range of this species. This, together with its occurrence in deep waters, explains why the catches from the area are comparatively small.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics for this species are reported by Spain: 670 t, and Romania: 330 t (1977).

Caught with bottom trawls and bottom longlines.

Marketed fresh and frozen (flesh esteemed); also used for fishmeal and oil.

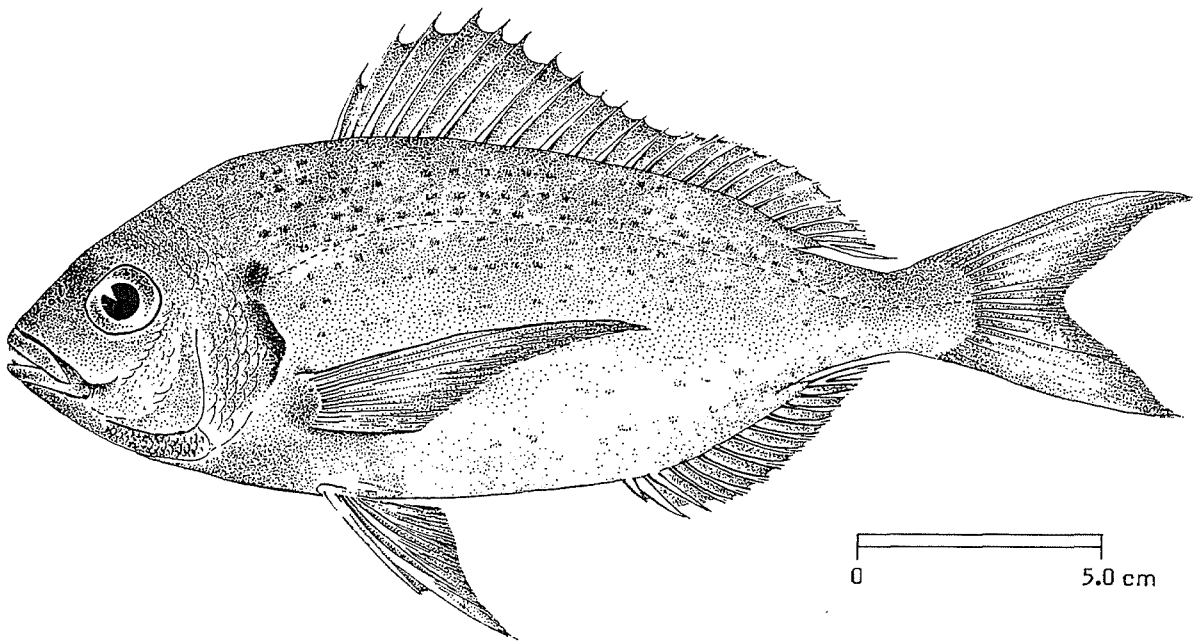
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Pagellus bellottii Steindachner, 1882

OTHER SCIENTIFIC NAMES STILL IN USE : Pagellus coupei Dieuzeide, 1960



VERNACULAR NAMES:

FAO : En - Red pandora
Fr - Pageot à tache rouge
Sp - Breca colorada

NATIONAL :

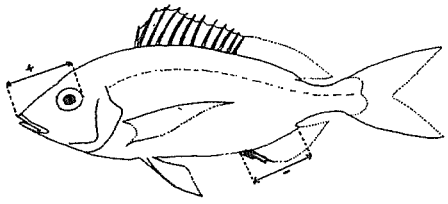
DISTINCTIVE CHARACTERS :

Body oblong and compressed. Head profile slightly, but regularly convex, becoming steeper from the nape downward in adults; a sort of median crest sometimes present on nape; scales on top of head reaching forward to or beyond a line passing through anterior eye margins; cheeks scaly, preopercle scaleless; mouth low, small, slightly oblique; both jaws with pointed teeth anteriorly and molar-like ones posteriorly; an inner band of numerous sligthly smaller, cardiform teeth behind the outer row of pointed teeth; molars arranged in 2 rows; gillrakers on first arch 9 or 10 lower and 5 or 6 upper. Dorsal fin with 12 spines and 11 or 12 soft rays; anal fin with 3 spines and 10 soft rays; base of anal fin longer than distance from snout to posterior eye margin. Scales along lateral line 54 to 60.

Colour: more or less bright red with silvery reflections; often blue spots following scale rows on sides; interorbital space darker; a small, dark red spot at origin of lateral line and along upper margin of opercle; base of pectoral fin darker; fins pinkish yellow (in many specimens from the Gulf of Guinea) or greyish. Caudal fin often margined with red or orange; inside of mouth whitish. The red vertical bars described by authors may correspond to a fright pattern.

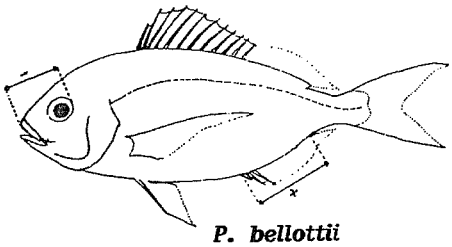
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Pagellus erythrinus: anal fin with 8 or 9 soft rays (10 in *P. bellottii*); base of anal fin shorter than distance from snout to posterior eye margin (longer in P. bellottii).



P. erythrinus

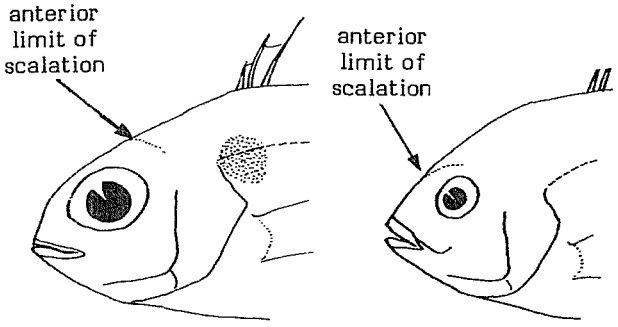
P. acarne and P. bogaraveo: scales on top of head not reaching forward to a line through middle of eyes (to or beyond that line in P. bellottii); inside of mouth orange red (whitish in P. bellottii).



P. bellottii

Sparus species: 4 to 6 stronger canines anteriorly in each jaw (at least 8 small, pointed teeth in Pagellus); *furthermore, a golden frontal band present in S. aurata.*

Lithognathus mormyrus: teeth more or less similar to those of Pagellus, but 14 or 15 narrow dark brown to grey vertical bars on sides, and posterior nostril slit-like (round or oval in Pagellus species).



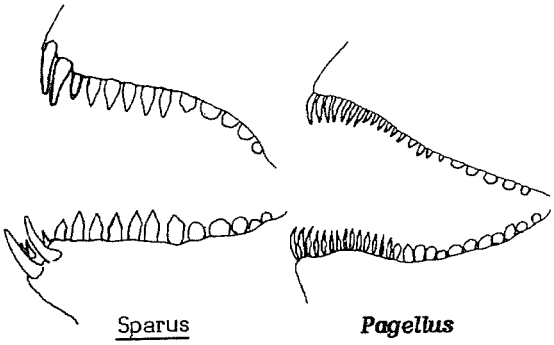
P. bogaraveo ***P. bellottii***

Other species of Sparidae: lateral molar teeth combined with anterior incisors (Diplodus, Rhabdosargus), or lateral teeth either pointed or with cutting edges (instead of molars).

SIZE:

Maximum: 42 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:



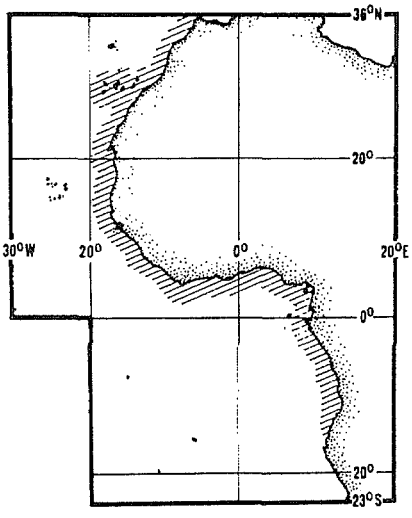
Sparus ***Pagellus***

From the Straits of Gibraltar to Angola, and around the Canary Islands. Also in the southwestern Mediterranean.

A demersal species inhabiting hard as well as sandy bottoms to depths of about 250 m; found in schools, especially in the upper 100 m. Intermittent spawning occurs from the second year onwards between May and November according to the latitude, the stock moving toward the coast for this purpose. A protogynic hermaphrodite (the majority of individuals are first females, then become males).

Omnivorous, with a predominantly carnivorous diet (including crustaceans, cephalopods, small fish, amphioxus and worms).

PRESENT FISHING GROUNDS:



Together with Dentex macrophthalmus, this is the most abundant sparid species on the West African coast. The main fishery is south of 26°N.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catch reported for this species is rather important; in 1977 it totalled 18 650 t, of which 7 510 were taken by countries bordering the area (Ghana, 7 250 and Angola, 260 t), and 11 140 t by non-African countries operating offshore fishing fleets in the area (USSR, 10 780 t and Portugal, 360 t).

Caught with bottom trawls, on line gear and in traps (Canary Islands).

Marketed fresh, smoked or frozen (flesh esteemed); also used for fishmeal and oil.

SPARID Rhab 1

1981

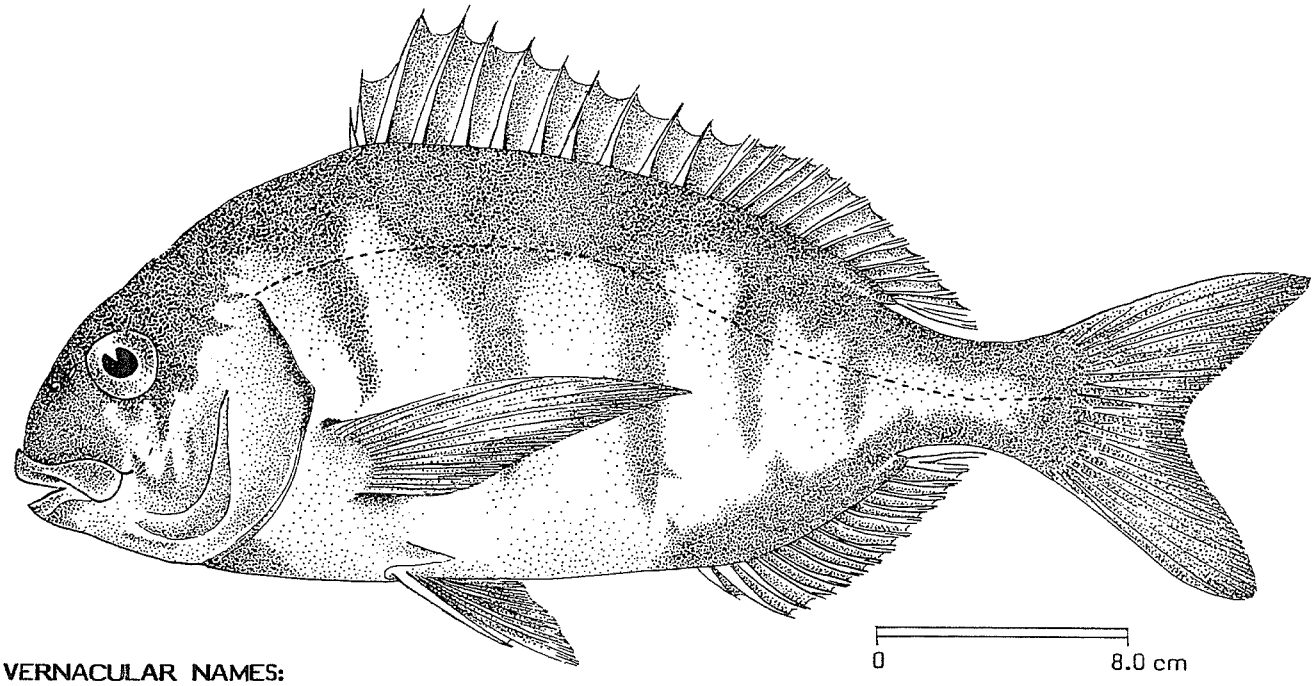
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Rhabdosargus globiceps (Valenciennes, 1830)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

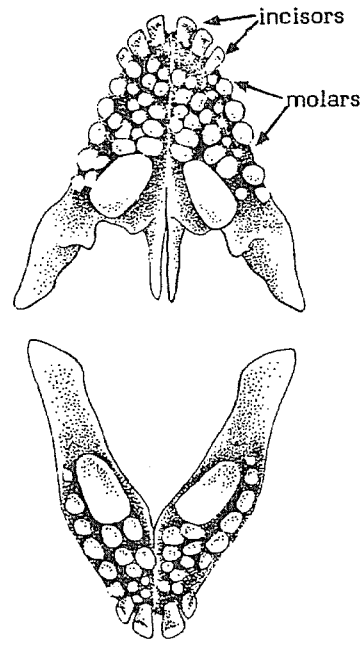
FAO : En - White stumpnose
Fr - Sar austral
Sp - Pargo ñato

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval and compressed. Head profile showing a slight depression above the eye, and a hump on front in adults; preopercle scaleless; mouth terminal, nearly horizontal; teeth incisor-like, short and stout (pointed in young), 4 to 6 in upper and 4 to 8 in lower jaw, followed by molars (4 or 5 rows in upper and 3 or 4 rows in lower jaw); gill rakers on first arch 7 to 10 lower and 5 to 7 upper. Dorsal fin with 11 spines and 11 to 13 soft rays; anal fin with 3 spines and 10 or 11 soft rays. Scales along lateral line 57 to 61.

Colour: silvery grey; belly lighter, head darker, especially, on interorbital region; 5 to 7 dark vertical bars; pectoral fin axils and margin of opercle black; fins dark.



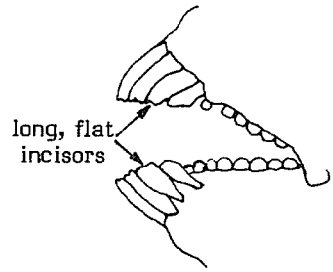
jaws and teeth

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Diplodus species: 8 to 12 long and/or strongly flattened incisor-like teeth in each jaw.

Species of Sparus, Lithognathus and Pagellus: anterior teeth not incisor-like.

Other species of Sparidae: lateral teeth pointed or with cutting edges (molar-like in Rhabdosargus).



Diplodus sp.

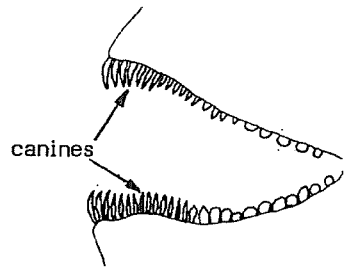
SIZE:

Maximum: 65 cm; common to 40 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

From Angola to the Cape of Good Hope and in the Indian Ocean northward to Natal.

Prefers sandy bottoms. The young often enter estuaries.



Pagellus sp.

PRESENT FISHING GROUNDS:

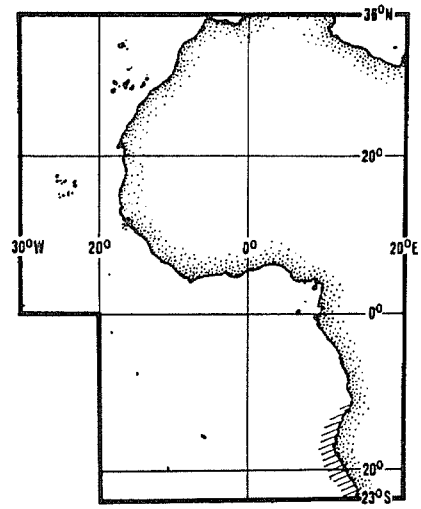
Regularly fished throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught on line gear, using lights.

Marketed fresh; an excellent foodfish.



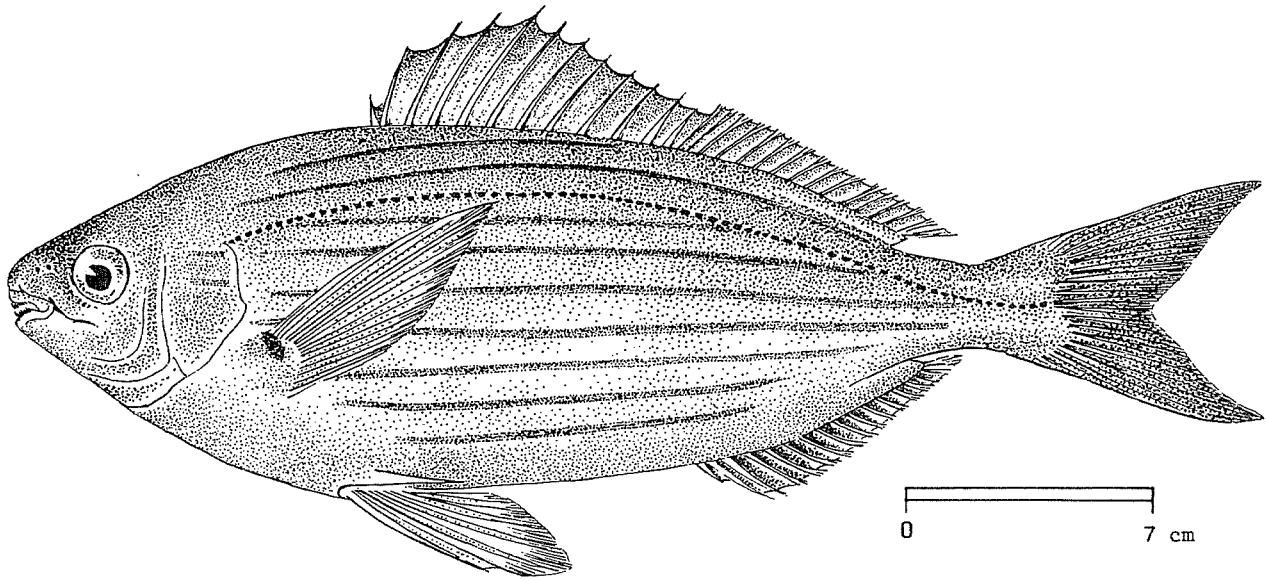
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Sarpa salpa (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Boops salpa (Linnaeus, 1758)



VERNACULAR NAMES:

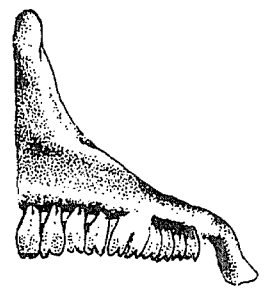
FAO : En - Salema
Fr - Saupe
Sp - Salema

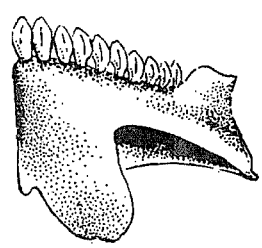
NATIONAL :

DISTINCTIVE CHARACTERS :

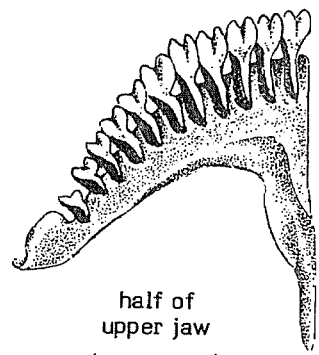
Body oblong and moderately compressed. Head small, snout blunt; preopercle scaleless; upper jaw slightly projecting; mouth terminal, small; lips thick; a single row of incisor-like teeth in each jaw, those on upper jaw notched at edges, those in lower jaw with a depression on their outer surface and ending in a single triangular point; all incisors with roots exposed, well visible inside mouth; gill rakers on first arch 12 to 14 lower and 6 or 7 upper. Dorsal fin with 11 or 12 spines and 14 to 17 soft rays; anal fin with 3 spines and 13 to 15 soft rays; pectoral fins short, not reaching to anus. Scales along lateral line 70 to 80.

Colour: bluish grey with 10 or 11 more or less orange-golden longitudinal lines following the scale rows; head darker, belly lighter; eye yellow, inter-orbital space dark; lateral line dark and very distinct; a small black spot at upper part of pectoral fin base; caudal fin dark grey, other fins lighter.

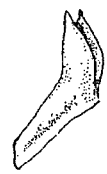




jaws and teeth
(lateral view)



half of
upper jaw
(inner view)



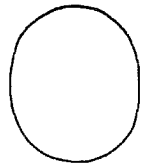
tooth of
upper jaw

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

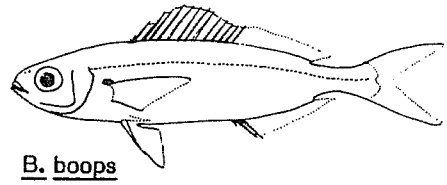
Boops boops: body fusiform, subcylindrical in cross section.

Spondyliosoma cantharus: pectoral fins long, reaching to anus; anal fin spines 9 to 11 (13 to 15 in S. sarpa); 4 to 6 rows of pointed teeth in each jaw, those in outer row larger, especially anteriorly.

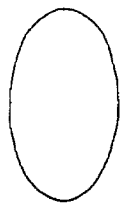
Other species of Sparidae: either more than one type of teeth, or only canines.



B. boops

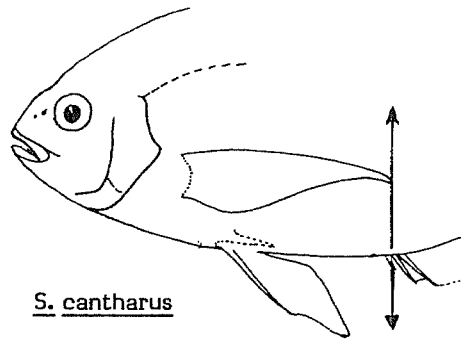


B. boops



other Sparidae

anterior body section



S. cantharus

SIZE :

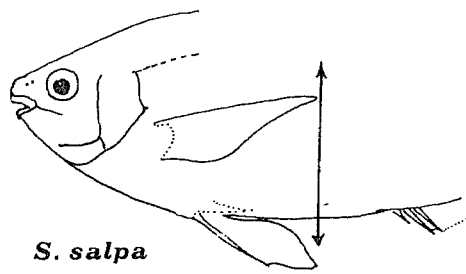
Maximum: 45 cm; common to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

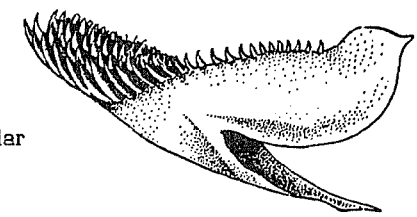
From the Straits of Gibraltar to Sierra Leone, around Madeira and the Canary and Cape Verde Islands, and in the south from Congo to South Africa. Also in the Mediterranean and northward to the Bay of Biscay.

Inhabits rocky or sandy bottoms covered with seaweeds, to depths of about 70 m. Gregarious, sometimes forming sizeable schools; spawning occurs from March to April and from September to November north of Cape Verde.

Mainly herbivorous, but sometimes also feeding on small crustaceans.



S. salpa



S. cantharus

lower jaw

PRESENT FISHING GROUNDS :

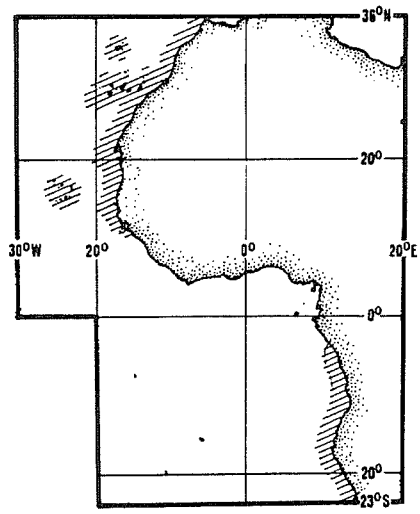
Throughout its range; exploited by an irregular and not very important fishery.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught on line gear, with bottom trawls, trammel nets, beach seines and in traps (Canary Islands).

Marketed fresh or frozen, sometimes dried salted (flesh not very highly esteemed); also used for fishmeal and oil.



SPARID Spar 1

1981

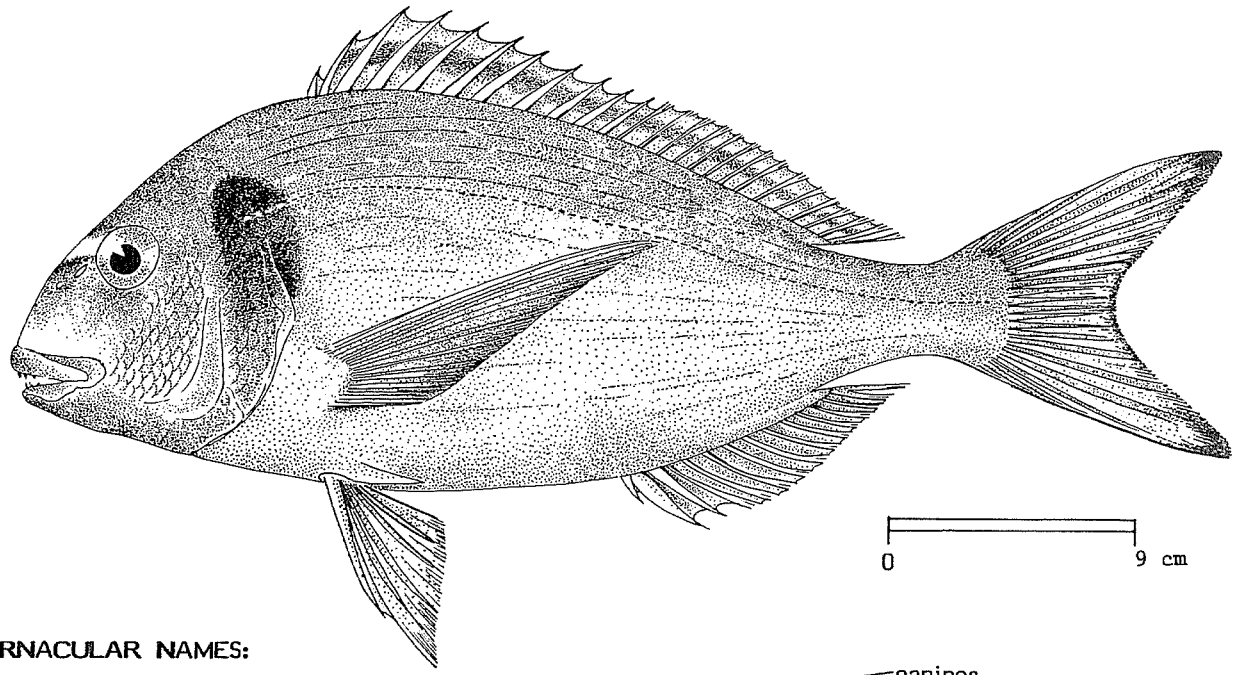
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Sparus aurata Linnaeus, 1758

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

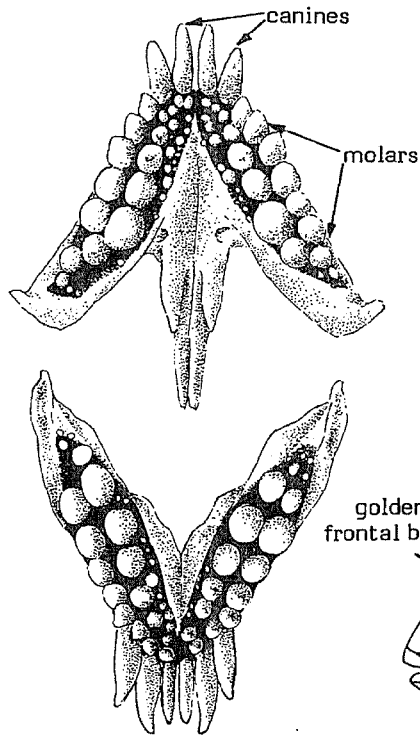
FAO : En - Gilthead seabream
Fr - Dorade royale
Sp - Pargo dorado (= Dorada)

NATIONAL :

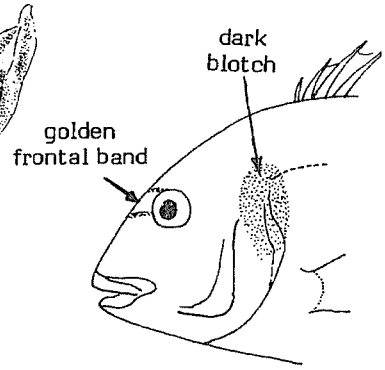
DISTINCTIVE CHARACTERS :

Body oval, rather deep and compressed. Head profile regularly curved; eye small; cheeks scaly, preopercle scaleless; mouth low, very slightly oblique; lips thick; 4 to 6 canine-like teeth anteriorly in each jaw, followed posteriorly by blunter teeth which become progressively molar-like and are arranged in 2 to 4 rows (teeth in the 2 outer rows stronger); gill-rakers on first arch short, 7 or 8 lower and 5 (rarely 4) to 6 upper. Dorsal fin with 11 spines and 13 to 14 soft rays; anal with 3 spines and 11 or 12 soft rays. Scales along lateral line 73 to 85.

Colour: silvery grey; a large black blotch at origin of lateral line extending on upper margin of opercle where it is edged below by a reddish area; a golden band between eyes edged by two dark areas (not well defined in young individuals); dark longitudinal lines often present on sides of body; a dark band on dorsal fin; fork and tips of caudal fin edged with black.

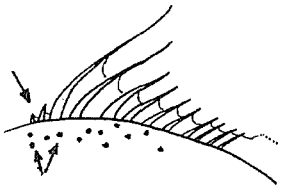


jaws and teeth

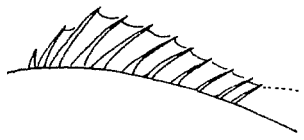


DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other Sparus species: neither a frontal band nor a black spot at origin of lateral line. Furthermore, less than 70 scales along lateral line in S. pagrus (73 to 85 in S. aurata); 4 or 5 dark crossbars in S. auriga; bluish black spots on back and sides in S. caeruleostictus; and first 2 dorsal fin spines very short in S. auriga and S. caeruleostictus.



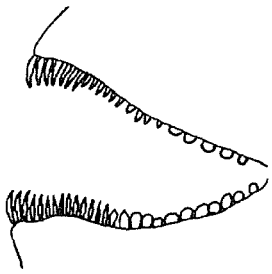
S. caeruleostictus

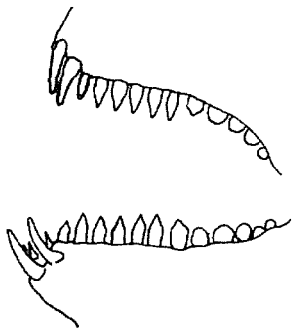


S. aurata

Species of Lithognathus and Pagellus: at least 8 small, pointed teeth anteriorly on each jaw (4 to 6 stronger canines in S. aurata).

Other species of Sparidae: lateral molars combined with anterior incisors (Diplodus, Rhabdosargus), or lateral teeth either pointed or with cutting edges (instead of molars).





Pagellus

Sparus

SIZE:

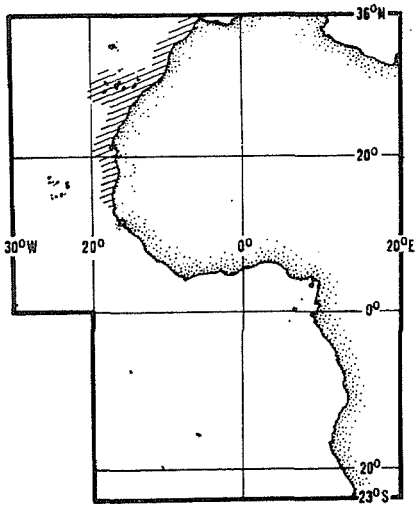
Maximum: 70 cm; common to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

From the Straits of Gibraltar to Cape Verde and around the Canary Islands. Also in the Mediterranean and northward to the British Isles.

A coastal species, inhabiting seagrass beds and sandy bottoms as well as in the surf zone commonly to depths of about 30 m, but the adults may occur to 150 m depth. Euryhaline, entering brackish waters; a sedentary fish, solitary or forming small aggregations. A protandric hermaprodite (the majority of individuals are first males, then become females, at about 3 years of age). Spawning occurs from October to December.

Mainly carnivorous, (molluscs, particularly mussels which it can easily crush, crustaceans and fish); but accessorily herbivorous.



PRESENT FISHING GROUNDS:

The richest fishing grounds are located between 36°N to 21° S, the species being less common further south and around the Canary Islands. Fished most intensively from February to October.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

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

Marketed fresh or frozen (flesh highly esteemed); also used for fishmeal and oil.

SPARID Spar 3

1981

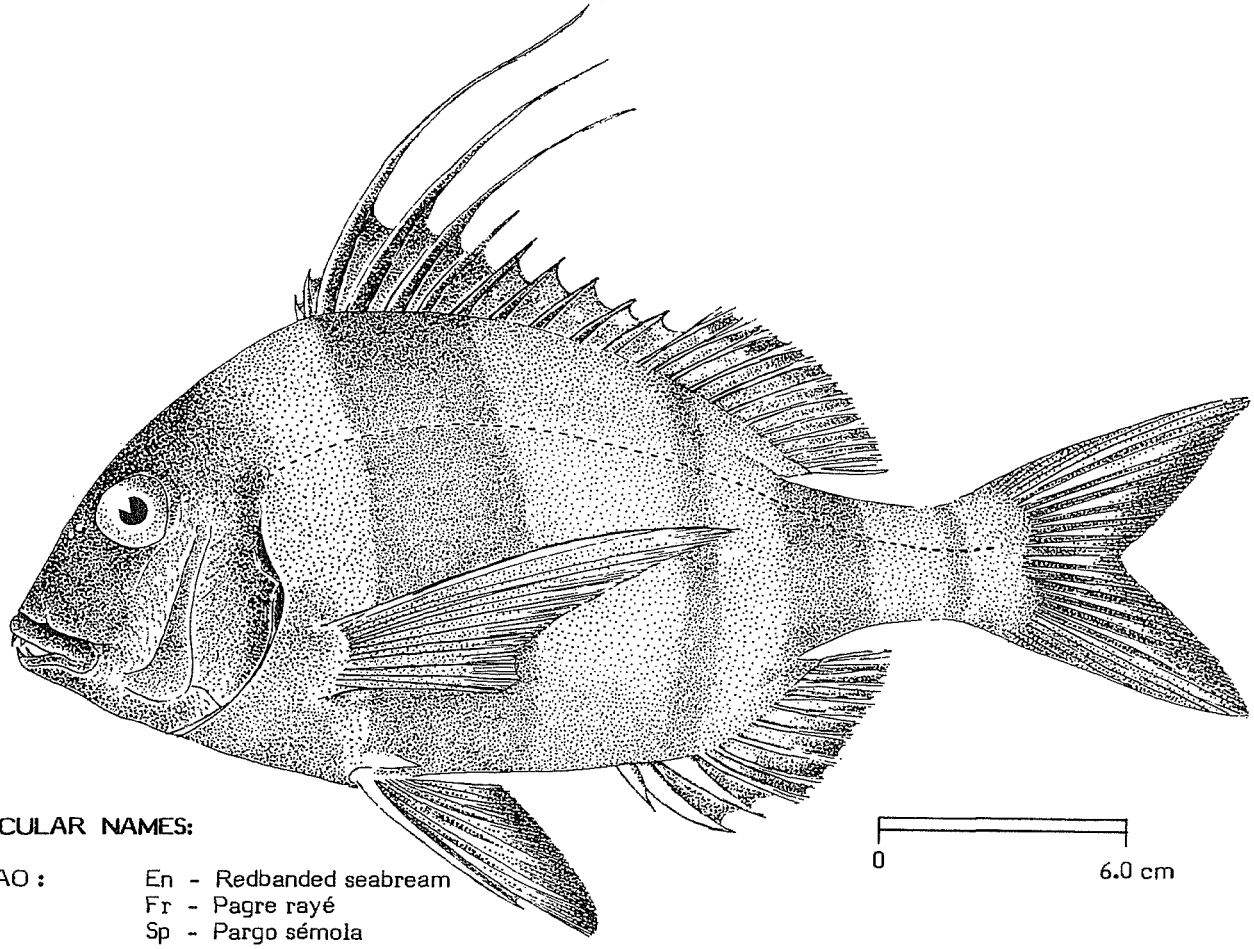
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Sparus auriga (Valenciennes, 1843)

OTHER SCIENTIFIC NAMES STILL IN USE : Sparus caeruleostictus (Valenciennes, 1830) (misidentification)
Pagrus auriga Valenciennes, 1843



VERNACULAR NAMES:

FAO : En - Redbanded seabream
Fr - Pagre rayé
Sp - Pargo sémola

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval, deep and compressed. Head profile nearly straight, except for a slight hump above eyes; cheeks scaly; scalation on preopercle scarcely visible; mouth low, slightly oblique; jaws strong, lips thick; anterior teeth canine-like, 4 in upper and 6 in lower jaw, followed by blunter teeth that become progressively molar-like and are arranged in 2 or 3 rows; behind the row of large canine-like teeth there are some smaller teeth; gill rakers on first arch 10 or 11 lower and 6 to 8 upper. Dorsal fin with 11 spines and 10 to 12 soft rays, the first two spines always very short, the third to fifth very long and filamentous, particularly in the young; anal fin with 3 spines and 8 or 9 soft rays. Scales along lateral line 50 to 52.

Colour: pink with silvery reflections and 4 or 5 dark red, alternatingly broad and narrow cross bars; adults of a more intense wine red with the cross bars less well visible than in the young; head dark between nape and corner of mouth; hind edge of opercle very dark. Dorsal fin pink with some black on the membranes separating the filamentous spines and with orange on distal parts of soft rays; anal fin similar in colour to the dorsal; pectoral fins pinkish orange; pelvic fins wine red edged with black; caudal fin greyish at base, pink or orange edged with black distally.

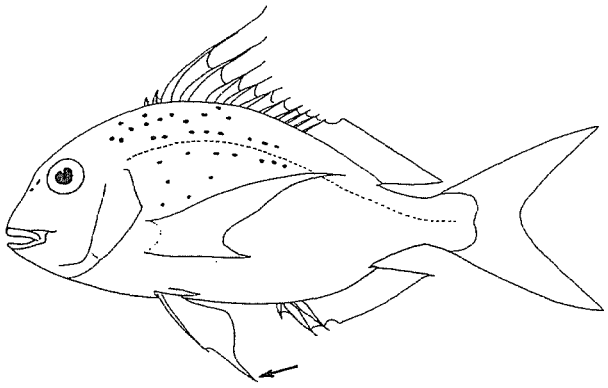
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Sparus caeruleostictus: large bluish-black spots on back and sides; first soft ray of pelvic fins filamentous (not filamentous in S. auriga).

Other Sparus species: first 2 dorsal fin spines not much shorter than the following ones.

Species of Lithognathus and Pagellus: at least 8 small, pointed teeth anteriorly in each jaw (4 to 6 stronger canines in S. auriga). Furthermore, many grey vertical lines in Lithognathus.

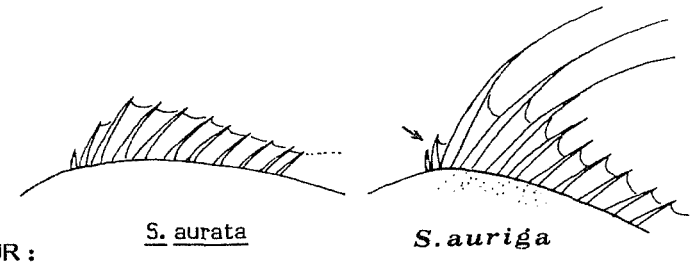
Other species of Sparidae: lateral molars combined with anterior incisors (Diplodus, Rhabdosargus), or lateral teeth cutting or pointed (instead of molar-like).



Sparus caeruleostictus

SIZE:

Maximum: 60 cm; common to 30 cm.



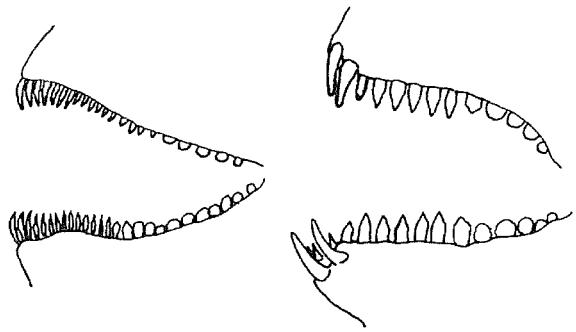
S. aurata *S. auriga*

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

From Gibraltar to Angola, including Madeira and the Canary Islands. Also in the southwestern Mediterranean and northward to Portugal.

A coastal species inhabiting hard bottoms (rock or rubble) down to 170 m depth, the young near the coast.

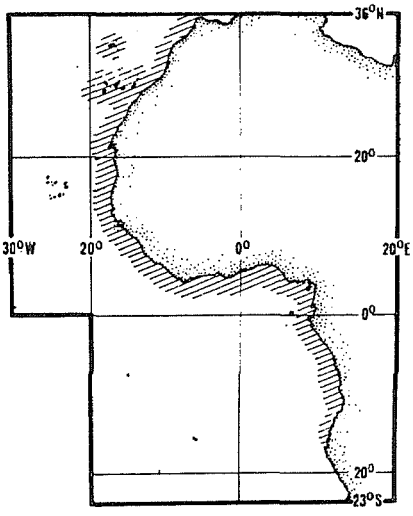
Carnivorous, feeding chiefly on molluscs, including cephalopods, and sometimes, on crustaceans.



Pagellus *Sparus*

PRESENT FISHING GROUNDS:

Taken sporadically throughout its range.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught on line gear and with trammel nets and bottom trawls.

Marketed fresh or frozen (flesh highly esteemed); also used for fishmeal and oil.

SPARID Spar 4

1981

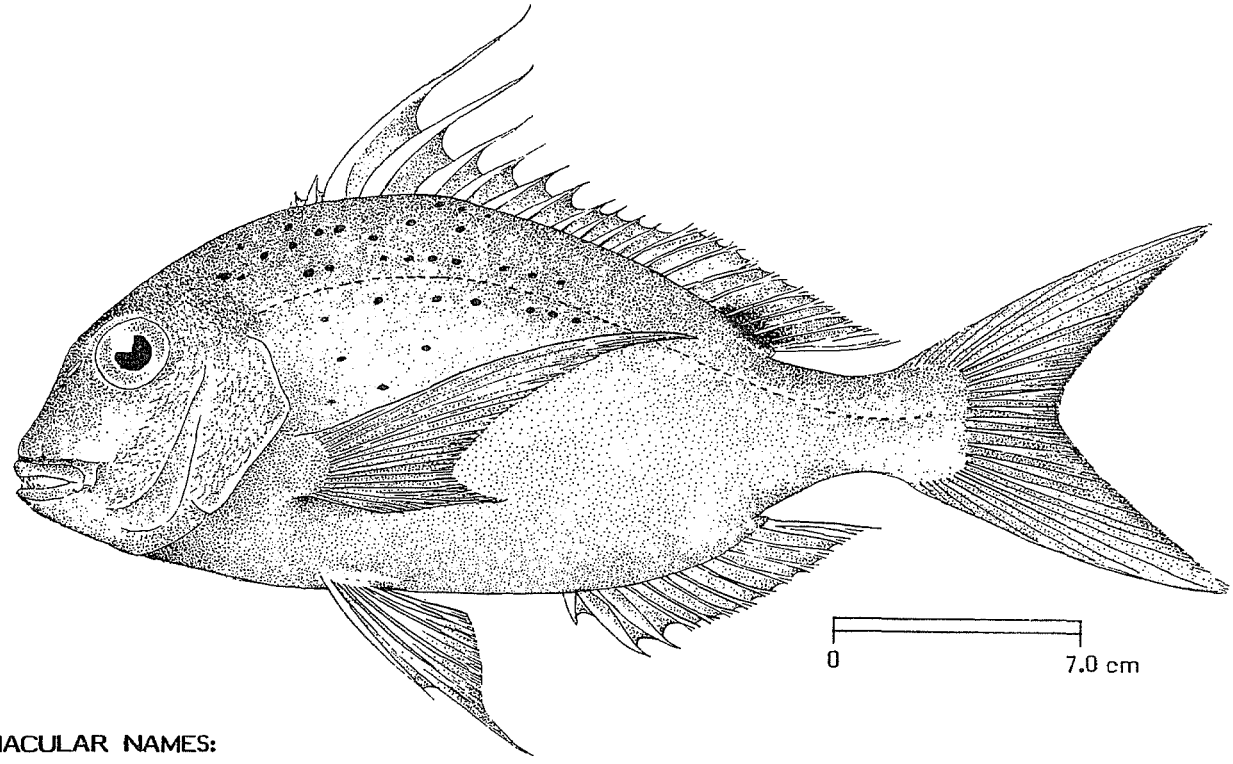
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Sparus caeruleostictus (Valenciennes, 1830)

OTHER SCIENTIFIC NAMES STILL IN USE : Sparus ehrenbergii Valenciennes, 1830



VERNACULAR NAMES:

FAO : En - Bluespotted seabream
Fr - Pagre à points bleus
Sp - Pargo zapata (= Zapata, Hurta)

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval, rather deep and compressed. Head profile regularly convex above, becoming abruptly steeper below eye; cheek scaly; preopercle unscaled or with a few scattered, small scales; mouth low, slightly oblique; jaws very strong, lips thick; anterior teeth canine-like, 4 in upper and 6 in lower jaw, followed by blunter teeth that become progressively molar-like and are arranged in 2 or 3 rows; behind the row of large canine-like teeth there are some smaller teeth; gill rakers on first arch 10 to 13 lower and 6 or 7 upper. Dorsal fin with 11 or 12 spines and 9 to 11 soft rays; the first 2 spines always very short, the third to fifth longest, filamentous in the young; anal fin with 3 spines and 8 or 9 soft rays; first soft ray of pelvic fins filamentous. Scales along lateral line 51 to 54.

Colour: pink with silvery reflections and large bluish black spots on back and sides; head darker, particularly on the interorbital space; a dark spot at bases of last dorsal soft rays extending on to the sheath of the fin, but becoming lighter with age; caudal fin pinkish, the fork edged with black; other fins bluish or pinkish. Old individuals very often with numerous irregular dark spots on head and back; old males with yellow on the head during the reproduction season.

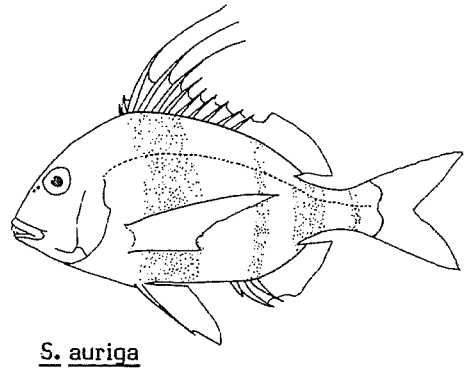
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Sparus auriga: dark cross bars on body; first soft ray of pelvic fins not filamentous.

Other Sparus species: first 2 dorsal fin spines not much shorter than the following.

Species of Lithognathus and Pagellus: at least 8 small, pointed teeth anteriorly in each jaw (4 to 6 larger canines in S. caeruleostictus).

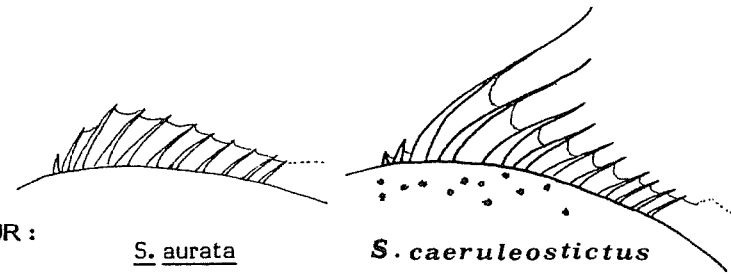
Other species of Sparidae: either lateral molars combined with anterior incisors (Diplodus, Rhabdosargus), or lateral teeth cutting or pointed (instead of molar-like).



S. auriga

SIZE:

Maximum: 72 cm; common to 50 cm.



S. aurata

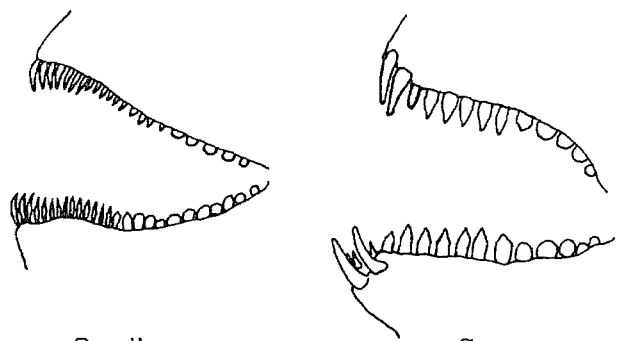
S. caeruleostictus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

From Gibraltar to Angola, including the Canary Islands. Also in the Mediterranean and northward to Portugal.

A demersal species inhabiting hard bottoms (rocks and rubble) down to about 150 m depth, the older individuals in the deeper part of this range, the young in inshore areas. Sexual maturity is attained at the age of 2 years; spawning migrations occur parallel to the coast, with intermittent spawning activity taking place over soft bottoms in shallow water to the north of Cape Verde, throughout the hot season (particularly at its beginning and end).

Carnivorous, feeding chiefly on bivalves which it crushes with its powerful jaws; also on crustaceans and fish.

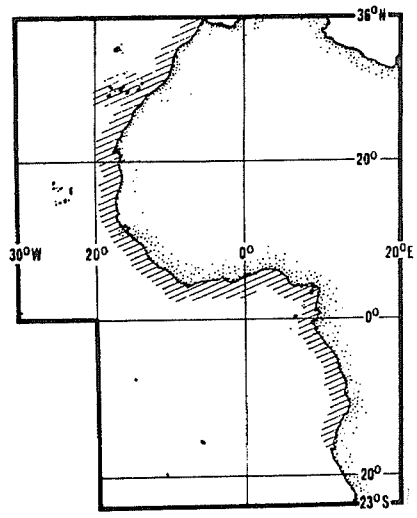


Pagellus

Sparus

PRESENT FISHING GROUNDS:

A seasonal fishery, particularly during the time of spawning concentrations, mainly in the southern part of its range; less abundant to the north of Agadir and around the Canary Islands.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught on line gear, with bottom trawls and seines, and in traps (Canary Islands).

Marketed fresh, frozen or smoked (flesh esteemed); also used for fishmeal and oil.

SPARID Spar 5a

1981

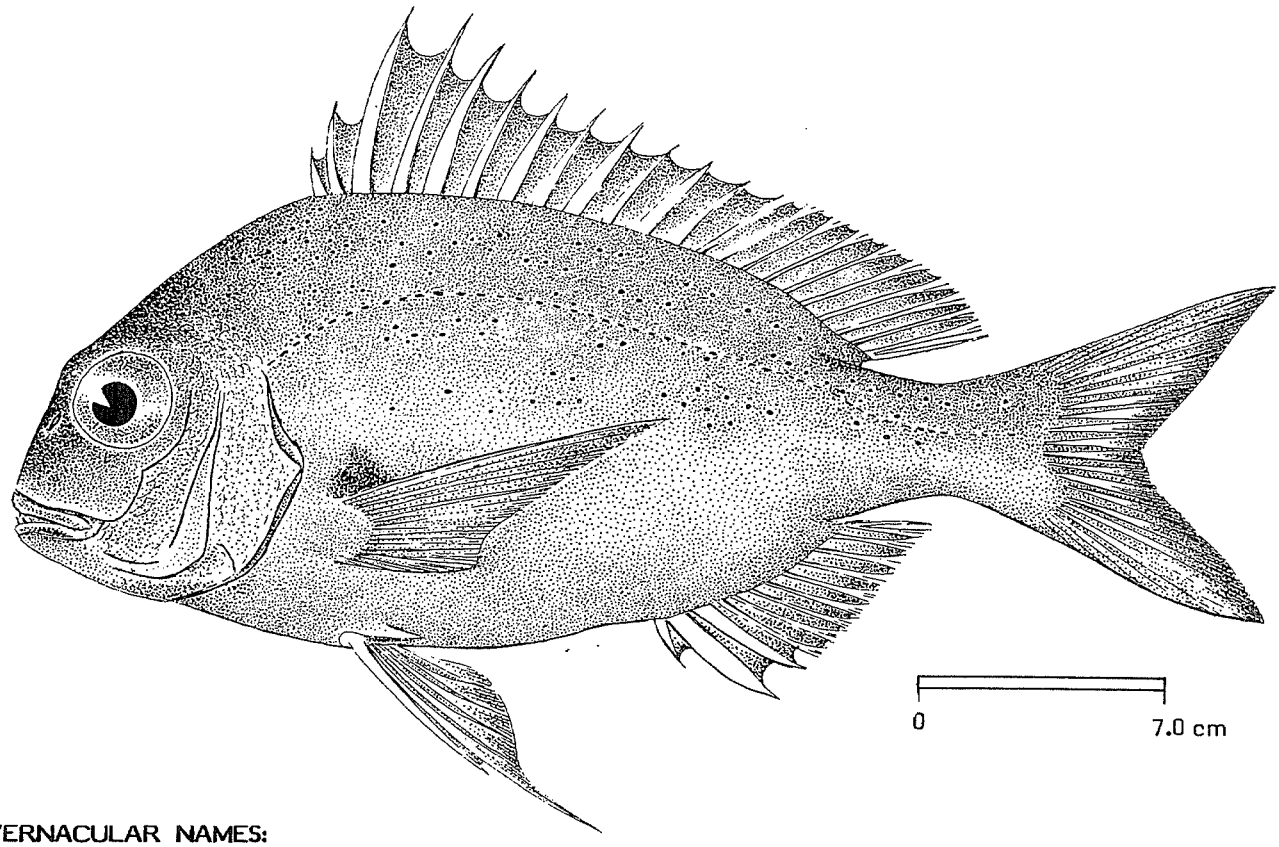
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Sparus pagrus africanus Akazaki, 1962

OTHER SCIENTIFIC NAMES STILL IN USE : Pagrus pagrus Linnaeus, 1758 (p.p.)
Pagrus vulgaris Valenciennes, 1830 (p.p.)



VERNACULAR NAMES:

FAO : En - Southern common seabream
Fr - Pagre des tropiques
Sp - Pargo sureño

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval, rather deep. Head profile convex, becoming clearly more abrupt in front of eye; 6 or 7 rows of scales on cheek; preopercle scaleless; both jaws anteriorly with large, canine-like teeth, 4 in upper and 6 in lower jaw, followed by smaller and blunter conical teeth that become progressively molar-like toward the posterior third of jaws; the two outer rows of strong teeth are flanked, in the region anterior to the molars, by several rows of very small teeth; gill rakers on first arch short, 9 to 11 lower and 6 or 7 upper. Dorsal fin with 12 spines and 10 or 11 soft rays; anal fin with 3 spines and 8 or 9 soft rays; first soft ray of pelvic fins filamentous. Scales along lateral line 48 to 56.

Colour: pink with silvery reflections, lighter on belly; head darker; fine blue spots sometimes present on upper sides, particularly well developed in the young; a dark red blotch at pectoral fin axils extending well onto the fin bases; dorsal, anal and caudal fins pink edged with orange distally.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

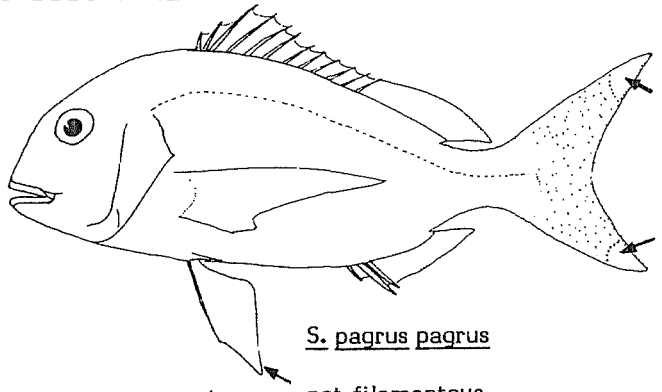
Sparus pagrus pagrus: first soft ray of pelvic fins *not filamentous; pectoral fin axils only faintly darker* than surrounding areas; caudal fin white-tipped (not so in S. pagrus africanus).

S. auriga and S. caeruleostictus: 2 first dorsal fin spines very short; 4 or 5 dark cross bars in S. auriga and blue-black spots on back and sides in S. caeruleostictus.

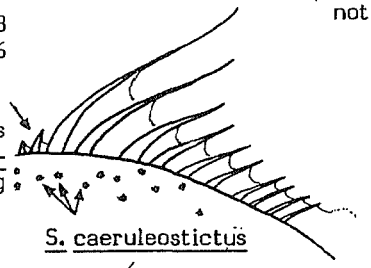
S. aurata: a golden frontal band; a large black blotch at origin of lateral line; over 70 scales along lateral line (less than 70 in S. pagrus africanus).

Species of Lithognathus and Pagellus: at least 8 small, pointed teeth anteriorly in each jaw (4 to 6 stronger canines in Sparus species).

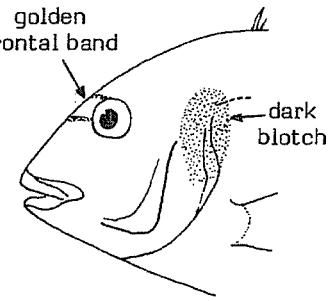
Other species of Sparidae: either lateral molars combined with anterior incisors (Diplodus, Rhabdosargus), or lateral teeth either pointed or with cutting edges (instead of molar-like).



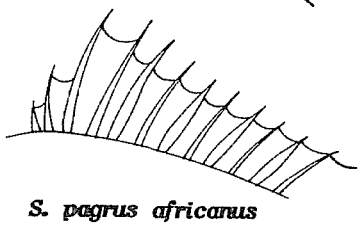
S. pagrus pagrus



S. caeruleostictus



S. aurata



S. pagrus africanus

SIZE:

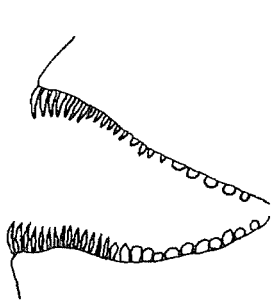
Maximum: 75 cm; common to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

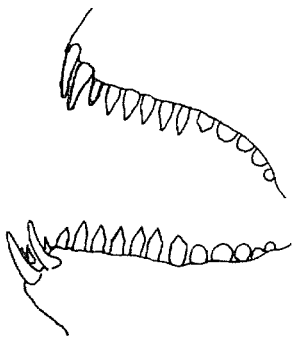
West African coast from Senegal to Angola.

A demersal species inhabiting hard (rocks and rubble), sandy or muddy bottoms on the continental shelf and the upper slope to about 200 m depth, but not often descending beyond 150 m. The young occur nearer to the coast than the adults. Reproduction takes place from September onward.

Carnivorous, capable of crushing molluscan shells; also feeding on fish.



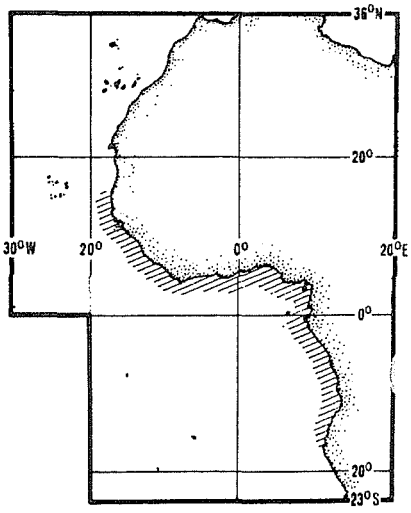
Pagellus



Sparus

PRESENT FISHING GROUNDS:

Throughout its range.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The combined catches of the two subspecies of Sparus pagrus reported from the area in 1977 totalled 13 000 t; of this figure, 6 000 t were taken by non-African countries (Portugal, 4 750 t; Spain, 1 250 t), while the landings reported by countries bordering the area were the following: Senegal, 3 900 t; Ghana, 2 600 t; Sierra Leone, 120 t.

Caught with bottom trawls, bottom fixed nets and on line gear.

Marketed fresh, frozen or smoked (flesh highly esteemed); also used for fishmeal and oil.

SPARID Spar 5b

1981

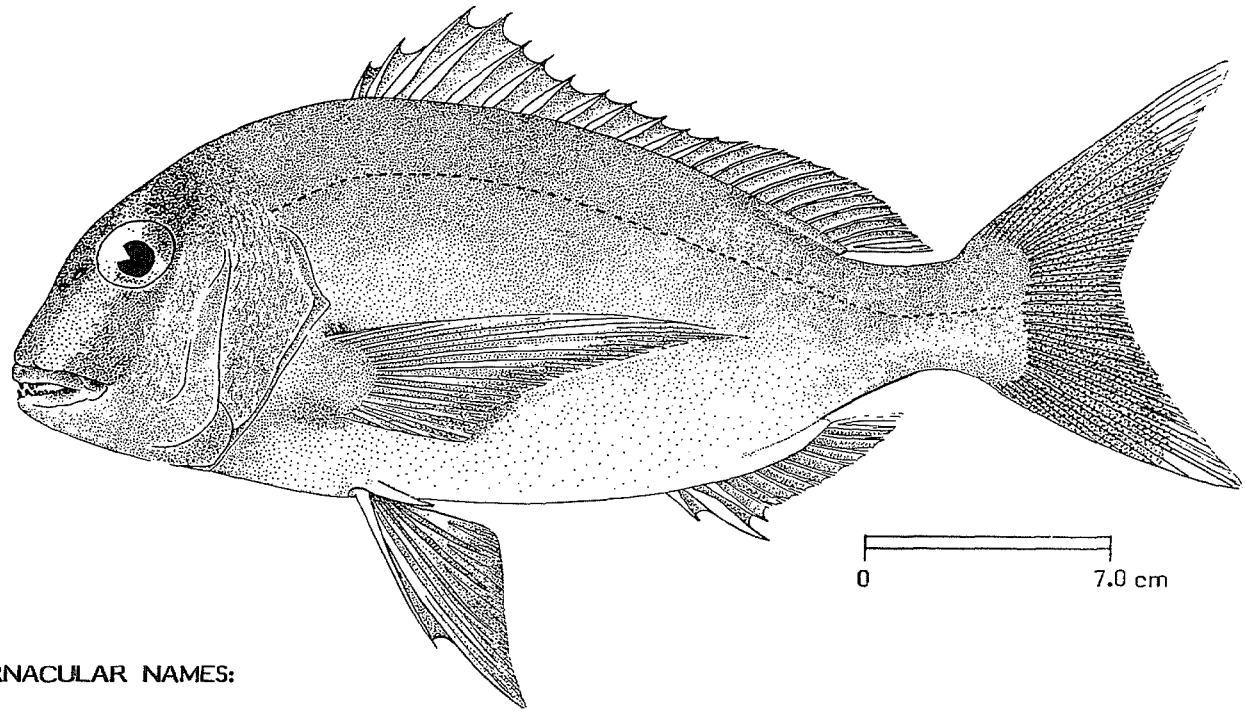
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Sparus pagrus pagrus (Linnaeus, 1758)

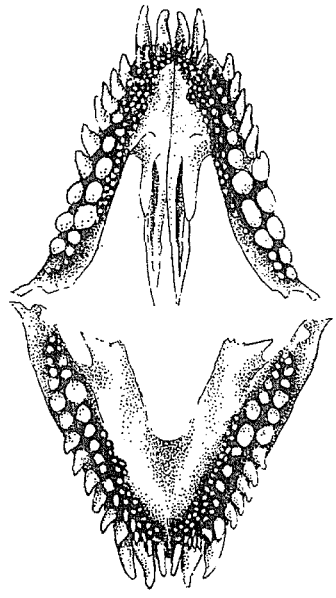
OTHER SCIENTIFIC NAMES STILL IN USE : Pagrus pagrus Linnaeus, 1758 (p.p.)
Pagrus vulgaris Valenciennes, 1830 (p.p.)



VERNACULAR NAMES:

FAO : En - Common seabream
Fr - Pagre commun
Sp - Pargo

NATIONAL :



jaws and teeth

DISTINCTIVE CHARACTERS :

Body oval, rather deep. Head profile convex, slightly steeper in front of eye; 6 or 7 rows of scales on cheeks; preopercle scaleless; both jaws anteriorly with large canine-like teeth, 4 in upper and 6 in lower jaw, followed by smaller and blunter canine-like teeth that become progressively molar-like toward the posterior third of jaws; the 2 outer rows of strong teeth are flanked in the region anterior to the molars, by several rows of very small teeth; gill rakers short, 8 to 10 lower, and 6 to 8 upper on first arch. Dorsal fin with 12 spines and 9 to 12 soft rays; anal fin with 3 spines and 8 or 9 soft rays. Scales along lateral line 52 to 60.

Colour: pink with silvery reflections, lighter on belly; head dark from nape to angle of mouth; sometimes, fine blue dots present on upper sides, particularly conspicuous in young individuals; often a somewhat darker area at pectoral fin axils; caudal fin dark pink, with both tips white; other fins pinkish.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

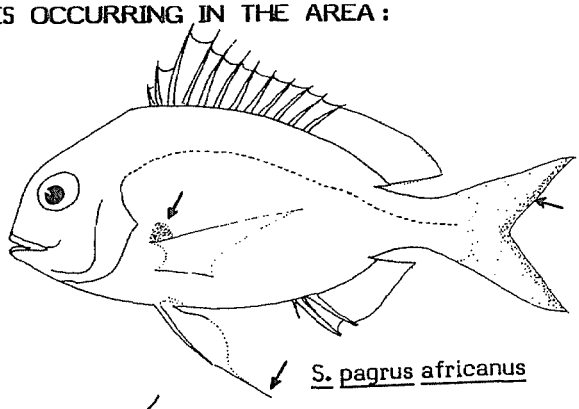
Sparus pagrus africanus: first pelvic soft ray filamentous (not filamentous in S. p. pagrus); a large, dark red blotch at pectoral fin axils extending over bases of fins (pale and restrictred to fin axil in S. p. pagrus); caudal fin pink, orange distally.

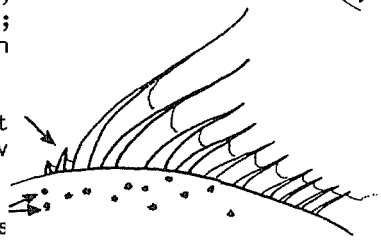
S. auriga and S. caeruleostictus: the 2 first dorsal fin spines very short; 4 or 5 dark cross bars in S. auriga, and blue-black spots on back and sides of S. caeruleostictus.

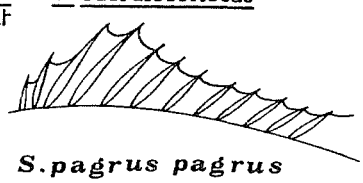
S. aurata: a golden band on front of head; a large black blotch at origin of lateral line; more than 70 scales along lateral line (less than 70 in S. p. pagrus).

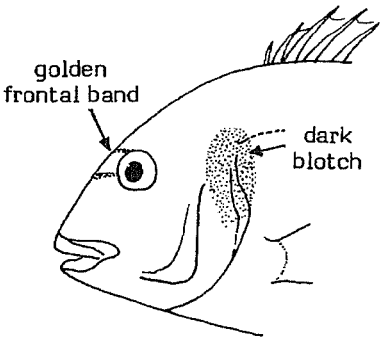
Species of Lithognathus and Pagellus: at least 8 small pointed teeth anteriorly in each jaw (4 to 6 stronger canines in Sparus species).

Other species of Sparidae: lateral molars combined with anterior incisors (Diplodus, Rhabdosargus), or lateral teeth either pointed or with cutting edges (instead of molars).









SIZE:

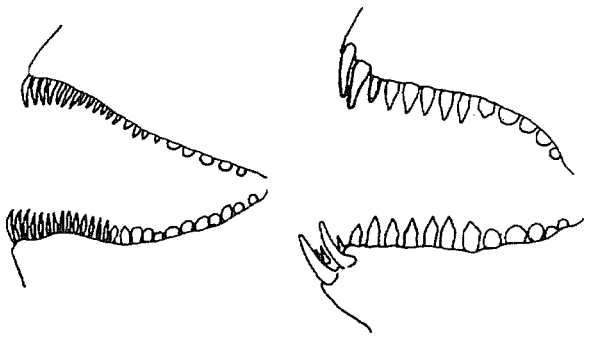
Maximum: 75 cm; common to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

From the Straits of Gibraltar to 15°N (rare southward of 20°N) including Madeira and the Canary Islands. Also in the Mediterranean and northward to the British Isles.

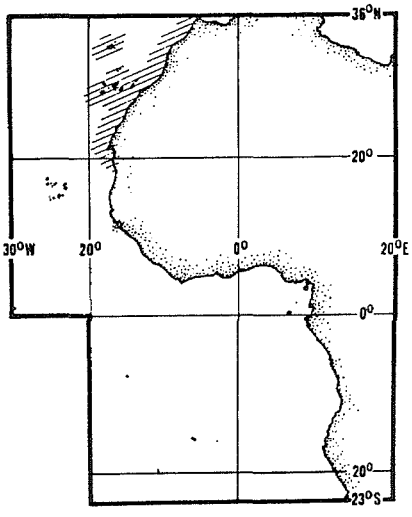
A demersal species inhabiting hard (rock and rubble) or sandy bottoms (the young often found on seagrass beds) of the continental shelf and the slope down to about 250 m depth, although often above 100 m. Spawning takes place from May to June.

Carnivorous, crushing their food (mainly crustaceans, fishes and molluscs).



PRESENT FISHING GROUNDS:

A rather abundant species, especially in the northern part of its range, and around the Canary Islands.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catch reported for the combined subspecies of Sparus pagrus totalled about 15 000 t in 1977, of which 6 000 t were taken by non-African countries (Portugal, 4 750 t; Spain, 1 250); while the 1977 landings reported by countries bordering the area were the following: Senegal, 3 900 t; Ghana, 2 600 t; Sierra Leone, 120 t.

Caught with bottom trawls, line gear, fixed nets, traps (Canary Islands) and beach seines (young individuals).

Utilized fresh or frozen, sometimes dried salted (flesh highly esteemed); also reduced to fishmeal and oil.

SPARID Spond 1

1981

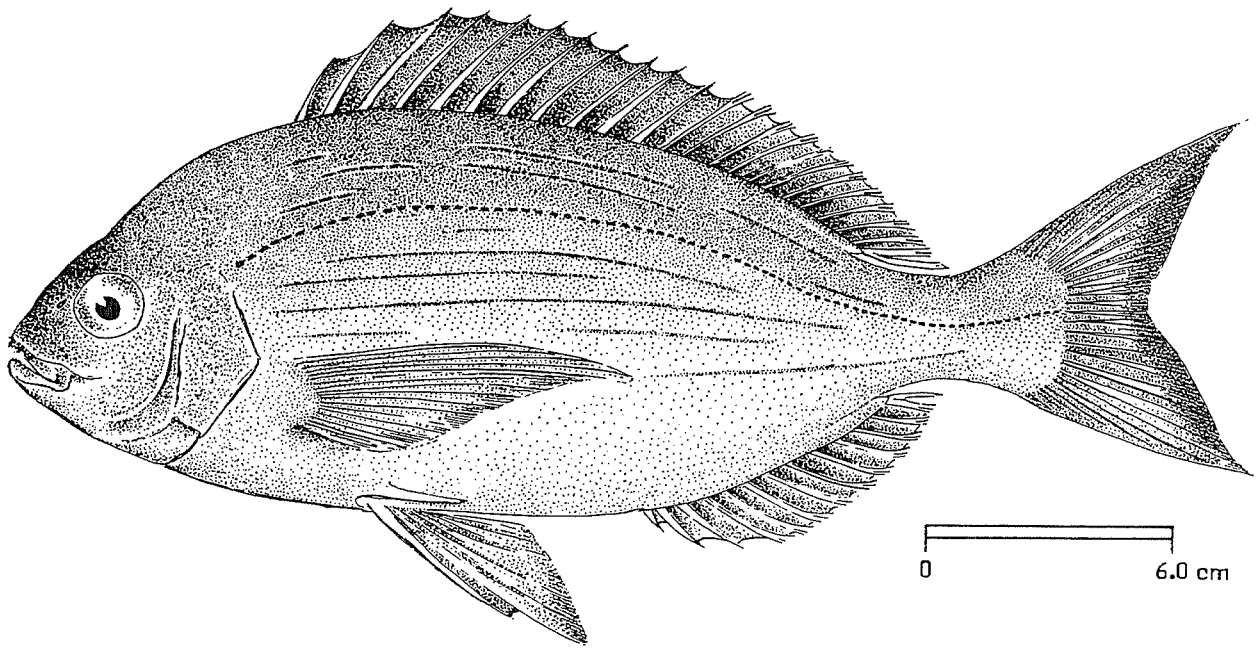
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Spondyliosoma cantharus (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Cantharus cantharus (Linnaeus, 1758)



VERNACULAR NAMES:

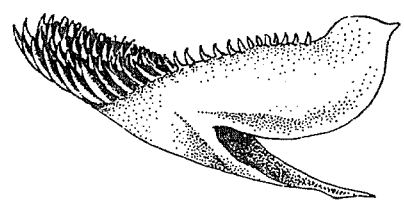
FAO : En - Black seabream
Fr - Dorade grise
Sp - Pargo chopa (= Chopa)

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oval, compressed. Dorsal profile of head depressed above eyes; snout short; suborbital space narrow; cheek scaly, preopercle scaleless; mouth oblique; 4 to 6 rows of pointed teeth in each jaw, those in outer row largest, especially in front; gill rakers on first arch 14 to 16 lower and 8 or 9 upper. Dorsal fin with 11 spines and 11 to 13 soft rays; anal fin with 3 spines and 9 to 11 soft rays. Scales along lateral line 66 to 75.

Colour: silvery grey with bluish, greenish or pinkish reflections; a whitish sheen in mature females; head darker, especially between the eyes and on snout; more or less discontinuous, yellow-golden longitudinal lines on sides; vertical fins darker than body; fork of caudal fin usually edged with black; sometimes 5 or 6 grey cross bars, especially in young, probably corresponding to a fright pattern.



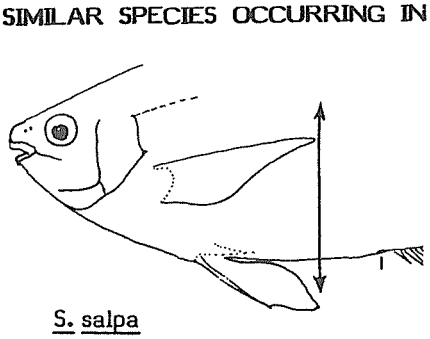
lower jaw
lateral view

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

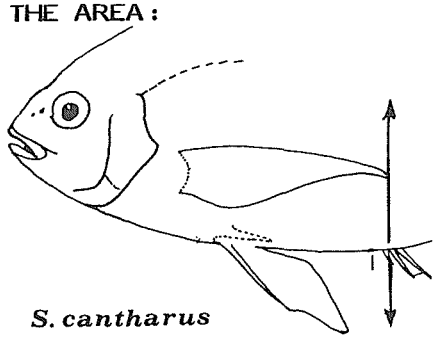
Sarpa salpa: pectoral fins short, not reaching to anus (long, reaching to anus in S. cantharus); dorsal fin with 13 to 15 spines (9 to 11 in S. cantharus).

Pachymetopon blochii: bases of soft portions of dorsal and anal fins scaly, not inserted in a sheath (bases of fins scaleless, but inserted in a scaly sheath in S. cantharus).

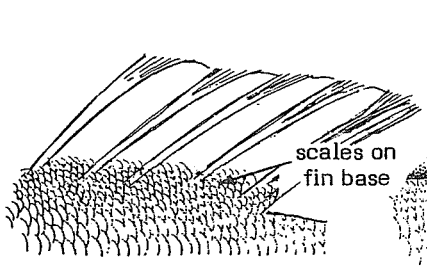
Other species of Sparidae: lateral molars present (Rhabdosargus, Diplodus, Sparus, Lithognathus, Pagellus); incisors not combined with lateral molars (Sarpa, Boops, Oblada); or strong canines present (Dentex, Viridentex).



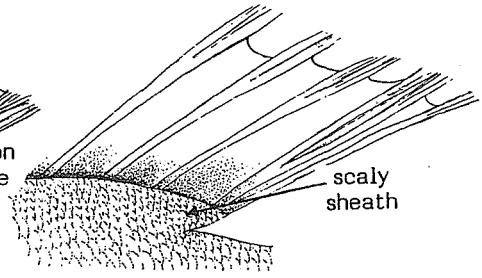
S. salpa



S. cantharus



Pachymetopon blochii



S. cantharus

posterior region
of dorsal fin

SIZE:

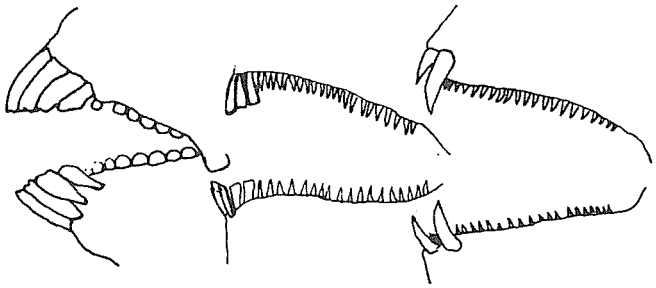
Maximum: 60 cm; common to 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

From Gibraltar to Angola, including Madeira and the Canary and Cape Verde Islands. Also in the Mediterranean and northward to Scandinavia.

A demersal species inhabiting the continental shelf, especially on seagrass beds and rocky or sandy bottoms to about 300 m depth; the young are found in shallower water, to about 50 m depth. Gregarious, sometimes forming sizeable schools. Spawning takes place from March to May in the northern part of its range; the eggs are laid on sand. This species is believed to be a protogynic hermaphrodite (predominance of females over males in individuals at first maturity).

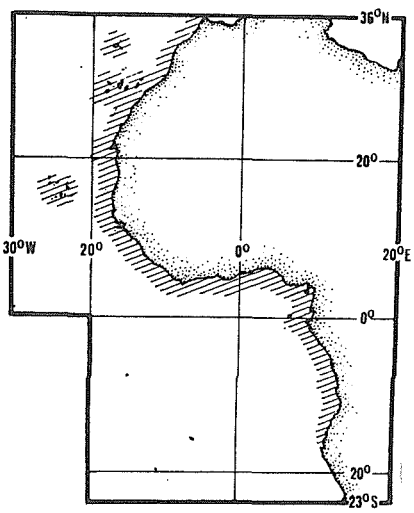
Carnivorous, feeding on seaweeds and small invertebrates, especially crustaceans.



Diplodus sp. Oblada sp. Dentex sp.

PRESENT FISHING GROUNDS:

Throughout its range, particularly to the north of Senegal.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics for this species are reported by the following countries: Greece, 75 t; German Democratic Republic, 20 t (1977).

Caught on line gear, with pelagic and bottom trawls, beach seines and traps (Canary Islands).

Utilized fresh, frozen or dried salted (flesh highly esteemed); also reduced to fishmeal and oil.

SPARID Virid 1

1981

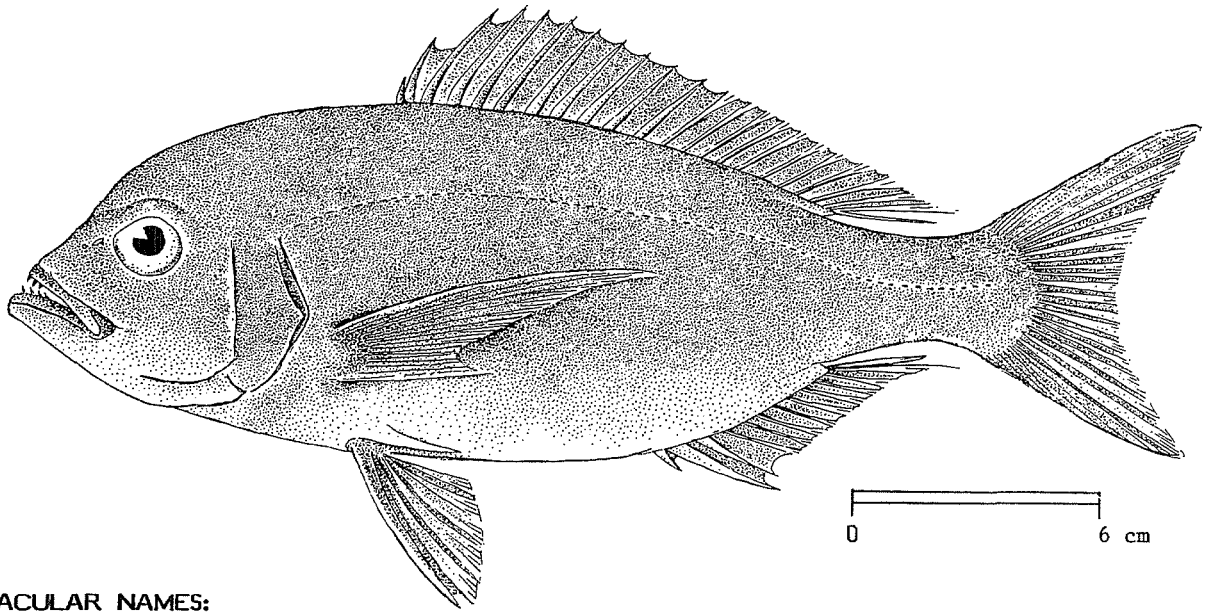
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPARIDAE

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

Viridentex acromegalus (Osorio, 1909)

OTHER SCIENTIFIC NAMES STILL IN USE : Dentex acromegalus Osorio, 1909



VERNACULAR NAMES:

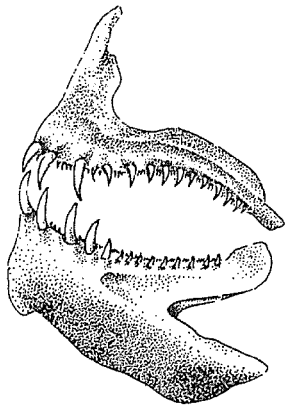
FAO : En - Bulldog dentex
Fr - Denté du Cap Vert
Sp - Sama bocona

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oblong and compressed. Head profile convex at nape, depressed in front of eye; eye small, its diameter equal to width of suborbital space and clearly shorter than length of snout; scalation on top of head extending clearly beyond anterior margin of eyes but separated from eyes by an elongate depression; scalation on sides of head (13 to 15 rows) not interrupted between cheek and preopercle, but posterior margin of the latter naked; small scales on suborbital space; mouth slightly superior and oblique, the lower jaw strong and projecting, chin prominent; all teeth canine-like, arranged in several rows, the outer row (often the only one visible) much stronger than the others, the 6 to 8 anterior teeth long and sharply pointed; gill rakers on first arch 13 to 17 lower and 8 or 9 upper. Dorsal fin with 11 spines, the fourth or fifth longest, and 11 soft rays, the last of which is elongate and threadlike; anal fin with 3 spines and 8 or 9 soft rays, the last one also long and threadlike; pelvic fins with a broad, flattened spine and a well developed axillary scale. Scales along lateral line 57 to 60.

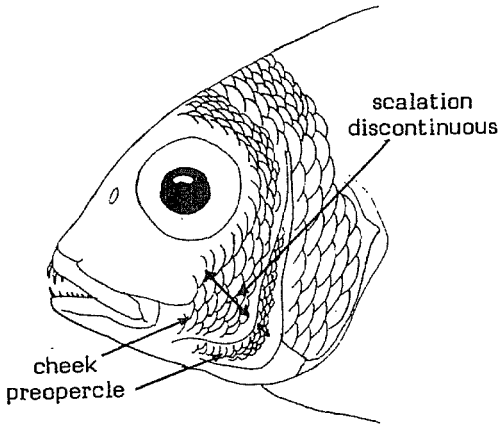
Colour: a uniform brownish with reddish or greenish reflections; belly lighter; fins darker.



jaws and teeth

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Sparidae: jaws subequal, chin not prominent; scalation discontinuous between cheek and preopercle (continuous in V. acromegalus). Furthermore, dentition rather different in all other members of the family (no large canines, presence of incisors and/or of lateral molars), except in Dentex species.



Dentex maroccanus

SIZE:

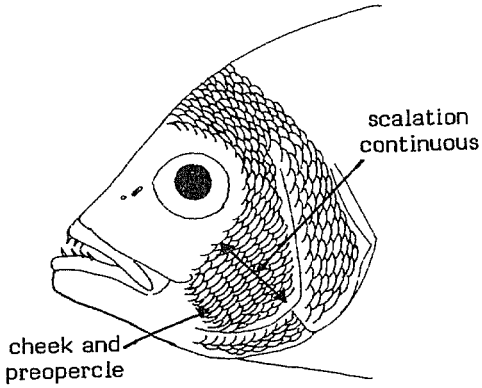
Maximum: 45 cm; common to 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Endemic of the Cape Verde Islands.

A demersal species, inhabiting hard bottoms; fished between about 40 and 60 m depth.

Carnivorous.



V. acromegalus

PRESENT FISHING GROUNDS:

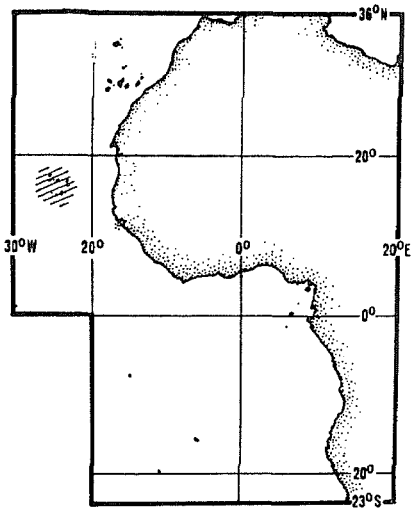
Cape Verde Islands.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught on line gear.

Marketed fresh (flesh esteemed).



SPHY

1981

FAO SPECIES IDENTIFICATION SHEETS

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

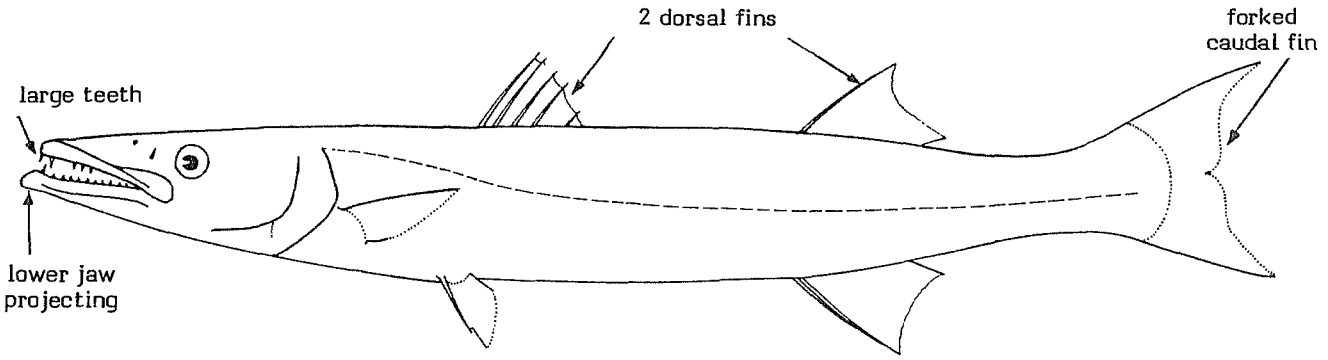
SPHYRAENIDAE

Barracudas

Body elongate, usually slightly compressed. Head large, with a long, pointed snout; mouth large, horizontal, the lower jaw projecting beyond the upper; strong canine teeth of unequal size in jaws and on palatines (roof of mouth). Two short and widely separated dorsal fins, the first with 5 strong spines, inserted about opposite to pelvic fins, the second (soft) opposite to anal fin; pectoral fins short (shorter than head) and low-set; caudal fin forked. Lateral line well developed, nearly straight; scales cycloid (smooth to touch).

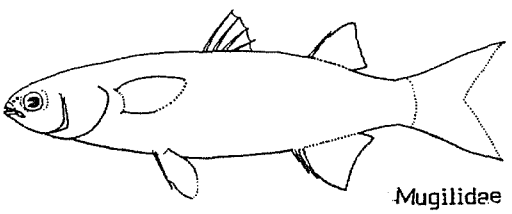
Colour: usually grey to green or blue above, with silvery reflections, lighter below. Body sometimes with dark vertical bars or chevrons, longitudinal yellow stripes or dark blotches.

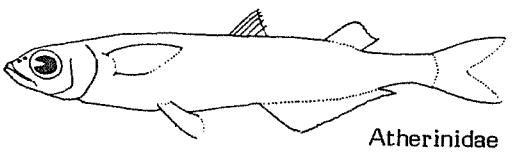
Voracious predators found in tropical to warm-temperate seas, generally in surface waters, but to depths of 100 m. Schooling or aggregating behaviour is mainly observed in small species or in young fish, while large adults are mostly solitary living. Usually taken by trolling lines also with gillnets and fixed bottom nets in some localities. The flesh is good-eating and marketed fresh, frozen, dried salted or smoked. The catch of unclassified barracudas from the area exceeded 21 000 t in 1979.

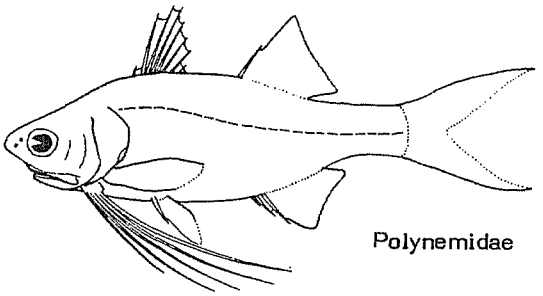


SIMILAR FAMILIES OCCURRING IN THE AREA:

Other families with 2 short, widely spaced dorsal fins: lack such large mouth with projecting lower jaw and strong teeth. The Atherinidae, Mugilidae, and Polynemidae are regarded as closely related but are easily distinguished; the head and mouth are clearly smaller in Atherinidae and Mugilidae, and the lower pectoral fin rays are long and filamentous in Polynemidae.


Mugilidae


Atherinidae


Polynemidae

GENERA OCCURRING IN THE AREA :

Sphyraena only.

LIST OF SPECIES OCCURRING IN THE AREA :

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

Sphyraena afra Peters, 1844	SPHY Sphy 5
Sphyraena barracuda (Walbaum, 1792)	SPHY Sphy 1
Sphyraena guachancho Cuvier, 1829	SPHY Sphy 6
* Sphyraena sphyraena (Linnaeus, 1758)	SPHY Sphy 7
Sphyraena viridensis Cuvier, 1831	SPHY Sphy 8

Prepared by D. de Sylva, Rosenstiel School of Marine and Atmospheric Science, University of Miami, Miami, Florida, U.S.A.

* Considered by Cadenat (1964) to be divisible into two subspecies: S. sphyraena sphyraena, from the Mediterranean and North Atlantic, with 135 to 150 lateral line pores; and S. sphyraena bocagei, from tropical West Africa, with 120 to 130 lateral line pores

SPHY Sphy 1

1981

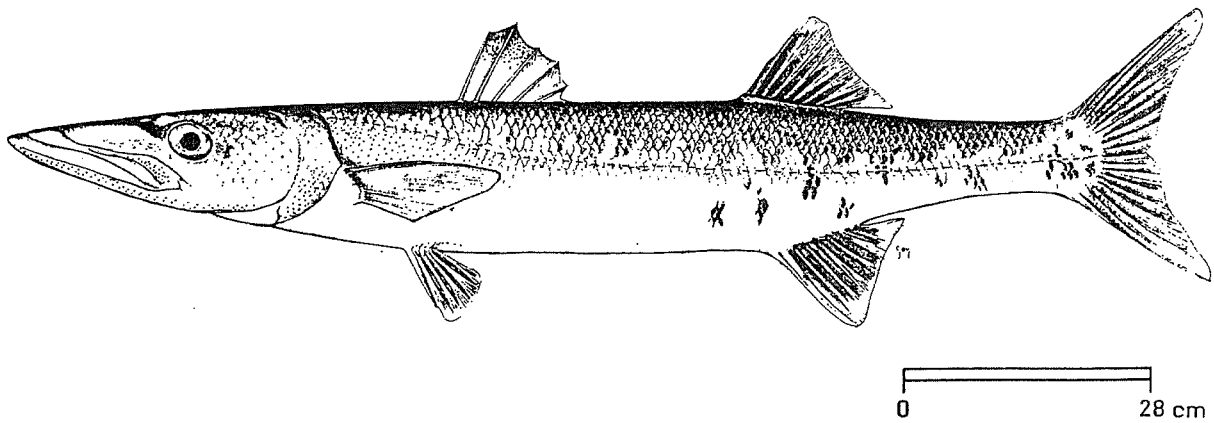
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPHYRAENIDAE

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

Sphyraena barracuda (Walbaum, 1792)

OTHER SCIENTIFIC NAMES STILL IN USE : Sphyraena picuda Bloch & Schneider, 1801



VERNACULAR NAMES:

FAO : En - Great barracuda
Fr - Barracuda
Sp - Picuda barracuda

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate and slightly compressed. Head large, with a long, pointed snout; area between eyes flat to concave; posterior edge of gill cover ending in 2 points; mouth large, tip of maxilla reaching to, or extending beyond, anterior eye margin in adult specimens; lower jaw projecting beyond upper jaw, without a distinct fleshy tip; strong, pointed, contiguous, vertical flattened teeth of unequal size in both jaws; teeth also present on roof of mouth (palatines). Origin of first (spinous) dorsal fin slightly behind pelvic fin origin; anterior rays of second (soft) dorsal fin and of anal fin extending backward beyond posterior rays when fins are depressed; tip of appressed pectoral fin reaching to, or extending beyond, pelvic fin origins. Scales rather large; less than 90 lateral line pores.

Colour: deep green to steel grey above, sometimes with a purplish tinge; sides mostly silvery, abruptly becoming white on ventral surface. Adults have oblique, dark bars (variable in number but usually from 18 to 22) on upper sides in life, and usually several to many scattered inky blotches variable in size and position on posterior part of lower sides (persisting after death). Second dorsal, anal, and caudal fins violet to black with whitish tips.

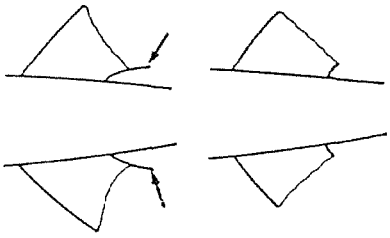
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

All other Sphyraena species: inky blotches on sides absent in small and large adults. Further distinguishing characters of these species are the following:

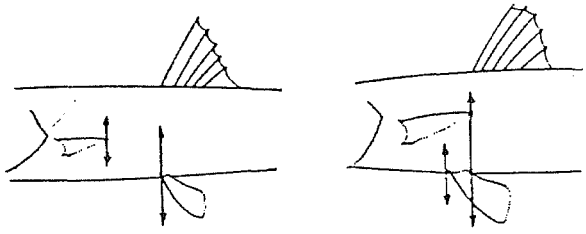
S. guachancho: area between eyes convex; teeth directed obliquely backward; last rays of second dorsal and anal fins extending backward beyond anterior rays when depressed; scales smaller, 102 to 119 lateral line pores (less than 90 in S. barracuda); sides with chevron-shaped markings, their apices directed forward; teeth in lower jaw slanting backward; second dorsal, anal, and caudal fins uniformly dusky to olive, without white tips.

S. afra: margins of upper and lower caudal lobes concave; second dorsal, anal, and caudal fins dusky olive to brown, without distinctive white tips; flanks with about 20 dark chevrons, their apices directed forward; scales small, 122 to 140 lateral line pores.

Remaining Sphyraena species: teeth conical; not contiguous, clearly separated from one another by interspaces which are at least twice the diameter of the teeth at their bases. Tip of lower jaw generally with a distinct fleshy tip; origin of first dorsal fin above, or slightly in front of, pelvic fin origins; tips of appressed pectoral fins falling considerably short of pelvic fin origin; gill cover ending in a single point. Margin of upper and lower caudal fin lobes flat to slightly convex.



S. guachancho S. *barracuda*

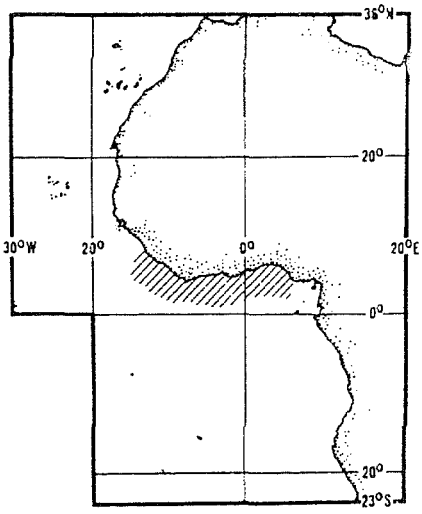


S. sphyraena, S. viridensis S. *barracuda*

SIZE :

Maximum: 180 cm; common to 140 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :



Uncommon throughout the area. In the Eastern Atlantic it has been recorded with certainty only from Sierra Leone, Ivory Coast, Togo, Nigeria, and Gorea (Cadenat, 1964). In the Western Atlantic it occurs from Massachusetts (U.S.A.) to southern Brazil and Bermuda; also found in the Indian Ocean and tropical central and western parts of the Pacific Ocean.

Small individuals are rare in the eastern tropical Atlantic. Juveniles are reported from Lagos Lagoon (Fogade and Olaniyan, 1973). Adults of 150 cm and larger occur solitarily in high salinity coastal waters as well as in the open ocean, sometimes very far from land. This species is found predominantly at or near the surface, though it has been taken as deep as 100 m.

Feeds mainly on littoral schooling and coral reef fishes.

PRESENT FISHING GROUNDS :

Offshore waters (occasional large specimens); generally not subject to a specific fishery.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species. The total catch of unclassified barracuda species reported from the area in 1979 exceeded 21 000 t.

Caught mainly with trolling lines by commercial and sport fishermen; also taken in gillnets and fixed bottom nets in Senegal and Ivory Coast.

Marketed frozen and canned in oil, as well as fresh and smoked. Also reduced to fishmeal. This fish is excellent-eating, and the frequently poisonous nature of its flesh (which causes ciguatera in humans) in the tropical western Atlantic and Pacific oceans has not been reported in the literature from the Eastern Atlantic (de Sylva, 1963; de Sylva and Higman, 1980).

SPHY Sphy 5

1981

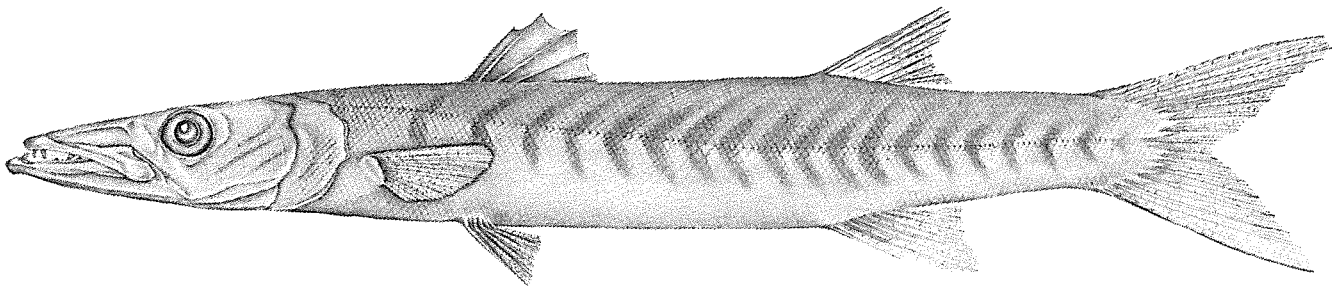
FAO SPECIES IDENTIFICATION SHEETS

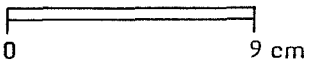
FAMILY : SPHYRAENIDAE

FISHING AREA 34, 47
(E Central Atlantic)

Sphyraena afra Peters, 1844

OTHER SCIENTIFIC NAMES STILL IN USE : Sphyraena piscatorum Cadenat, 1964
Sphyraena piscatorium Williams, 1968
also incorrectly referred to as Sphyraena jello (not of Cuvier) in some Eastern Atlantic literature (Buttikofer, 1890; Pauca, 1930), but this species does not occur in the Eastern Atlantic Ocean





VERNACULAR NAMES:

FAO : En - Guinean barracuda
Fr - Bécune guinéenne
Sp - Espetón de Guinea

NATIONAL :

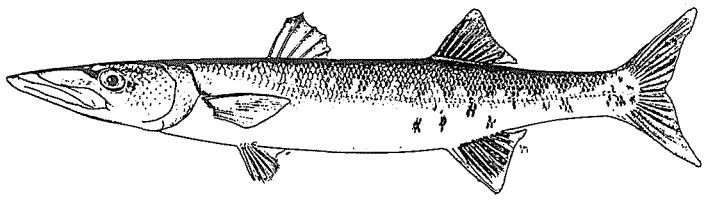
DISTINCTIVE CHARACTERS :

Body elongate and slightly compressed, its depth about 20% of standard length. Head large, with a long, pointed snout; area between eyes flat or concave; bony edge of opercle ending in 2 points; mouth large; lower jaw without a fleshy tip; end of maxilla reaching anterior margin of eye, or nearly so; teeth strong, pointed, contiguous, flattened, those in lower jaw erect (never slanting backward) in juveniles as well as in adults; teeth also present on roof of mouth. Dorsal fin origin distinctly behind level of pelvic fin origins; tips of appressed first rays of dorsal and anal fins reaching to ends of the last rays; tips of pectoral fins reaching past level of pelvic fin origins. Scales small, 122 to 140 lateral line pores, generally between 125 and 132.

Colour: bluish-, greenish-, or brownish-grey on back, going to silvery white on belly. Sides marked with about 20 dark, largely open chevrons, their apices directed forward; more apparent in small or medium-sized specimens, these chevrons tend to attenuate in very large individuals, where they remain, however, clearly apparent under certain conditions of light. Second dorsal fin dusky olive to brown, without a white tip; anal fin dusky to brown, with a faintly pale ventral margin; caudal fin uniformly dusky to dark brown, and without white tips.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

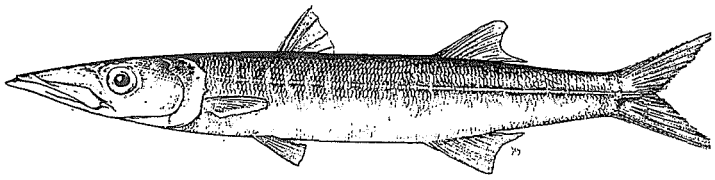
Sphyraena barracuda: scales large, less than 90 lateral line pores (122 to 140 in S. afra); inky blotches on lower sides in juvenile and adult sizes; second dorsal, anal, and caudal fins violet to black with whitish tips.



S. barracuda

S. guachancho: scales intermediate in size, 102 to 119 lateral line pores, averaging 110; chevrons usually best seen in fresh specimens, but these may remain only as a series of oblique bands along upper flanks; tips of appressed first rays of second dorsal and anal fins not reaching ends of the last rays. In juveniles and adults, teeth in lower jaw not erect, but slanting backward.

Remaining Sphyraena species: teeth not contiguous, clearly separated from one another by interspaces which are at least twice the diameter of the teeth at their bases, which are conical and not flattened; tip of lower jaw with a distinct fleshy tip; origin of first dorsal fin above or slightly in front of pelvic fin origins; pectoral fin tips not reaching origin of pelvic fins; posterior maxillary border not reaching anterior margin of eye; bony opercle with only a single point at its posterior margin (2 points in S. afra).



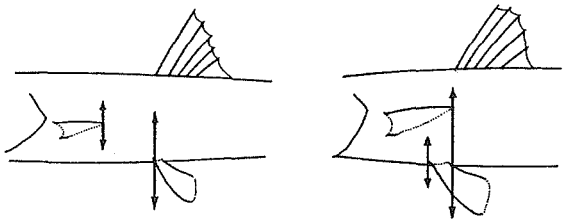
S. guachancho

SIZE:

Maximum: 205 cm and 50 kg; common to 20 kg.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Found only in the waters of West Africa from Senegal to Namibia. Cadenat (1964) reports it from Konakri (Guinea), Freetown (Sierra Leone), Abidjan (Ivory Coast), Lagos (Nigeria), and the Niger delta. Because of the difficulty in identifying the members of this genus and because of relatively little museum material, the actual distribution of this and other species is not well known. A specimen from Walvis Bay, Namibia, identified by Pauçá as S. jello, most likely represents S. afra.



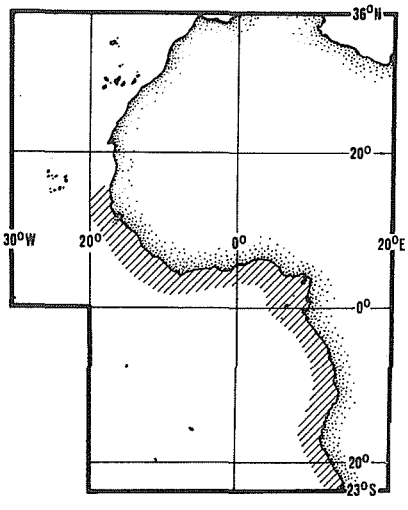
S. sphyraena
S. viridensis

S. afra, S. barracuda,
S. guachancho

Most specimens reported appear to be large adults. Only a few large juveniles have been correctly identified as this species, and the seasonal distribution and habits are thus unknown. Depth distribution is reported as from the surface to 75 m.

PRESENT FISHING GROUNDS:

Coastal and offshore waters (large specimens).



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The total catch of unclassified barracudas reported from the area exceeded 21 000 t in 1979.

Generally not subject to a specific fishery; reportedly caught mainly with handlines, trolling gear, bottom trawl, and nets.

Marketed fresh, salted and smoked. Its flesh has never been reported as being poisonous; indeed, there are no documented reports of ciguatera from any Sphyraena species from the Eastern Central Atlantic (de Sylva, 1963; de Sylva and Higman, 1980).

SPHY Sphy 6

1981

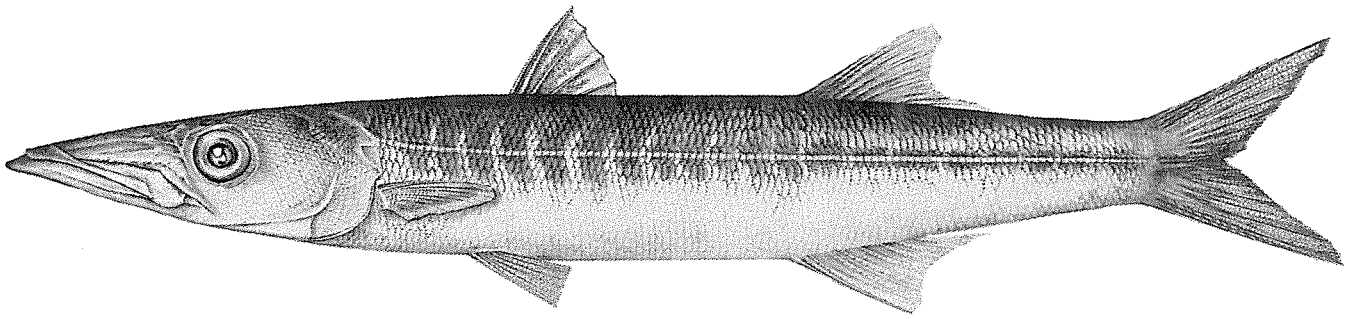
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPHYRAENIDAE

FISHING AREA 34, 47
(E Central Atlantic)

Sphyraena guachancho Cuvier, 1829

OTHER SCIENTIFIC NAMES STILL IN USE : Sphyraena dubia Bleeker, 1863
Sphyraena guaguanche Poey, 1860

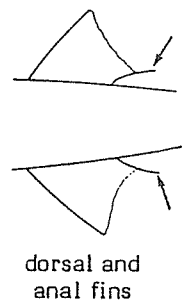


VERNACULAR NAMES:

FAO : En - Guachanche barracuda
Fr - Bécune guachanche
Sp - Picuda guaguanche

NATIONAL :

DISTINCTIVE CHARACTERS :

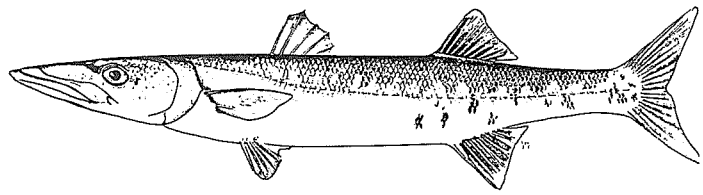

dorsal and anal fins

Body elongate and slightly compressed. Head large, with a long, pointed snout; area between eyes convex; mouth large, tip of maxilla reaching to anterior eye margin in adult specimens; lower jaw projecting beyond upper jaw, without a distinct fleshy tip; strong, pointed, backward-directed teeth of unequal size in both jaws; teeth also present on roof of mouth (palatines). Origin of first (spinous) dorsal fin slightly behind pelvic fin origins; last rays of second (soft) dorsal fin and of anal fin extending backward beyond anterior rays when fins are depressed; tip of appressed pectoral fins reaching to, or extending beyond, pelvic fin origin. Scales moderate-sized, 102 to 119 lateral line pores.

Colour: grey to olive above; upper sides yellowish, lower sides and belly silvery. A faint, yellow to golden longitudinal lateral stripe in fresh specimens; margins of pelvic and anal fins black; tips of middle caudal rays black. Live adults have numerous chevron-shaped markings on sides, their apices directed forward.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

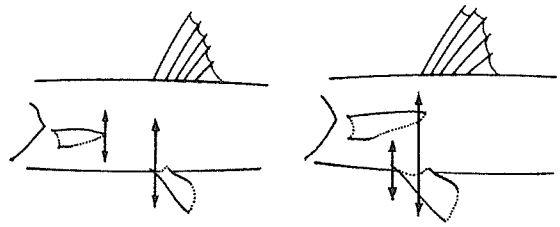
Sphyraena barracuda: area between eyes flat to concave, teeth vertical; anterior rays of second dorsal and anal fins extending backward beyond posterior rays when fins are depressed; scales larger, less than 90 in lateral line pores (102 to 119 in S. guachancho); usually conspicuous inky blotches present on sides in adults.



S. barracuda

S. afra: teeth in lower jaw erect rather than slanted; space between eyes flat to concave rather than convex; scales smaller, 122 to 140 lateral line pores; tips of appressed first rays of second dorsal and anal fins reaching ends of the last rays.

Other Sphyraena species: lower jaw with a distinct fleshy tip; origin of first dorsal fin above or slightly in front of pelvic fin origin; tips of appressed pectoral fins falling considerably short of pelvic fin origin; teeth conical, not flat, each interspace at least equal to the width of the base of each tooth; opercle ending in a single point.



S. sphyraena, S. viridensis

S. guachancho

SIZE:

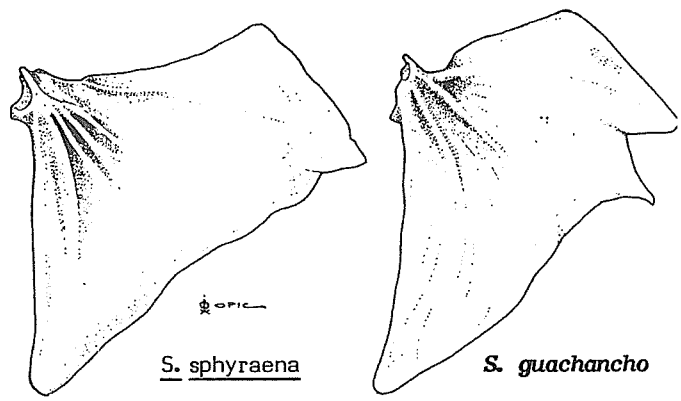
Reliably reported to 71 cm; common to 50 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Rather common in the eastern tropical Atlantic, from Senegal, Guinea, Sierra Leone, Ivory Coast, Ghana, Togo, Dahomey, Nigeria, Cape Verde, Angola (Cadenat, 1964), and the Canary Islands (Cervigon, 1960). Elsewhere in the Western Atlantic, from Massachusetts to Brazil.

A schooling species occurring in shallow and generally turbid coastal waters over muddy bottom, often ascending estuaries well into brackish waters.

Feeds mainly on small fishes and shrimps.

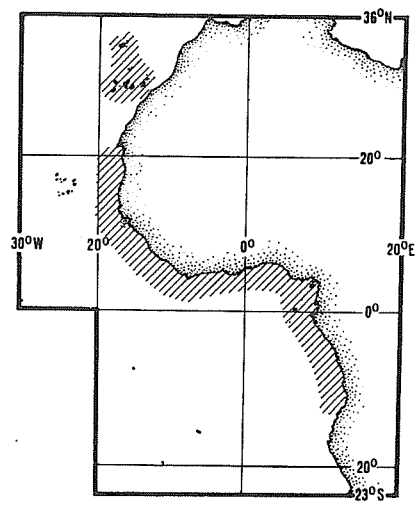


S. sphyraena *S. guachancho*

opercular bone

PRESENT FISHING GROUNDS:

Coastal and estuarine waters of the continental and island shelves and estuaries of the eastern Atlantic. Found in depths of 3 to 100 m. Shows distinctive seasonal movements associated with rainy and dry seasons.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The total catch of unclassified barracudas reported from the area in 1979 exceeded 21 000 t.

Caught mainly with fixed bottom nets, trawls, and handlines.

Marketed fresh, smoked and fresh cooked. The flesh is excellent, especially when the fish is caught in clear waters. It has never been reported as poisonous anywhere within its range.

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1981

FAO SPECIES IDENTIFICATION SHEETS

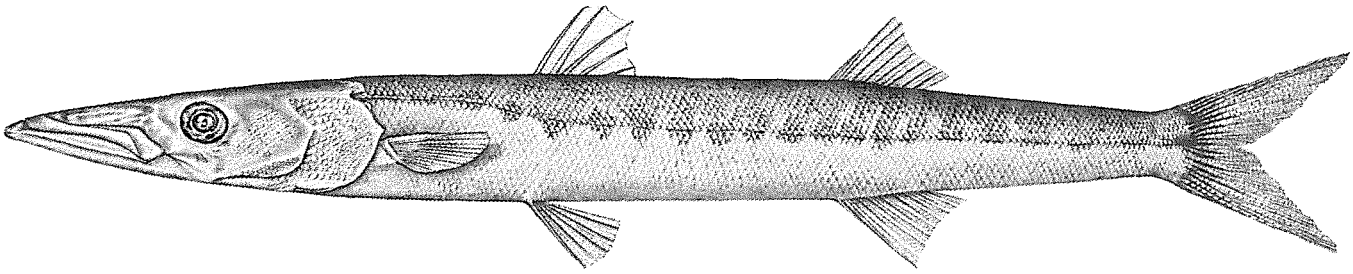
FAMILY : SPHYRAENIDAE

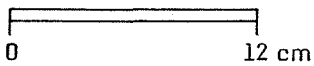
FISHING AREA 34, 47-
(E Central Atlantic)

Sphyraena sphyraena (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE :

Sphyraena spet Lacepède, 1803
Sphyraena vulgaris Cuvier, 1829 (in part)
Sphyraena bocagei Osorio, 1891
Sphyraena sphyraena bocagei Cadenat, 1964





VERNACULAR NAMES:

FAO : En - European barracuda
Fr - Bécune européenne
Sp - Espetón

NATIONAL :

DISTINCTIVE CHARACTERS :

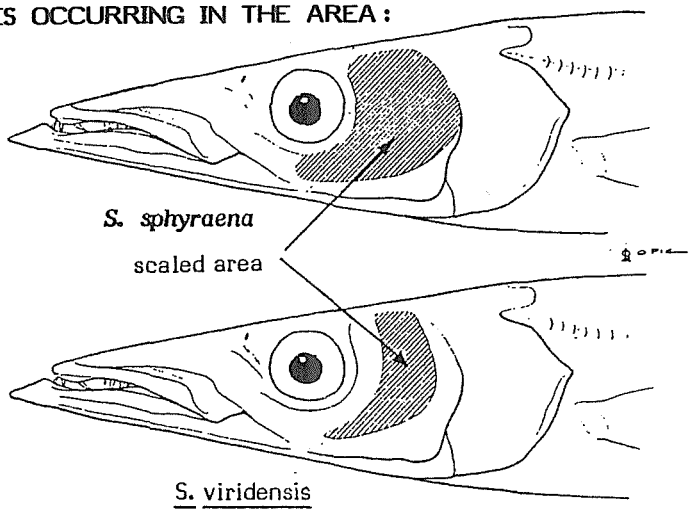
Body elongate and cylindrical, its depth about 10% of the standard length. Head large, with a long, pointed snout; bony edge of opercle ending in a single point; tip of lower jaw with a distinctive fleshy tip; maxilla not reaching to anterior eye margin; teeth strong, conical, erect, the width of their bases less than the interspace between adjacent teeth; teeth also present on roof of mouth. Origin of first dorsal fin directly above, or slightly in front of, pelvic fin origins; tips of pectoral fins not reaching origin of pelvics; caudal fin deeply forked, the posterior margin of each lobe straight. Scales small, lateral line pores 120 to 150; lateral line scales toward the posterior forming a rather well-developed keel; gill cover completely scaled.

Colour: bluish grey to leaden greenish on the back, becoming silvery white on lower flanks. A series of about 20 to 22 angled cross-bars along upper sides; upper part of head and maxilla blackish; fins blackish, the pelvics with white anterior margins. Inside of mouth in fresh specimens whitish.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Sphyraena viridensis: quite similar in size to S. *sphyraena, but body less fusiform; gill cover only* partially scaled; inside of mouth in fresh specimens yellowish.

Other Sphyraena species: opercle ending in 2 points (in a single point in S. sphyraena); origin of dorsal fin distinctly behind level of pelvic fin origins, pectoral fin tips reaching to, or past, pelvic fin origins; maxilla reaching to, or past anterior eye margin.



SIZE:

Maximum: 165 cm; common to 60 cm.

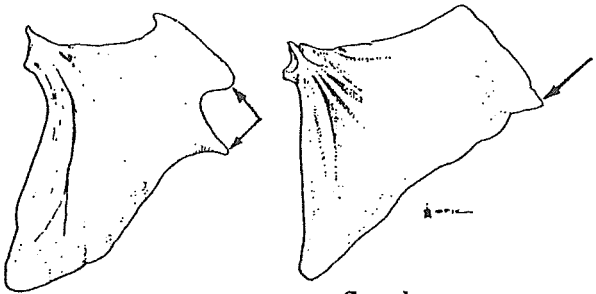
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

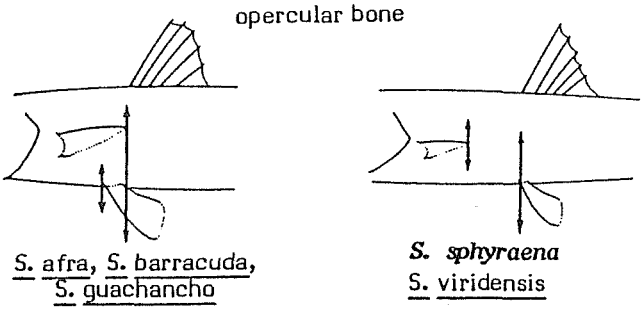
Not rare in the Eastern Atlantic. In the area, known from the Madeira and Canary Islands, as well as from the Straits of Gibraltar to Mossamedes, Angola, including the Cape Verde Islands; also occurs throughout the Mediterranean Sea and in the Black Sea, and in the Northern Atlantic to the Bay of Biscay. In the Western Atlantic it occurs at Bermuda and off Brazil.

Found from the surface to 100 m depth.

Larval stages were reported from the Eastern Central Atlantic by Hamann et al. (1981). Eggs and larvae are known from the Mediterranean (Gulf of Naples), and the developmental stages have been portrayed up to 200 mm (Vialli, 1956).

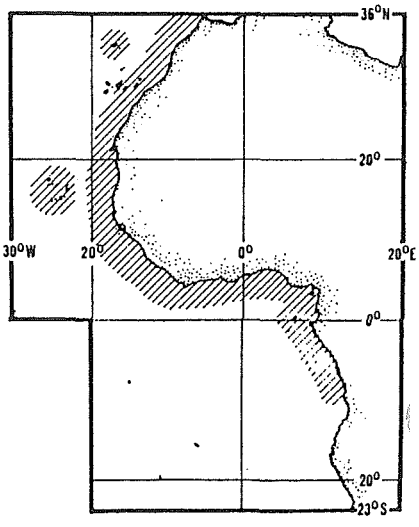
Feeds mainly on fishes but also a few cephalopods.





PRESENT FISHING GROUNDS:

Inshore, coastal, and offshore waters; generally not subject to a specific fishery.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The total catch of unclassified barracudas reported from the area in 1979 exceeded 21 000 t.

Reportedly caught mainly with bottom or pelagic trawls, gillnets, fixed bottom nets, seines, beach seines and handlines.

Marketed fresh, smoked, fried, and canned in oil. This species is already being caught by local and foreign trawlers, and is consumed locally as well as in several foreign markets.

SPHY Sphy 8

1981

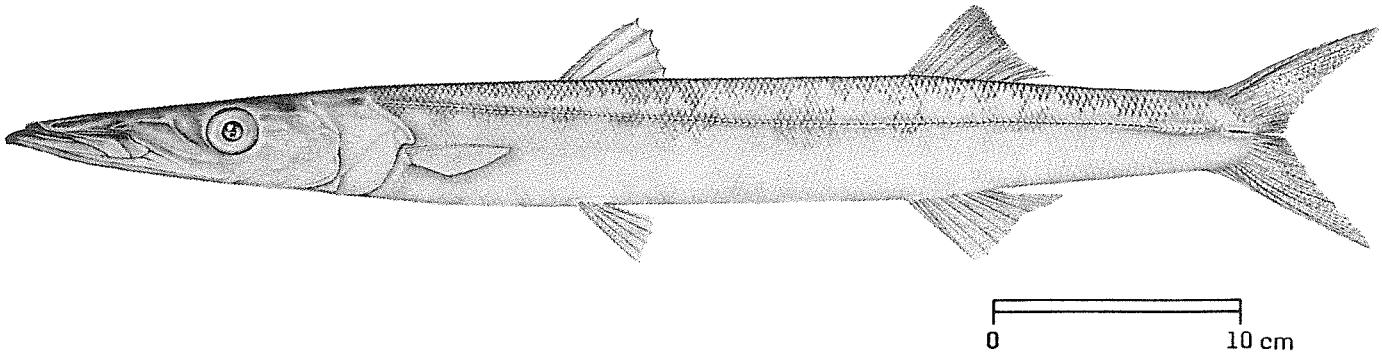
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SPHYRAENIDAE

FISHING AREA 34, 47
(E Central Atlantic)

Sphyraena viridensis Cuvier, 1831

OTHER SCIENTIFIC NAMES STILL IN USE : Sphyraena viridescens Jordan & Evermann, 1896



VERNACULAR NAMES:

FAO : En - Yellowmouth barracuda
Fr - Bécune bouche jaune
Sp - Espetón boca amarilla

NATIONAL :

DISTINCTIVE CHARACTERS :

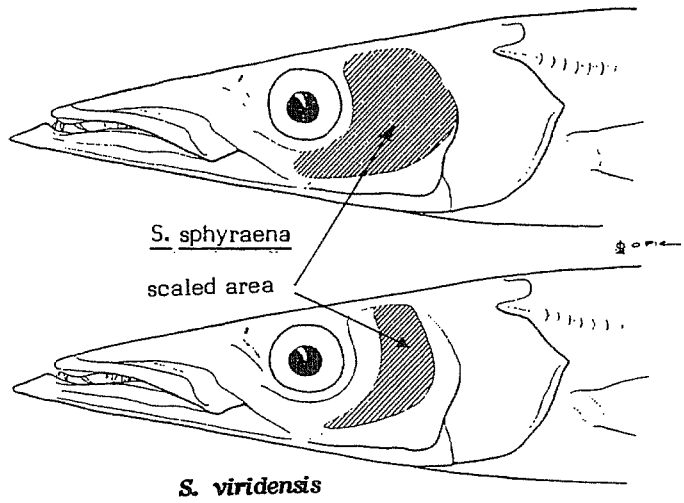
Body elongated and cylindrical. Head large, with a long, pointed snout; bony edge of opercle ending in a single point; tip of lower jaw with a distinctive fleshy tip; maxilla not reaching to anterior eye margin; teeth strong, conical, erect, the width of their bases less than the interspace between adjacent teeth; teeth also present on roof of mouth. Origin of first dorsal fin directly above, or slightly in front of, pelvic fin origins; tips of pectoral fins not reaching origin of pelvics; caudal fin deeply forked. Scales small; gill cover only partially scaled.

Colour: bluish grey to leaden greenish on the back, becoming silvery white on lower flanks. A series of about 20 to 22 angled cross-bars along upper sides; upper part of head and maxillary blackish; fins blackish, the pelvics with white anterior margins. Inside of mouth yellowish.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Sphyraena sphyraena: quite similar in size and general aspect to S. viridensis, but body shape more fusiform because of the lesser height at level of opercular point; gill cover completely scaled; inside of mouth in fresh specimens white.

Other Sphyraena species: opercle ending in 2 points (in a single point in S. viridensis); origin of dorsal fin distinctly behind level of pelvic fin origins, pectoral fin tips reaching to, or past, pelvic fin origins; maxilla reaching to, or past anterior eye margin.



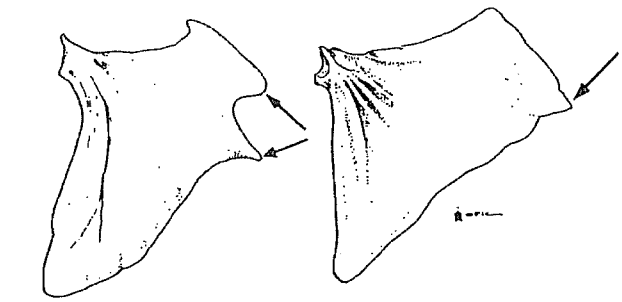
S. viridensis

SIZE:

Maximum: 65 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Its exact distribution and abundance are unknown because most published records do not separate it from S. sphyraena. In the Eastern Central Atlantic it is known with certainty from the Cape Verde and Canary Islands. In the Eastern Mediterranean it has been reported from Lebanon. Undoubtedly its habits are similar to those of the phylogenetically closely related S. sphyraena.



S. afra, S. barracuda, S. guachancho — ***S. viridensis*** S. sphyraena

opercular bone

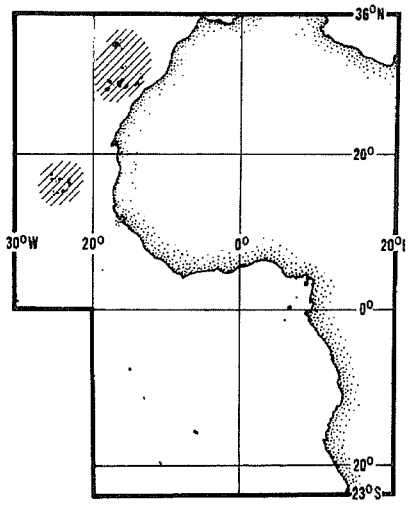
PRESENT FISHING GROUNDS:

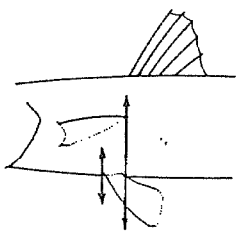
Not known with certainty because of confusion with the very similar S. sphyraena.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

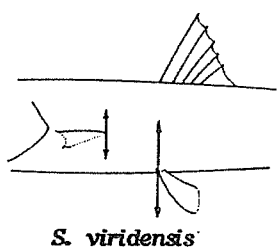
Separate statistics are not reported for this species. The total catch of unclassified barracudas reported from the area in 1979 exceeded 21 000 t.

Fishing gear and utilization not recorded, but probably similar to S. sphyraena.





S. afra, S. barracuda, S. guachancho



S. viridensis
S. sphyraena

STROM

1981

FAO SPECIES IDENTIFICATION SHEETS

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

STROMATEIDAE

Butterfishes, Fiatolas

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

Stromateus fiatola Linnaeus, 1758 STROM Strom 1

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

STROM Strom 1

1981

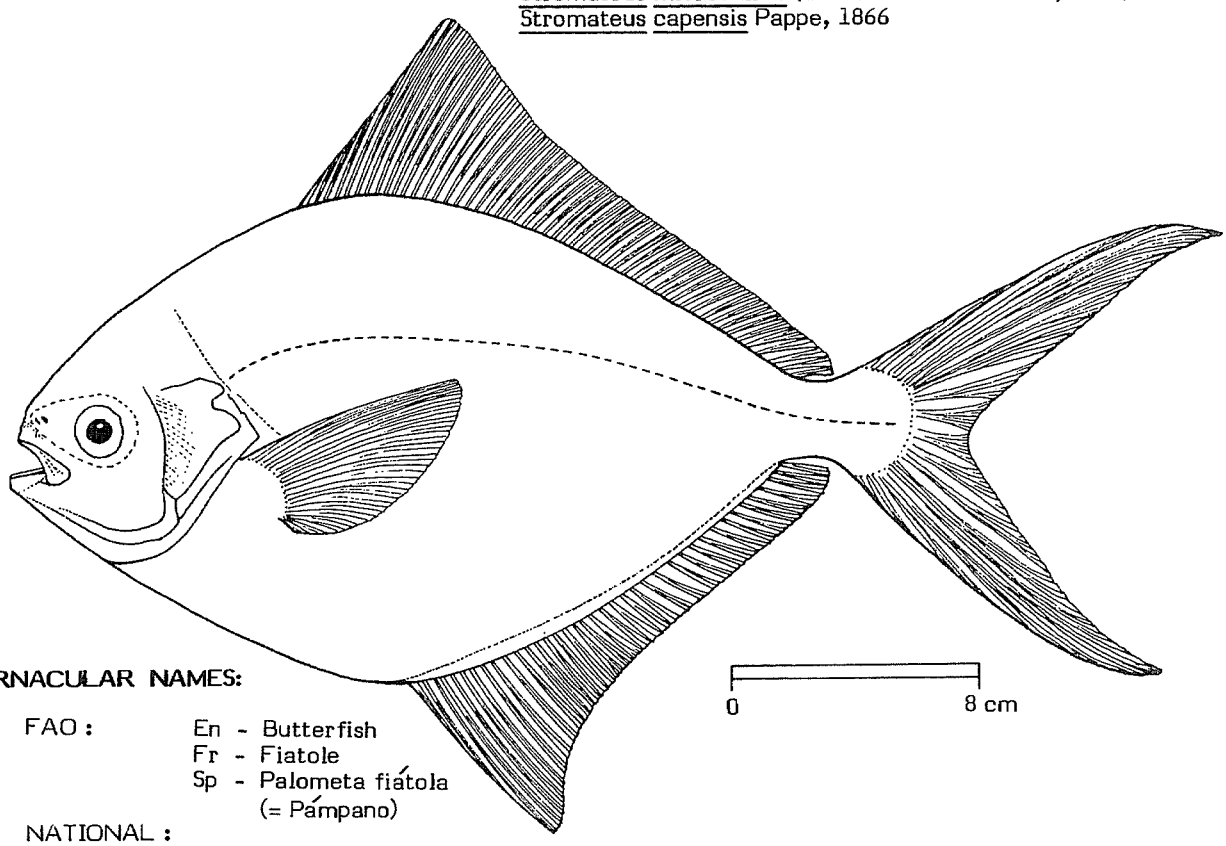
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : STROMATEIDAE

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

Stromateus fiatola Linnaeus, 1758

OTHER SCIENTIFIC NAMES STILL IN USE : Stromateus fasciatus (Risso, 1826)
Stromateus microchirus (Cuvier & Valenciennes, 1833)
Stromateus capensis Pappe, 1866



VERNACULAR NAMES:

FAO : En - Butterfish
Fr - Fiatole
Sp - Palometa fiátola
(= Pámpano)

NATIONAL :

DISTINCTIVE CHARACTERS :

Body deep and compressed. Head deep; snout short and blunt, eye small, surrounded by adipose tissue which extends forward around the nostrils; opercle thin, with 2 ill-defined, flat, weak, spines; gill membranes broadly united across isthmus; mouth small and broad, premaxilla not protractile; jaw teeth very small, in a single series, laterally flattened, and with 3 tiny cusps; no teeth on roof or floor of mouth; about 15 toothless and fairly close-set gillrakers on the first arch; pharyngeal sacs present; papillae in these sacs with stellate bases, the teeth seated along a central stalk; 6 branchiostegal rays. A single dorsal fin, its base about 60% of standard length, with about 48 to 51 rays, not preceded by visible spines, the anteriormost ray about twice as long as those which follow; anal fin similar to dorsal, with 35 to 38 rays; pectoral fins broad, only a little longer than the head, with 22 to 24 rays; pelvic fins absent in specimens longer than 10 cm, in smaller specimens the fins are present, inserting under the end of pectoral fin base; caudal fin stiff and rather deeply forked, the length of each lobe about equal to the predorsal distance. Lateral line somewhat elevated, following dorsal profile, with simple tubed scales extending onto caudal peduncle but not to base of caudal fin. Scales small and cycloid (smooth), easily shed, extending onto median fins; top of head naked. Total vertebrae 42 to 45. Pyloric caeca (tube-like appendices of intestine) numerous, in a long dendritic mass.

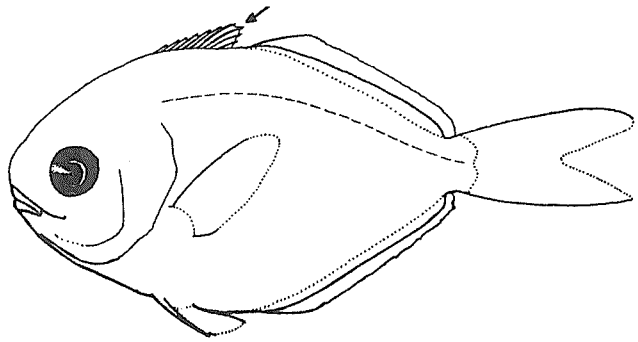
Colour: blue to brown with a silvery cast and numerous dark spots on back; lighter on sides and below, with a few irregular and darker longitudinal bands. Fins dusky, usually darker than the body. Young with 4 to 8 dark vertical bands.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Because of the absence of pelvic fins and teeth on roof or floor of mouth, and the presence of a single continuous, externally spineless dorsal fin and a small mouth with tiny teeth in a single series, adults of this fish cannot be confused with any other species.

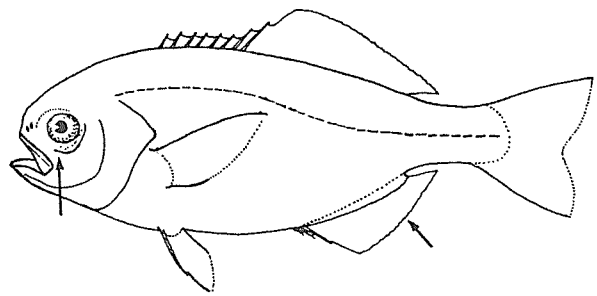
Specimens less than 10 cm, with small pelvic fins inserting under the end of pectoral-fin base, can be distinguished from similar species as follows:

Species of Nomeidae (especially Psenes): two dorsal fins, the first with about 10 to 12 long weak spines; teeth in upper jaw conical and slightly curved, those in lower jaw laterally flattened without cusps; teeth present on roof and floor of mouth.



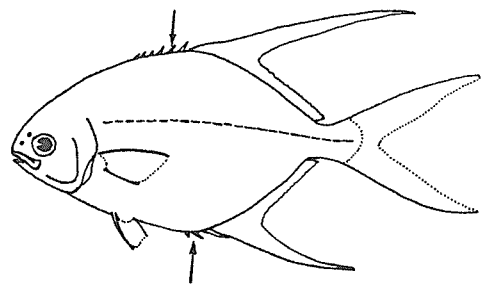
Nomeidae

Species of Centrolophidae: two dorsal fins, the first with 5 to 9 spines shorter than the rays which follow; anal fin with 2 or 3 spines and 30 or fewer rays; mouth large, maxilla extending at least to under posterior half of eye; border of opercle with small spines.



Centrolophidae

Species of Carangidae: two dorsal fins, the first with about six stout spines; two stout, detached spines preceeding the anal fin; lateral line usually running along midline of flanks, sometimes arched anteriorly; caudal peduncle sometimes with modified scales forming scutes or keels, not deep and compressed; margin of opercle usually spiny.



Carangidae

SIZE:

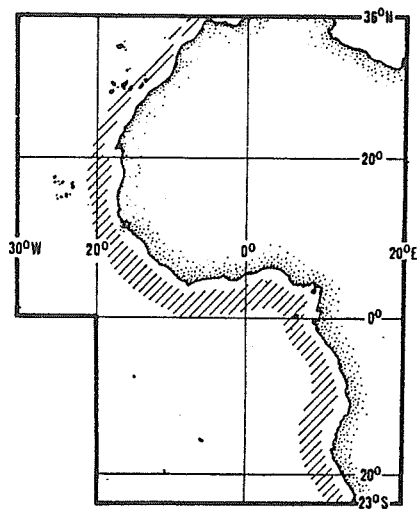
Maximum: 50 cm; common to 40 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Coastal waters throughout the area; rare around oceanic islands, but is reported from the Canaries; also found in the Mediterranean and off South Africa to the Cape of Good Hope.

A pelagic species occurring in schools over the continental shelf, usually at depths from 10 to 70 m, and occasionally as deep as 160 m. Young are commonly associated with pelagic medusae near the surface. It may migrate seasonally along the coast and offshore, but the extent of such movements is unknown.

Feeds on zooplankton and small fishes, and also on jellyfish.



PRESENT FISHING GROUNDS:

Inshore waters, mainly from Senegal southward. Not uncommon in markets throughout the area.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with bottom trawls, purse seines, and fixed trap nets; occasionally on lines.

Mostly marketed fresh, but occasionally frozen or salted. Can be used for fishmeal or oil. In the fresh condition, its flesh is highly esteemed.

SYNOD

1981

FAO SPECIES IDENTIFICATION SHEETS

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

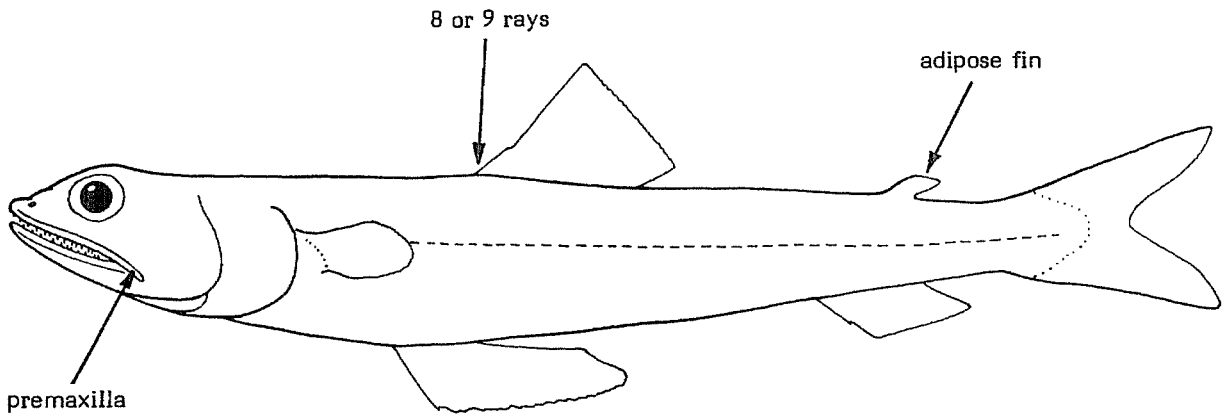
SYNODONTIDAE*

Lizardfishes

Body slender, cylindrical, attaining a length of 15 to 55 cm. Eyes of moderate size, round to elliptical, with round pupils; mouth slightly to strongly oblique; upper jaw consisting only of the slender premaxilla which extends posteriorly well beyond the eye, ending in a point; maxilla and supramaxillae not developed; jaws, tongue and bones of palate (vomer medially; palatines, ectopterygoids and endopterygoids laterally) armed with long, sharp, mostly depressible teeth; gill rakers modified into clusters of short, sharp gill teeth. Fins with soft rays only; a single dorsal fin inserted distinctly behind level of pelvic fin insertion; adipose fin inserted opposite anal fin; pectoral fins small, inserted laterally; pelvic fins abdominal to thoracic, with 8 or 9 rays; caudal fin deeply forked, 19 principal rays. Body completely scaled except for top of head; scales adherent and cycloid or ctenoid; one or more elongate, modified scales (axillary scales) present at bases of dorsal, caudal and paired fins.

Colour: body metallic grey to brown, underside whitish to yellowish; brown blotches and/or vermiculated patterning often present laterally; yellow, orange, red, or blue colour sometimes present as thin stripes along the body, or as banding on the fins.

Solitary or mildly gregarious bottom-dwelling fishes found on open flats or around reefs between depths of 0 and 550 m. They lie motionless in wait of passing prey, which they seize with rapid darting motions; most species are fish eaters. In the Eastern Central Atlantic, lizardfishes are taken in offshore waters as a by-catch of trawl fisheries, and in coastal areas with traps and fixed nets. Their flesh is reportedly of good quality and flavour, though bony; they are eaten fresh or dried salted or are processed into fishmeal.



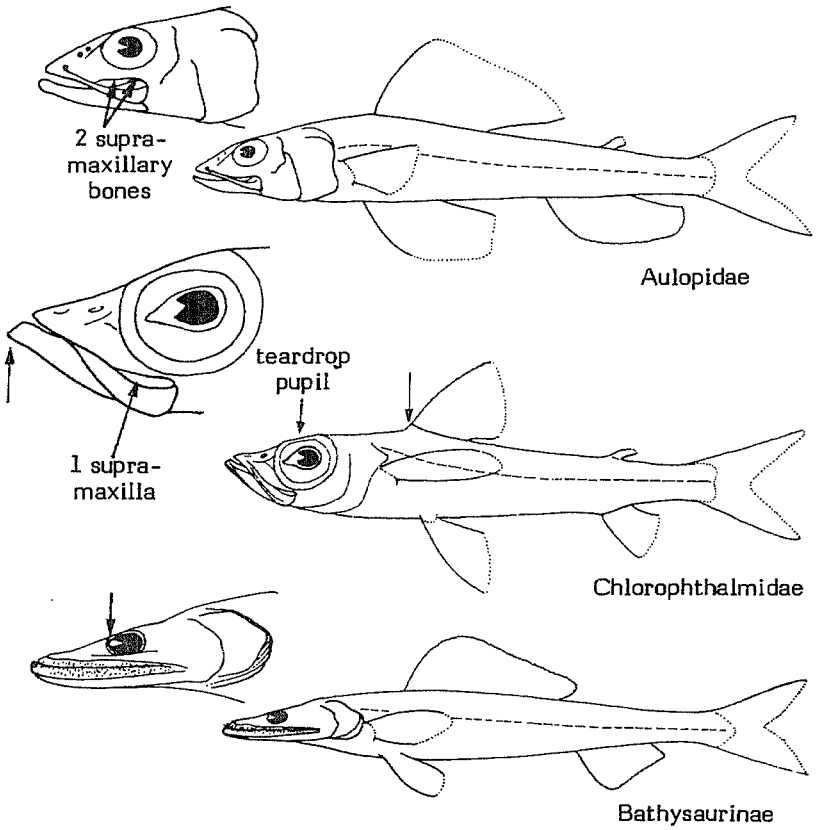
* The genus Bathysaurus comprises the subfamily Bathysaurinae of the Synodontidae. The present account applies only to the Synodontidae, as Bathysaurus occurs deeper than 1 000 m and is of no commercial value at present

SIMILAR FAMILIES OCCURRING IN THE AREA:

Aulopidae: maxilla prominent, expanded posteriorly; two supramaxillae; dorsal fin long and high, inserted just behind level of pelvic fin insertion; scales of cheeks and gill covers enlarged; teeth small.

Chlorophthalmidae (excluding Ipnopinae*): maxilla prominent, expanded posteriorly; one supramaxilla; eye very large with teardrop shaped pupil; lower jaw forming a projecting bony knob; gill rakers normal; dorsal fin inserted adhead of pelvic fin insertion.

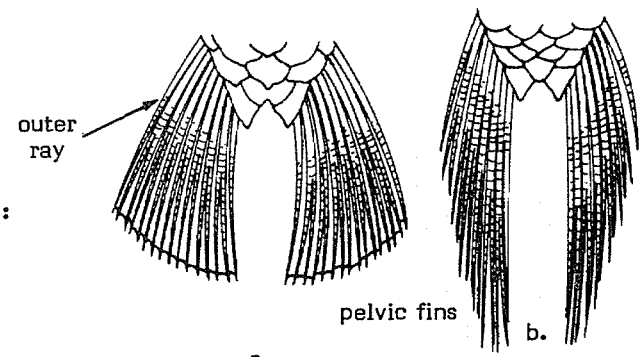
Bathysaurinae**: head greatly depressed; scales of lateral line enlarged and continuing onto caudal fin; eye with a prominent lenseless space.



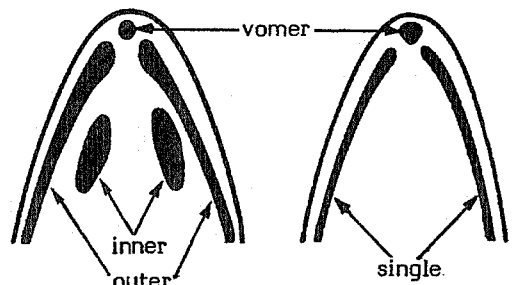
KEY TO GENERA OCCURRING IN THE AREA:

1 a. Pelvic fins with 9 roughly equal rays (Fig. 1a); two pairs of tooth bands on palate (Fig. 2a.); jaw teeth visible when mouth is closed; top of head smooth ..... Saurida

1 b. Pelvic fins with 8 unequal rays (Fig. 1b); a single pair of tooth bands on palate (Fig. 2b); jaw teeth concealed when mouth is closed; top of head rugose



a. Saurida — Synodus, Trachinocephalus Fig. 1



a. Saurida — b. Synodus, Trachinocephalus Fig. 2

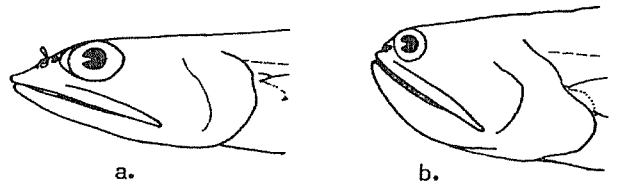
tooth bands on roof of mouth

* Deep-water subfamily of Chlorophthalmidae

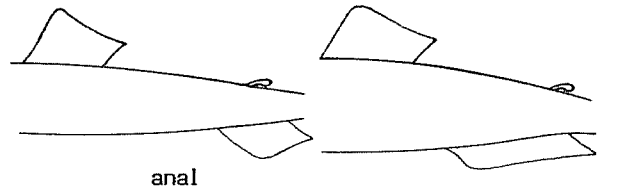
** Deep-water subfamily of Synodontidae

2 a. Head pointed; eye opposite about midpoint of upper jaw (Fig. 3a); anal fin base shorter than dorsal fin base (Fig. 4a) ..... Synodus

2 b. Head blunt, compressed; eye near tip of upper jaw (Fig. 3b); anal fin base longer than dorsal fin base (Fig. 4b) .....Trachinocephalus



a. Synodus b. Trachinocephalus Fig. 3



a. Synodus b. Trachinocephalus Fig. 4

LIST OF SPECIES OCCURRING IN THE AREA:

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

Saurida brasiliensis Norman, 1935	SYNOD Sauri 6
Synodus saurus (Linnaeus, 1758)	SYNOD Synod 1
Synodus synodus (Linnaeus, 1758)	SYNOD Synod 2
Trachinocephalus myops (Forster, 1801)	SYNOD Trach 1

Prepared by K.J. Sulak, Virginia Institute of Marine Science, Gloucester Point, Virginia, U.S.A.

Main illustrations of Saurida and Synodus species provided by author; drawing of Trachinocephalus myops modified from "Fishes of the Western North Atlantic"

SYNOD Sauri 6

1981

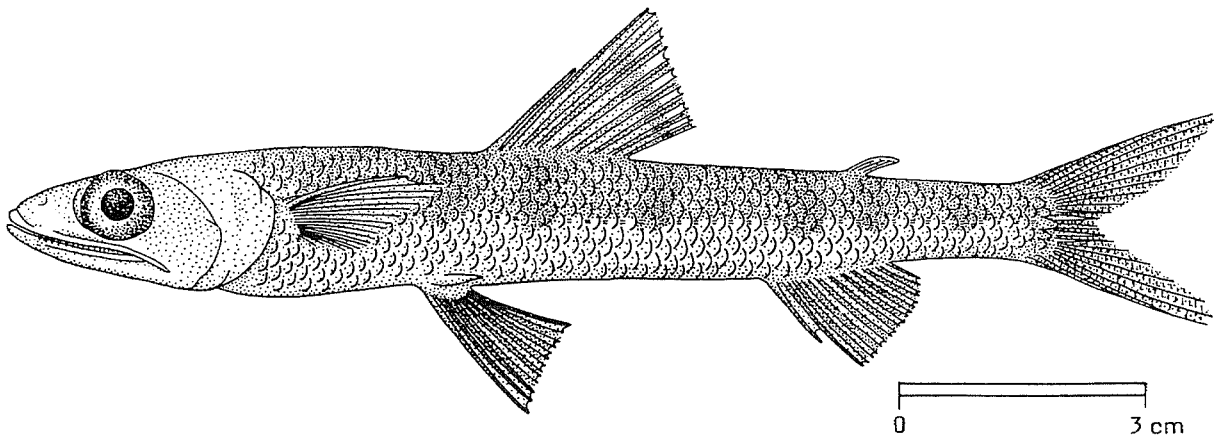
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SYNODONTIDAE

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

Saurida brasiliensis Norman, 1935

OTHER SCIENTIFIC NAMES STILL IN USE : Saurida parri Norman, 1935
Saurida brasiliensis maurini Maurin et al., 1977
Saurida brasiliensis brasiliensis Maurin et al., 1977
Saurida brasiliensis parri Maurin et al., 1977



VERNACULAR NAMES:

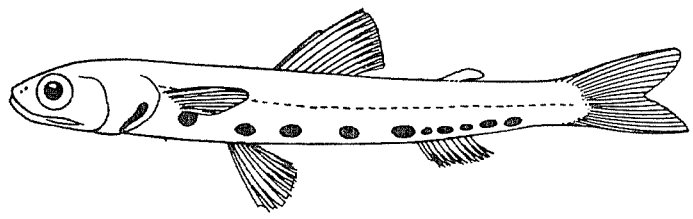
FAO : En - Brazilian lizardfish
Fr - Anoli brésilien
Sp - Lagarto brasileiro

NATIONAL :

DISTINCTIVE CHARACTERS :

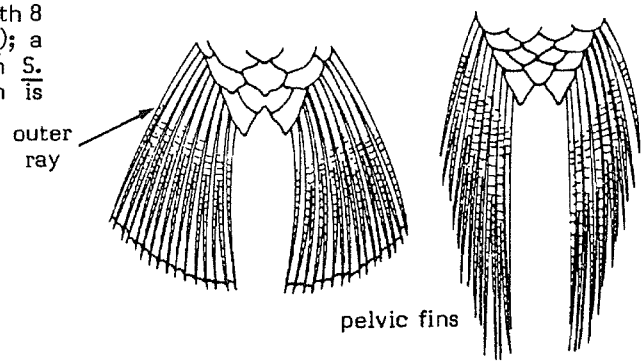
A lizardfish of typical appearance with elongate, cylindrical body. Head depressed, smooth on top; snout about equal to, or longer than eye diameter; mouth oblique and upturned anteriorly; upper jaw bordered only by the slender premaxilla; jaws long and armed with numerous prominent teeth; teeth protrude when mouth is closed; roof of mouth with a double pair of tooth bands (palatines and endopterygoids). Pelvic fins abdominal, with 9 rays of roughly equal length; eye near or slightly in advance of midpoint of upper jaw; anal fin base about equal to dorsal fin base; adipose fin over midpoint of anal fins.

Colour: brownish or grey with about 6 faint brown blotches along sides of body; underside pale. Post-larva with 6 dark peritoneal spots in advance of anal fin, plus about 4 to 6 additional spots between insertion of anal fin and caudal peduncle; snout length about equal to eye diameter.



DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Synodontidae: pelvic fins with 8 unequal rays (9 about equal rays in S. brasiliensis); a single pair of tooth bands on palate (2 pairs in S. brasiliensis); jaw teeth concealed when mouth is closed; top of head rugose.



Saurida — Synodus, Trachinocephalus

SIZE:

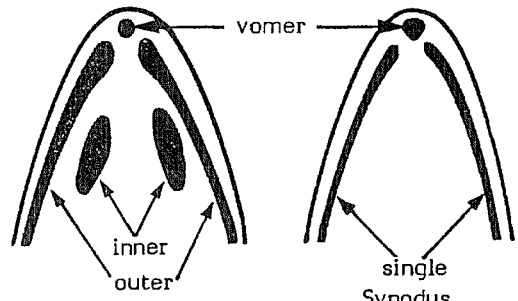
Maximum: 25 cm; common to 15 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the Eastern Central Atlantic between Cape Blanc and Cape Verde off central Africa between latitude 0° and 13°S, and around Ascension Island. Also in the Western Atlantic between North Carolina and Brazil, including the Gulf of Mexico and Caribbean.

Benthic on the continental shelf; depth range 18 to 410 m, primarily in deeper waters.

Carnivorous, preying presumably on fishes and shrimps.

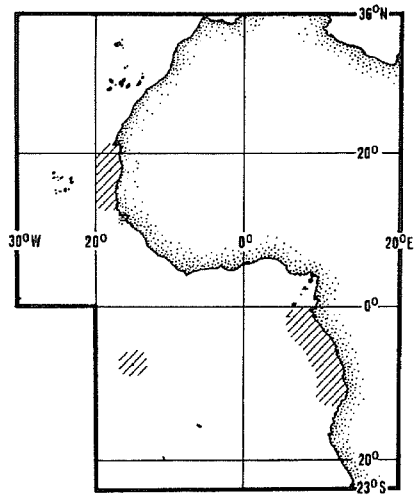


Saurida — Synodus, Trachinocephalus

tooth bands on roof of mouth

PRESENT FISHING GROUNDS:

Outer shelf, taken especially as bycatch by off-shore trawlers.

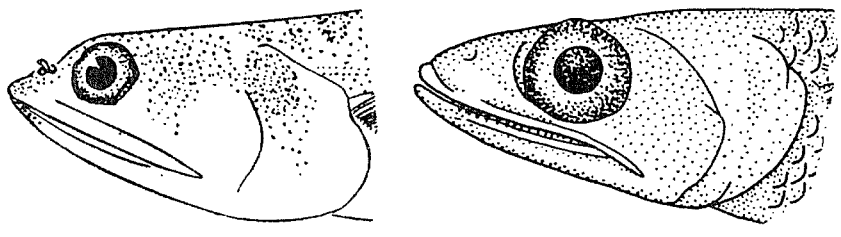


CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls.

Used mainly for fishmeal and oil.



Synodus — *S. brasiliensis*

SYNOD Synod 1

1981

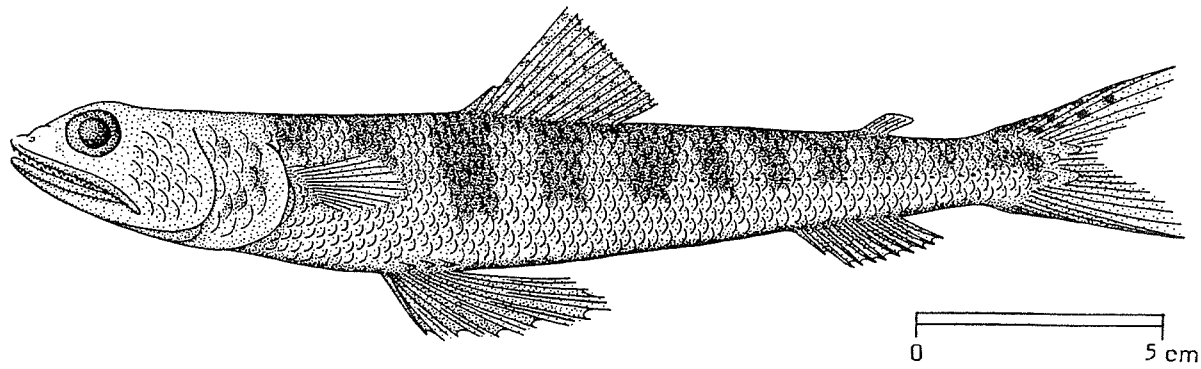
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SYNODONTIDAE

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

Synodus saurus (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Saurus griseus Lowe, 1938
Synodus cinereus Hildebrand, 1948



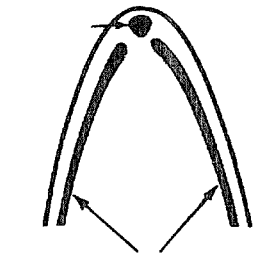
VERNACULAR NAMES:

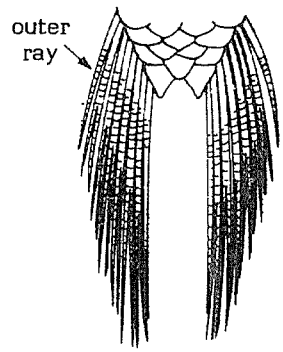
FAO : En - Atlantic lizardfish
Fr - Anoli de l'Atlantique (= Lézard de l'Atlantique, Area 37)
Sp - Pez de San Francisco

NATIONAL :

DISTINCTIVE CHARACTERS :

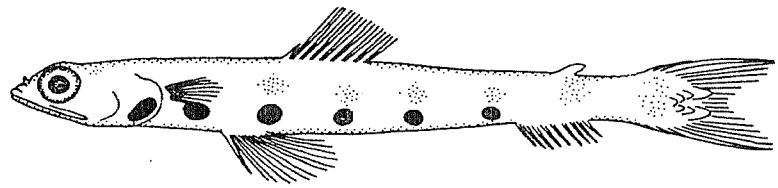
A lizardfish of typical appearance with elongate cylindrical body. Head depressed, rugose on top; eye near or slightly in advance of midpoint of upper jaw; snout longer than eye diameter and pointed when viewed from the side; mouth oblique; upper jaw bordered only by the slender premaxilla; jaws long and armed with numerous prominent teeth; teeth concealed when mouth is closed; roof of mouth with a single pair of tooth bands (palatines). Pelvic fins abdominal, with 8 rays, the innermost longest; anal fin base short, 70 to 90% of dorsal fin base; adipose fin over midpoint of anal fin. Only 3 scale rows between lateral line and dorsal fin base.


a single pair
of tooth bands on palate



pelvic fins

Colour: body yellowish, reddish or brownish grey; about 8 brown saddle-like blotches plus numerous other vermiculations along the sides; belly and underside of head yellowish to whitish; dorsal and caudal fins dusky, other clear; eye reddish-gold. Post-larva with 6 black peritoneal spots in advance of anal fin; snout length about equal to or greater than eye diameter.

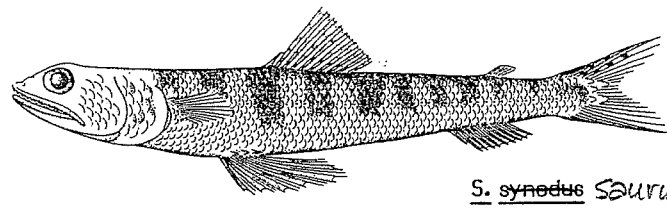

post-larva (about 4.5 cm length)

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

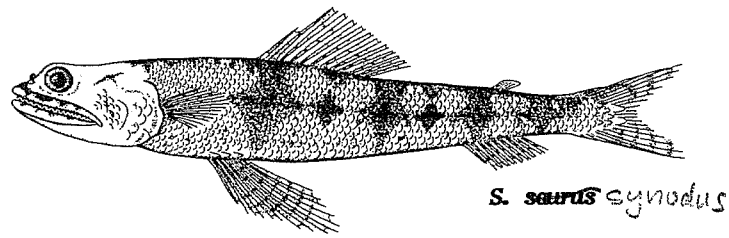
Synodus synodus: anal fin base shorter (53 to 66% of dorsal fin base, against 70 to 90% in S. saurus); 4 to 6 scale rows between lateral line and dorsal fin base (3 in S. saurus); colour pattern different.

Trachinocephalus myops: pelvic fins thoracic; anal fin base longer than dorsal fin base; head blunt, snout very short, mouth more oblique.

Saurida brasiliensis: teeth visible when mouth is closed; 2 pairs of tooth bands on palate (1 in Synodus); 9 pelvic fin rays, about equal in length.



S. ~~synodus~~ saurus



S. ~~saurus~~ synodus

SIZE:

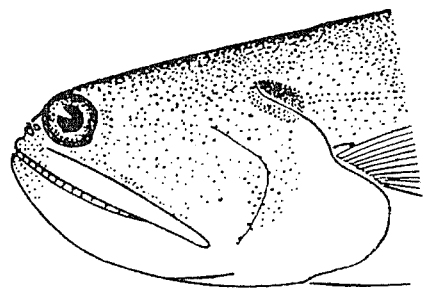
Maximum: 40 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

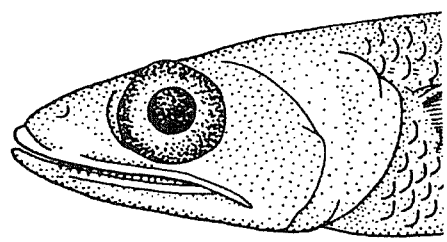
In the area, from Gibraltar south to the Cape Verde Islands. Also occurs in the Mediterranean and around the Azores. In the Western Atlantic the species is wholly insular, being known from the lesser Antilles, Bahamas and Bermuda.

Benthic on the continental shelf, primarily at depths less than 20 m, with records to 400 m.

Feeds primarily on fish and shrimp.



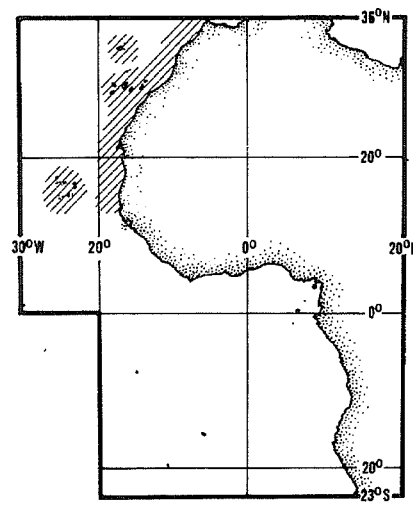
Trachinocephalus myops



Saurida brasiliensis

PRESENT FISHING GROUNDS:

Shallow coastal waters of the continental shelf.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with trammel nets, fixed bottom nets and on hook and line.

Marketed fresh and dried salted.

SYNOD Synod 2

1981

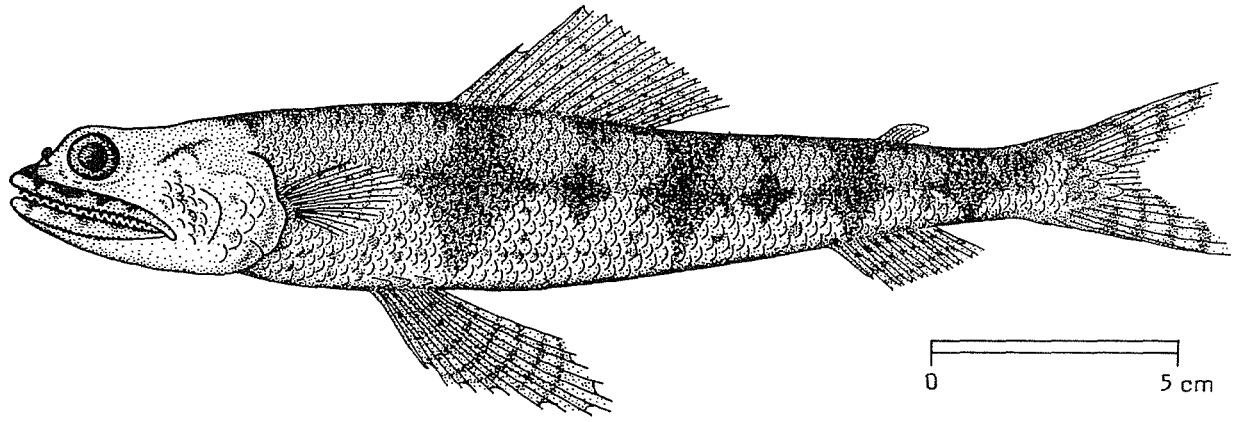
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SYNODONTIDAE

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

Synodus synodus (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Synodus meleagrides (Valenciennes, 1847)
Synodus atlanticus Johnson, 1863
Synodus nicholsi Breder, 1927



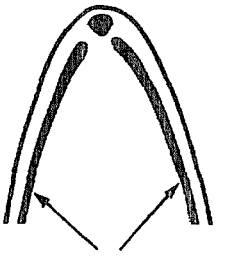
VERNACULAR NAMES:

FAO : En - Diamond lizardfish
Fr - Anoli commun
Sp - Lagarto diamante

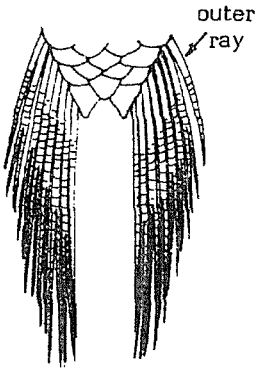
NATIONAL :

DISTINCTIVE CHARACTERS :

A lizardfish of typical appearance with elongate cylindrical body. Head depressed, rugose on top; eye near or slightly in advance of midpoint of upper jaw; snout longer than eye diameter and pointed when viewed from the side; mouth oblique; upper jaw bordered only by the slender premaxilla; jaws long and armed with numerous prominent teeth; teeth concealed when mouth is closed; roof of mouth with a single pair of tooth bands (palatines). Pelvic fins abdominal, with 8 rays, the innermost longest; anal fin base very short, 53 to 66% of dorsal fin base; adipose fin over midpoint of anal fin; 4 to 6 scale rows between lateral line and dorsal fin base.

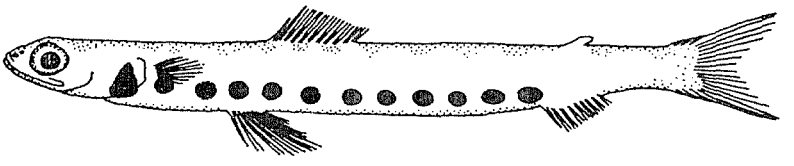


a single pair
of tooth bands on palate



pelvic fins

Colour: coloration distinctive; body grey with 4 large red to brown saddle-like blotches along sides in addition to other orange to red markings in symmetrical array; a small black area at tip of snout; underside pale; fins dusky, banded with red; eye reddish-gold. Post-larva with 12 or 13 dark peritoneal spots in advance of anal fin; snout length about equal to eye diameter.



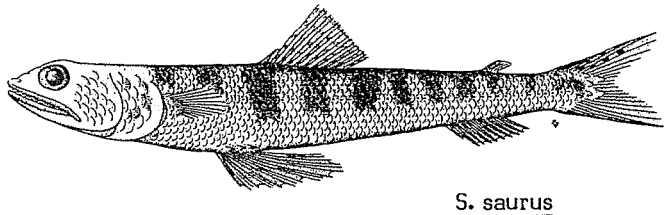
post-larva (about 3.5 cm length)

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

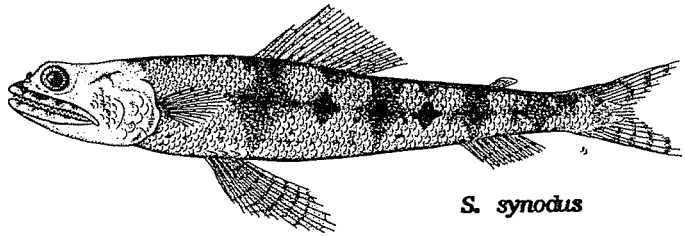
Synodus saurus: anal fin base longer (*70 to 90% of dorsal fin base, against 53 to* 66% in S. synodus); 3 scale rows between lateral line and dorsal fin base (4 to 6 in S. synodus); colour pattern different.

Trachinocephalus myops: pelvic fins thoracic; anal fin base longer than dorsal fin base; head blunt, snout very short, mouth more oblique.

Saurida brasiliensis: teeth visible when mouth is closed; 2 pairs of tooth bands on palate (1 in Synodus); 9 pelvic fin rays, about equal in length.



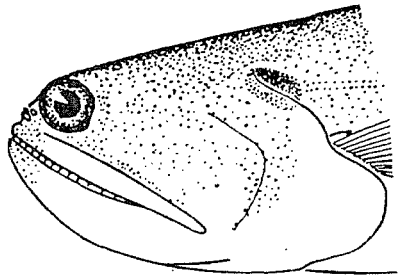
S. saurus



S. synodus

SIZE :

Maximum: 30 cm; common to 20 cm.



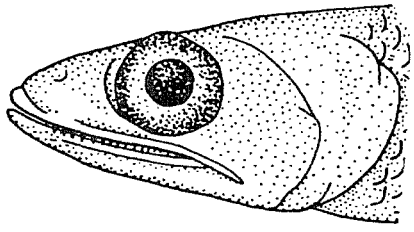
Trachinocephalus myops

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Apparently wholly insular in the eastern Atlantic; known from Madeira, the Canary and St. Helena Islands. Also found in the western Atlantic off Bermuda in the Gulf of Mexico and the Caribbean, and along the coast from Florida to Uruguay.

Benthic in inshore littoral waters to depths of 90 m.

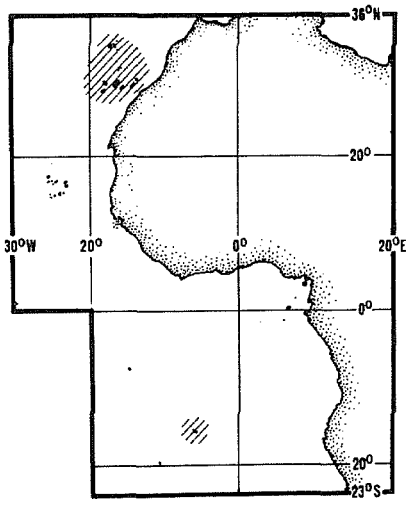
Prey presumably consists of small fishes and shrimps.



Saurida brasiliensis

PRESENT FISHING GROUNDS :

Chiefly off oceanic islands.



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 (in shallow waters).

Marketed fresh and dried salted. Not highly appreciated (too bony).

SYNOD Trach 1

1981

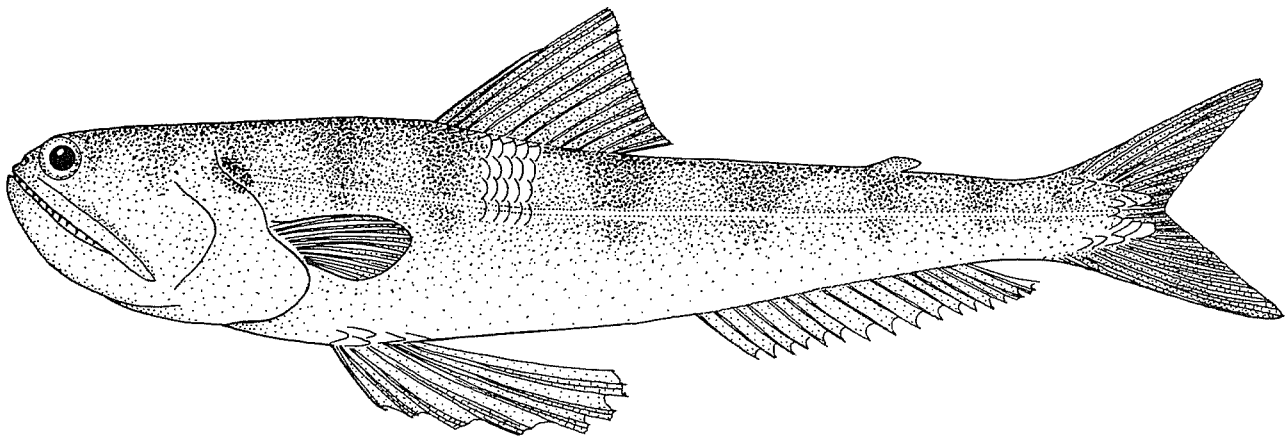
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : SYNODONTIDAE

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

Trachinocephalus myops (Forster, 1801)

OTHER SCIENTIFIC NAMES STILL IN USE : Trachinocephalus hypozona (Ogilby, 1897)





VERNACULAR NAMES:

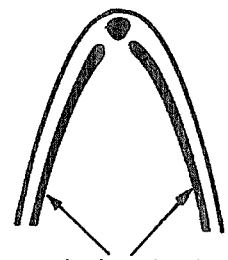
FAO : En - Bluntnose lizardfish
Fr - Anoli serpent
Sp - Lagarto ñato

NATIONAL :

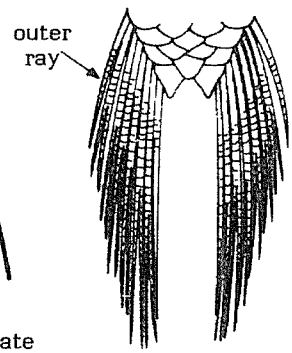
DISTINCTIVE CHARACTERS :

A lizardfish of distinctive appearance. Body elongate and cylindrical. Head blunt, compressed, very rugose on top; mouth very oblique; snout short; eyes small and set far forward near tip of upper jaw; jaws long and armed with prominent sharp teeth; roof of mouth with a single pair of tooth bands (palatines); teeth concealed when mouth is closed. Pelvic fins thoracic, with 8 rays, the innermost longest; anal fin base much longer than dorsal fin base; adipose fin inserted over posterior end of anal fin.

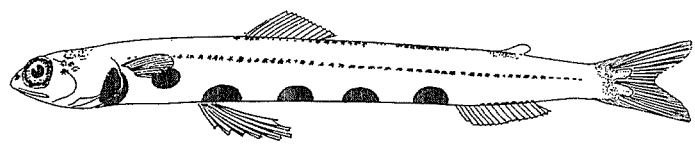
Colour: metallic grey with longitudinal yellow and blue stripes; sides with faint blotching; a large dark spot at upper corner of gill cover; dorsal and caudal fins dusky, others yellowish. Post-larva with 6 very large, dark peritoneal spots in advance of anal fin; snout length much less than eye diameter.



a single pair of tooth patches on palate



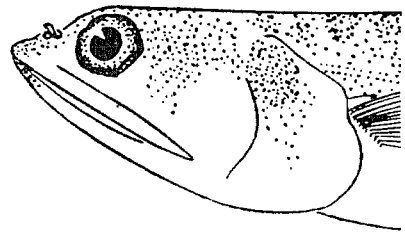
pelvic fins



post-larva (about 4.5 cm length)

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Synodontidae: snout longer and less blunt; pelvic fins abdominal, anal fin base much longer than dorsal fin base.



Synodus species

SIZE:

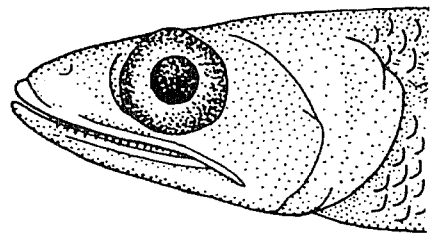
Maximum: 35 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, common from the Cape Verde Islands and Senegal to Namibia; also known from St. Helena and Ascension islands, but not recorded north of Cape Verde. Otherwise circumglobal in tropical and warm temperate waters, except in the Eastern Pacific.

Benthic in the littoral zone to the outer shelf, mainly on sand bottom.

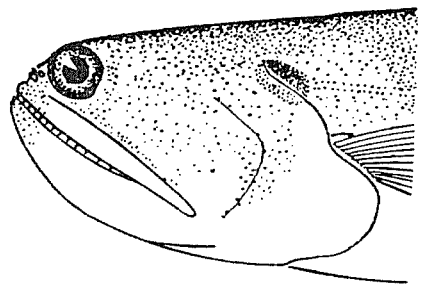
Carnivorous, presumably preying on fishes; reportedly burrows into the substrate leaving only the eyes exposed.



Saurida brasiliensis

PRESENT FISHING GROUNDS:

Shelf between Senegal and Ghana.



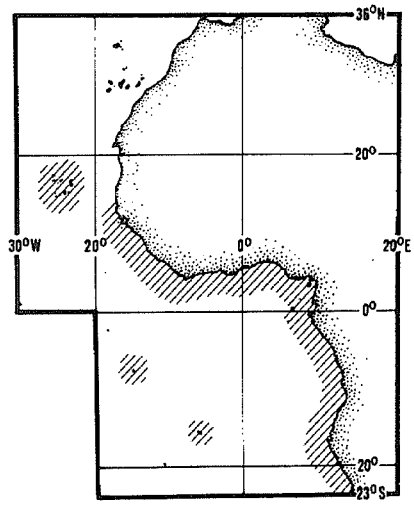
T. myops

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught in Senegal by fishermen using lines and fixed bottom nets; also taken with bottom trawls.

Marketed fresh and dried salted. Also reduced to fishmeal.



TETRAG

1981

FAO SPECIES IDENTIFICATION SHEETS

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

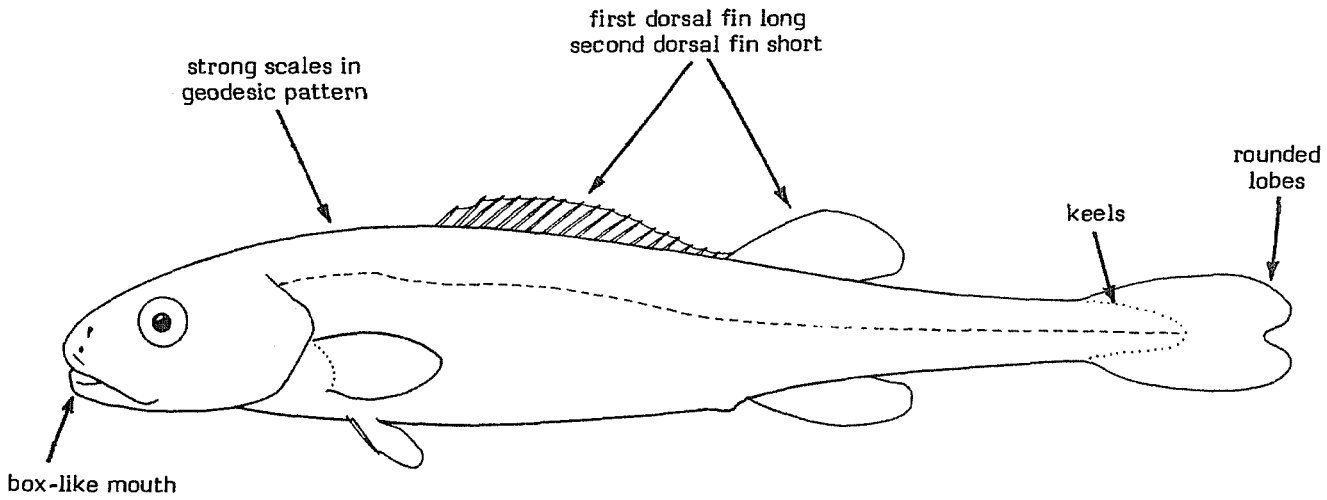
TETRAGONURIDAE

Squaretails

Small-sized fishes (up to about 30 cm in length). Body very elongate, cylindrical, with a very long and thick caudal peduncle, square in cross-section and with modified scales forming 2 lateral keels on each side near base of caudal fin. Head long and somewhat broad, snout long and blunt; eyes large, without adipose tissue and with a series of grooves on posterior rim; mouth fairly large, the maxilla extending to below eye; premaxilla not protractile; only lower margin of maxilla visible under the large lacrimal bone, lower jaw appears to shut within upper; teeth small, pointed and recurved in upper jaw, large, flattened and knife-like in lower jaw; opercles fleshy. Two dorsal fins, the first originating over the end of pectoral fin, with 10 to 20 short spines which fold into a groove, the second with a much shorter base, with 10 to 17 soft rays; a single anal fin, similar to the second dorsal; pectoral fins small and rounded; pelvic fins very small, inserted behind pectoral fin bases and before origin of first dorsal; caudal fin with rounded lobes, not strongly forked. Lateral line arched slightly forward, descending to run along mid-line and ending on caudal peduncle, lacking pored scales; scales moderate in size, with heavy keels, very adherent and following a geodesic pattern around the body; top of head and snout naked, with small pores.

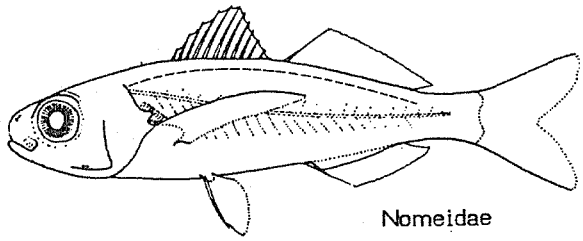
Colour: adults uniformly brown, ranging from tan to almost black, young often greyish.

Squaretails are oceanic epi- or mesopelagic fishes, almost never seen inshore. They feed on soft-bodied pelagic invertebrates, and the young commonly occur in association with salps, even living within them. They are occasionally consumed, but some reports state that the flesh may be poisonous, and they can in no case be considered to have any fishing potential. Squaretails do figure in the diets of large oceanic fishes.

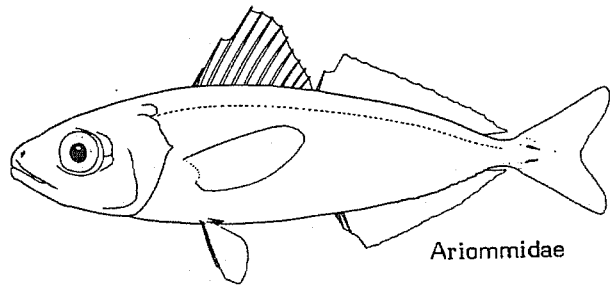


SIMILAR FAMILIES OCCURRING IN THE AREA:

Nomeidae and Ariommidae: longest spine of first dorsal fin nearly as long or longer than second dorsal fin (much shorter in Tetragonuridae); anal fin with 14 to 30 rays (10 to 16 in Tetragonuridae); scales cycloid (smooth) and easily shed; soft dorsal fin bare longer than spiny dorsal fin base. Furthermore, no lateral keels on caudal peduncle in Nomeidae.

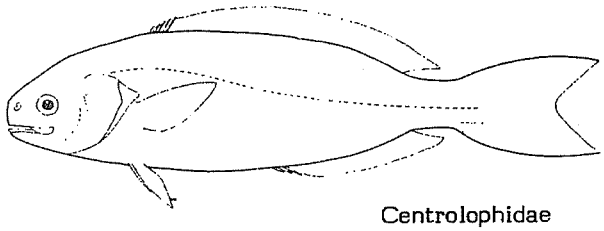


Nomeidae

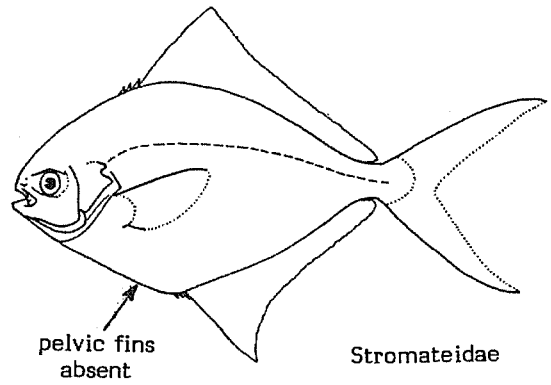


Ariommidae

Centrolophidae and Stromateidae: first dorsal fin with less than 10 spines (10 to 20 in Tetragonuridae). Soft dorsal fin base longer than spiny dorsal fin base. Furthermore, pelvic fins always absent in adults of Stomateidae.



Centrolophidae



Stromateidae

KEY TO GENERA OCCURRING IN THE AREA:

Tetragonurus only.

LIST OF SPECIES OCCURRING IN THE AREA:

Tetragonurus atlanticus Lowe, 1839

Tetragonurus cuvieri Risso, 1810

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

TETRAO

1981

FAO SPECIES IDENTIFICATION SHEETS

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

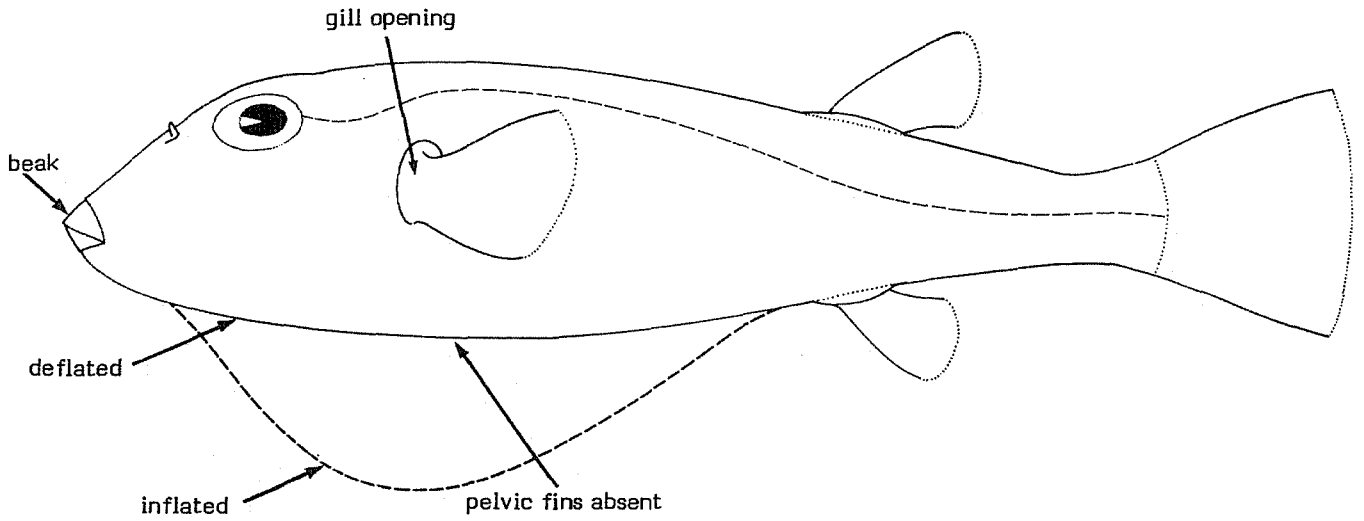
TETRAODONTIDAE

Puffers

Small to moderately large fishes with a heavy, blunt body capable of rapid inflation by intake of water (or air). Head large and blunt, jaws modified to form a beak of 4 heavy, powerful teeth, 2 above and 2 below; gill openings without distinct coverings or flaps, appearing as simple slits anterior to pectoral fins; eyes located high on head. Pelvic fins absent; dorsal and anal fins located far posteriorly, bearing no spines, but 7 to 15 soft rays; caudal fin slightly lunate to slightly rounded. Lateral lines, when present, indistinct, forming a complex interconnecting pattern down the sides and about the head. Typical scales absent, but numerous small spiny prickles often present on upper side and belly, sometimes on sides, or scales modified to form plate-like armor over part of the body.

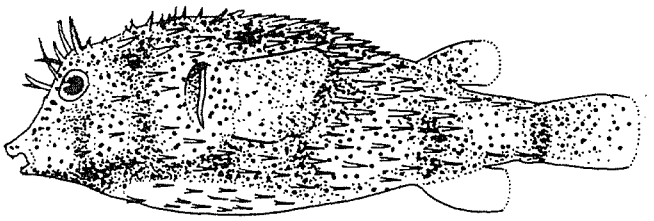
Colour: most species are mottled and variegated on the upper side and flanks, sometimes with spots of various sizes and colour, while the belly is usually white to yellow. The species of Lagocephalus are the most uniformly pigmented, dark and occasionally barred above, sometimes silvery on sides and white below.

Puffers are inhabitants of tropical and temperate seas, most frequent in shallow inshore waters, sometimes entering brackish- and freshwaters. Usually found alone or in small, disorganized groups. Their capacity of inflating themselves like balloons probably prevents them from being swallowed by many predators. At least some species are also able to bury in the bottom. They propel themselves through the water by a fan-like flapping of their dorsal and anal fins. All species are carnivorous. The flesh of many species is reportedly of excellent flavour and is often consumed locally by the population in some countries (Senegal, Ghana), while in others its consumption is forbidden because many species are toxic and their consumption has caused serious (often lethal) poisoning. The toxin is apparently located mainly in certain visceral organs, but the flesh may become contaminated by contact with the poisonous organs (sloppy evisceration or long storage of the fish before consumption).



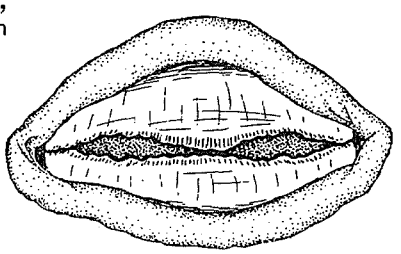
SIMILAR FAMILIES OCCURRING IN THE AREA:

Diodontidae: a single tooth in each of the upper and lower jaws (2 teeth in each jaw in Tetraodontidae); very heavy spines cover back and sides.

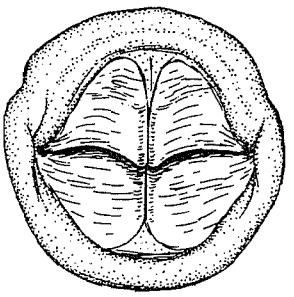


Diodontidae

Canthigasteridae: sometimes considered a separate family, but often grouped with the Tetraodontidae. These "sharp-nosed" puffers have an elongated snout and a keel on the anterior part of the back. The single Atlantic genus, Canthigaster, is represented in the Eastern Atlantic by C. rostrata.



Diodontidae

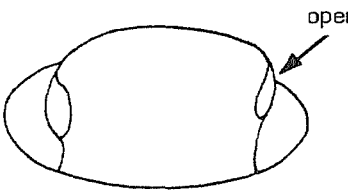


Tetraodontidae

tooth plates

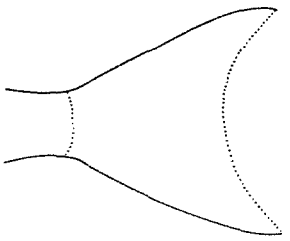
KEY TO GENERA OCCURRING IN THE AREA:

1 a. Nasal papilla a simple tube perforated by a pair of openings (Fig. 1); medial portions of body never encased in a bony corselet of irregularly shaped plates. Lateral ethmoid bones separated entirely by frontal bones



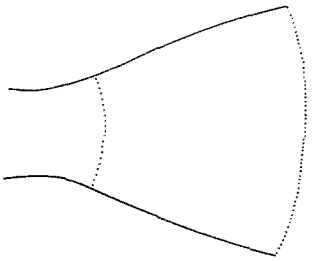
nasal papilla
Lagocephalus, Sphoeroides
Fig. 1

2 a. Dorsal rays 13 to 15. Caudal distinctly lunate (Fig. 2). Posterior limbs of frontals extend posterolaterally almost to upper end of post-temporals ..... Lagocephalus



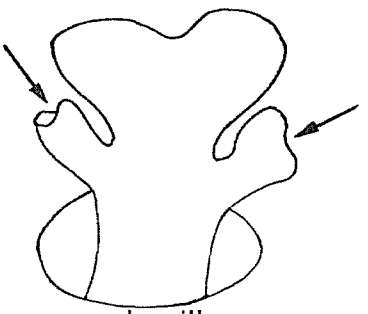
Lagocephalus Fig. 2

2 b. Dorsal rays 7 to 9. Caudal rounded, truncate, or with dorsal and ventral rays only slightly produced (Fig. 3). Posterior arms of frontals, if present, do not extend to near upper end of post-temporals ..... Sphoeroides



Sphoeroides Fig. 3

1 b. Nasal papilla not a simple tube, but expanded to 2 lateral and 1 posterior flap (Fig. 4). In specimens more than 225 mm, irregularly shaped plates (bases of prickles and dermal spines) encase dorsal and lateral body surface between pectoral and dorsal fins in a bony corselet. Lateral ethmoid bones separated mostly by mesethmoid ..... Ephippion



nasal papilla
Ephippion Fig. 4

LIST OF SPECIES OCCURRING IN THE AREA :

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

Ephippion guttifer (Bennett, 1831)	TETRAO Ephip 1
Lagocephalus laevigatus (Linnaeus, 1766) Lagocephalus lagocephalus (Linnaeus, 1758)	TETRAO Lago 1
Sphoeroides marmoratus (Lowe, 1839) Sphoeroides pachygaster (Müller & Troschel, 1848)	

Prepared by R.L. Shipp, Department of Biological Sciences, University of South Alabama, Mobile, Alabama, U.S.A.

TETRAO Ephip 1

1981

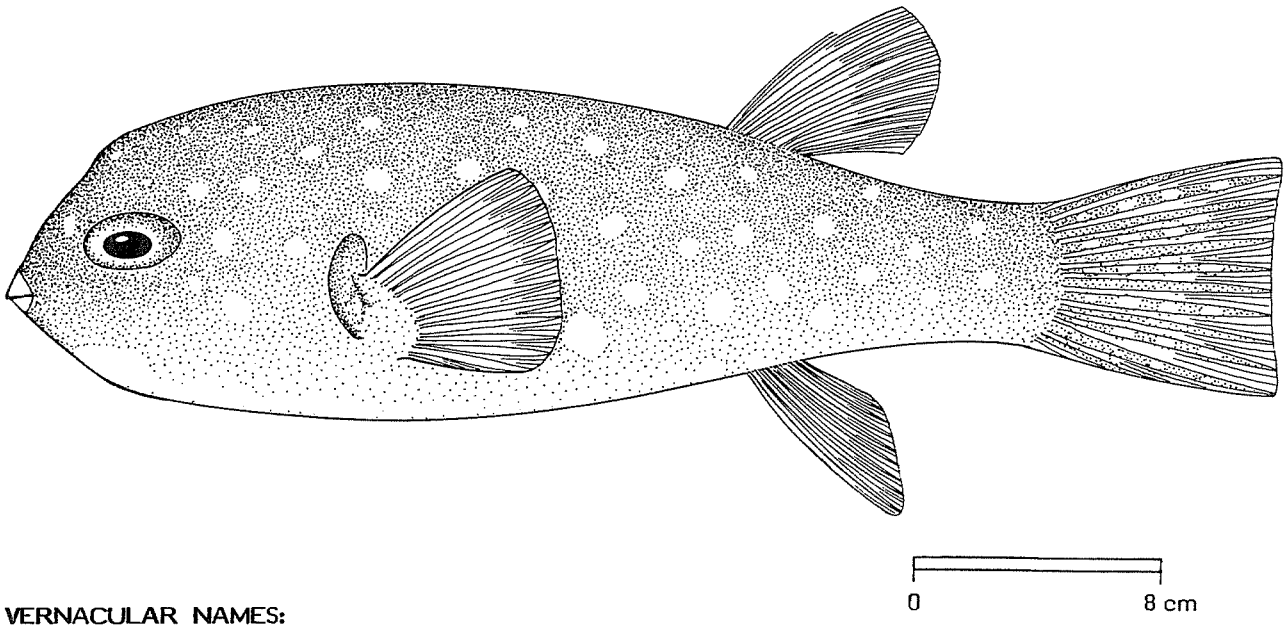
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TETRAODONTIDAE

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

Ephippion guttifer (Bennett, 1831)

OTHER SCIENTIFIC NAMES STILL IN USE : Hemiconiatus guttifer Bennett, 1831



VERNACULAR NAMES:

FAO : En - Prickly puffer
Fr - Compère à points blancs
Sp - Tamboril de tierra

NATIONAL :

DISTINCTIVE CHARACTERS :

A blunt-headed fish with heavy jaws forming a beak of 2 teeth in each of the upper and lower jaws. Dorsal and anal fins set far back, near caudal fin, the dorsal usually with 10 soft rays (no spines), the anal usually with 9 soft rays (no spines); pelvic fins absent; caudal emarginate in juveniles and subadults, lunate in older specimens. Prickles (small spinules) present ventrally to near the anus; on dorsal and lateral surfaces of the trunk, in adults, prickles are present and much modified with enlarged, bony bases that form a carapace of scute-like plates.

Colour: basal pigmentation of upper flanks and back a rich brown with a slight maroon turge, the basal colour fading laterally to the unpigmented belly. Pigmented surfaces covered with discrete white spots, about a third to a fourth of the eye diameter.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Tetraodontidae: no white spots on a dark background, no scute-like plates on dorsal and lateral surfaces; either less (Sphoeroides) or more (Lagocephalus) dorsal fin rays (10 in E. guttifer).

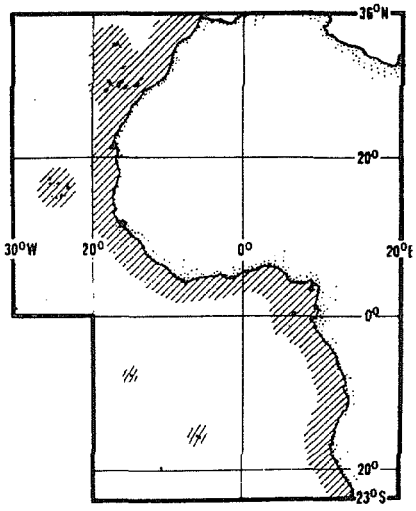
SIZE:

Maximum: about 80 cm; common over 40 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

From Gibraltar to Angola, including offlying islands.

Common in marine and estuarine environments to depths of about 50 m.



PRESENT FISHING GROUNDS:

Shallow coastal and estuarine waters.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

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

Marketed fresh, dried salted and smoked in many countries, not allowed for sale in others (i.e. Ivory Coast).

TETRAO Lago 1

1981

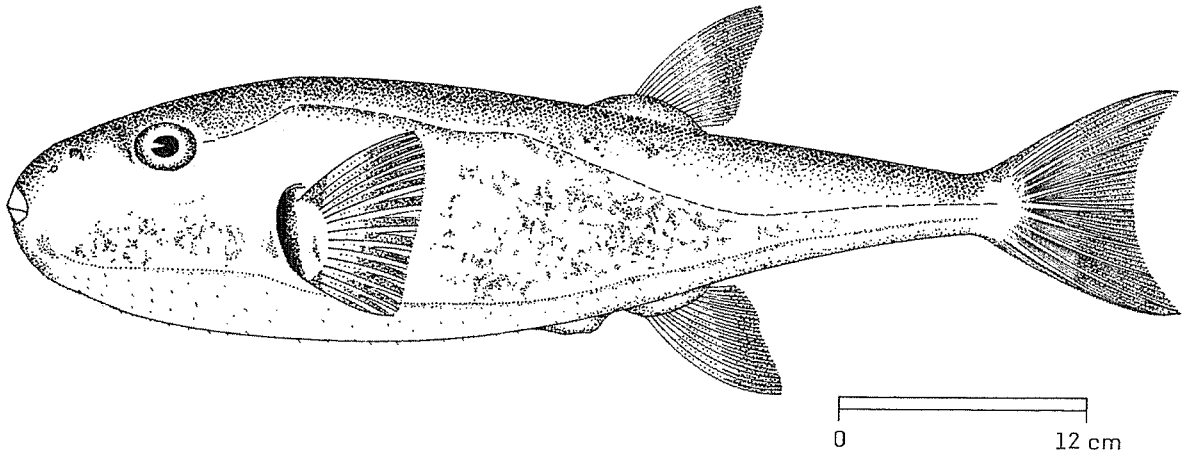
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TETRAODONTIDAE

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

Lagocephalus laevigatus (Linnaeus, 1766)

OTHER SCIENTIFIC NAMES STILL IN USE : Lagocephalus pachycephalus Jordan & Rutter, 1897



VERNACULAR NAMES:

FAO : En - Smooth puffer
Fr - Compère lisse
Sp - Tamboril mondeque

NATIONAL :

DISTINCTIVE CHARACTERS :

A blunt-head fish with heavy jaws forming a beak of 2 teeth in each of the upper and lower jaws. Dorsal and anal fins set far back, near caudal fin, the dorsal usually with 13 or 14 soft rays (no spines), the anal usually with 12 or 13 soft rays (no spines); pelvic fins absent; caudal fin distinctly concave, its upper and lower lobes about equal in length. Prickles (small spinules) covering much of the belly, usually absent on back. No lappets (fleshy appendages) on head or body.

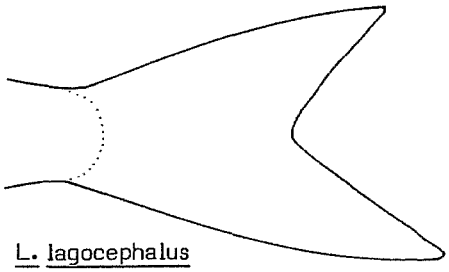
Colour: upper side of a uniform dark grey or greenish grey, sides mostly silver, belly white. Juveniles and subadults have a few dark bars on back.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

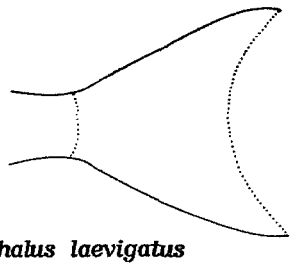
Lagocephalus lagocephalus: lower caudal fin distinctly longer than upper (lobes about even in L. laevigatus).

Sphoeroides species: dorsal fin with 9 or less rays (13 or 14 in L. laevigatus); anal fin with 7 rays (12 or 13 in L. laevigatus); caudal fin rounded or truncate (concave in L. laevigatus).

Ephippion species: nasal papilla not a single tube, but expanded to 2 lateral and 1 posterior flap; dark basal pigmentation with distinct white spots; about a third the eye diameter. Specimens of more than about 250 mm with a carapace of scute-like plates.



L. lagocephalus



Lagocephalus laevigatus

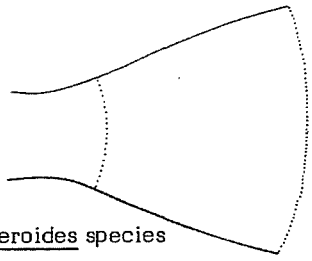
SIZE:

Maximum: about 100 cm; common to 60 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Within the area, from the Straits of Gibraltar to Angola, including offlying islands. Northward extending to Portugal. Elsewhere in the Western Atlantic, from New England to Argentina.

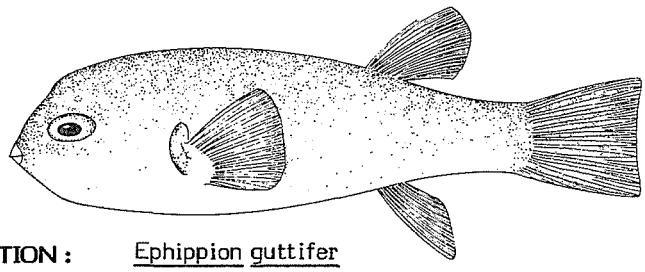
Inhabits inshore and nearshore areas to about 180 m depth, over sand or mud bottoms; usually found alone or in small, loose aggregates.



Sphoeroides species

PRESENT FISHING GROUNDS:

Mainly coastal waters throughout its range; rather abundant.



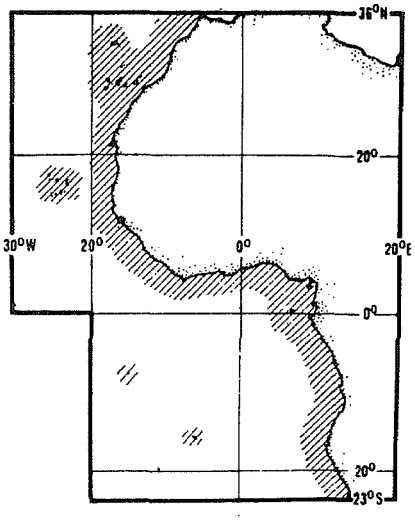
Ephippion guttifer

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught on hook and line, with longlines, beach seines, bottom trawls, and fixed bottom nets; much feared by fishermen because of its predation on longline catch and destruction of gear by its powerful teeth.

Marketed fresh, dried salted or smoked. Regularly in markets in some countries, but its consumption is forbidden in others (i.e. Ivory Coast). This fish has flesh of good quality and is often eaten by the coastal population after skinning it, and is apparently not toxic.



TRACHIC

1981

FAO SPECIES IDENTIFICATION SHEETS

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

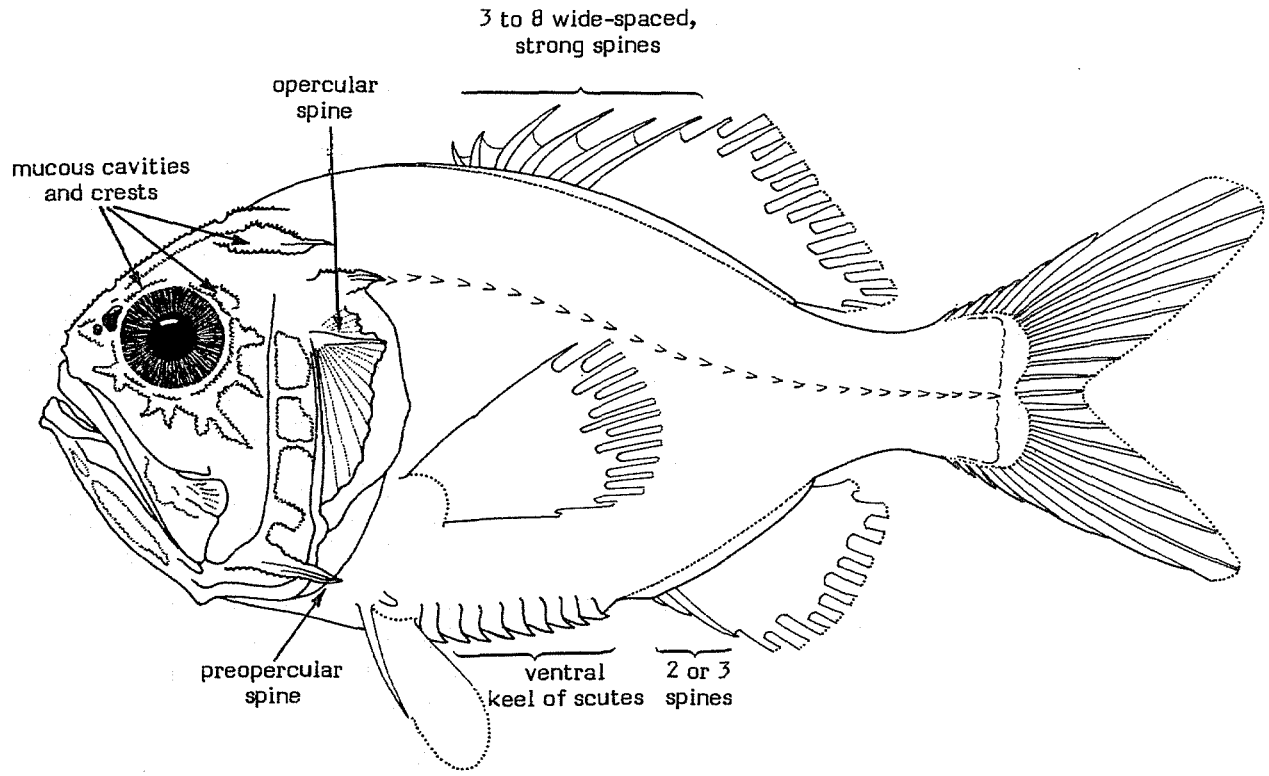
TRACHICHTHYIDAE

Slimeheads

Body ovate and compressed. Head with large, skin-covered mucous cavities in the regions around eyes, particularly on forehead and in front of preopercle; walls between these cavities often with distinct crests; usually strong spines on opercle and preopercle; mouth large, oblique; only one distinct supramaxilla; teeth small, in bands. Dorsal fin with 3 to 8 strong, well spaced spines (4 to 8 in species occurring in the area) and 9 to 18 soft rays; its base about twice the length of anal fin base; anal fin with 2 or 3 close-set, strong spines and 8 to 12 soft rays, its origin more or less under middle of dorsal fin base. Lateral line mostly straight, sometimes slightly curved; scales ctenoid (rough to touch); ventral scutes well developed in most species.

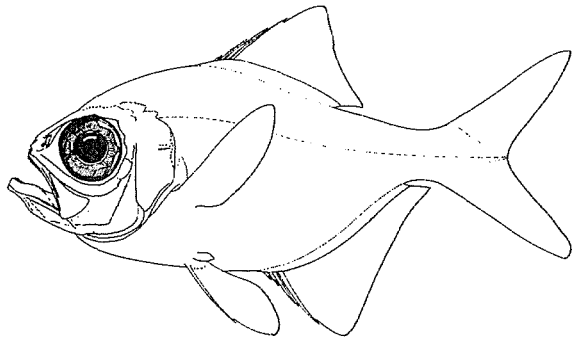
Colour: generally uniformly pale pinkish or blackish grey.

Medium-sized fishes (to about 60 cm total length) inhabiting near the bottom, over the continental slope and the deeper regions of the shelf, from about 100 to beyond 1 000 m depth (mostly between 250 and 600 m). Many species of slimeheads are cosmopolitan in distribution and some are reported to be rather abundant in certain areas, including parts of the Eastern Central Atlantic. They are caught with bottom and pelagic trawls as well as with longlines, and are reportedly used fresh or dried salted in Senegal, while they are made into fishmeal and oil by industrial offshore fishing fleets. In view of their local abundance and the current trend toward the development of deepwater trawl fisheries, some of the countries operating offshore fishing fleets consider the slimeheads as a resource of potential commercial importance.



SIMILAR FAMILIES OCCURRING IN THE AREA :

Berycidae: no spines on opercles; two distinct supramaxillae more or less equal in size (a single supramaxilla in Trachichthyidae); dorsal fin spines close-set; base of dorsal fin distinctly shorter than that of anal fin; ventral scutes never present.

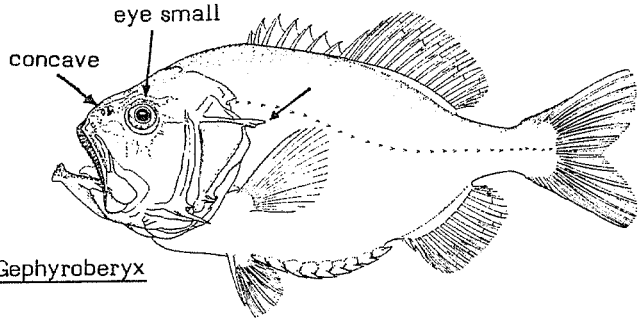


Berycidae

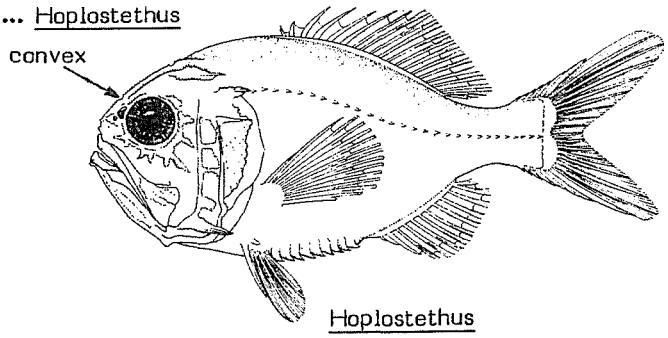
KEY TO GENERA OCCURRING IN THE AREA :

1 a. Upper profile of head concave; opercular spine (at level of eye) very long, reaching beyond edge of opercle; eye small, its diameter about 5 times in head length in individuals of 40 cm standard length or more; dorsal fin spines 8 (rarely 7); soft anal fin rays 11 ..... Gephyroberyx

1 b. Upper profile of head convex over eye; opercular spine (at level of eye) not reaching to edge of opercle; eye moderate to large, its diameter from 2.8 to 4 times in head length; dorsal fin spines 5 or 6; soft anal fin rays 9 or 10 ..... Hoplostethus



Gephyroberyx



Hoplostethus

LIST OF SPECIES OCCURRING IN THE AREA :

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

Gephyroberyx darwini (Johnson, 1866)	TRACHIC Gep 1
Hoplostethus cadenati Quéro, 1974	TRACHIC Hop 1
Hoplostethus mediterraneus (Cuvier, 1829)	TRACHIC Hop 2

Prepared by G.E. Maul, Museu Municipal do Funchal, Madeira, Portugal

TRACHIC Gep 1

1981

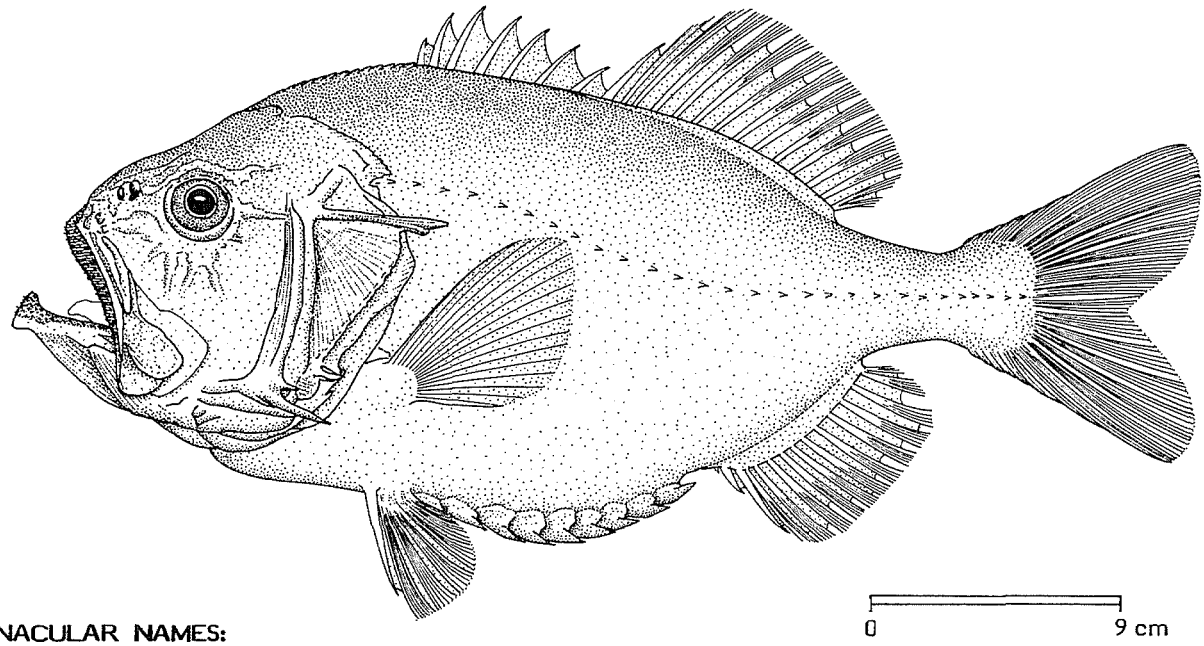
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRACHICHTHYIDAE

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

Gephyroberyx darwini (Johnson, 1866)

OTHER SCIENTIFIC NAMES STILL IN USE : Trachichthys darwini Johnson, 1866



VERNACULAR NAMES:

FAO : En - Darwin's slimehead
Fr - Hoplostète de Darwin
Sp - Reloj de Darwin

NATIONAL :

DISTINCTIVE CHARACTERS :

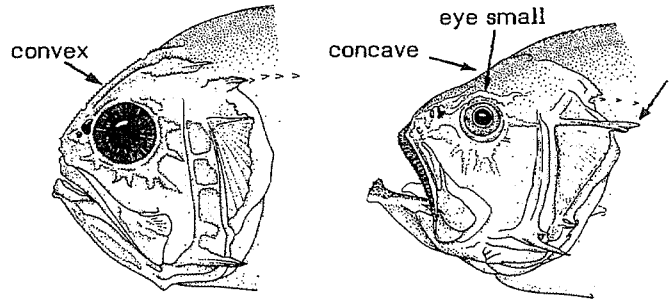
Body deep and compressed, its greatest depth contained about 2.15 times in standard length and distinctly greater than head length. Head with a concave forehead profile and with large mucous cavities covered by tough skin; eye small, its diameter about 5 times in head length (in large specimens of 40 cm standard length or more); mouth large, oblique; posterior end of maxilla wide, almost reaching to a vertical through hind margin of eye; opercle and preopercle each with a large, strong spine; gill rakers robust, total 19. Dorsal fin with 8 (rarely 7) short, sturdy, wide-set spines and 13 soft rays; anal fin with 3 close-set spines and 11 soft rays, its origin under middle of dorsal fin base. Scales finely ctenoid; ventral keel with 9 very robust scutes; lateral-line scales about 29.

Colour: body and head of a uniform dirty pink; iris dark grey.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Hoplostethus species: eye moderate to large, from 2.8 to 4 times in head length (5 times in G. darwini); upper profile of head convex; opercular spine (at level of eye) not reaching beyond edge of opercle; dorsal fin spines 5 or 6 (8, rarely 7 in G. darwini); anal soft rays 9 or 10 (11 in G. darwini). Furthermore, colour blackish grey in H. cadenati.

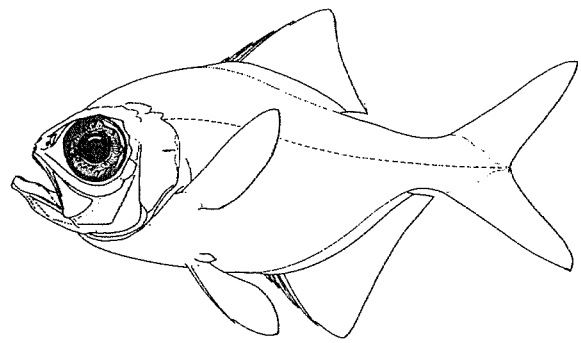
Species of Berycidae: no spines on opercle; two distinct supramaxillae (a single supramaxilla in Trachichthyidae); dorsal fin spines close-set; base of dorsal fin distinctly shorter than that of anal fin; ventral scutes never present.



H. mediterraneus — *G. darwini*

SIZE:

Maximum: 60 cm total length; common to 45 cm.



Berycidae

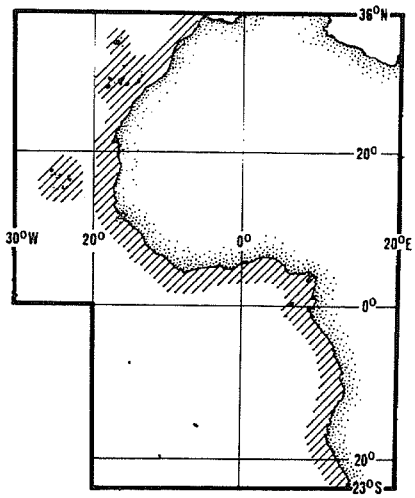
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Probably throughout most of the area, including offshore islands; apparently of worldwide distribution.

Seems to live near the bottom of the upper slope at depths ranging from about 100 to at least 1 000 m.

PRESENT FISHING GROUNDS:

Waters above the upper slope, throughout most of the area; reported to be rather abundant below 200 m depth.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls.

Used for fishmeal and oil by industrial offshore fishing fleets.

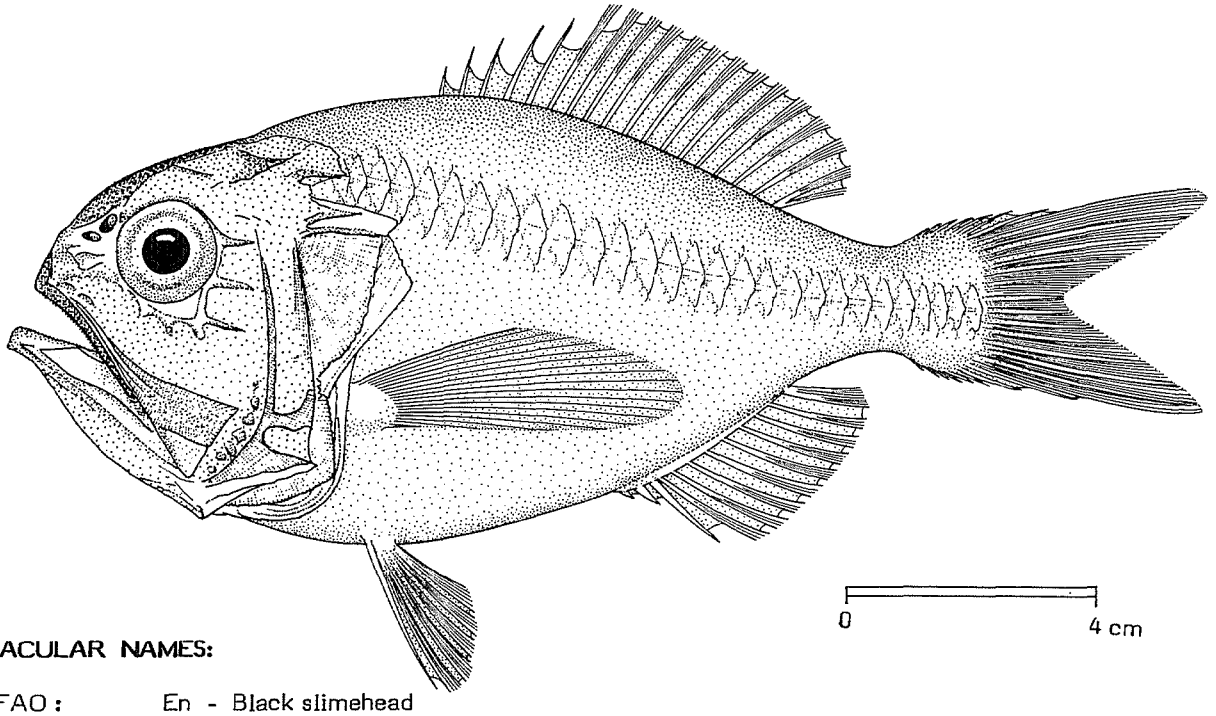
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRACHICHTHYIDAE

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

Hoplostethus cadenati Quéro, 1974

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Black slimehead
Fr - Hoplostète noir
Sp - Reloj negro

NATIONAL :

DISTINCTIVE CHARACTERS :

Body deep and compressed, its greatest depth contained 1.9 to 2.3 times in standard length, and distinctly greater than head length. Head with a convex upper profile and large mucous cavities covered with tough skin; eye moderate in size, its diameter about 3.5 to 4 times in head length; mouth large and oblique; posterior end of maxilla wide, reaching to about a vertical through hind margin of eye; teeth small, in bands; spine at lower angle of preopercle indistinct; gill rakers 21 to 23 (total). Dorsal fin with 5 wide-set spines and 13 soft rays, total fin elements 18, rarely 17 or 19; spines distinctly less than twice as thick as soft rays; anal fin with 3 close-set spines and 9 soft rays, its origin under middle of dorsal fin base. Scales ctenoid (rough) and strongly adherent; ventral keel formed by about 12 to 16 scutes; lateral-line scales 26 to 28 (to end of standard length).

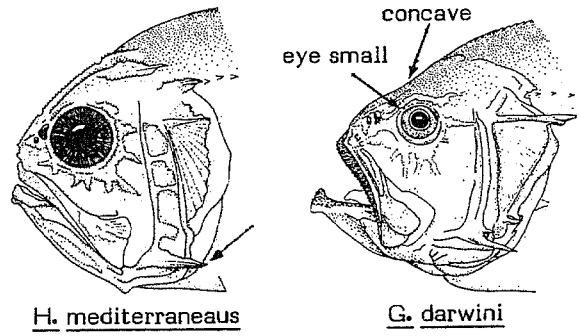
Colour: body, head and fins of a uniform blackish grey.

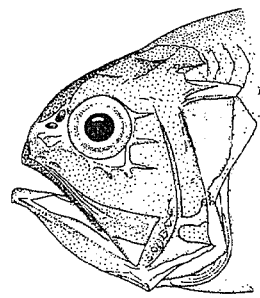
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Hoplostethus mediterraneus: spine on lower angle of preopercle fairly long; elements of dorsal fin (spines and soft rays) invariably 19 (usually 18, rarely 17 very rarely 19 in H. cadenati); spines robust, twice as thick as soft dorsal rays; scales easily shed and not very rough to touch; colour more or less uniform dirty light pink.

Gephyroberyx darwini: upper profile of head concave over eye; eye small, its diameter about 5 times in head length (3.5 to 4 times in H. cadenati); opercular spine (at level of eye) very long, extending beyond edge of opercle; dorsal fin spines 8, rarely 7 (5 in H. cadenati); soft anal fin rays 11 (9 in H. cadenati).

Species of Berycidae: no spines on opercles, two distinct supramaxillae (a single supramaxilla in Trachichthyidae); dorsal fin spines close-set; base of dorsal fin distinctly shorter than that of anal fin; ventral scutes never present.





H. cadenati

SIZE:

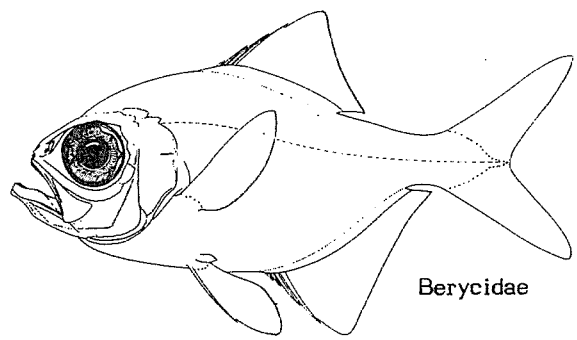
Maximum: 30 cm (reported by Poll, 1954).

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Known only from the west coast of Africa, southward to at least Pointe-Noire (about 5°S).

Apparently living near the bottom in deep water, from 200 to at least 500, but possibly to 1 000 m depth.

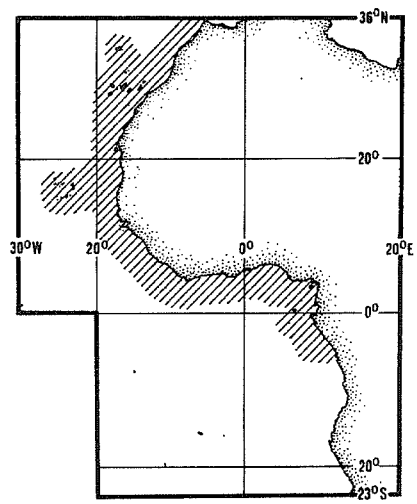
Feeds on crustaceans, possibly also on fish and molluscs.



Berycidae

PRESENT FISHING GROUNDS:

Only taken as bycatch in trawl fisheries.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with bottom trawls.

Possibly used for fishmeal and oil by industrial offshore fishing fleets.

TRACHIC Hop 2

1981

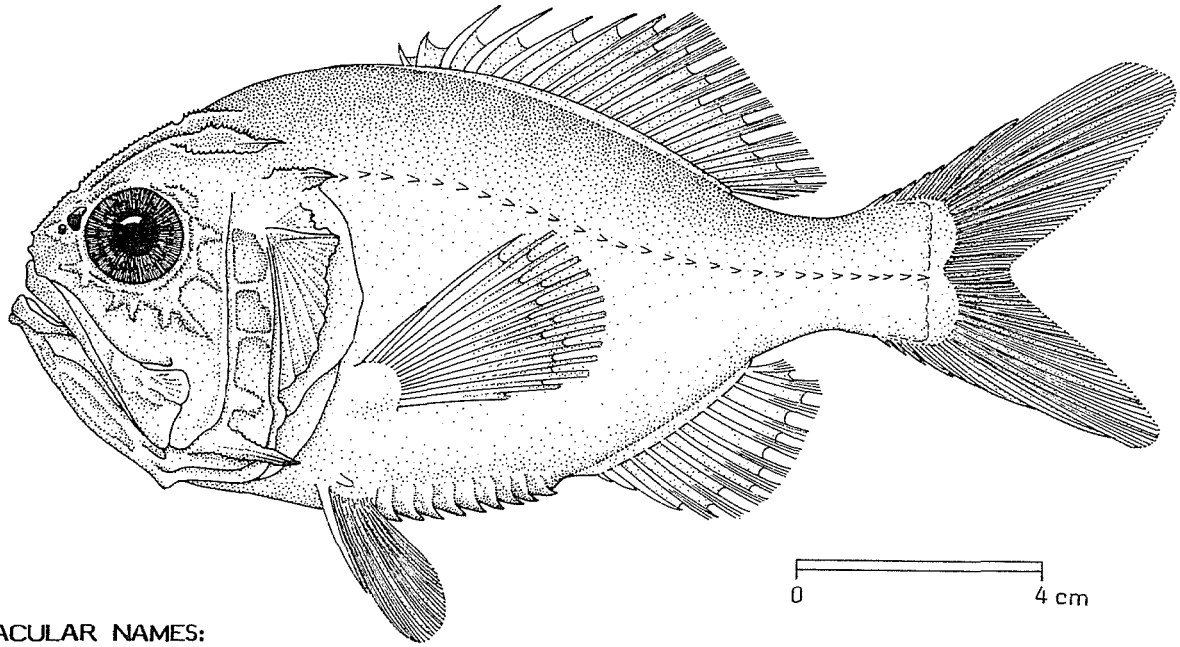
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRACHICHTHYIDAE

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

Hoplostethus mediterraneus Cuvier, 1829

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Mediterranean slimehead
Fr - Hoplostète argenté
Sp - Reloj mediterráneo

NATIONAL :

DISTINCTIVE CHARACTERS :

Body deep and compressed, its greastest depth contained 1.9 to 2.3 times in standard length and distinctly greater than head length. Head with a convex upper profile and with large mucous cavities covered with tough skin; eye moderate in size, its diameter 2.8 to 3.1 times in head length; mouth large, oblique; posterior end of maxilla wide, reaching to about a vertical through hind margin of eye; preopercle with a distinct, fairly long spine at lower angle; gill rakers 19 to 26 (total). Dorsal fin with 6 robust, wide-set spines and 13 soft rays, the spines being about twice as thick as the soft rays; anal fin with 3 close-set spines and 10 soft rays, its origin under middle of dorsal fin base. Scales ctenoid but not very rough to touch, easily shed; ventral keel formed by about 11 to 14 strong scutes. Lateral-line scales 26 to 29 (to end of standard length).

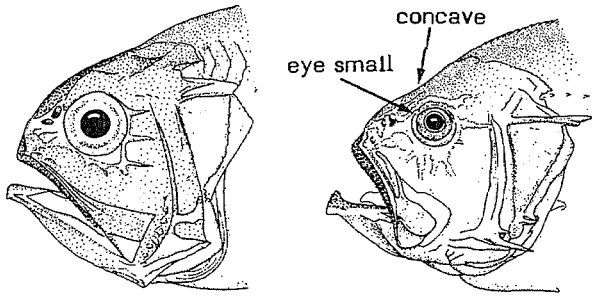
Colour: a uniform light dirty pink with a silvery background on sides.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

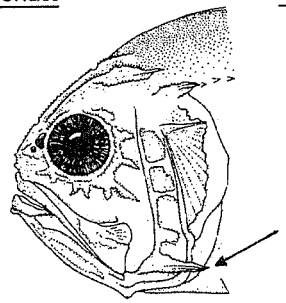
Hoplostethus cadenati: spine on lower angle of preopercle not pronounced; elements of dorsal fin (spines plus soft rays) only 18, rarely 17 (19 in H. mediterraneus); spines not robust, only slightly thicker than soft rays; scales strongly adherent and rough to touch. Colour blackish grey.

Gephyroberyx darwini: upper outline of head concave over eye; eye small, its diameter about 5 times in head length (2.8 to 3.1 in H. mediterraneus); opercular spine (at level of eye) very long, extending beyond edge of opercle; dorsal fin spines 8 (6 in H. mediterraneus); anal soft rays 11 (10 in H. mediterraneus).

Species of Berycidae: no spines on opercles; two distinct supramaxillae (a single supramaxilla in Trachichthyidae); dorsal fin spines close-set; base of dorsal fin distinctly shorter than that of anal fin; ventral scutes never present.



H. cadenati G. darwini



H. mediterraneus

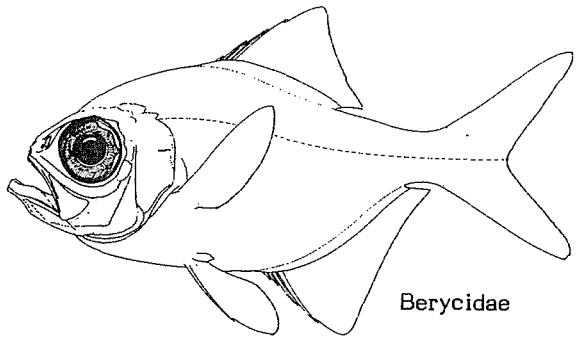
SIZE:

Maximum: reported to reach 42 cm; common to 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Throughout the area, including Madeira and the Cape Verde Islands; apparently it occurs in deep waters of all oceans.

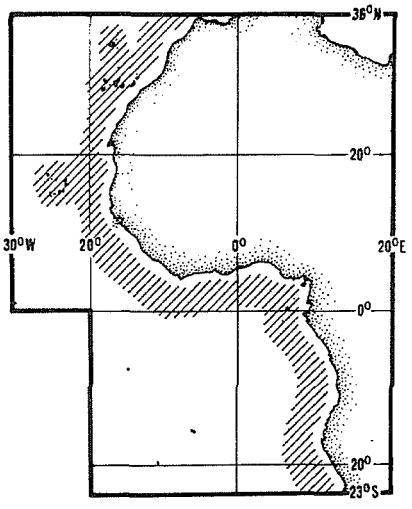
Apparently living near the bottom in rather deep water, from about 100 to 800 m depth.



Berycidae

PRESENT FISHING GROUNDS:

Waters over the edge of the shelf and the slope; reported to be very abundant, sometimes predominating in the catches, from Mauritania to Guinea between 150 and 500 m, and further south between 300 and 500 m.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with bottom trawls; occasionally with longlines.

Utilized mostly for fishmeal and oil by industrial offshore fishing fleets.

TRACHIN

1981

FAO SPECIES IDENTIFICATION SHEETS

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

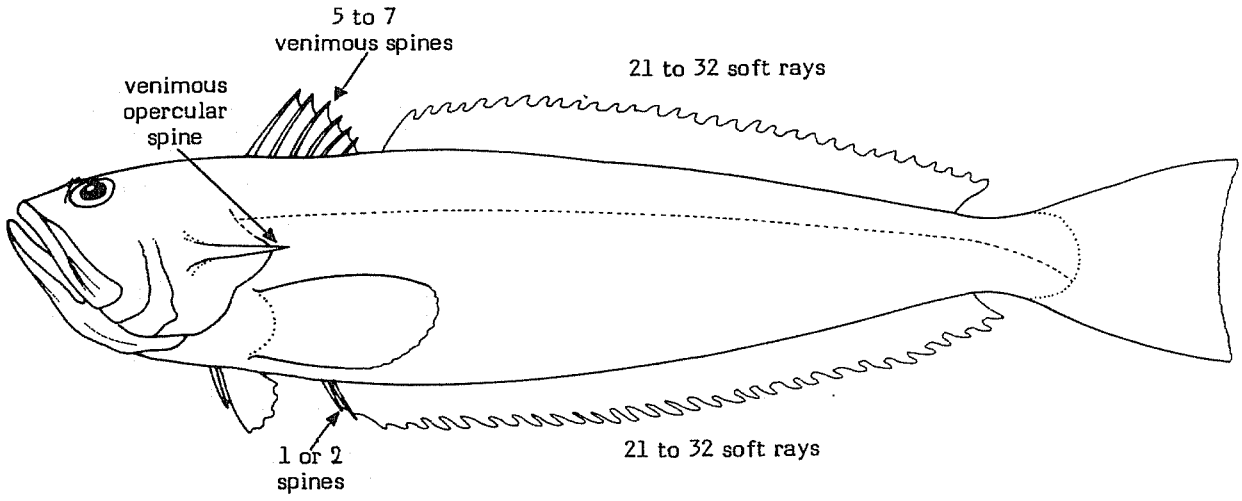
TRACHINIDAE

Weeverfishes

Body oblong, rather compressed, caudal peduncle short. Head small, with a short snout and eyes placed near upper profile; mouth large, strongly oblique, not protrusible; villiform teeth in jaws as well as on palate; a strong venomous spine on gill cover; often spines also present on preorbital region and on preopercle; branchiostegal rays elongate. Two separate dorsal fins, the first short, with 5 to 7 venomous spines, the second very long, with 21 to 32 soft rays; anal fin with 1 or 2 spines and 24 to 32 soft rays; pectoral fins more or less rounded; pelvic fins jugular (under throat). Body covered with small cycloid (smooth) scales arranged in oblique rows; lateral line straight, running along upper part of sides.

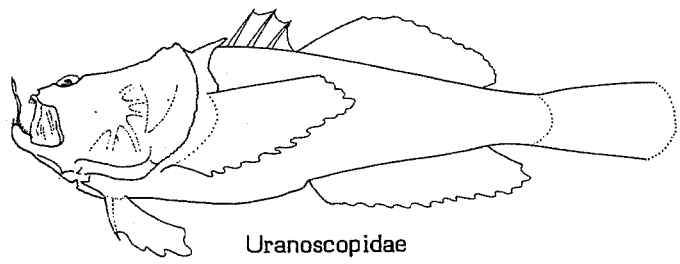
Colour: variable from yellow greenish to dark brown; often with spots, oblique lines, or vermiculations.

Small to medium-sized fishes (10 to about 45 cm total length) inhabiting mainly sandy and muddy bottoms in littoral areas and on the upper part of continental shelf, rarely ranging down to 150 or 200 m. They often bury in the sediment and their venomous spines may cause severe and painful wounds. Weeverfishes are usually taken in trawls, and also by various types of artisanal gear. They are not of great commercial importance in this fishing area, but in view of their firm and tasty flesh they are esteemed as foodfishes in many localities. The information on occurrence and fisheries of some of the less common species (particularly Trachinus collignoni and T. lineolatus) needs to be completed.



SIMILAR FAMILIES OCCURRING IN THE AREA:

Uranoscopidae: head massive and flat on top, with eyes on dorsal surface; mouth vertical and protrusible; a strong venomous spine (humeral spine) behind gill cover (on gill cover in Trachinidae); first dorsal fin spines 3 or 4 (5 to 7 in Trachinidae); second dorsal fin rays 13 to 15 (21 to 32 in Trachinidae); anal fin spineless or with 1 spine and with 12 to 14 soft rays (1 or 2 spines and 24 to 32 soft rays in Trachinidae).



Uranoscopidae

KEY TO SPECIES OCCURRING IN THE AREA :

(Family Trachinidae - genus Trachinus)

1 a. Soft rays of second dorsal and anal fins about similar in length (Figs. 1 to 6)

2 a. Six to 10 gillrakers

3 a. Six or 7 gillrakers on lower limb of first arch (Fig. 1) ..... T. radiatus

3 b. Ten gillrakers on lower limb of first arch

4 a. Twelve to 14 nearly parallel oblique lines on body (Fig. 2) ..... T. lineolatus

4 b. One to 3 longitudinal rows of spots instead of lines on body (Fig. 3) ..... T. araneus

2 b. More than 10 gillrakers on lower limb of first arch

5 a. Twelve (or 13) gillrakers on lower limb of first arch; no spines on antero-dorsal eye margin (Fig. 4) ..... T. vipera

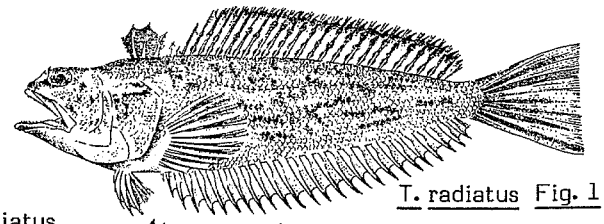
5 b. Fourteen gillrakers on lower limb of first arch; dark lines on body, wavy anteriorly, horizontal posteriorly (Fig. 6) ..... T. armatus

5 c. Fifteen gillrakers on lower limb of first arch; numerous dark lines directed downward and backward (Fig. 6) ..... T. draco

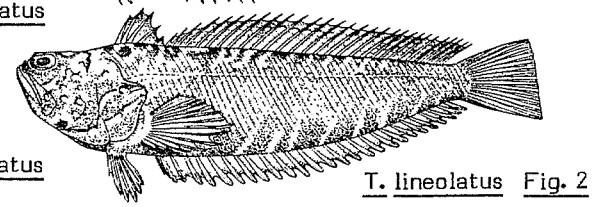
1 b. Soft rays of second dorsal fin twice the length of anal rays (Figs. 7,8)

6 a. More than 75 scales in a longitudinal line along body; a few brown spots on body (Fig. 7) ..... T. pellegrini

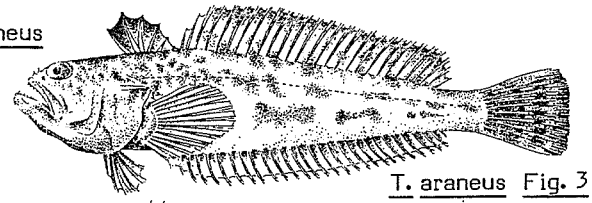
6 b. Less than 75 scales in a longitudinal line along body; dark lines forming an irregular network on body (Fig. 8) ..... T. collignoni



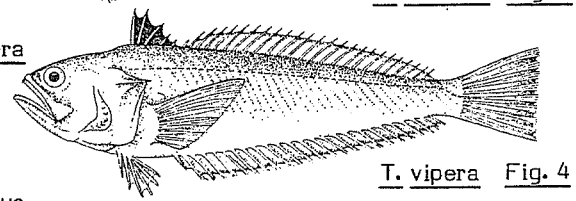
T. radiatus Fig. 1



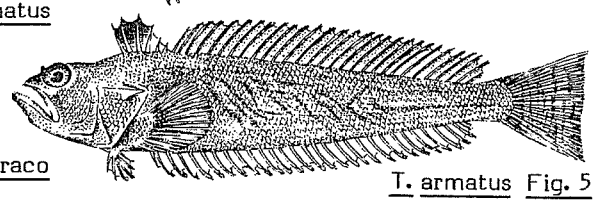
T. lineolatus Fig. 2



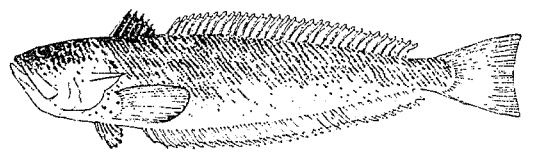
T. araneus Fig. 3



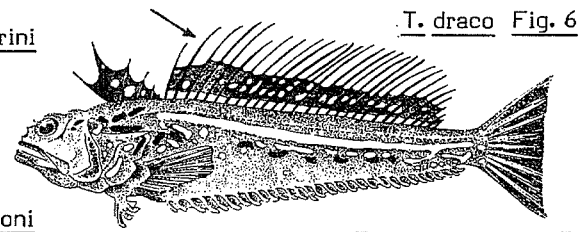
T. vipera Fig. 4



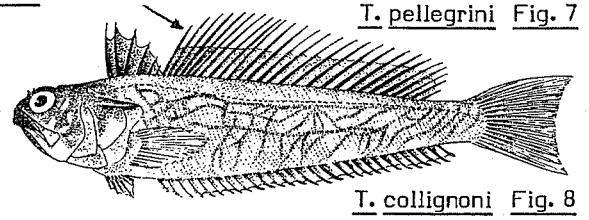
T. armatus Fig. 5



T. draco Fig. 6



T. pellegrini Fig. 7



T. collignoni Fig. 8

LIST OF SPECIES OCCURRING IN THE AREA :

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

Trachinus araneus Cuvier, 1829	TRACHIN Trachn 2
Trachinus armatus (Bleeker, 1862)	TRACHIN Trachn 3
Trachinus collignoni Roux, 1957	TRACHIN Trachn 4
Trachinus draco Linnaeus, 1758	TRACHIN Trachn 1
Trachinus lineolatus Fischer, 1884	TRACHIN Trachn 5
Trachinus pellegrini Cadenat, 1937	TRACHIN Trachn 6
Trachinus radiatus Cuvier, 1829	TRACHIN Trachn 7
Trachinus vipera Cuvier, 1829	TRACHIN Trachn 8

Prepared by C. Roux, Ichthyologie Générale et appliquée, Muséum National d'Histoire Naturelle, Paris, France

Most of main illustrations provided by author

TRACHIN Trachn 1

1981

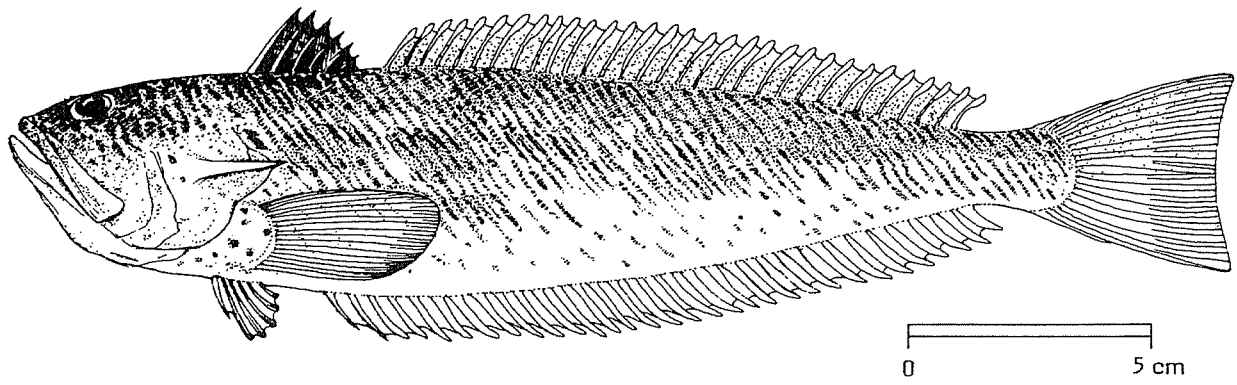
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRACHINIDAE

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

Trachinus draco Linnaeus, 1758

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Greater weever
Fr - Grande vive
Sp - Escorpión

NATIONAL :

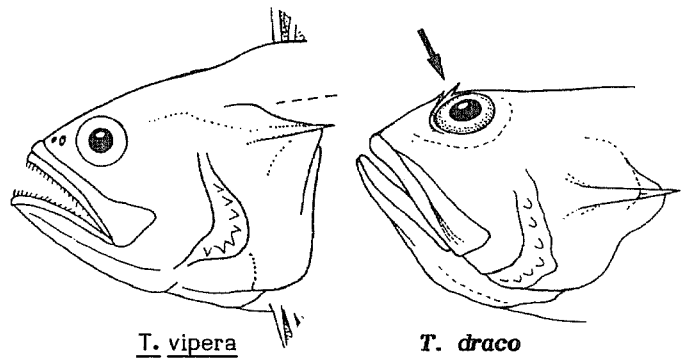
DISTINCTIVE CHARACTERS :

Body elongate and compressed, its depth less than 1/5 of total length. Eye small, near dorsal profile of head; width of interorbital space about equal to eye diameter; mouth large, oblique and not protrusible, the maxilla extending beyond hind margin of eye (when mouth is closed); villiform, depressible teeth arranged in bands in both jaws and on palate (vomer and palatines); a strong venimous spine on opercle; spines also present on antero-dorsal margin of eye; 15 gillrakers on lower limb of first arch. Two dorsal fins, the first short, with 5 to 7 spines, the second long, with 29 to 32 soft rays; anal fin with 2 spines and 27 to 32 soft rays about equal in length to dorsal soft rays. Scales small and cycloid (smooth to touch), 80 to 83 in lateral line.

Colour: back greenish, with brown or green scales arranged in oblique rows forming numerous dark lines directed downward and backward; lower sides and belly yellowish.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Trachinus vipera: no spines on antero-dorsal margin of eye; body depth greater than 1/5 of total length; anal fin with 24 to 26 soft rays (27 to 32 in T. draco); numerous small spots on body, but dark scale row lines not strongly marked.



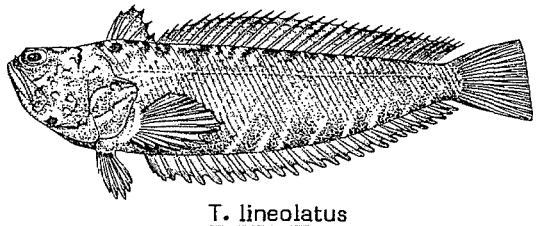
T. vipera *T. draco*

Trachinus lineolatus: oblique lines on body less numerous (12 to 14), their width smaller than that of spaces between them, directed downward and forward; only 26 soft rays in second dorsal fin (29 to 32 in T. draco).

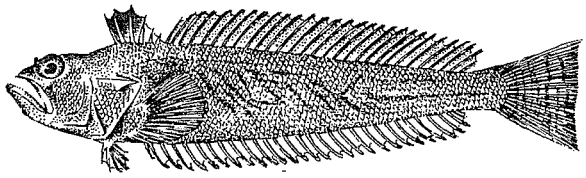
T. armatus: dark lines on body wavy and irregular.

T. araneus and T. radiatus: body with irregular spots and vermiculations (T. radiatus) or more regular large blotches (T. araneus). Also, top of head with radiating bony crests in T. radiatus and width of inter-orbital space about equal to eye diameter in T. araneus (half of eye diameter in T. draco).

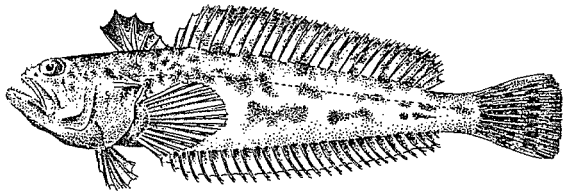
T. collignoni and T. pellegrini: soft rays in second dorsal fin about twice the length of anal soft rays (equal to anal soft rays in T. draco).



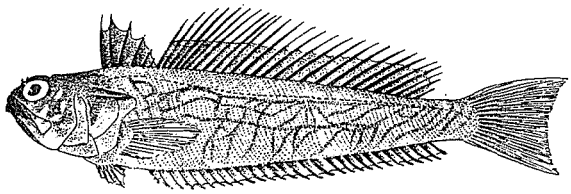
T. lineolatus



T. armatus



T. araneus



T. collignoni

SIZE :

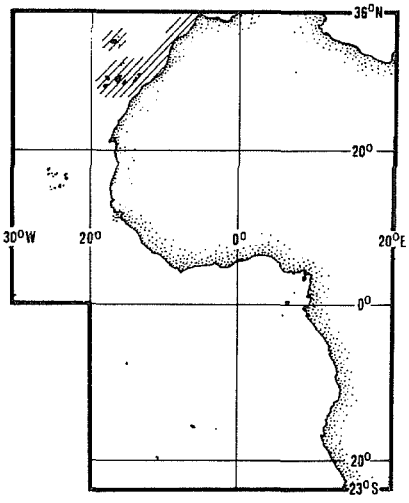
Maximum: 45 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Within the area, apparently restricted to the coast of Morocco, the Canary Islands and Madeira. Northward extending into the Mediterranean and the Black Sea as well as along the Atlantic coasts of Europe up to Norway.

Inhabits muddy bottoms, often burrowing in the substrate, from the coastline to about 200 m depth; most common between 20 and 50 m, but migrating into deeper waters (to 100 m) during winter. The venomous spines of the dorsal fin and on the gill cover may inflict severe and very painful wounds.

Feeds chiefly on small invertebrates (mainly crustaceans); also on small fishes.



PRESENT FISHING GROUNDS :

Coast of Morocco, Canary Islands and Madeira, where it is rather common and regularly found in local markets.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught mainly with bottom trawls; also with *several types of artisanal gear (traps, lines).*

Marketed mostly fresh.

TRACHIN Trachn 2

1981

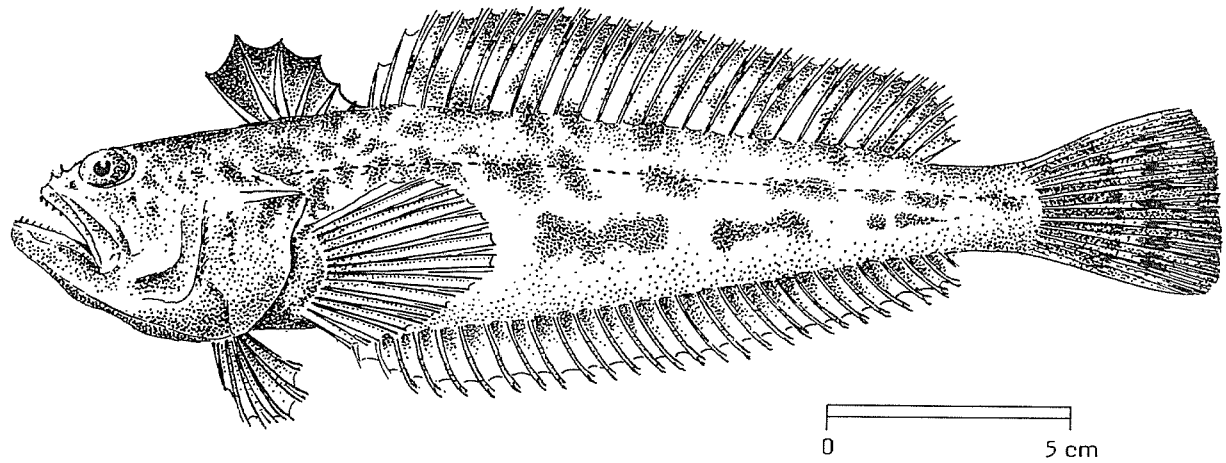
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRACHINIDAE

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

Trachinus araneus Cuvier, 1829

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Spotted weever
Fr - Vive araignée
Sp - Araña

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate and compressed, its depth contained 4.3 to 4.33 times in standard length. Eye near dorsal profile of head, very small, contained about 5.5 times in head length; width of interorbital space about equal to eye diameter; snout very short (4.3 to 5.5 times in postorbital length); mouth large, oblique and not protrusible, the maxilla extending slightly beyond hind margin of eye (when mouth is closed); villiform depressible teeth in both jaws and on palate (vomer and palatines); a strong venimous spine on opercle; spines also present in preorbital region and on preopercle; 10 gillrakers on lower limb or first arch. Two dorsal fins, the first short, with 6 or 7 spines, the second very long, with 28 soft rays; anal fin with 2 spines and 29 or 30 soft rays nearly equal in length to dorsal soft rays. Scales small and cycloid (soft to touch), 79 or 80 in lateral line.

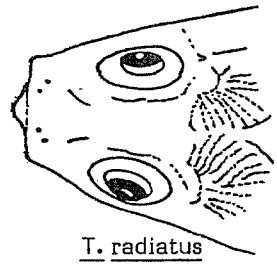
Colour: back and sides of a light yellowish grey, usually with 1 to 3 longitudinal rows of more or less rounded to quadrangular dark spots.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Trachinus radiatus: 5 groups of radiating bony crests present on top of head behind eyes; width of interorbital space about half the eye diameter (equal to eye diameter in T. araneus); spots on body mostly smaller than eye diameter.

T. pellegrini and T. collignoni: soft rays in second dorsal fin about twice the length of anal soft rays (nearly equal to anal soft rays in T. araneus). Also, a horizontal yellow band and yellow blotches on body in T. pellegrini, and a network of dark lines on sides in T. collignoni.

Other species of Trachinidae: body ornamented with lines instead of spots.

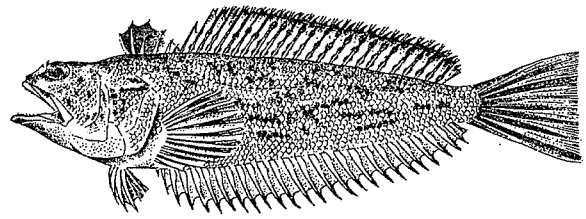


T. radiatus

top of head

SIZE:

Maximum: 45 cm; common to 25 cm.



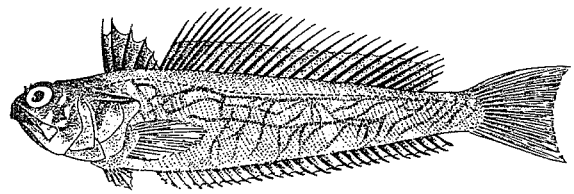
T. radiatus

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 southern Portugal.

Inhabits shallow waters from the coastline to about 100 m depth, burrowing in the sand. The venomous spines of the dorsal fin and on the gill cover may inflict severe and very painful wounds.

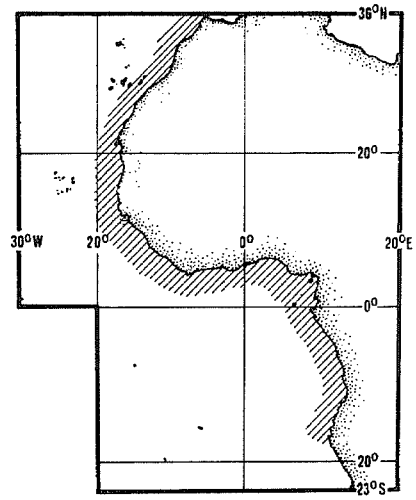
Feeds on small fishes and crustaceans.



T. collignoni

PRESENT FISHING GROUNDS:

Taken incidentally throughout its range; common in certain localities, but apparently not abundant.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls, also with various types of artisanal gear (traps, lines).

Marketed mostly fresh.

TRACHIN Trachn 3

1981

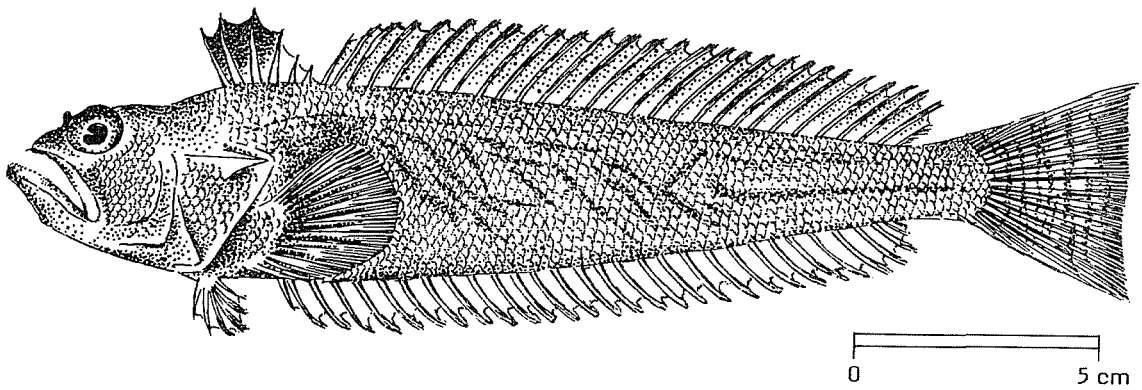
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: TRACHINIDAE

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

Trachinus armatus (Bleeker, 1862)

OTHER SCIENTIFIC NAMES STILL IN USE: None



VERNACULAR NAMES:

FAO: En - Guinean weever
Fr - Vive guinéenne
Sp - Araña de Guinea

NATIONAL:

DISTINCTIVE CHARACTERS:

Body elongate and compressed, its depth contained 4.4 to 4.7 times in standard length. Eye near dorsal profile of head, moderate-sized, its diameter contained 3.7 (juveniles) to 4.2 times in head length; snout very short (3 to 3.4 times in postorbital length); mouth large, oblique and not protrusible, the maxilla extending posteriorly beyond hind margin of eye (when mouth is closed); villiform, depressible teeth in both jaws and on palate (vomer and palatines); on each side, 2 spines in front and above eye and a spiny process on snout, in addition to the strong opercular spine; a few spines also present on angle of preopercle; 14 gill rakers on lower limb of first arch. Two dorsal fins, the first short, with 6 spines, the second very long, with 29 or 30 soft rays; anal fin with 2 spines and 29 or 30 soft rays, nearly equal in length to dorsal soft rays. Scales small and cycloid (soft to touch), 75 to 77 in lateral line.

Colour: light brown, somewhat darker on back; body with a large black blotch above pectoral fin and dark oblique lines, wavy in front, and horizontal posteriorly; dorsal fin mostly dark grey or black.

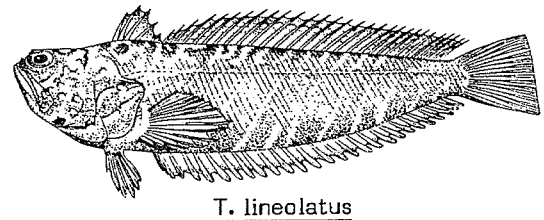
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Other species of Trachinidae: less than 14 gill rakers on lower limb of first gill arch. Furthermore:

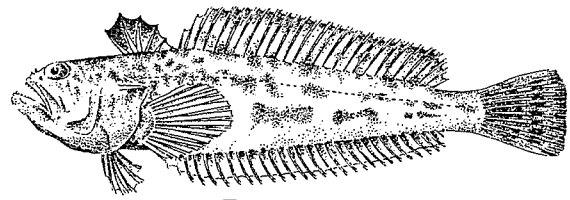
Trachinus lineolatus, T. draco and T. vipera: lines on body, when present, straight and running obliquely downward and forward. Also, T. draco and T. vipera restricted to northern part of area (Morocco).

T. araneus and T. radiatus: body with irregular spots and vermiculations (T. radiatus) or with more regular, large blotches (T. araneus). Also, top of head with radiating bony crests in T. radiatus.

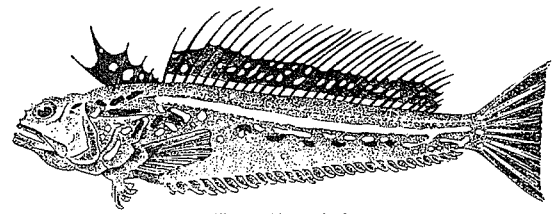
T. collignoni and T. pellegrini: soft rays in second dorsal fin about twice the length of anal soft rays (nearly equal to anal soft rays in T. armatus).



T. lineolatus



T. araneus



T. pellegrini

SIZE :

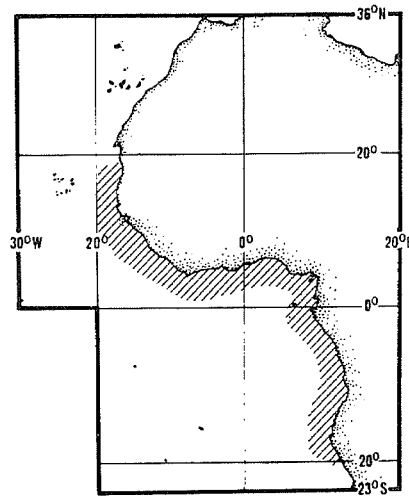
Maximum: 35 cm; common to 25 cm (weight at 26.5 cm: 107 g, at 20.3 cm: 55 g).

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

From Senegal to Angola (at least to Elephant Bay).

Inhabits shallow waters from about 15 to 150 m, but usually found in less than 50 m, on seagrass beds or burrowing in sand or mud. The venomous spines of the dorsal fin and on the gill cover may inflict severe and very painful wounds.

Feeds on crustaceans and small fishes.



PRESENT FISHING GROUNDS :

Taken by trawl and artisanal fisheries throughout its range, but apparently not abundant.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with bottom trawls and various types of artisanal gear (trammel nets, lines, traps.)

Marketed mostly fresh, but rejected in some countries (Ivory Coast).

TRACHIN Trachn 4

1981

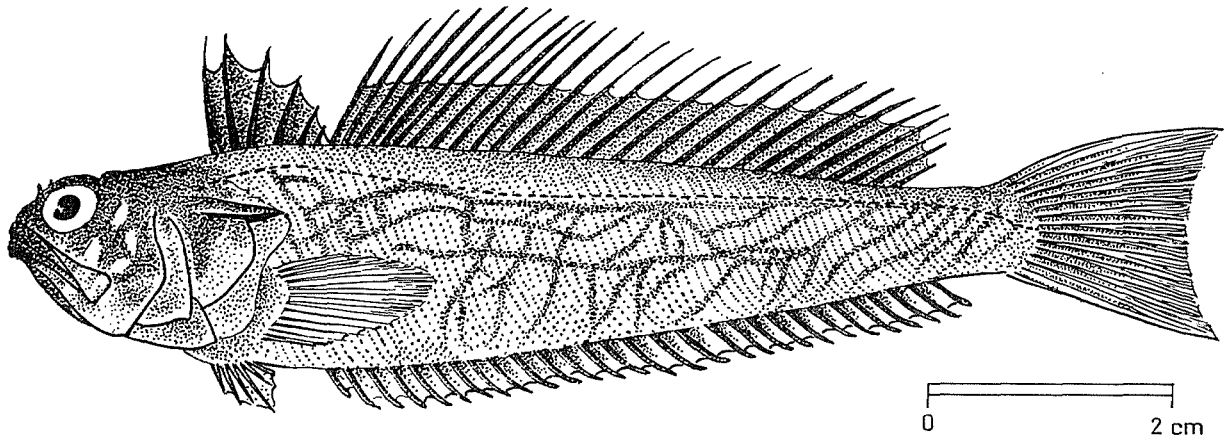
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRACHINIDAE

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

Trachinus collignoni Roux, 1957

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Sailfin weever
Fr - Vive peigne
Sp - Araña aletona

NATIONAL :

DISTINCTIVE CHARACTERS :

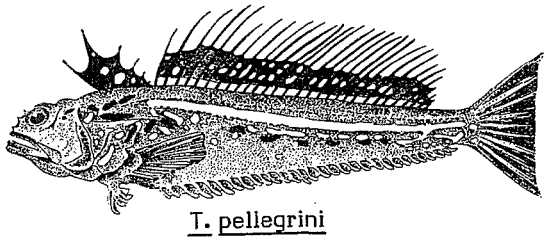
Body elongate, strongly compressed. Eye near dorsal profile of head, moderate-sized, contained about 4 times in head length; snout short; mouth large, oblique and not protrusible; villiform, depressible teeth arranged in bands in both jaws and on palate (vomer and palatines); a strong venimous spine on opercle; spines also present in preorbital region; 13 gillrakers on lower limb of first arch. Two dorsal fins, the first short, with 6 spines, the second long, with 27 very long soft rays (twice the length of anal soft rays, longest ray about equivalent to body depth) joined by a low interradial membrane; anal fin with 27 to 29 soft rays. Scales small and cycloid (soft to touch), 73 in lateral line.

Colour: light brown with a network of dark lines on sides; no black spot on first dorsal fin.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Trachinus pellegrini: body bluish grey to violet, with a yellow longitudinal band and yellow blotches on sides; 82 scales in lateral line (73 in T. collignoni).

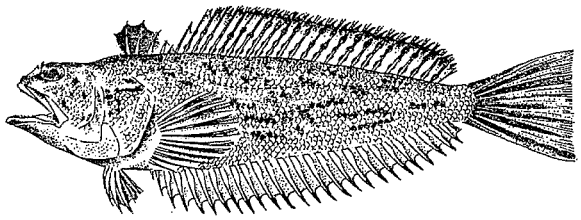
Other species of Trachinidae: soft rays in second dorsal fin about equal in length to anal soft rays (about twice the length of anal soft rays in T. collignoni).



T. pellegrini

SIZE:

Maximum: 15 cm.

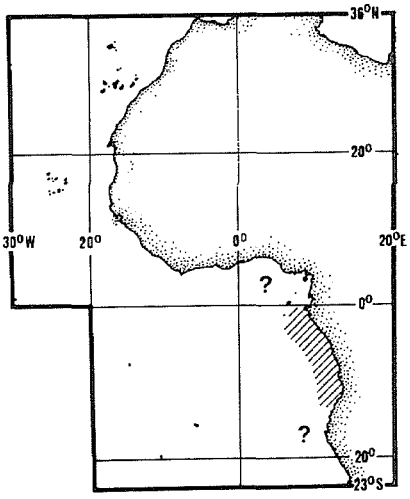


T. radiatus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Tropical coast of West Africa, from Gabon to Congo. Probably ranging further north and south to the Gulf of Guinea.

A little known species, inhabiting soft bottoms in littoral and shallow coastal waters.



PRESENT FISHING GROUNDS:

Incidentally taken by artisanal fisheries; apparently not common.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Probably caught with various types of artisanal gear.

Utilization unknown.

TRACHIN Trachn 5

1981

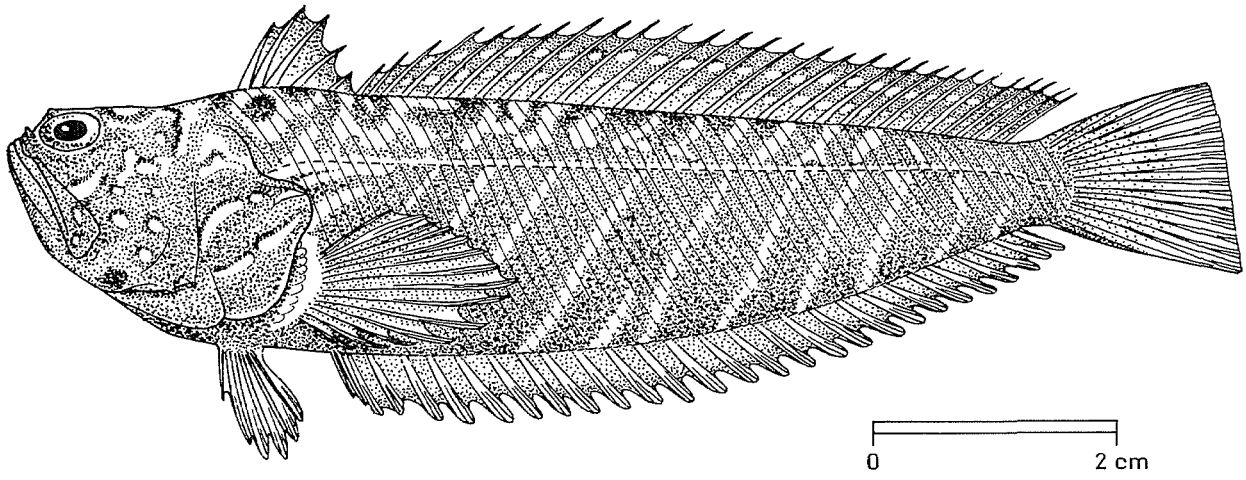
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRACHINIDAE

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

Trachinus lineolatus Fischer, 1885

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Striped weever
Fr - Vive rayée
Sp - Escorpión rayado

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate and compressed, its depth contained 3.7 to 3.8 times in standard length. Eye small (its diameter contained 4.9 to 5 times in head length), placed near dorsal profile of head; mouth large, oblique and not protrusible; villiform teeth in jaws as well as on palate; on each side, 1 spine in front and above eye and another on snout in addition to the strong opercular spine; 10 gillrakers on lower limb of first arch. Two dorsal fins, the first short, with 6 spines, the second long, with 26 soft rays; anal fin with 2 spines and 27 or 28 soft rays, about equal in length to dorsal soft rays. Scales small and cycloid (smooth to touch), 61 or 62 in lateral line.

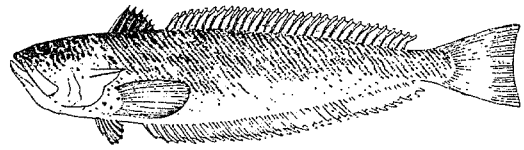
Colour: light brown, with 12 to 14 yellow or orange oblique lines running forward and downward on body; interradial membrane between 3 first spines of dorsal fin black.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

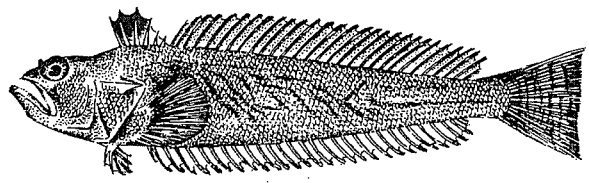
Trachinus armatus, T. draco and T. vipera: lines on body, when present, more numerous (T. draco) or wavy and irregular (T. armatus). Also, T. draco and T. vipera restricted to northern part of area (Morocco) and 29 or 30 dorsal soft rays in T. armatus (26 in T. lineolatus).

T. araneus and T. radiatus: body with irregular spots and vermiculations (T. radiatus) or with more regular large blotches (T. araneus). Also, top of head with radiating bony crests in T. radiatus.

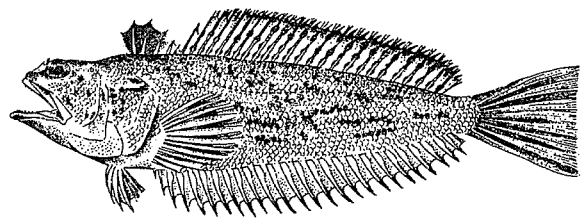
T. collignoni and T. pellegrini: soft rays in second dorsal fin about twice the length of anal soft rays (equal to anal soft rays in T. lineolatus).



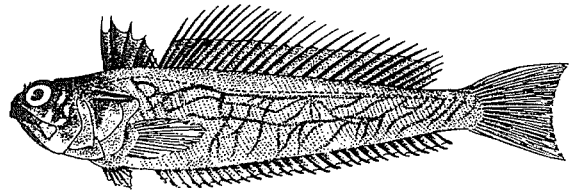
T. draco



T. armatus



T. radiatus



T. collignoni

SIZE:

Maximum: 15 cm; common to 10 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Tropical coast of West Africa recorded from Sierra Leone, São Tomé and Gabon.

Inhabits soft bottoms in littoral areas and shallow coastal waters.

PRESENT FISHING GROUNDS:

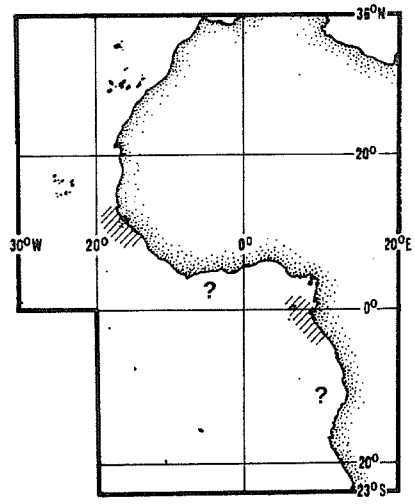
Apparently taken only incidentally, probably uncommon.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with various types of artisanal gear.

Probably not regularly found in markets.



TRACHIN Trachn 6

1981

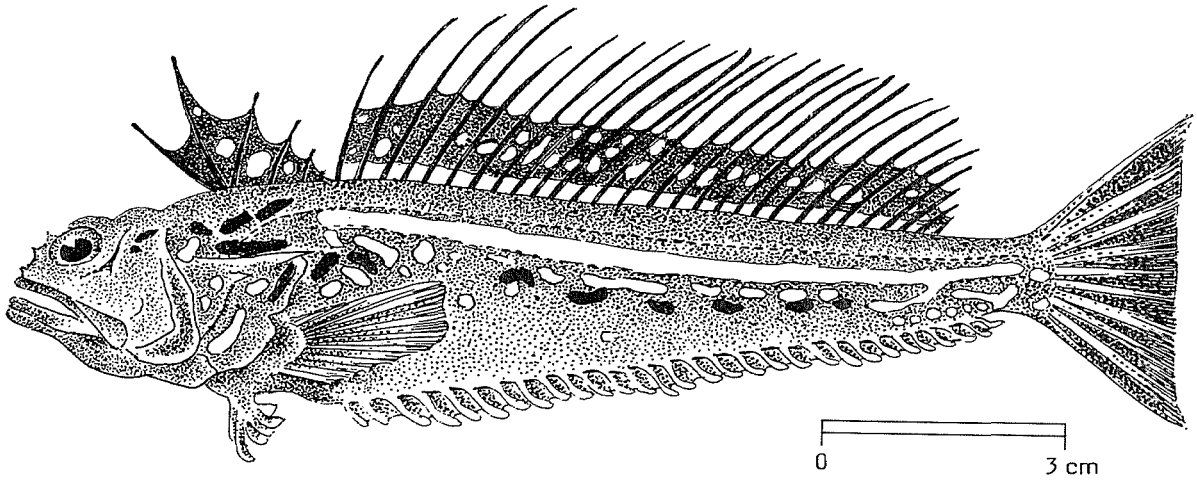
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRACHINIDAE

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

Trachinus pellegrini Cadenat, 1937

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Cape Verde weever
Fr - Vive du Cap Vert
Sp - Araña de Cabo Verde

NATIONAL :

DISTINCTIVE CHARACTERS :

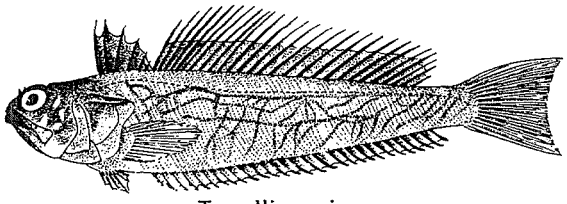
Body elongate and strongly compressed. Eye near dorsal profile of head, moderate-sized, contained 3.5 to 3.7 times in head length; snout short (about 5 times in postorbital length); mouth large, oblique and not protrusible; villiform, depressible teeth arranged in bands in both jaws and on palate (vomer and palatines); upper margin of opercle with a strong crest ending in a venimous spine; spines also in preorbital region and a blunt point at angle of preopercle; 12 gillrakers and 2 tubercles on lower limb of first arch. Two dorsal fins, the first short, with 6 spines, the second long, with 27 or 28 very long soft rays (twice the length of anal soft rays, the longest ray about equivalent to body depth, joined by an interradial membrane lower than half the length of rays; anal fin with 29 or 30 soft rays. Scales small and cycloid (soft to touch), 82 in lateral line.

Colour: back bluish grey anteriorly, becoming darker backward; sides violet, with a yellow band running from opercular spine backward to caudal fin, more or less parallel to lateral line; a series of yellow spots and blotches below the yellow band, tending to form a line posteriorly; irregular, chocolate-brown spots on head and below the yellow band. First and second dorsal fins bluish grey with yellow round spots on interradial membranes, but no black spot on first dorsal; caudal fin violet.

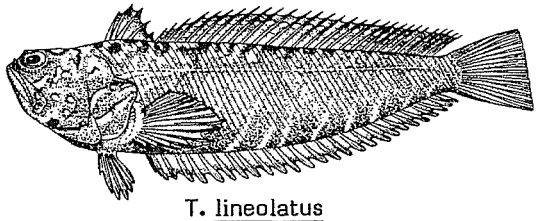
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Trachinus collignoni: colour light brown, with a network of dark lines on sides.

Other species of Trachinidae: soft rays in dorsal fin about equal in length to anal soft rays (twice the length of anal soft rays in T. pellegrini).



T. collignoni



T. lineolatus

SIZE :

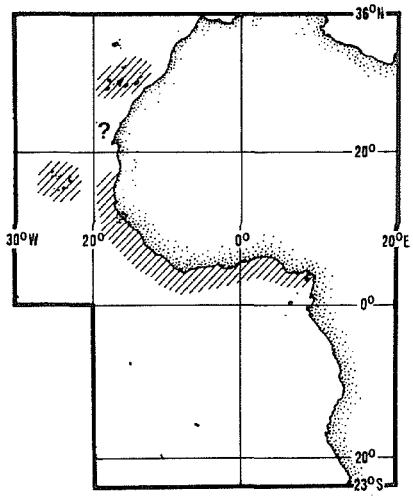
Maximum: at least 20 cm; common to 15 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Canary and Cape Verde Islands as well as tropical coast of West Africa, from off Senegal to Nigeria, possibly ranging further north and south.

Inhabits rock and sand bottoms in littoral areas and coastal waters to about 150 m depth.

Feeds chiefly on crustaceans.



PRESENT FISHING GROUNDS :

Taken occasionally by trawl and artisanal fisheries, but reported to be common in certain areas.

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 mostly fresh.

TRACHIN Trachn 7

1981

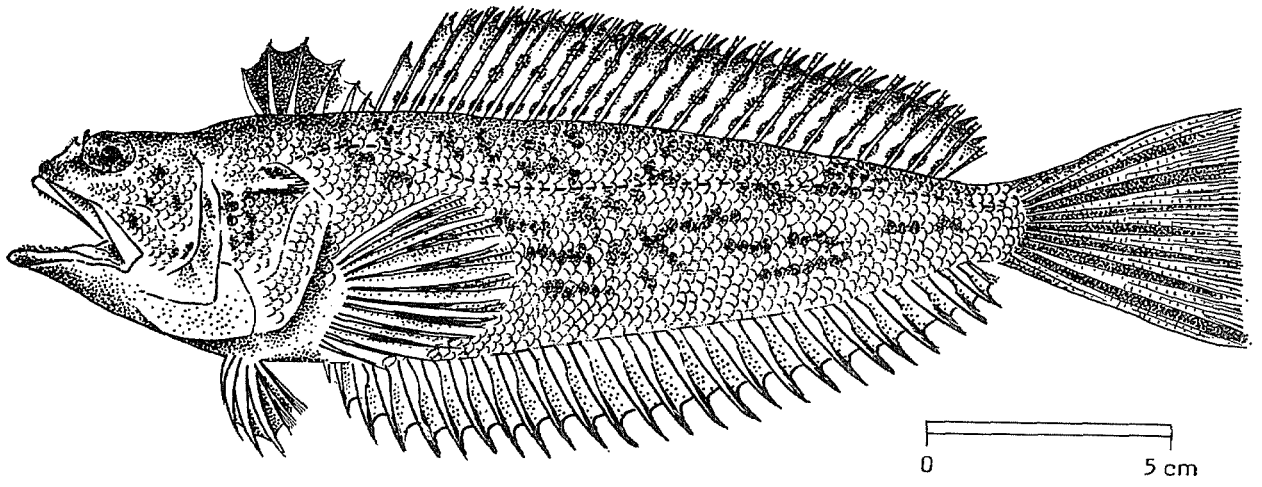
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRACHINIDAE

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

Trachinus radiatus Cuvier, 1829

OTHER SCIENTIFIC NAMES STILL IN USE : Trachinus pardalis Bleeker, 1862



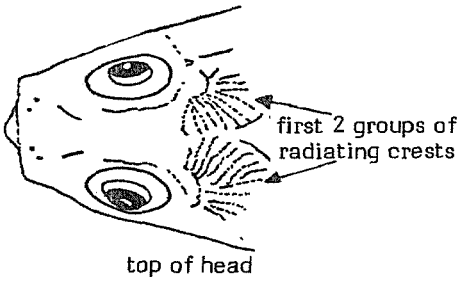
VERNACULAR NAMES:

FAO : En - Starry weever
Fr - Vive à tête rayonnée
Sp - Víbora

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate and compressed throughout its length, its depth contained about 4 times in standard length. Eye near dorsal profile of head, very small, contained about 5 times in head length; width of interorbital space about half the eye diameter; snout short (about 3 times in postorbital length); mouth large, oblique and not protrusible, the maxilla extending beyond hind margin of eye (when mouth is closed); villiform depressible teeth arranged in bands in both jaws and on palate (vomer and palatines); a strong venimous spine on opercle; spines also present in preorbital region, but none on preopercle; 5 groups of pronounced radiating bony crests present on top of head behind eyes; 6 or 7 gillrakers on lower limb of first arch. Two dorsal fins, the first short, with 6 spines, the second very long, with 25 to 29 (usually 25) soft rays; anal fin with 2 spines and 25 to 27 soft rays about equal in length to dorsal soft rays. Scales small and cycloid (soft to touch), 69 in lateral line (excluding those on caudal fin base).

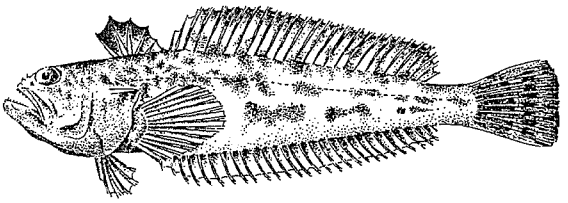


top of head

Colour: a light background ornamented with brown spots and vermiculations on head and body; first dorsal fin mostly black; soft dorsal and anal fins with grey spots.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

None of the other species in this family have the pronounced radiating head crests of T. radiatus; all have 10 to 15 gillrakers on lower limb of first gill arch (6 or 7 in T. radiatus) and different colour patterns. The most similar species, T. araneus, has dark blotches on sides (as large or larger than eye), and the width of interorbital space about equal to eye diameter (half the eye diameter in T. radiatus).

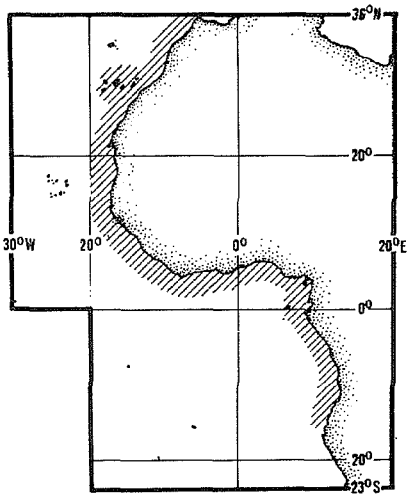


T. araneus

SIZE:

Maximum: 40 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:



Within the area, from Gibraltar southward to at least the Gulf of Guinea (possibly to Angola) including the Canary Islands. Northward extending into the Mediterranean and along the Atlantic coast of Europe *up to southern Portugal.*

Inhabits sand and mud bottoms of the continental shelf between the coastline and about 150 m depth, burying in the substrate; apparently more common between 30 and 60 m. The venomous spines of the dorsal fin and on the gill cover may inflict severe and very painful wounds.

Feeds on crustaceans and small fishes.

PRESENT FISHING GROUNDS:

Taken by trawl and artisanal fisheries throughout its range; said to be common in certain localities.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught chiefly with bottom trawls.

Marketed mostly fresh.

TRACHIN Trachn 8

1981

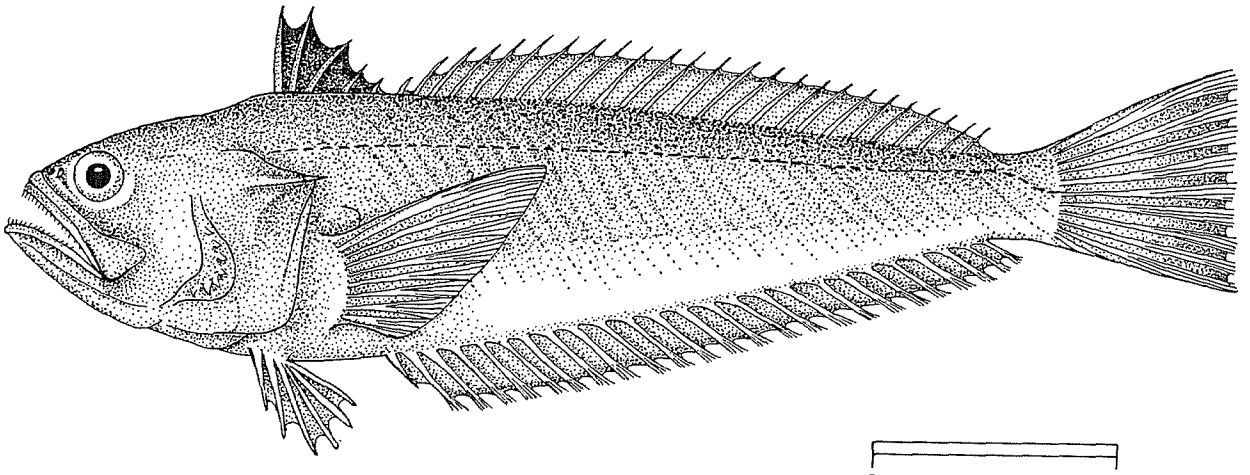
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRACHINIDAE

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

Trachinus vipera Cuvier, 1829

OTHER SCIENTIFIC NAMES STILL IN USE : Echiichthys vipera (Cuvier, 1829)



VERNACULAR NAMES:

FAO : En - Lesser weever
Fr - Petite vive
Sp - Salvariego

NATIONAL :

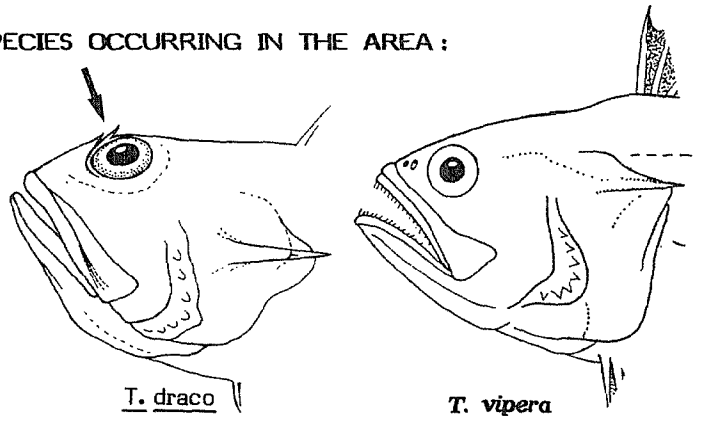
DISTINCTIVE CHARACTERS :

Body elongate and compressed, its depth greater than 1/5 of total length. Eye rather small, contained 4 to 5 times in head length; mouth large, strongly oblique, the maxilla extending just beyond hind margin of eye when mouth is closed; villiform depressible teeth arranged in bands in both jaws and on palate (vomer and palatines); a strong venimous spine on opercle but no other spines on head in adults; 12 or 13 gillrakers on lower limb of first gill arch. Two dorsal fins, the first short, with 5 to 7 spines, the second long, with 21 to 24 soft rays; anal fin with 1 spine and 24 to 26 soft rays about equal in length to dorsal soft rays. Scales small and cycloid (smooth to touch), about 60 in lateral line.

Colour: yellowish or brownish, with numerous small darker dots following the scale rows. First dorsal fin mostly black; caudal fin finely edged with black.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Trachinus draco: spines present on antero-dorsal eye margin; body depth less than 1/5 of total length; anal fin with 27 to 34 soft rays (24 to 26 in T. vipera); numerous well marked oblique dark lines on body, following scale rows.



T. draco

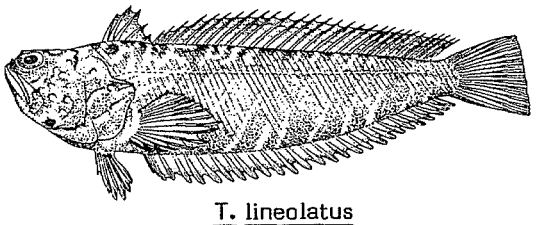
T. vipera

T. lineolatus: 12 to 14 distinct oblique lines on body, their width smaller than that of spaces between them.

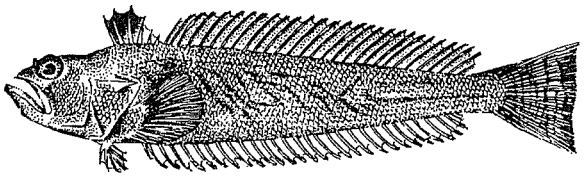
T. armatus: wavy and irregular dark lines present on body.

T. araneus and T. radiatus: body with irregular spots and vermiculations (T. radiatus) or more regular, larger blotches (T. araneus). Also, top of head with rather strong radiating bony crests in T. radiatus.

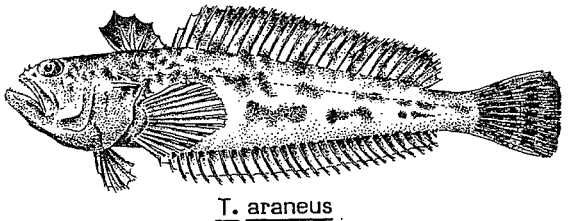
T. collignoni and T. pellegrini: soft rays in second dorsal fin about twice the length of anal soft rays (equal to anal soft rays in T. vipera).



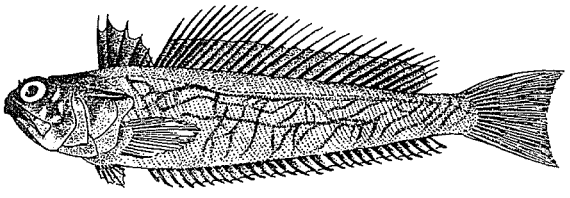
T. lineolatus



T. armatus



T. araneus



T. collignoni

SIZE :

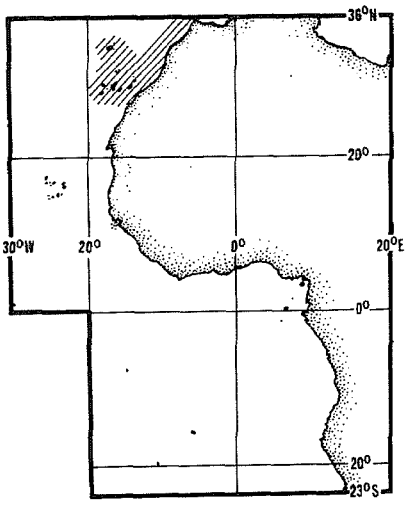
Maximum: 15 cm; common to 10 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Within the area, apparently restricted to the coast of Morocco and the Canary Islands. Northward extending into the Mediterranean and along the Atlantic coast of Europe up to Norway; also reported from the Azores.

Inhabits sand bottoms in littoral and shallow coastal waters, often burrowing in the substrate, moving into somewhat greater depths during winter. The venomous spines of the dorsal fin and on the gill cover may inflict severe and very painful wounds.

Feeds chiefly on small invertebrates, mainly crustaceans.



PRESENT FISHING GROUNDS :

Coast of Morocco and Canary Islands, where it is quite common and regularly found in markets.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught mainly with bottom trawls; also with various types of artisanal gear (traps, lines, beach seines).

Marketed mostly fresh.

TRICH

1981

FAO SPECIES IDENTIFICATION SHEETS

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

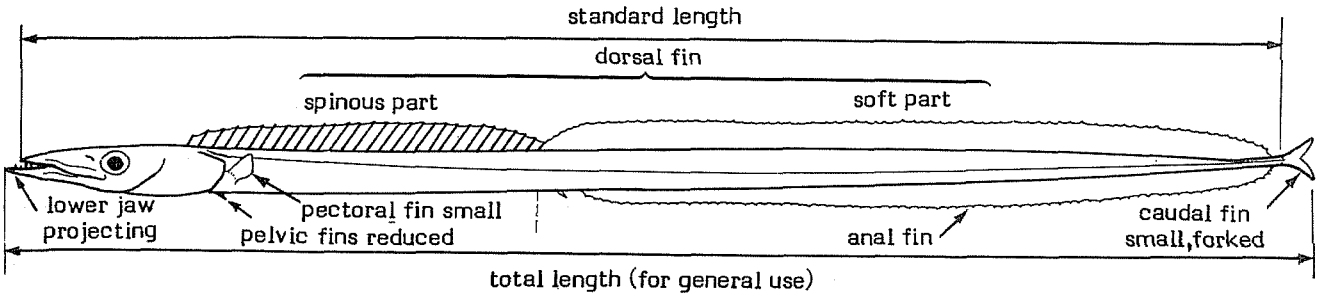
TRICHIURIDAE

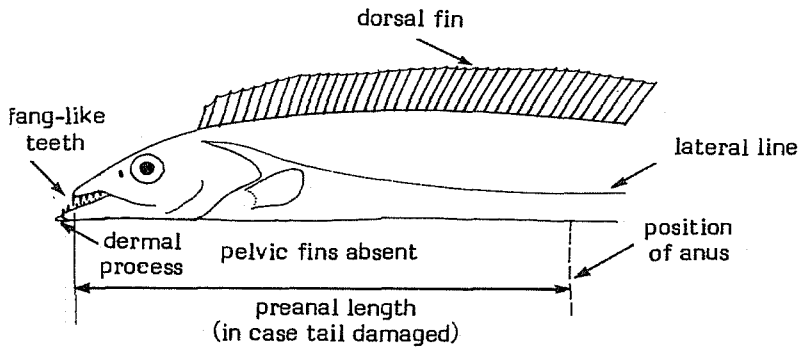
Cutlassfishes, hairtailfishes, frostfishes, scabbardfishes

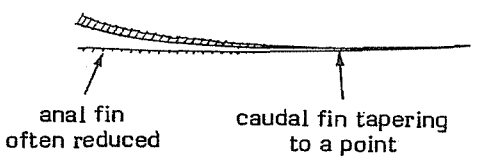
Body extremely elongate, compressed and ribbon-like. Mouth large, usually not protrusible, lower jaw projecting; usually a dermal process at tip of each jaw; strong canine teeth in jaws, those at front of upper jaw fang-like; maxilla concealed by preorbital bone; a single nostril on each side. Dorsal fin low and long, beginning shortly behind eye, its anterior spinous part shorter than the posterior soft portion, the two parts separated by a distinct notch in Benthodesmus and Aphanopus; anal fin low or reduced to short spinules; pectoral fins short and low on body; pelvic fins reduced to a scale-like spine (plus a rudimentary ray in Benthodesmus) or completely absent (in Trichiurus); caudal fin either small and forked or absent, the body tapering to a point. Lateral line single. Scales absent.

Colour: body generally silvery (but copper-coloured in Aphanopus carbo), a little darker on back; usually no distinct marks or blotches on body; dorsal and anal fins sometimes tinged with pale yellow; pectoral fins semi-transparent.

Voracious predators distributed in tropical and temperate seas of the Pacific, Indian and Atlantic Oceans. They generally inhabit deeper waters over the continental shelf and the slope, but some species (Trichiurus) are common in shallow coastal waters and a few (Aphanopus, Lepidopus and Trichiurus) are the object of local longline and trawl fisheries. The catch of Trichiuridae reported from the area in 1977 totalled about 73 000 t, of which more or less 70 000 t corresponded to T. lepturus and 3 000 t to L. caudatus. The flesh is edible and tasty, but scanty.

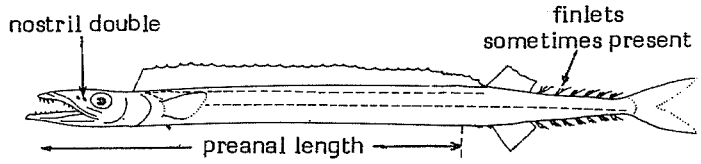






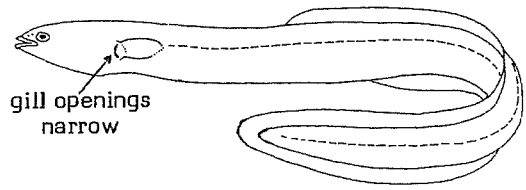
SIMILAR FAMILIES OCCURRING IN THE AREA:

Gempylidae: nostril double; soft (2nd) dorsal fin always distinct from, and shorter than the spinous (1st) dorsal fin; anal fin always well defined; soft rays of 2nd dorsal and anal fins decreasing in height posteriorly and followed by 2 to 7 finlets in some genera; preanal length half or more than half of standard length (less than half in Trichiuridae); minute or deformed scales present.



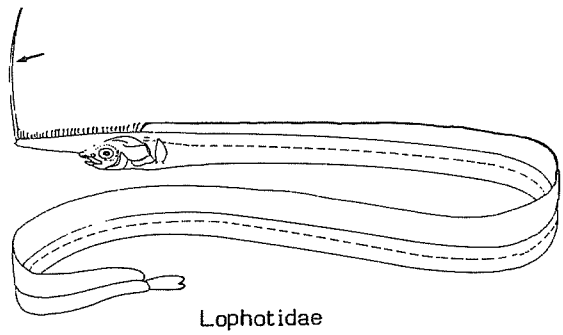
Gempylidae

Anguillidae and related (eel-like) fishes: body more cylindrical; caudal fin rounded; no spines in dorsal and anal fins; gill openings narrow.

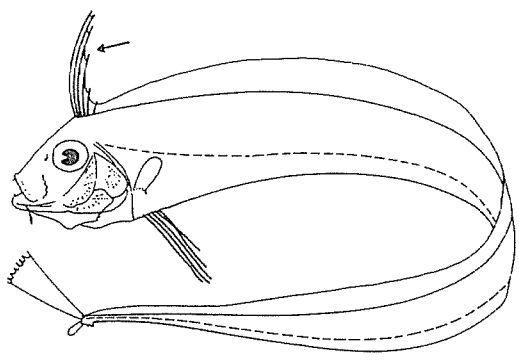


Anguillidae

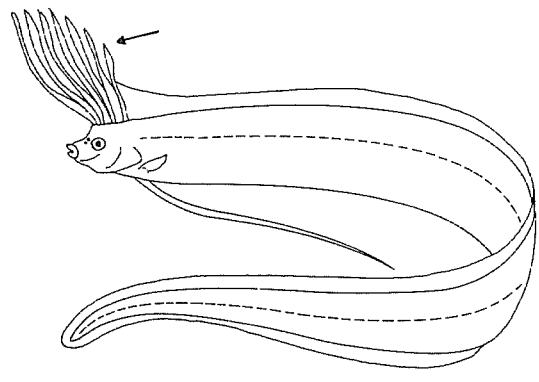
Trachipteroid fishes (Lophotidae, Regalecidae and Trachipteridae): usually anterior part of dorsal fin variously elongate, each dorsal fin ray with a lateral spine at its base; anal fin short or absent; pelvic fin rays 0 to 10.



Lophotidae



Trachipteridae



Regalecidae

KEY TO GENERA OCCURRING IN THE AREA:

1 a. Caudal fin present, small and forked; pelvic fins present but strongly reduced, hardly visible in Aphanopus (Figs. 1 to 3)

2 a. Head profile smooth; a notch between spinous and soft parts of dorsal fin (Figs. 1,2)

3 a. Spinous part of dorsal fin only slightly shorter than soft part (Fig. 1); dorsal fin elements (spines + soft rays) 91 to 95 ..... Aphanopus

3 b. Spinous part of dorsal fin half the length of soft part (Fig. 2); dorsal fin elements more than 100 ..... Benthodesmus

2 b. Head with a prominent crest; no notch between spinous and soft parts of dorsal fin (Fig. 3) ..... Lepidopus

1 b. Caudal fin absent, body tapering to a point; pelvic fins absent (Fig. 4) ..... Trichiurus

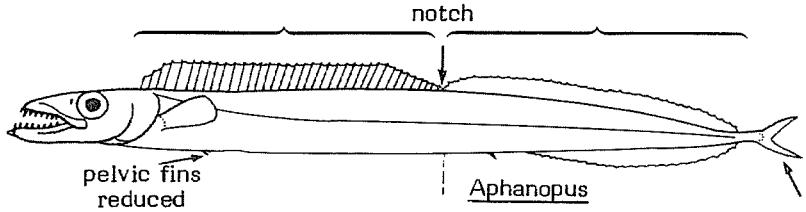


Fig. 1

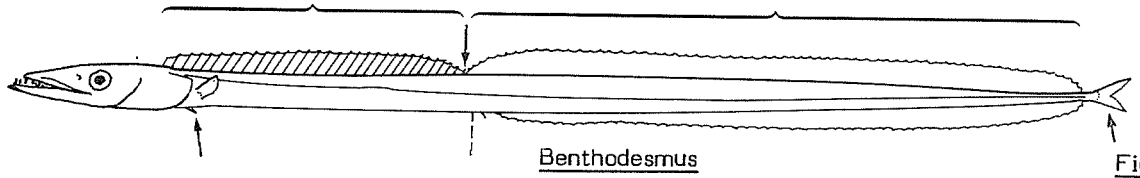


Fig. 2

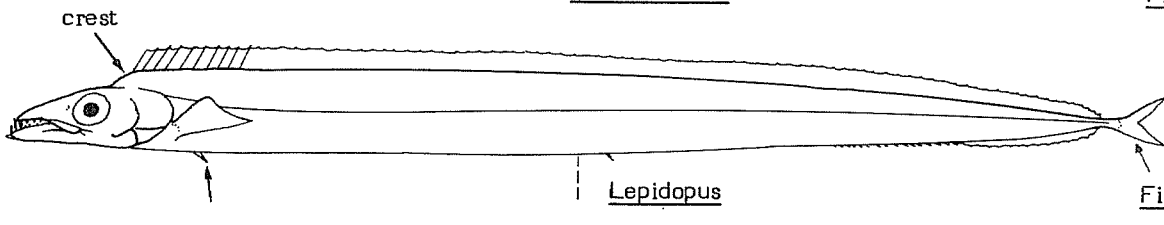


Fig. 3

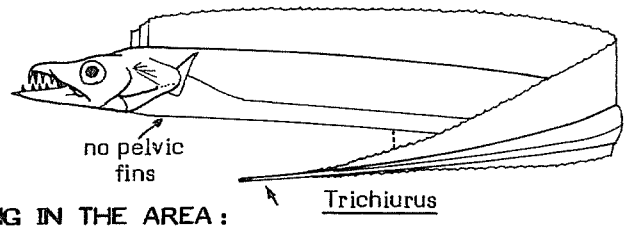


Fig. 4

LIST OF SPECIES OCCURRING IN THE AREA:

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

Aphanopus carbo Lowe, 1839	TRICH Apha 1
Benthodesmus elongatus simonyi (Steindachner, 1891) Benthodesmus tenuis (Günther, 1877)	TRICH Bentho 1
Lepidopus caudatus (Euphrasen, 1788)	TRICH Lepid 1
Trichiurus lepturus Linnaeus, 1758	TRICH Trich 1

Prepared by I. Nakamura, Fisheries Research Station, Kyoto University, Maizuru, Kyoto, Japan

TRICH Apha 1

1981

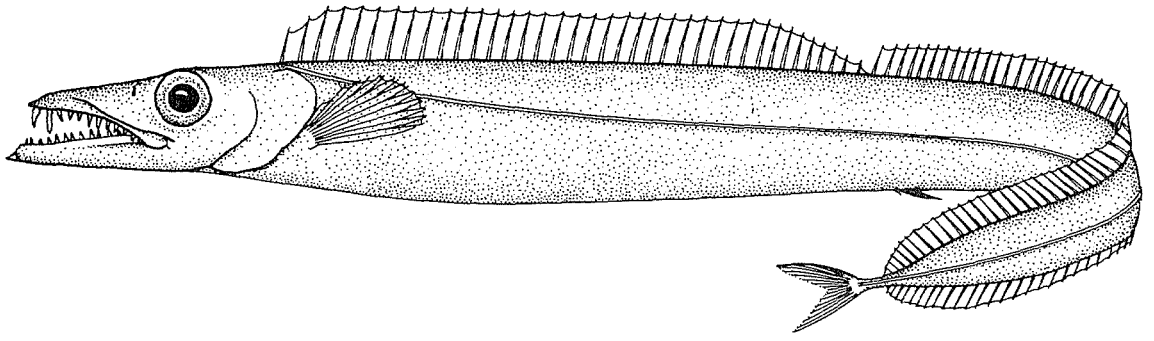
FAO SPECIES IDENTIFICATION SHEETS

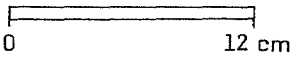
FAMILY : TRICHIURIDAE

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

Aphanopus carbo Lowe, 1839

OTHER SCIENTIFIC NAMES STILL IN USE : Aphanopus microphthalmus Norman, 1939
Aphanopus acus Maul, 1948





VERNACULAR NAMES:

FAO : En - Black scabbardfish
Fr - Sabre noir
Sp - Sable negro

NATIONAL :

DISTINCTIVE CHARACTERS :

Body greatly elongate and strongly compressed. Head profile smooth; mouth large, with several fang-like teeth near tip of upper jaw and a series of smaller needle-like lateral teeth in both upper and lower jaws; a dermal process at tip of each jaw; eye rather large, its diameter contained about 6 times in head length. Dorsal fin low and long-based, with a distinct notch between the anterior, spinous part (38 to 42 spines) and the posterior, soft part (53 to 57 soft rays); base of the former slightly shorter than that of the latter; total dorsal fin elements 91 to 95; anal fin also low and long-based, with 2 spines and 44 to 49 soft rays the 2nd spine larger, strong and depressed; pelvic fins absent in adults (a spine and a soft ray present in juveniles). Lateral line almost straight, slightly oblique anteriorly. Body scaleless. Position of anus at about middle of body.

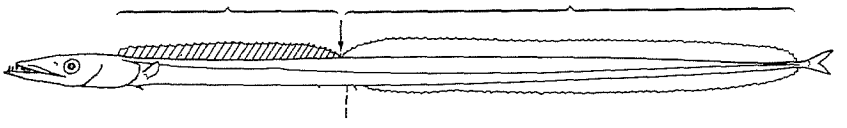
Colour: fresh specimens are copper-coloured with metallic reflections; but become dull black shortly after death; fish from trawl catches are often stripped of skin and therefore whitish.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

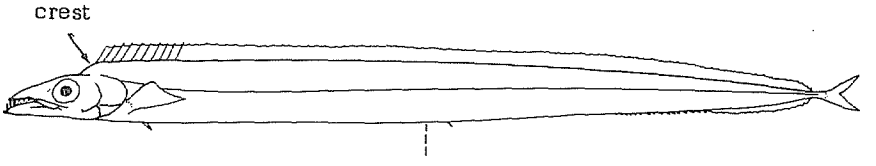
Species of Benthodesmus: spinous part of dorsal fin half the length of soft part; position of anus fairly nearer to snout than to tip of caudal fin; dorsal fin elements more than 100 (91 to 95 in A. carbo).

Lepidopus caudatus: dorsal fin unnotched and a prominent crest on head.

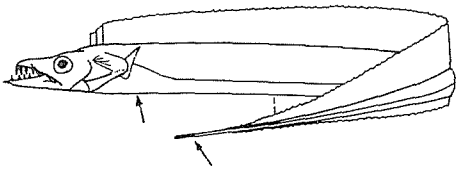
Trichiurus lepturus: caudal fin absent; body tapering to a point; no pelvic fins; dorsal fin unnotched; position of anus much nearer to snout than to posterior tip of body.



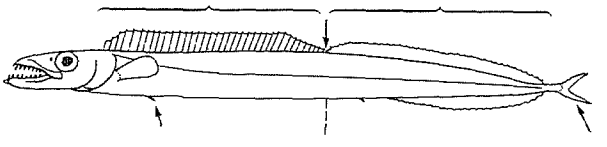
Benthodesmus



Lepidopus



Trichiurus



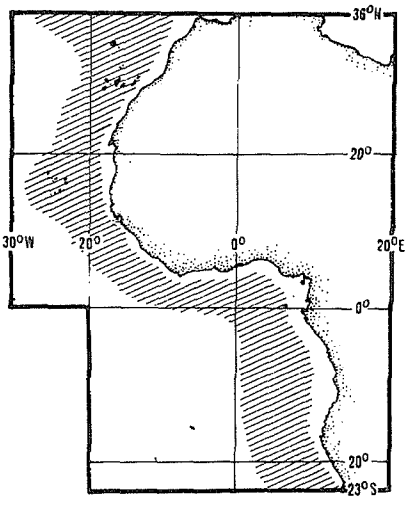
Aphanopus

SIZE:

Maximum: 110 cm standard length; common to 70 cm standard length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Within the area, from the Straits of Gibraltar southward to at least the Gulf of Guinea. Widely distributed in the Northeastern and Northwestern Atlantic, the Mediterranean, Gulf of Aden, Northwestern Pacific off Japan, and Northeastern Pacific off California.



Benthopelagic, mostly over the continental slope (depth range 20 to about 1 600 m), most common from 180 to 650 m, probably coming nearer to the surface at night; usually occurring about 100 m above the bottom.

Feeds on a wide range of fishes and cephalopods; occasionally on crustaceans.

PRESENT FISHING GROUNDS:

Especially around Madeira, where this species is one of the most important foodfishes. Outside the area, it is caught commercially off Portugal in deep water.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species, but the bulk of the catch is taken around Madeira.

Caught chiefly with bottom longlines and trawls.

Marketed mostly fresh and frozen.

TRICH Bentho 1

1981

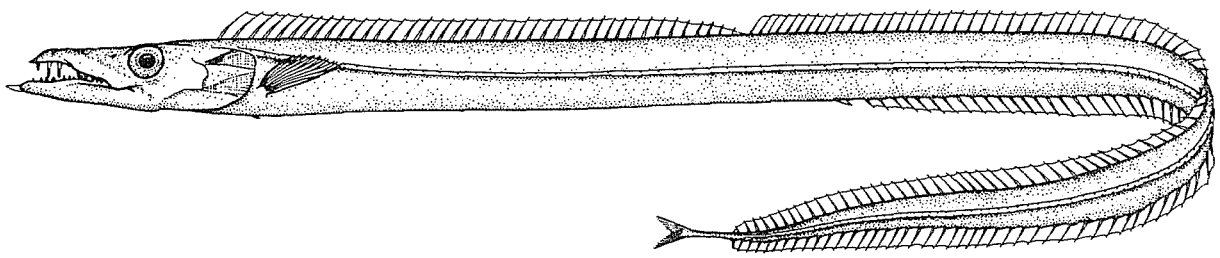
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRICHIURIDAE

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

Benthodesmus tenuis (Günther, 1877)

OTHER SCIENTIFIC NAMES STILL IN USE : None





VERNACULAR NAMES:

FAO : En - Frostfish
Fr - Sabre fleuret
Sp - Cintilla

NATIONAL :

DISTINCTIVE CHARACTERS :

Body greatly elongate, compressed, tapering gradually from anus to a very small caudal peduncle, its greatest depth contained about 30 times in standard length. Head profile smooth, its top very flat, concave between the eyes; mouth large, with 3 long fangs anteriorly on either side of upper jaw and a series of smaller, needle-like lateral teeth in both jaws; a single row of 10 to 15 small teeth along anterior half of each palatine (roof of mouth); a dermal process at tip of each jaw; eye large. Dorsal fin low and long-based, with a distinct notch between the anterior spinous part (39 to 42 spines) and the posterior soft part (80 to 86 soft rays); base of the former half the length of the latter; total dorsal fin elements 120 to 125; anal fin also low and long-based, with 2 spines and 70 to 75 soft rays; pectoral fins rather long, with about 12 rays; pelvic fins very much reduced, represented by a delicate, flat spine (thickened along its medial edge) and a rudimentary soft ray, inserted in advance of pectoral fin base; caudal fin small and forked. Lateral line well developed, beginning at upper margin of opercle, descending to midline of side and continuing to near caudal fin base. Body scaleless. Position of anus nearer to snout than to tip of caudal fin (preanal length about 2/5th of standard length).

Colour: body generally silvery, finely sprinkled with black dots, which become thicker along mid-dorsal and ventral profiles as well as along fin bases. Insides of mouth and gill cover black.

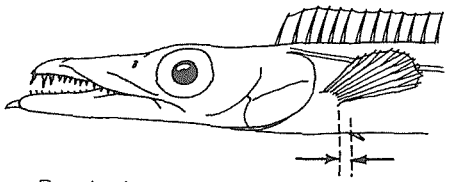
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Benthodesmus elongatus simonyi: dorsal fin elements (spines and soft rays) totalling about 155 in adults (only 120 to 125 in B. tenuis); lateral line less well developed; pelvic fins inserted posterior to pectoral fin bases.

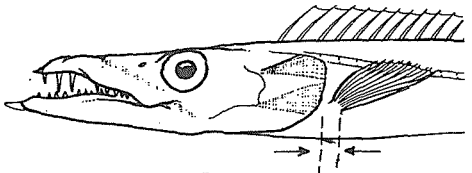
Aphanopus carbo: spinous part of dorsal fin about as long as soft part; position of anus at about middle of body; dorsal fin elements about 95.

Lepidopus caudatus: no notch between spinous and soft parts of dorsal fin; head profile with a prominent crest.

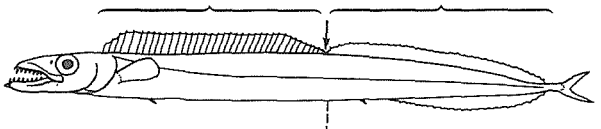
Trichiurus lepturus: caudal fin absent, body tapering to a point; no pelvic fins; no notch between spinous and soft parts of dorsal fin; lateral line nearer to ventral profile through almost entire length.



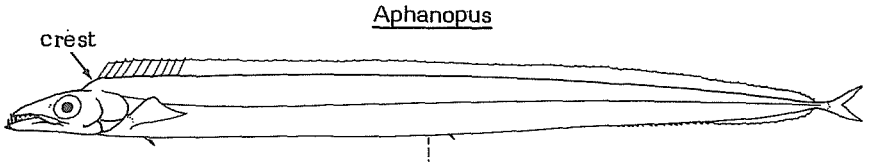
Benthodesmus elongatus simonyi



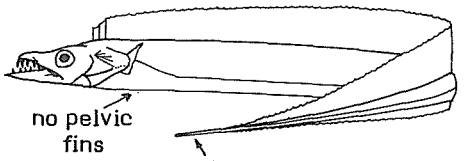
Benthodesmus tenuis



Aphanopus



Lepidopus

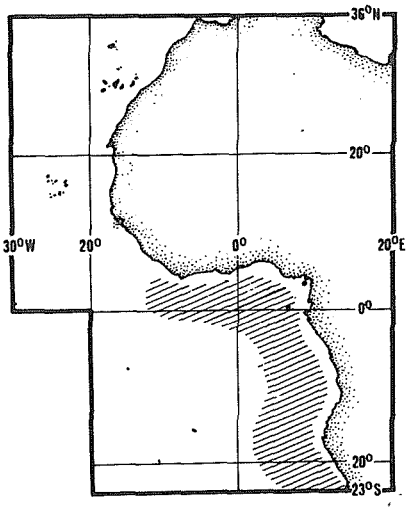


Trichiurus

SIZE:

Maximum: 120 cm standard length; common to 90 cm standard length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:



Within the area, from the Gulf of Guinea to Angola. Elsewhere, widely distributed in tropical and temperate areas of the Atlantic, Indian and Pacific Oceans; recorded from the Gulf of Mexico, the northern Arabian Sea, the Western Pacific (from New Guinea to Japan) and the South Pacific.

Benthopelagic, mostly over the continental slope (depth range from about 200 to 800 m).

Feeds on a wide variety of fishes, crustaceans and cephalopods.

PRESENT FISHING GROUNDS:

No special fishery for this species up to now; taken as bycatch in longline and trawl fisheries.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with longlines and deep-water bottom trawls.

Marketed fresh or frozen.

TRICH Lepid 1

1981

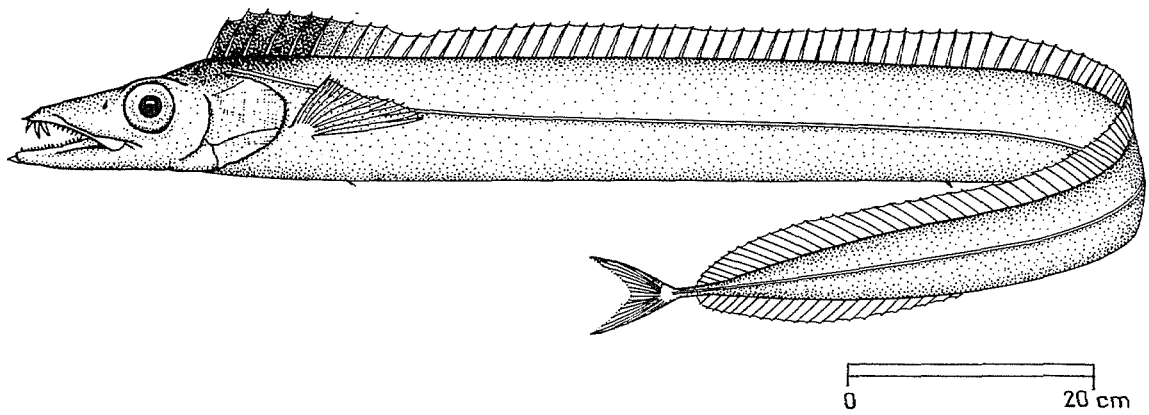
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRICHIURIDAE

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

Lepidopus caudatus (Euphrasen, 1788)

OTHER SCIENTIFIC NAMES STILL IN USE : Lepidopus lex Phillipps, 1932



VERNACULAR NAMES:

FAO : En - Silver scabbardfish
Fr - Sabre argenté (= Sabre, Area 37)
Sp - Pez cinto

NATIONAL :

DISTINCTIVE CHARACTERS :

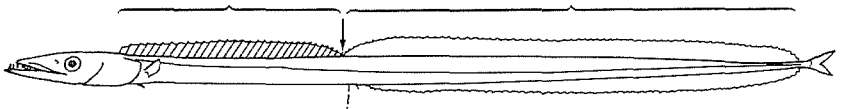
Body very elongate and strongly compressed. Head large, its upper profile with a prominent crest; mouth large; upper jaw with 2 or 3 pairs, and lower jaw with one pair of enlarged fangs; a single row of small, canine-like lateral teeth in both jaws; palatine (roof of mouth) with fine teeth; a dermal process at tip of each jaw. Dorsal fin low and long-based, without a notch between spinous and soft parts, with 9 spines and 90 to 96 soft rays; anal fin also low and long, with 2 spines (the first scale-like, heart-shaped, and the 2nd rudimentary) and 61 to 64 soft rays (the 40 anterior ones embedded); pectoral fins medium-sized and triangular, with about 12 rays; pelvic fins with a scale-like spine, their insertion posterior to pectoral fin bases by a distance equal to eye diameter; caudal fin small and forked. Lateral line oblique anteriorly to behind tip of pectoral fin, then straight along mid-line of side. Body scaleless. Position of anus at about middle of body.

Colour: body uniform silvery white, fins often tinged with pale yellow; large specimens with dark colour on nape and anterior part of dorsal fin.

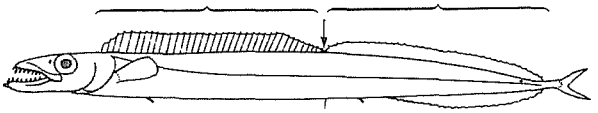
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Species of Benthodesmus and Aphanopus: a distinct notch between spinous and soft parts of dorsal fin; head profile smooth.

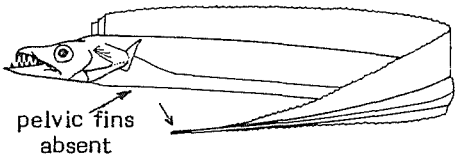
Trichiurus lepturus: caudal fin absent, body tapering to a point; no pelvic fins; lateral line running mostly near ventral profile.



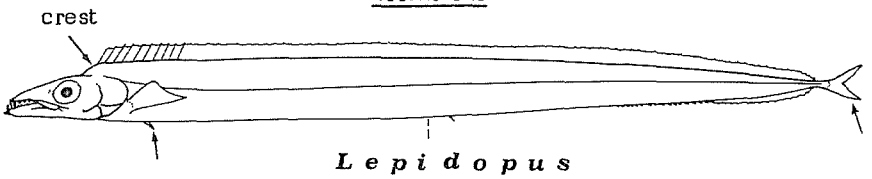
Benthodesmus



Aphanopus



Trichiurus

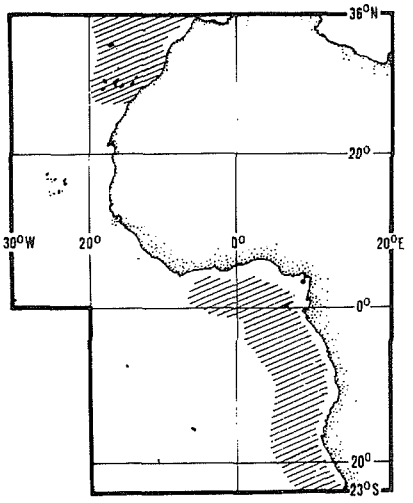


Lepidopus

SIZE:

Maximum: 210 cm standard length; common to 150 cm standard length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:



Within the area, found off Morocco, around Madeira and in the Gulf of Guinea. Elsewhere, widely distributed in the Mediterranean, off South Africa and around Australia and New Zealand. Though many synonyms exist for local populations, this species is probably worldwide in distribution.

Benthopelagic over the continental shelf and the slope down to 400 m depth or more, usually over sandy bottoms from 100 to 250 m, but often appearing on the surface at night during frosty weather at full moon (therefore known as frostfish in New Zealand and South Africa). Also occurring in inshore areas where upwelling of deep water takes place, and sometimes stranded in large numbers on beaches.

Feeds on a wide variety of fishes, crustaceans and cephalopods.

PRESENT FISHING GROUNDS:

No special fishery for this species in the area, but commercially exploited off Portugal and around New Zealand.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catch reported from the area for this species totalled about 3 000 t in 1977 (Portugal, 1 350 t; Poland, 1 423 t).

Caught mainly with longlines and trawls.

Marketed mostly fresh or frozen. Flesh very good and tasty; also used for fishmeal and oil.

TRICH Trich 1

1981

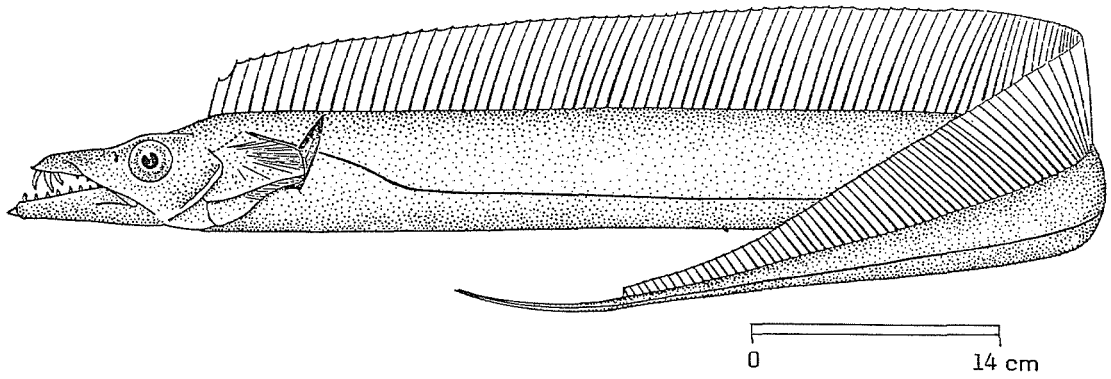
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRICHIURIDAE

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

Trichiurus lepturus Linnaeus, 1758

OTHER SCIENTIFIC NAMES STILL IN USE : Trichiurus haumela (Forskål, 1775)
Trichiurus lepturus japonicus Temminck & Schlegel, 1844
Trichiurus japonicus Bleeker, 1857
Trichiurus coxii Ramsay & Ogilby, 1887



VERNACULAR NAMES:

FAO : En - Largehead hairtail
Fr - Poisson sabre commun
Sp - Pez sable

NATIONAL :

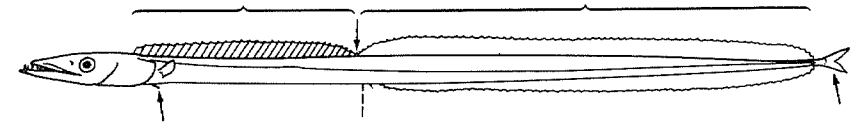
DISTINCTIVE CHARACTERS :

Body extremely elongate and strongly compressed, ribbon-like, tapering to a point (tip often broken). Mouth large, with a dermal flap at tip of each jaw; 2 or 3 pairs of enlarged fangs near tip of upper jaw and another pair near tip of lower jaw; a single series of sharp, compressed lateral teeth (often also fang-like in larger specimens) in both jaws; minute teeth on palatines (roof of mouth); eye large, its diameter contained 5 to 7 times in head length; lower hind margin of gill cover concave. Dorsal fin rather high and long-based, without a notch between the spinous and soft parts, with 3 spines and about 135 soft rays; anal fin reduced to about 105 minute spinules (usually embedded in the skin or slightly breaking through); pectoral fins medium-sized, about as long as snout; pelvic and caudal fins absent. Lateral line beginning at upper margin of gill cover, running oblique to behind tip of pectoral fin, then straight near to ventral profile. Body scaleless. Position of anus nearer to snout than to posterior tip of body (preanal length about 2/5th of standard length).

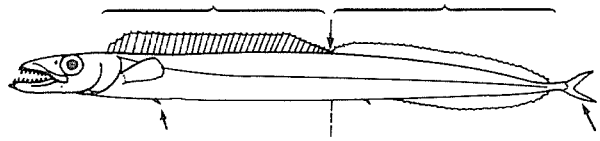
Colour: fresh specimens are steel blue with silvery reflections, pectoral fins semi-transparent, other fins sometimes tinged with pale yellow; the colour becomes uniform silvery grey some time after death.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

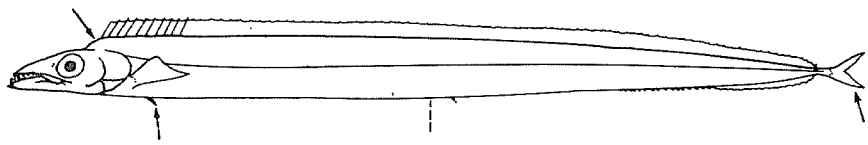
Other species of Trichiuridae: a small, forked caudal fin present; lateral line running almost along middle of side.



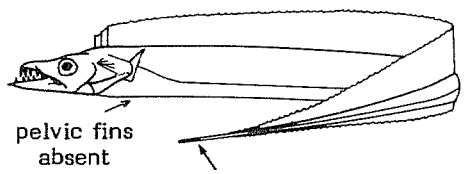
Benthodesmus



Aphanopus



Lepidopus

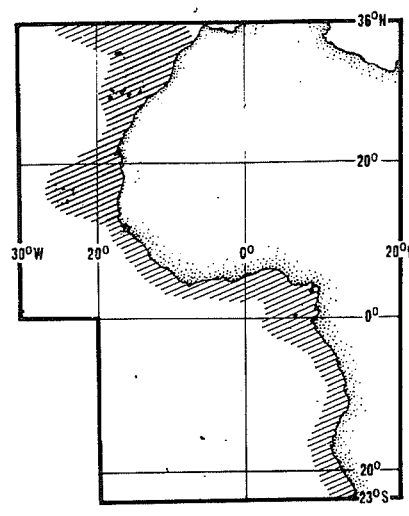


Trichiurus

SIZE:

Maximum: 150 cm total length; common to 100 cm total length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:



Found throughout the area. Elsewhere, in tropical and temperate waters, of most oceans, although many synonyms exist for local populations.

Benthopelagic over the continental shelf and slope down to at least 350 m depth, occasionally in shallow coastal waters over muddy bottoms, sometimes entering river estuaries.

Feeds mainly on various kinds of fishes, sometimes crustaceans and cephalopods.

PRESENT FISHING GROUNDS:

Mostly waters over continental and island shelves and upper slopes. Reported to be rather abundant in certain localities.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catch reported from the area for this species in 1977 totalled about 70 000 t (U.S.S.R., 40 000 t; Ghana, 14.600 t; Angola, 9 900 t; Ivory Coast, 4 000 t and several other countries with less than 1 000 t).

Caught mainly with bottom trawls and longlines; also with gillnets, purse seines, traps and handlines.

A good foodfish, marketed mostly fresh, frozen, dried salted and smoked; also used for fishmeal and oil.

TRIGL

1981

FAO SPECIES IDENTIFICATION SHEETS

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

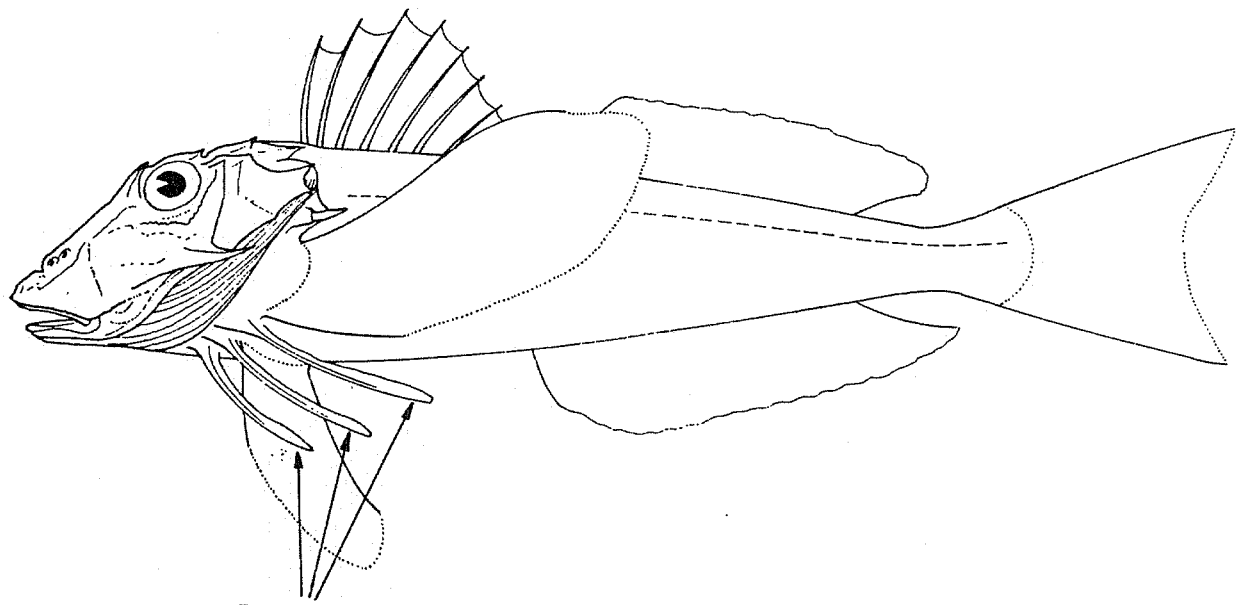
TRIGLIDAE

Gurnards

Body elongate. Head large, bony, with many ridges and spines but without barbels; bony spines projecting forward on snout in some species; mouth terminal to slightly inferior, villiform teeth present in both jaws. Two separate dorsal fins, the first with 8 to 11 spines (usually 9 or 10), the second with 13 to 19 segmented soft rays; anal fin with 13 to 19 segmented soft rays; pectoral fins short to long, with the 3 lowermost rays free, detached from the remaining fin rays. Body with scales and with sharp spines or scutes along bases of dorsal fins. Bony scutes are lacking elsewhere, but some species have enlarged, scute-like lateral-line scales. Swimbladder bilobed in most species.

Colour: variable, but predominantly red with some grey or dusky, belly usually pale; first dorsal fin often with a black spot or blotch; pectoral fins usually with some distinctive markings, often a patch of vibrant blues with black or white spots.

Gurnards are small to medium sized benthic fishes (to about 45 cm in total length) inhabiting the continental and insular shelves of tropical and warm temperate seas to depths of 200 m. They occur on sandy or muddy substrates, rubble or reef-type bottom, using the free rays of their pectoral fins for support and for search of food. Although most species are not the object of a special fishery, they often enter bottom-trawl catches, sometimes in rather large quantities. Within the area, landing statistics (about 600 t recorded from the area in 1978) are not broken down to species. The majority of the species are considered as trash fish, but some of the larger ones are used as food. Their flesh is tasty and firm.

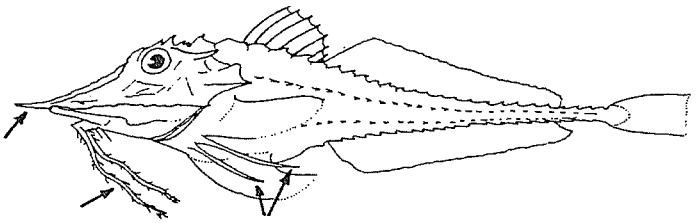


3 lowermost rays of pectoral fin free

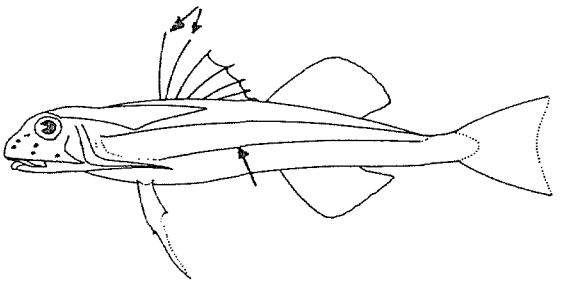
SIMILAR FAMILIES OCCURRING IN THE AREA:

Peristediidae: mouth inferior, teeth absent; mandibular, lip and chin barbels always present; only the 2 lowermost rays of pectoral fins free (the 3 lowermost rays free in Triglidae); body scaleless but covered by rows of bony scutes on each side.

Dactylopteridae: anterior two dorsal fin spines separated from remainder of fin; body covered with scales; pectoral fins without free rays.



Peristediidae

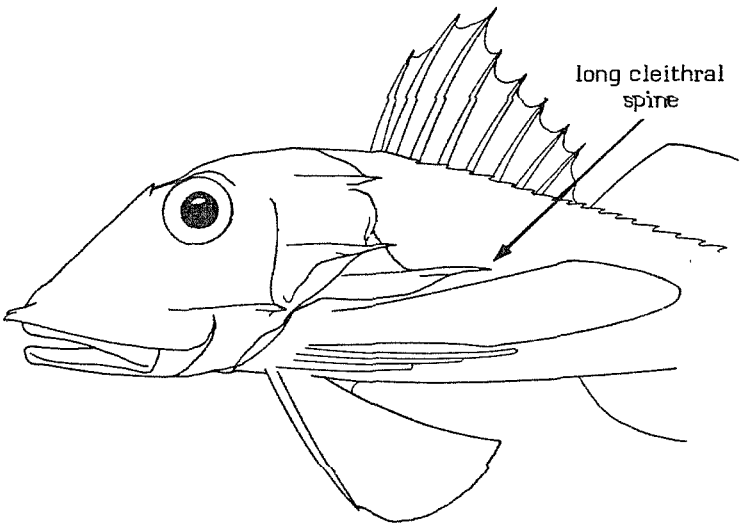


Dactylopteridae

KEY TO GENERA OCCURRING IN THE AREA:

1 a. Cleithral spine (immediately above pectoral fin) very long and strong (greater than 15% of standard length (Fig. 1); swim-bladder thin-walled, with muscle bands extending laterally on each side ..... Trigla

1 b. Cleithral spine short and weak (less than 12% of standard length) (Figs. 2,3); swimbladder with thick, strong walls and with muscle bands extending laterally along each side

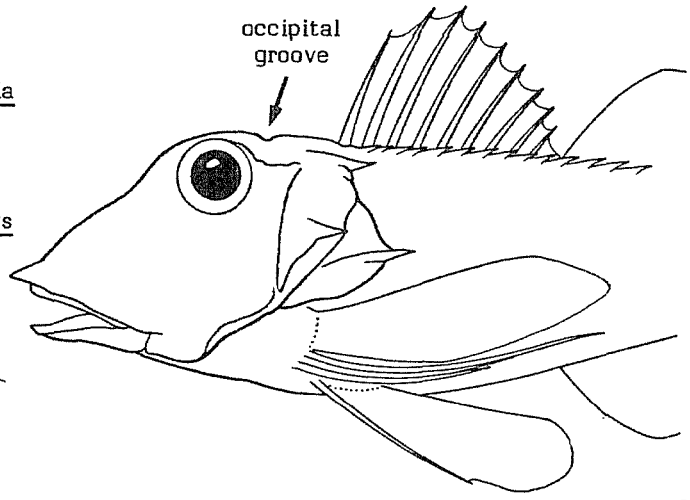


Trigla

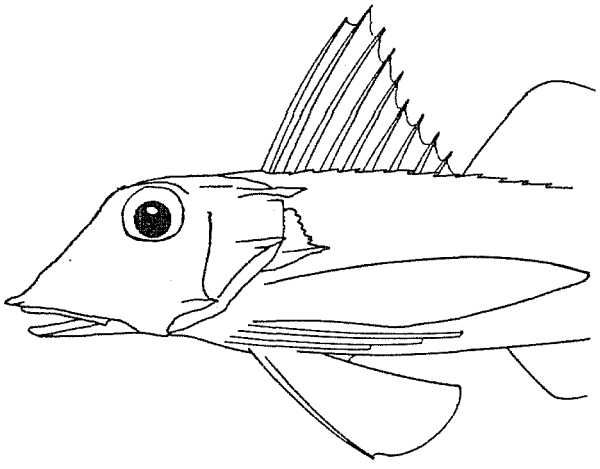
Fig. 1

2 a. Head with a deep occipital groove (fissure across top of head behind eyes); body scales large, usually less than 60 along lateral line (Fig. 2) ..... Lepidotrigla

2 b. Head without deep occipital groove; body scales small, usually more than 60 along lateral line (Fig. 3) ..... Chelidonichthys



Lepidotrigla Fig. 2



Chelidonichthys Fig. 3

LIST OF SPECIES OCCURRING IN THE AREA:

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

Chelidonichthys capensis (Cuvier in Cuv. & Val., 1829)	TRIGL Chel 1
Chelidonichthys (Aspitrigla) cuculus (Linnaeus, 1758)	TRIGL Chel 2 (= TRIG Aspi 1, Area 37)
Chelidonichthys gabonensis (Poll & Roux, 1955)	TRIGL Chel 3
Chelidonichthys (Trigloporus) lastoviza (Bonnaterre, 1788)	TRIGL Chel 4 (= TRIG Trig 1, Area 37)
Chelidonichthys (Aspitrigla) obscurus (Linnaeus, 1764)	TRIGL Chel 5
Chelidonichthys lucerna (Linnaeus, 1758)	TRIGL Chel 6 (= TRIG Trig 2, Area 37)
Lepidotrigla cadmani Regan, 1915	TRIGL Lepid 1
Lepidotrigla carolae Richards, 1968	TRIGL Lepid 2
Lepidotrigla dieuzeidei Audoin in Blanc & Hureau, 1973	TRIGL Lepid 3
Trigla lyra Linnaeus, 1758	TRIGL Trig 1

Prepared by W.J. Richards, NMFS Southeast Fisheries Center, Miami, Florida, U.S.A.

All main illustrations, except L. dieuzeidei were taken from the author's review of the "Eastern Atlantic Triglidae, Atlantide Report No. 10, 1968. The figure for L. dieuzeidei was redrawn from Maul, 1976 ("Meteor" Forschungsergebnisse, R.D., No. 22)

TRIGL Chel 1

1981

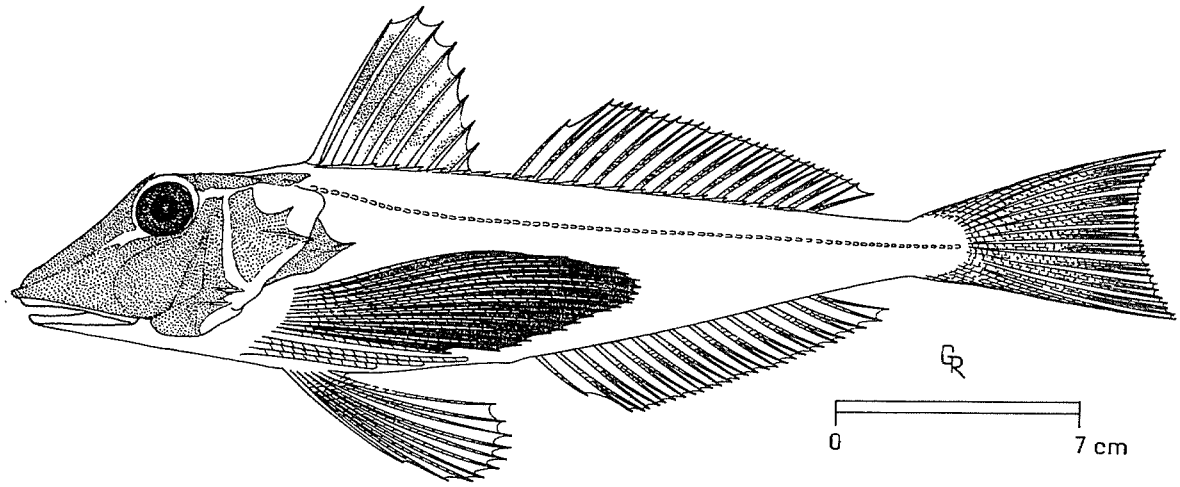
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRIGLIDAE

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

Chelidonichthys capensis (Cuvier in Cuv. & Val., 1829)

OTHER SCIENTIFIC NAMES STILL IN USE : Trigla capensis Cuvier in Cuv. & Val., 1829



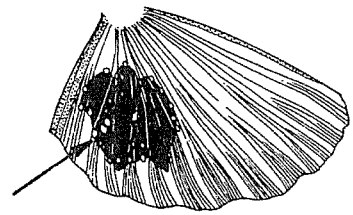
VERNACULAR NAMES:

FAO : En - Cape gurnard
Fr - Grondin du Cap
Sp - Rubio del Cabo

NATIONAL :

DISTINCTIVE CHARACTERS :

Head large, triangular, bony, with many ridges and spines, but without a deep occipital groove. Cleithral spine (above pectoral fin) short. Two separate dorsal fins, the first with 8 or 9 spines, the second with 15 or 16 segmented soft rays; anterior edge of first dorsal spine smooth; anal fin with 14 or 15 segmented soft rays. Body scales small, 19 to 21 rows above, and 47 or 48 rows below lateral line; lateral line scales small, composed of unmodified tubes; scales absent from breast and anterior part of belly. Total gillrakers on first gill arch 15 to 19 (not including rudiments).

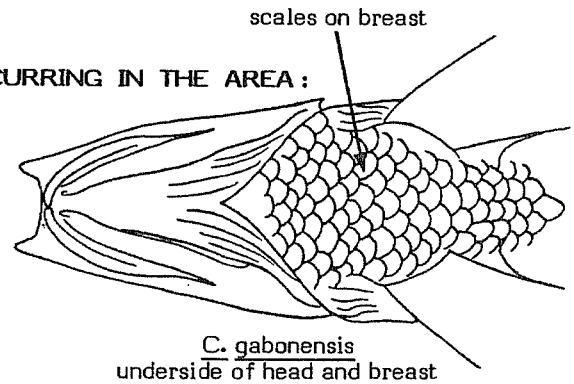


right pectoral fin bent forward showing inner surface

Colour: reddish above, pale below, with a dark patch surrounded by white spots on the inner surface of dark green pectoral fin.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Chelidonichthys gabonensis: large body scales, 8 to 12 above and 27 to 35 below lateral line (19 to 21 above, and 47 or 48 below lateral line in C. capensis); scales fully cover breast and belly; total gillrakers on first arch 5 to 8 (15 to 19 in C. capensis); no dark patch surrounded by white spots on inner surface of pectoral fins.



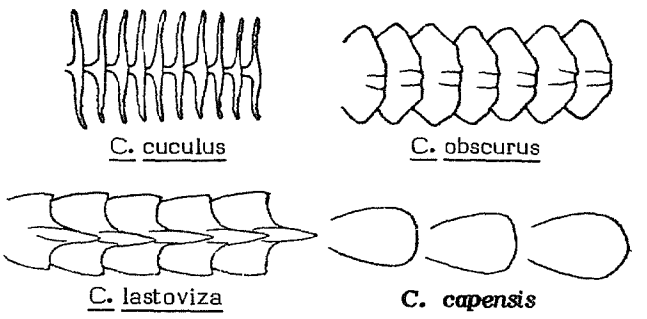
C. gabonensis
underside of head and breast

Chelidonichthys lucerna: has 7 to 11 gill-rakers on first gill arch.

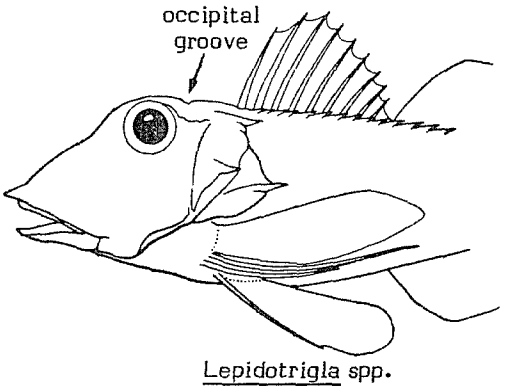
Other Chelidonichthys species: lateral-line scales modified (e.g. expanded, enlarged, plate-like, spinate, etc.); gillrakers on first arch 4 to 11. Also, body covered with distinct transverse ridges in C. lastoviza.

Lepidotrigla species: a distinct groove on top of head behind eyes; generally small fishes; lateral-line scales expanded vertically with branched tubes.

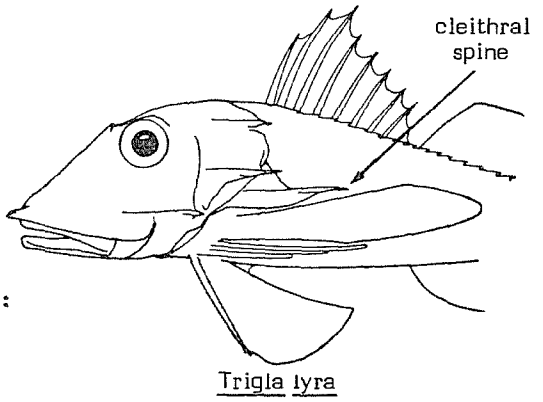
Trigla lyra: cleithral spine very long.



examples of lateral line scales



Lepidotrigla spp.



Trigla lyra

SIZE:

Maximum: about 75 cm; common to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

A temperate sub-tropical species confined to the southern coast of Africa. Occurrence in this area based on museum specimens from Walfish Bay, South-west Africa.

Inhabits sand and mud bottoms from the coastline to at least 100 m depth.

PRESENT FISHING GROUNDS:

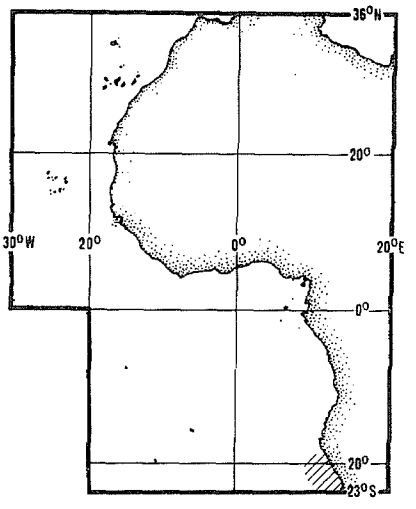
Trawling grounds off Southern Africa. Locally rather abundant.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken mainly in trawls.

Reported to be an excellent food fish. Utilized mostly fresh.



TRIGL Chel 2

1981

(= TRIG Aspi 1, Area 37)

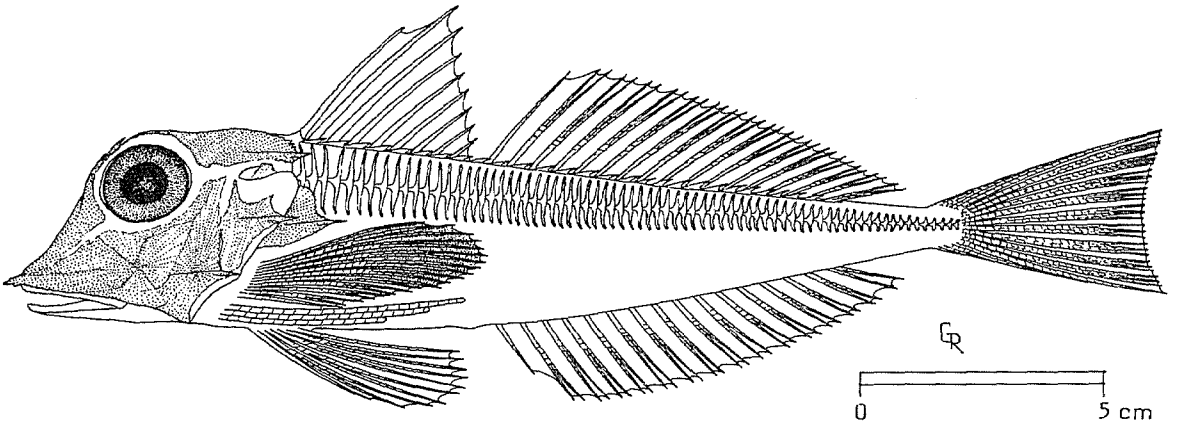
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRIGLIDAE

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

Chelidonichthys (Aspitrigla) cuculus (Linnaeus, 1758)*

OTHER SCIENTIFIC NAMES STILL IN USE : Trigla cuculus Linnaeus, 1758
Aspitrigla cuculus (Linnaeus, 1758)
Trigla pini Bloch, 1793



VERNACULAR NAMES:

FAO : En - Red gurnard
Fr - Grondin rouge (Grondin pin)
Sp - Arete

NATIONAL :

DISTINCTIVE CHARACTERS :

Head large, triangular, bony, with many ridges and spines, but without a deep occipital groove. Cleithral spine (above pectoral fin) short. Two separate dorsal fins, the first with 9 or 10 spines, the second with 17 or 18 segmented soft rays; anterior edge of first dorsal spine serrated; anal fin with 16 to 18 segmented soft rays. Lateral lines scales platelike and expanded vertically, the distance between upper margin of scales and dorsal fin base about 25 to 50% of total height of scales. Breast and anterior part of belly scaleless. Total gillrakers on first gill arch 7 to 11.

Colour: bright red above, pale below; pelvic fins rosy; anal fin with a milky white base; pectorals and dorsal fins yellowish.

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* Some current workers use Aspitrigla cuculus

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

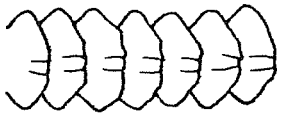
Other species of Triglidae: lateral-line scales either simple, unmodified tubes, or if modified, never forming slender vertical extensions nearly reaching dorsal fin base.



C. lucerna

SIZE:

Maximum: about 50 cm; common to 25 cm.



C. obscurus

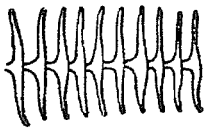
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Along the West African coast, from Gibraltar southward occasionally to Mauritania, including Madeira and the Azores. A temperate species primarily found off the coasts of Europe up to the British Isles, occasionally Norway; also in the Mediterranean and possibly the Black Sea.



C. lastoviza

Found from 30 to 250 m over sand, gravel, crags and rocks.



C. cuculus

examples of lateral-line scales

PRESENT FISHING GROUNDS:

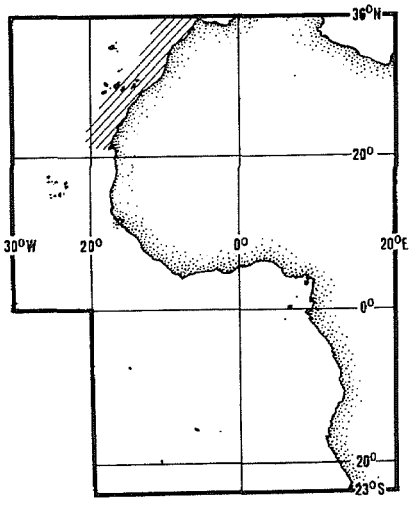
Continental shelf in the northern part of the area. Locally rather abundant.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken mainly in trawls.

An excellent food fish; used fresh and smoked; also reduced to fishmeal and oil by offshore fleets.



TRIGL Chel 3

1981

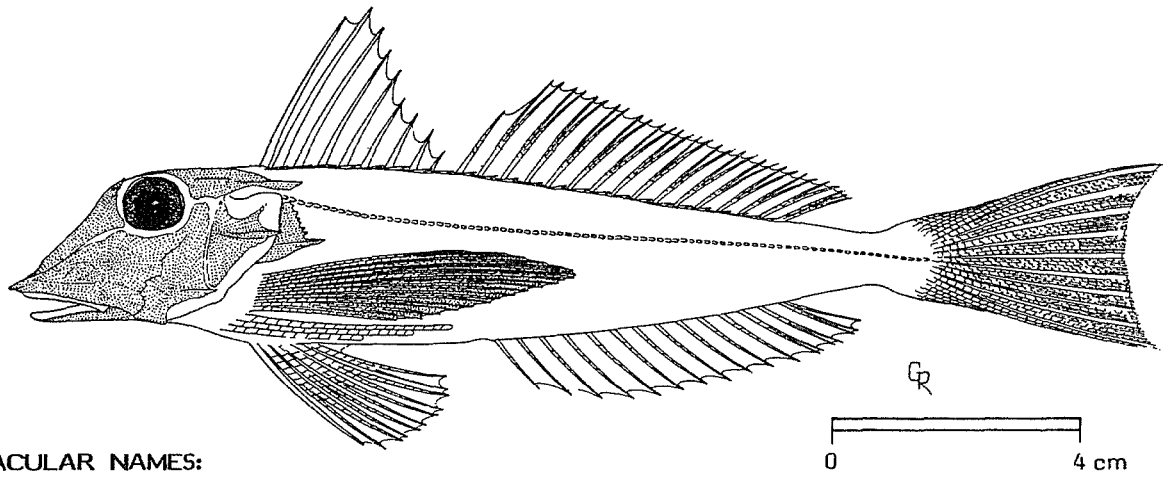
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRIGLIDAE

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

Chelidonichthys gabonensis (Poll & Roux, 1955)

OTHER SCIENTIFIC NAMES STILL IN USE : Trigla gabonensis Poll & Roux, 1955
Chelidonichthys senegalensis Puyo, 1957
Trigla hirundo Linnaeus, 1758



VERNACULAR NAMES:

FAO : En - Gabon gurnard
Fr - Grondin du Gabon
Sp - Rubio del Gabón

NATIONAL :

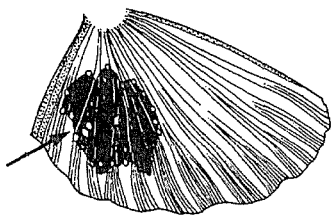
DISTINCTIVE CHARACTERS :

Head large, triangular, bony, with many ridges and spines, but without a deep occipital groove. Cleithral spine (above pectoral fin) short. Two separate dorsal fins, the first with 9 or 10 spines, the second with 15 to 17 segmented soft rays; anterior edge of first dorsal spine smooth; anal fin with 14 to 16 segmented rays. Body scales moderate in size, not deeply embedded, 8 to 12 rows above, and 27 to 35 below lateral line; lateral scales small, composed of unmodified tubes; breast and belly fully covered with scales. Total gillrakers on first gill arch 5 to 8.

Colour: red above, pale below, pectoral fins dark, blue, sometimes with lighter spots distally, but no conspicuous dark markings on inner surface.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Chelidonichthys capensis: scales small, 19 to 20 rows above, and 47 or 48 below lateral line (8 to 12 and 27 to 35 in C. gabonensis); scales absent from breast and anterior part of belly, and 15 to 19 gillrakers on first gill arch (5 to 8 in C. gabonensis); a dark patch surrounded by white spots on inner surface of pectoral fins.



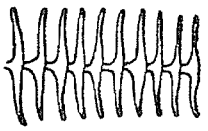
C. capensis
right pectoral fin bent forward
showing inner surface

Chelidonichthys lucerna: scales small, 18 to 20 rows above and 37 to 60 below lateral line; scales absent from breast and belly.

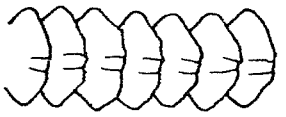
Other Chelidonichthys species: lateral-line scales modified (e.g. expanded, enlarged, plate-like, spinate, etc.).

Trigla lyra: cleithral spine very long.

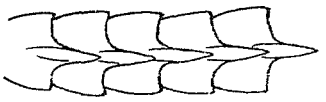
Lepidotrigla species: a distinct groove on top of head behind eyes; generally small fishes; lateral-line scales expanded vertically, with branched tubes.



C. cuculus



C. obscurus



C. lastoviza

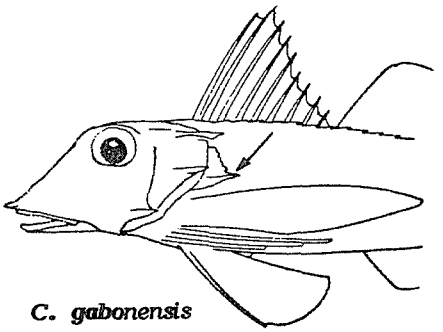


C. gabonensis

examples of lateral line scales

SIZE :

Maximum: 31 cm; common to 20 cm.

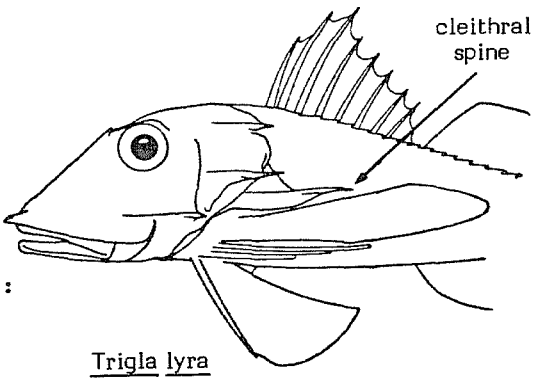


C. gabonensis

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

A tropical species endemic to the Gulf of Guinea, from Cape Verde, Senegal, southward to Angola and perhaps Walfish Bay, Southwest Africa.

Inhabits sand and rubble bottoms from the shoreline to about 200 m depth.



Trigla lyra

PRESENT FISHING GROUNDS :

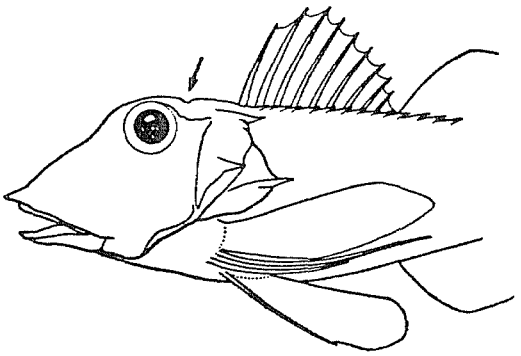
Continental shelf throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

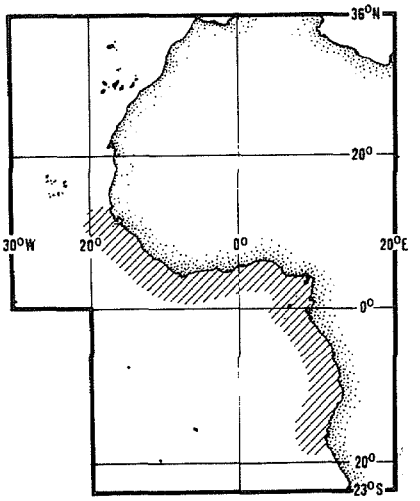
Separate statistics are not reported for this species.

Taken by trawls.

An excellent foodfish; used mostly fresh and smoked.



Lepidotrigla spp.



TRIGL Chel 4

1981

(= TRIG Trigl 1, Area 37)

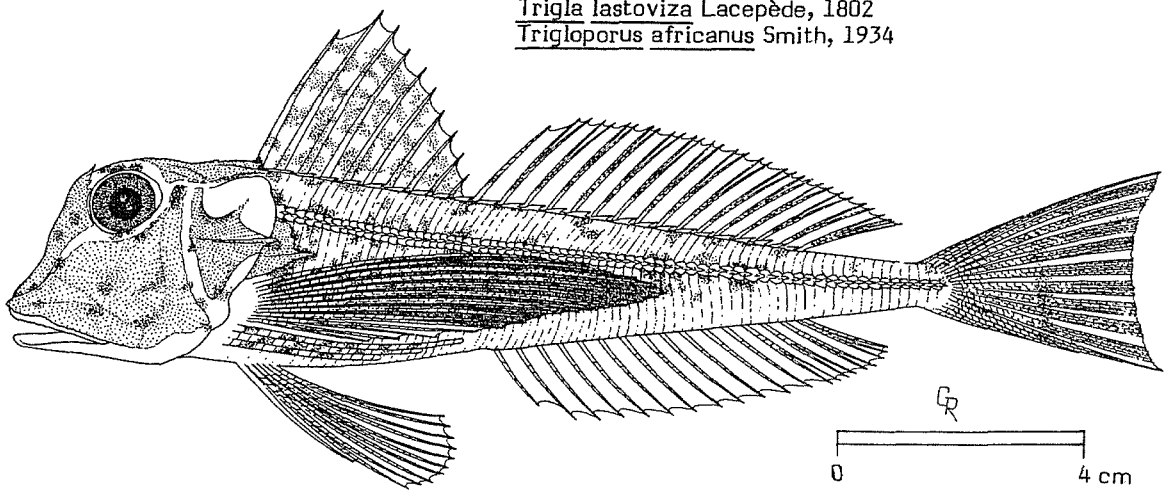
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRIGLIDAE

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

Chelidonichthys (Trigloporus) lastoviza (Bonnaterre, 1788)

OTHER SCIENTIFIC NAMES STILL IN USE : Trigloporus lastoviza (Bonnaterre, 1788)
Trigla lastoviza Bonnaterre, 1788
Trigla lineata Gmelin, 1789
Trigla adriatica Gmelin 1789
Trigla lastoviza Lacepède, 1802
Trigloporus africanus Smith, 1934



VERNACULAR NAMES:

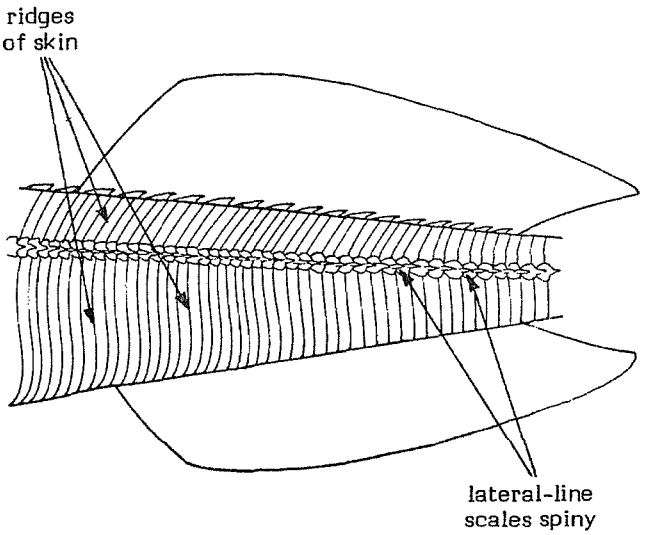
FAO : En - Streaked gurnard
Fr - Grondin camard (= Rouget camard, Area 37)
Sp - Rubio

NATIONAL :

DISTINCTIVE CHARACTERS :

Head large, triangular, bony, with many ridges and spines, but without a deep occipital groove. Cleithral spine (above pectoral fin) short. Two separate dorsal fins, the first with 9 to 11 spines, the second with 15 to 17 segmented soft rays; anterior edge of first dorsal spine smooth; anal fin with 15 to 17 segmented soft rays. Lateral-line scales enlarged and keeled, armed with small spines. Body covered with distinct, transverse ridges of skin originating at the lateral line. Breast variably naked to fully scaled, belly fully scaled. Total gillrakers on first gill arch 4 to 8.

Colour: red above, pale below with dark spots or blotches on head and back. Pectoral fins greyish with large, dark blue spots.



Many current workers use Trigloporus lastoviza

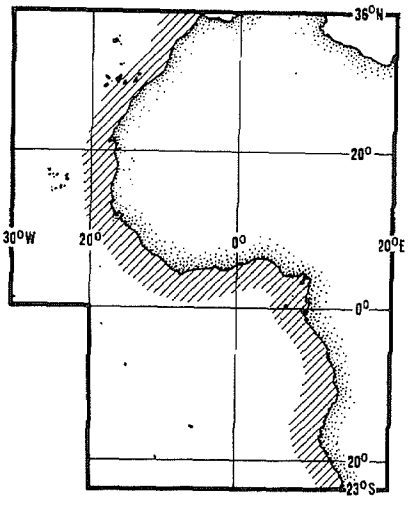
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Other species of *Triglidae*: *no* transverse ridges or grooves on sides of body.

SIZE :

Maximum: about 40 cm; common to 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :



Found throughout the area, including Madeira. This is the most widely dispersed gurnard of the Eastern Atlantic, ranging northward to Norway and into the Mediterranean; southward to the Cape of Good Hope and eastward to the east coast of Africa up to Mozambique.

Inhabits rocky or sandy bottoms near rolls from the shoreline to about 150 m depth.

PRESENT FISHING GROUNDS :

Continental shelf throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Taken in bottom trawls.

An excellent food fish; used mostly fresh and smoked; also reduced to fishmeal and oil by offshore fleets.

TRIGL Chel 5

1981

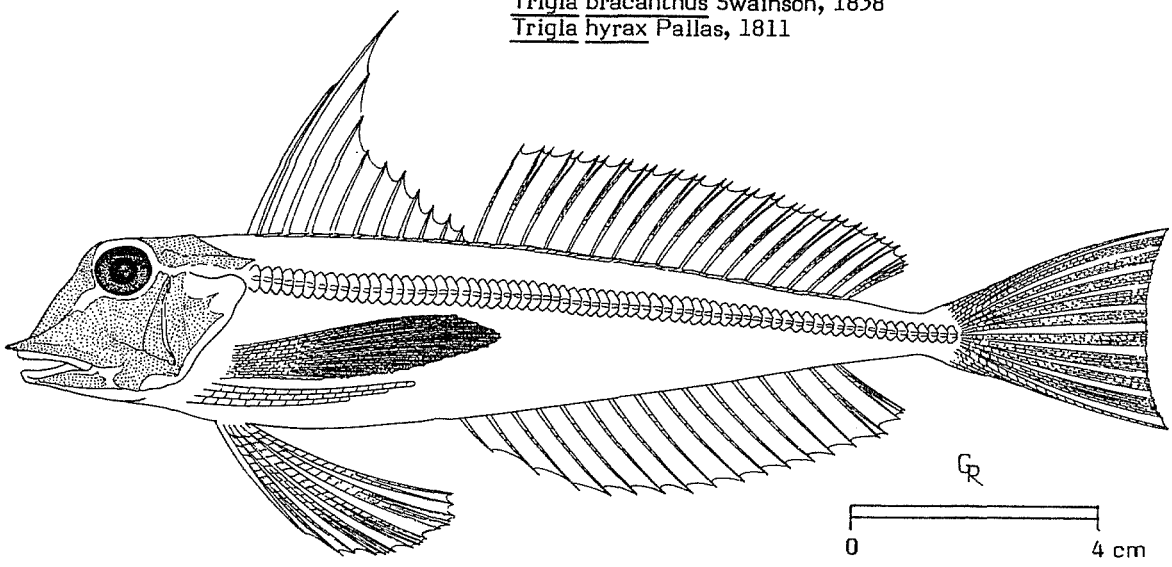
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRIGLIDAE

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

Chelidonichthys (Aspitrigla) obscurus (Linnaeus, 1764) *

OTHER SCIENTIFIC NAMES STILL IN USE : Aspitrigla obscura (Linnaeus, 1764)
Chelidonichthys obscurus (Block & Schneider, 1801)
Trigla bracanthus Swainson, 1838
Trigla hyrax Pallas, 1811



VERNACULAR NAMES:

FAO : En - Longfin gurnard
Fr - Grondin morride
Sp - Arete aletón

NATIONAL :

DISTINCTIVE CHARACTERS :

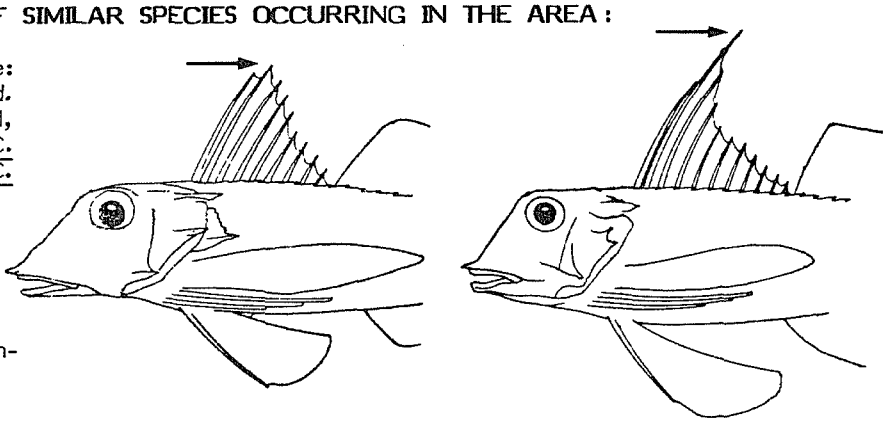
Head large, triangular, bony, with many ridges and spines, but wihout a deep occipital groove. Cleithral spine (above pectoral fin) short. Two separate dorsal fins, the first with 10 or 11 spines, the second with 17 to 19 segmented soft rays; anterior edge of first dorsal spine smooth; second dorsal spine distinctly elongate; anal fin with 17 or 18 segmented soft rays. Lateral-line scales plate-like without spines, the distance between upper margins of scales and dorsal fin base equal to, or greater than total height of scales. Breast and anterior part of belly scaleless. Total gillrakers on first gill arch 7 to 11.

Colour: red above, pale below. The lateral iridescent pink. Pectoral fins dark blue, the other fins rosy.

* Some current workers use Aspitrigla obscura

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Other species of Triglidae: *second dorsal fin spine not elongated.* Lateral-line scales either unmodified, or greatly expanded vertically (C. cuculus) or with small spines (C. lastoviza, Lepidotrigla spp.)



other triglid species — ***C. obscurus***

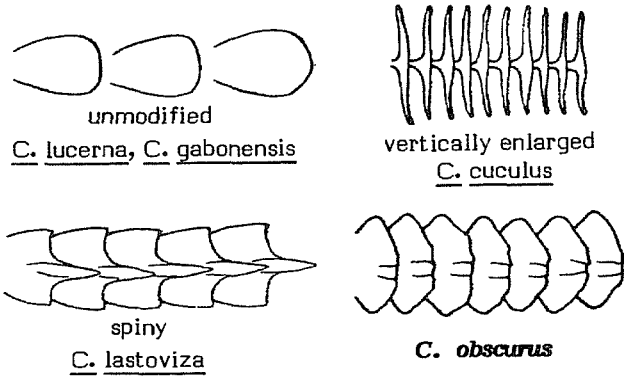
SIZE :

Maximum: about 36 cm; common to 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Along the West African coast from Gibraltar southward to Cape Blanc, Mauritania; probably also around Madeira but presence in the Azores and Canaries is unconfirmed. Northward extending into the Mediterranean and to the British Isles.

Inhabits soft bottoms and fallen rocks, from the shore line to about 170 m depth.



unmodified — C. lucerna, C. gabonensis

vertically enlarged — C. cuculus

spiny — C. lastoviza

C. obscurus

examples of lateral-line scales

PRESENT FISHING GROUNDS :

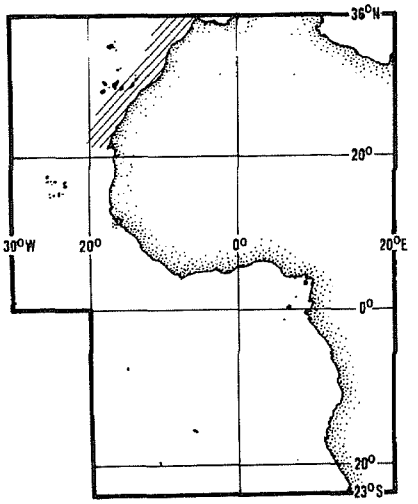
Continental shelf throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Taken by trawls.

An excellent food fish; utilized mainly fresh and smoked.



TRIGL Chel 6

1981

(= TRIG Trig 2
Area 37)

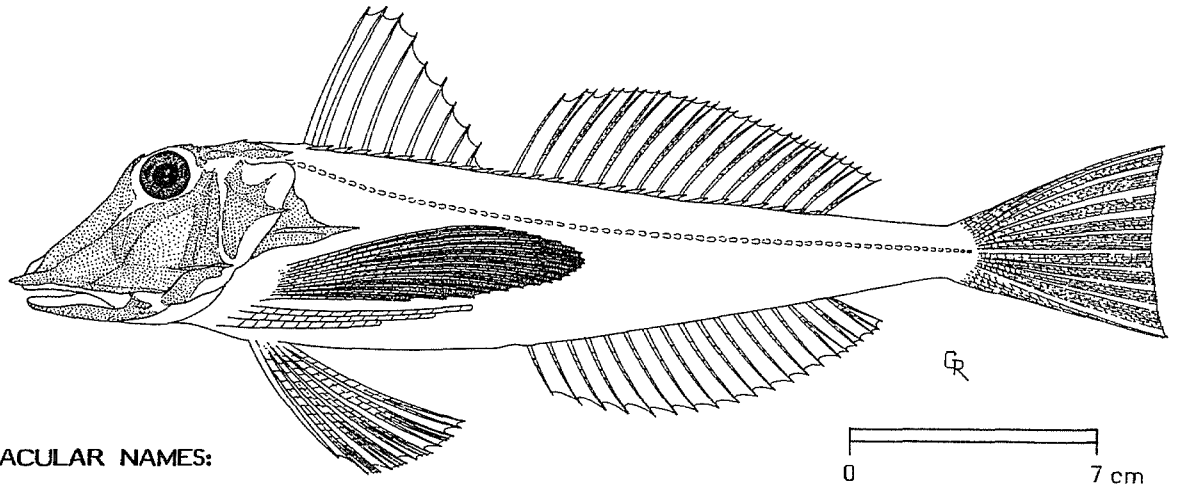
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRIGLIDAE

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

Chelidonichthys lucerna (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Trigla lucerna Linnaeus, 1758



VERNACULAR NAMES:

FAO : En - Tub gurnard
Fr - Grondin perlon (= Grondin cabote, Area 37)
Sp - Bejel

NATIONAL :

DISTINCTIVE CHARACTERS :

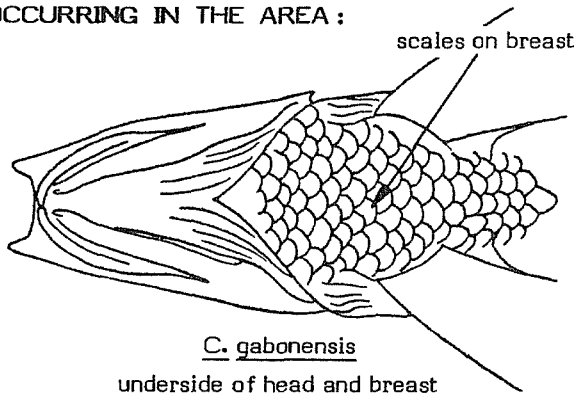
Head large, triangular, bony, with many ridges and spines, but without a deep occipital groove. Cleithral spine (above pectoral fin) short. Two separate dorsal fins, the first with 8 to 10 spines, the second with 16 or 17 segmented soft rays; anterior edge of first dorsal spine smooth; anal fin with 14 to 16 segmented soft rays. Body scales small, 18 to 20 rows above, and 37 to 60 rows below lateral line; lateral-line scales small, composed of unmodified tubes; scales absent from breast and anterior part of belly. Total gillrakers on first gill arch 7 to 11 (not including rudiments).

Colour: pink or reddish brown, sometimes mottled on back, golden to white ventrally; outer face of pectoral fins pinkish violet or blue, spotted with white or green, and light blue or red on margins; inner face often with a bluish-black blotch and small white spots.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Chelidonichthys capensis: 15 to 19 gillrakers on first gill arch (7 to 11 in C. lucerna).

Chelidonichthys gabonensis: body scales large, 8 to 12 above and 27 to 35 below lateral line (18 to 20, and 37 to 60 rows in C. lucerna); scales fully cover breast and belly.

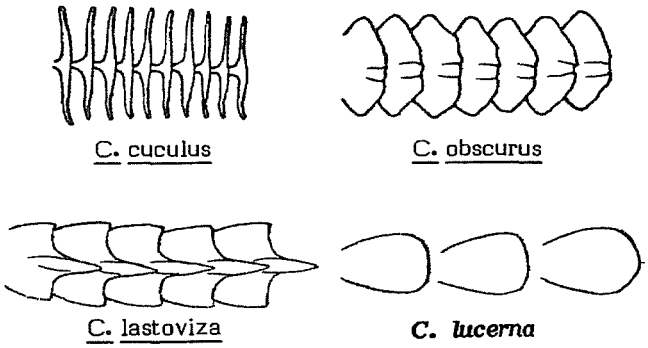


C. gabonensis
underside of head and breast

Other Chelidonichthys species: lateral-line scales modified (e.g. expanded, enlarged, plate-like, spinate, etc.).

Trigla lyra: cleithral spine very long.

Lepidotrigla species: a distinct groove on top of head behind eyes; generally small fishes.



examples of lateral-line scales

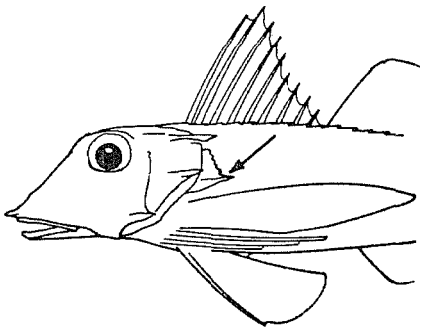
SIZE :

Maximum: 75 cm and 6 kg weight; common to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

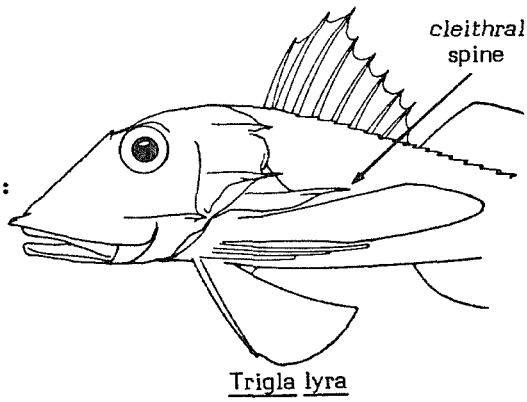
Along the West African coast, from Gibraltar southward to Cape Blanc; northward extending into the Mediterranean and Black Seas, and along the Atlantic coast of Europe up to Norway.

Usually inhabits sand, muddy sand or gravel bottoms, from about 20 to 200 m depth.


Chelidonichthys spp.

PRESENT FISHING GROUNDS :

Continental shelf throughout its range. Locally abundant.



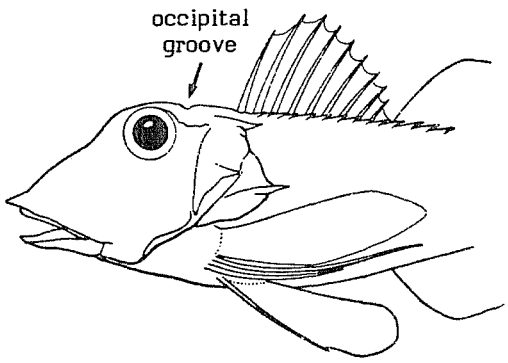
Trigla lyra

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

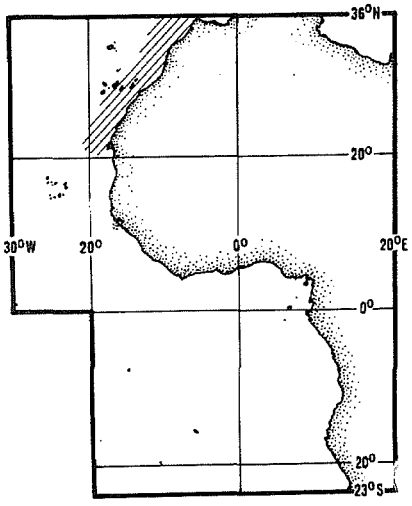
Separate statistics are not reported for this species.

Caught with bottom trawls.

An excellent food fish; used mainly fresh and smoked, but also reduced to fishmeal and oil by offshore fleets.



Lepidotrigla spp.



TRIGL Lepid 1

1981

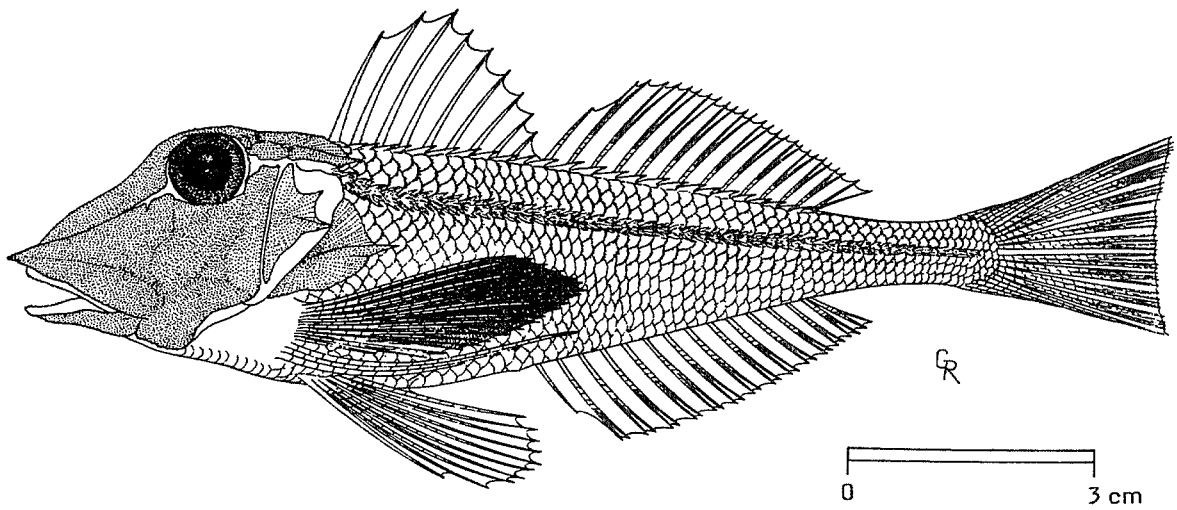
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRIGLIDAE

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

Lepidotrigla cadmani Regan, 1915

OTHER SCIENTIFIC NAMES STILL IN USE : Lepidotrigla laevispinnis Blache & Ducroz, 1960



VERNACULAR NAMES:

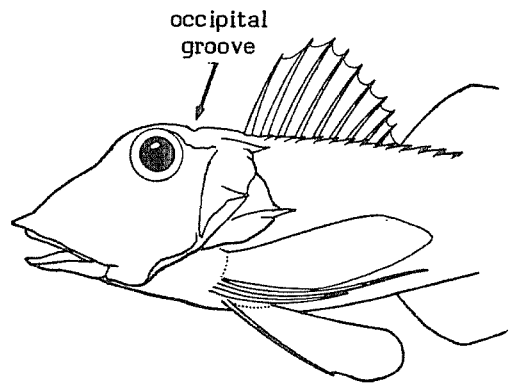
FAO : En - Scalebreast gurnard
Fr - Grondin écailleux
Sp - Cabete escamudo

NATIONAL :

DISTINCTIVE CHARACTERS :

Head large, triangular, bony, with many spines and ridges and a deep occipital groove on top of head behind eyes. Cleithral spine (above pectoral fin) short. Two separate dorsal fins, the first with 8 to 10 spines, the second with 13 to 15 segmented soft rays; anterior edge of first dorsal spine smooth; anal fin with 13 to 15 segmented soft rays. Lateral-line scales slightly enlarged, spinate, with branched tubes. Breast and belly scaled. Total gillrakers on first gill arch 4 to 10.

Colour: red above, pale below.



DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other Lepidotrigla species: first dorsal fin spine serrated, breast scaleless.

Other species of Triglidae: no groove on top of head behind eyes; generally larger fish.

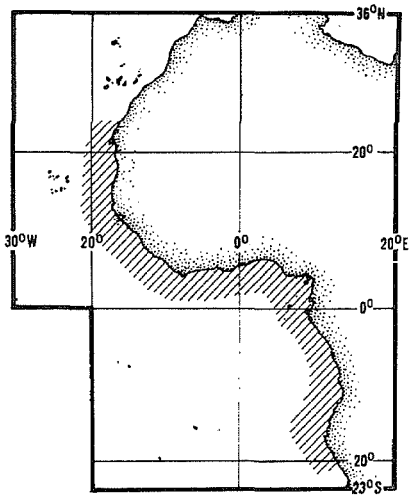
SIZE:

Maximum: 22 cm; common to 15 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Along the West African coast from 21°N southward to Angola.

Inhabits sandy and muddy bottoms from about 30 to 400 m.



PRESENT FISHING GROUNDS:

Continental shelf and upper slope, throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken by trawls.

Utilized fresh and smoked; also reduced to fishmeal and oil by offshore fleets.

TRIGL Lepid 2

1981

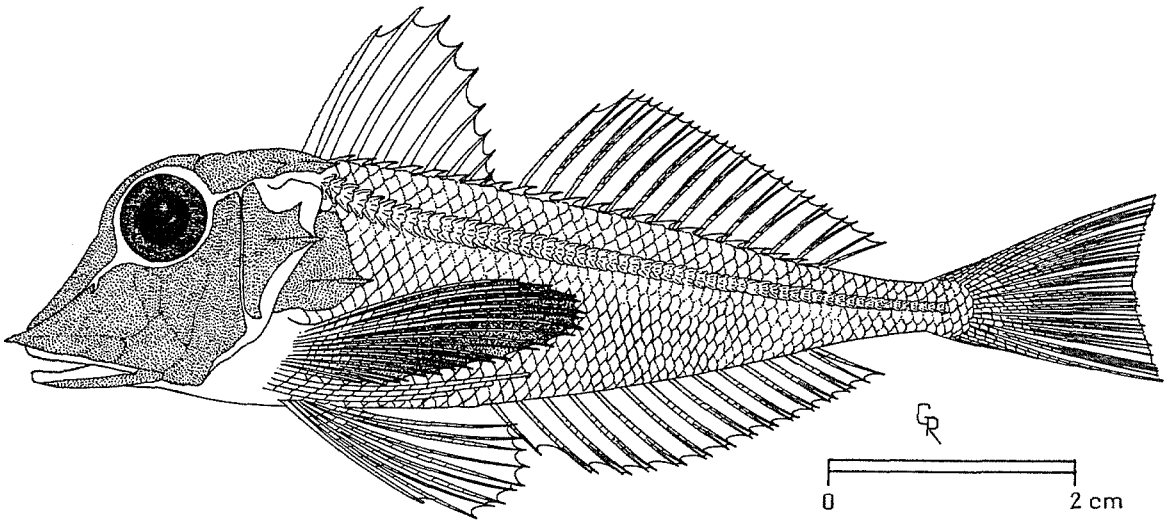
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRIGLIDAE

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

Lepidotrigla carolae Richards, 1968

OTHER SCIENTIFIC NAMES STILL IN USE : None



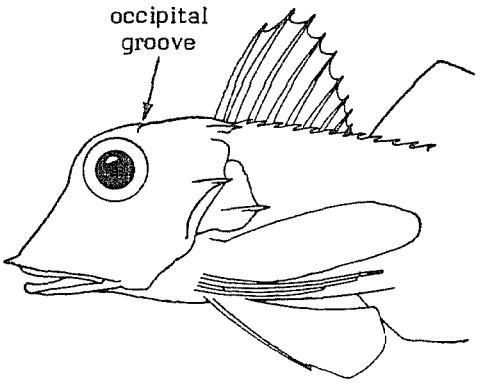
VERNACULAR NAMES:

FAO : En - Carol's gurnard
Fr - Grondin de Carole
Sp - Carolina

NATIONAL :

DISTINCTIVE CHARACTERS :

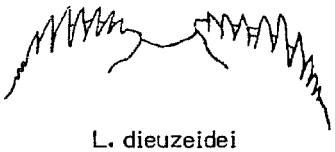
Head large, triangular, bony, with many spines and ridges and a deep occipital groove on top of head behind eyes; snout (preorbital bones) with 1 enlarged spine on each side and several smaller spines in between; interorbital width 5.4 to 8.2% of standard length. Cleithral spine (above pectoral fin) short. Two separate dorsal fins, the first with 8 or 9 spines, the second with 14 to 16 segmented soft rays; anterior edge of first dorsal spine serrated; anal fin with 14 to 16 segmented soft rays. Lateral-line scales slightly enlarged, plate-like, with 1 or 2 posterior tubes and small spines. Breast scaleless. Total gillrakers on first gill arch 4 to 7.



Colour: red above, pale below.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

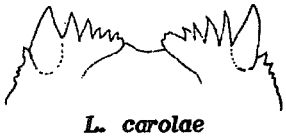
Lepidotrigla dieuzeidei: very difficult to distinguish from L. carolae but differs in having all preorbital spines nearly equal in size, greater interorbital width (7.8 to 10.3% of standard length, against 5.4 to 8.2 in L. carolae), and lateral-line scales with 3 posterior tubes (1 or 2 in L. carolae).



L. dieuzeidei

Lepidotrigla cadmani: first dorsal spine not serrated; breast scaled.

Other species of Triglidae: no groove on top of head behind eyes; generally larger fishes.



L. carolae

tip of snout
(dorsal view)

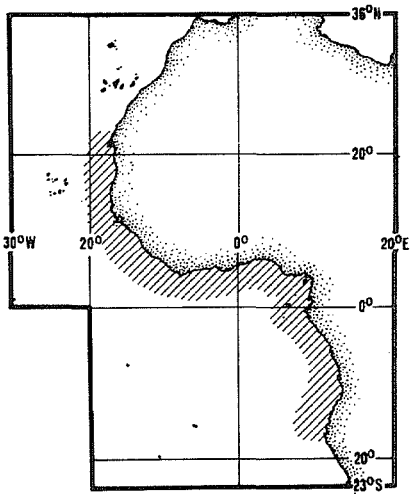
SIZE:

Maximum: about 12 cm; common to 9 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Along the West African coast from 21°N southward to Angola.

Inhabits mud and sand bottoms from about 10 to 300 m depth.



PRESENT FISHING GROUNDS:

Continental shelf throughout its range; apparently rather abundant.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken by bottom trawls and set nets.

Utilized fresh or smoked; also reduced to fishmeal and oil by offshore fleets.

TRIGL Lepid 3

1981

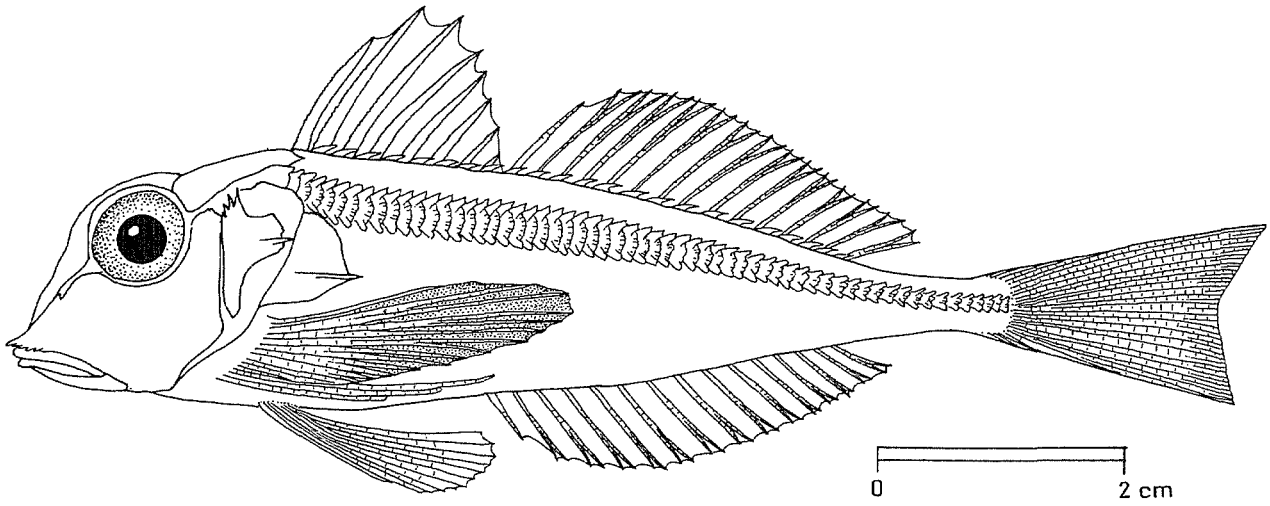
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRIGLIDAE

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

Lepidotrigla dieuzeidei Audoin in Blanc & Hureau, 1973

OTHER SCIENTIFIC NAMES STILL IN USE : Lepidotrigla cavillone (Lacepède, 1801) - often confused with this valid Mediterranean species



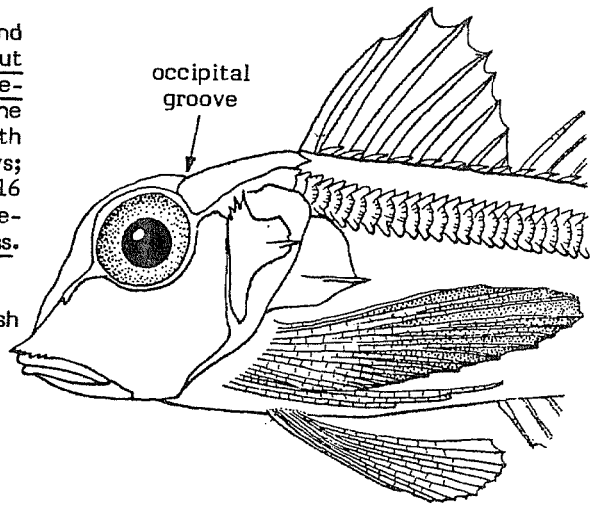
VERNACULAR NAMES:

FAO : En - Spiny gurnard
Fr - Grondin de Dieuzeide
Sp - Cabete espinudo

NATIONAL :

DISTINCTIVE CHARACTERS :

Head large, triangular, bony, with many spines and ridges and a deep occipital groove on top of head behind eyes; snout (preorbital bones) with several spines, nearly equal in size; interorbital width 7.8 to 10.3% of standard length. Cleithral spine (above pectoral fin) short. Two separate dorsal fins, the first with 8 or 9 spines, the second with 14 to 16 segmented soft rays; anterior edge of first dorsal spine serrated; anal fin with 14 to 16 segmented soft rays. Lateral-line scales slightly enlarged, plate-like, with 3 posterior tubes and small spines; breast scaleless. Total gillrakers on first gill arch 6 to 8.



Colour: red above, pale below; pectoral fin blackish distally.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

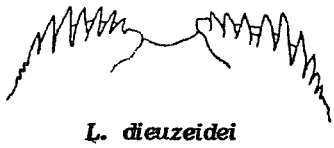
Lepidotrigla carolae: very difficult to distinguish from *L. dieuzeidei*, but differs in having outer preorbital spines larger than others, narrower interorbital width (5.4 to 8.2% of standard length, against 7.8 to 10.3 in L. dieuzeidei); lateral-line scales with 1 or 2 posterior tubes (3 in L. dieuzeidei).



L. carolae

L. cadmani: first dorsal spine not serrated; breast scaled.

Other species of Triglidae: no groove on top of head behind eyes; generally larger fishes.



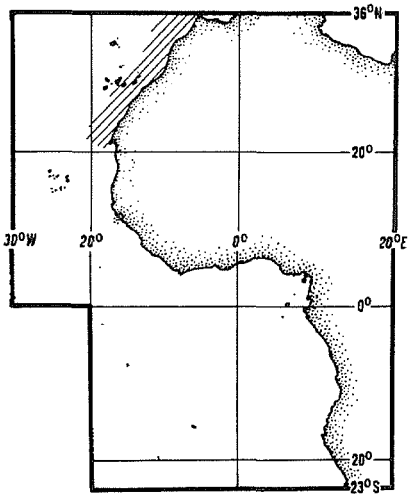
L. dieuzeidei
tip of snout
(dorsal view)

SIZE:

Maximum: about 15 cm; common to 10 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Along the West African coast from Gibraltar to Mauritania (about 21°N). Also found in the Western Mediterranean.



Inhabits sandy and muddy bottoms from about 60 to 180 m depth.

PRESENT FISHING GROUNDS:

Continental shelf throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken by trawls.

Utilized fresh, smoked or reduced to fishmeal and oil.

TRIGL Trig 1

1981

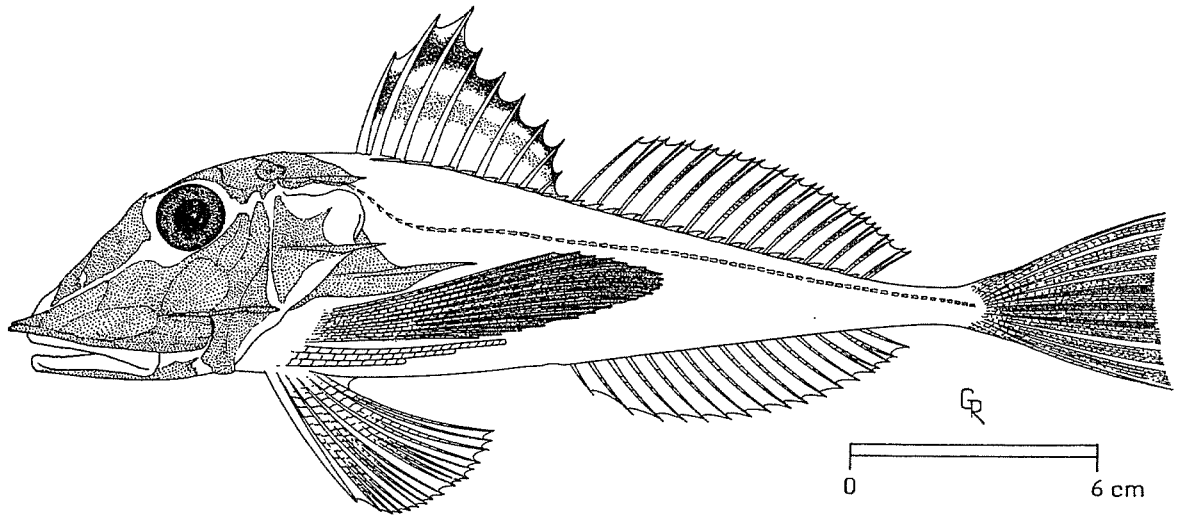
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : TRIGLIDAE

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

Trigla lyra Linnaeus, 1758

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Piper gurnard
Fr - Grondin lyre
Sp - Garneo

NATIONAL :

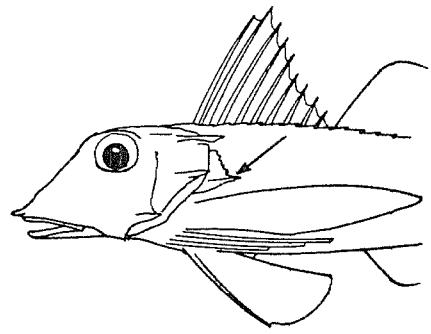
DISTINCTIVE CHARACTERS :

Head large, triangular, bony, with many spines and ridges, but without a deep occipital groove. Cleithral spine (above pectoral fin) very long and strong (greater than 15% of standard length). Two dorsal fins, the first with 8 to 10 spines, the second with 15 or 16 segmented soft rays; anterior edge of first dorsal spine smooth; anal fin with 15 or 16 segmented soft rays; pectoral fins long, reaching anal fin origin. Lateral-line scales small and tubular, breast scaleless; belly partially scaled. Total gillrakers on first gill arch 7 to 11. Swimbladder thin-walled; appears absent but drumming muscle large.

Colour: red above, pale below; dorsal, anal and pectoral fin membranes dusky.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Triglidae: cleithral spine (above pectoral fin) short, less than 12% of standard length (greater than 15% in T. lyra).



Chelidonichthys species

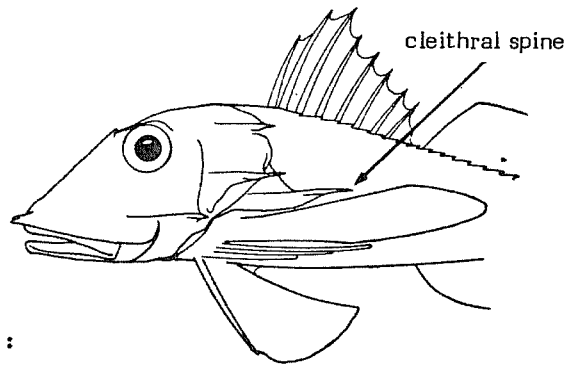
SIZE:

Maximum: 60 cm; common to 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Found throughout the area. Northward extending into the Mediterranean and to the British Isles, southward to Walfis Bay.

Inhabits mud, gravel and rock bottoms from about 10 to 400 m depth.



Trigla lyra

PRESENT FISHING GROUNDS:

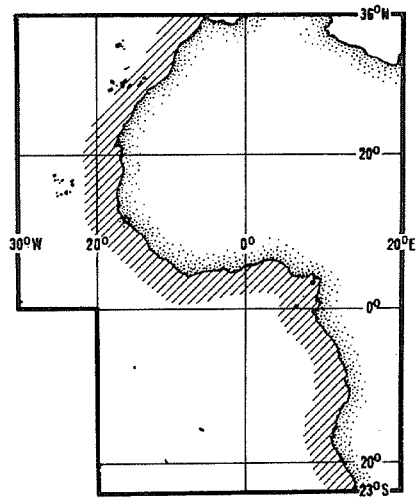
Continental shelf and upper slope throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken in bottom trawls.

An excellent food fish. Marketed mostly fresh or smoked. Also reduced to oil and fishmeal on offshore trawlers.



URAN

1981

FAO SPECIES IDENTIFICATION SHEETS

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

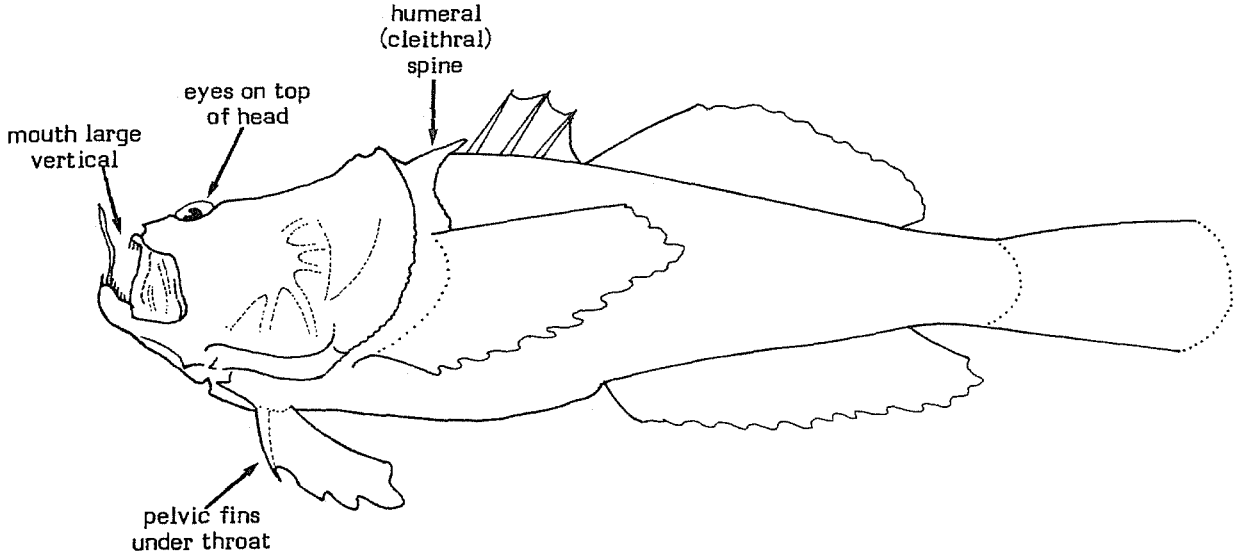
URANOSCOPIDAE*

Stargazers

Body elongate, massive in front. Head broad and deep, with small eyes on its flat dorsal surface; mouth opening vertically, the lower jaw in front of the upper, premaxillae protrusible; often a retractile tentacle inside the mouth, near end of lower jaw; villiform teeth present in jaws and on palate. A strong humeral (or cleithral) spine behind gill cover, above pectoral fin. Two dorsal fins, the first with 3 or 4 spines, the second long and opposite to anal fin, with 13 to 15 soft rays; anal fin spineless or with 1 spine, and with 12 to 14 soft rays; pectoral fins large, with their lower rays branched; pelvic fins jugular (under throat), with 1 spine (often obscured by skin) and 5 soft rays. Scales, when present, small and arranged in regular oblique rows; belly naked.

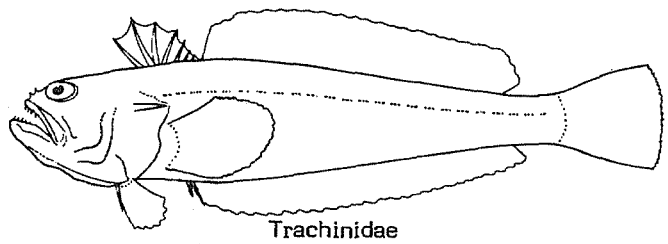
Colour: usually greyish or reddish brown on back and white or yellowish on belly; sometimes with light spots or speckles.

Medium-sized fishes (20 to about 40 cm) occurring in littoral areas and waters of the continental shelf and upper slope. All are bottom-dwelling, usually borrowing in sandy or muddy sediments. Some species are slightly electric; the sharp humeral spine is connected to venom glands and may inflict painful wounds to those handling the fish. Although stargazers are not very abundant and therefore, not important commercially, they are good foodfish. They usually are taken as bycatch in trawl fisheries, but several species are also caught in artisanal fisheries.



SIMILAR FAMILIES OCCURRING IN THE AREA:

Trachinidae: head neither massive nor flat on top; body rather strongly compressed; mouth oblique, not vertical; humeral spine absent, but a strong spine present on gill cover. First dorsal fin spines 5 to 7 (3 or 4 in Uranoscopidae); second dorsal fin rays 21 to 32 (13 to 15 in Uranoscopidae); soft anal fin rays 24 to 32 (12 to 14 in Uranoscopidae).


Trachinidae

*Description applying to Eastern Central Atlantic representatives only

KEY TO SPECIES OCCURRING IN THE AREA:

1 a. Origin of first dorsal fin surrounded by a distinct white blotch

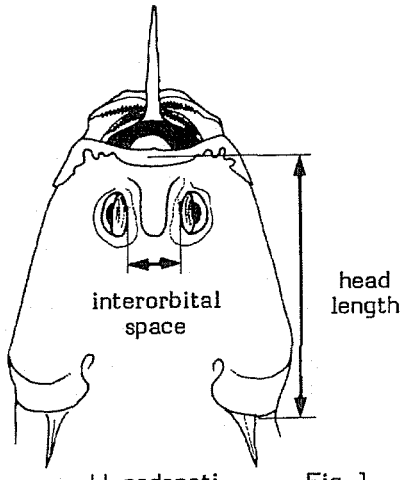
2 a. Interorbital space narrow, contained 5.8 to 6.1 times in head length (Fig. 1) ..... U. cadenati

2 b. Interorbital space wide, contained 5.25 to 5.35 times in head length (Fig. 2) ..... U. polli

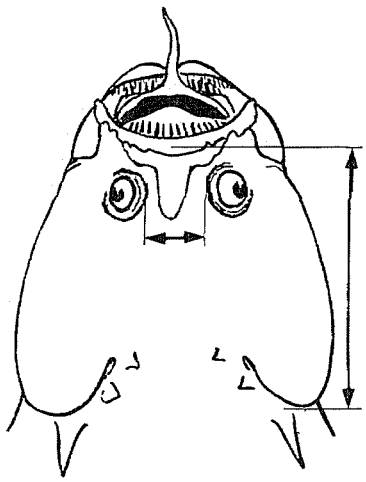
1 b. Origin of dorsal fin not surrounded by a white blotch

3 a. Humeral spine very long, 2.4 to 3 times in head length; mouth tentacle rounded (nearly as long as wide, shorter than eye diameter) and white (Fig. 3) ..... U. albesca

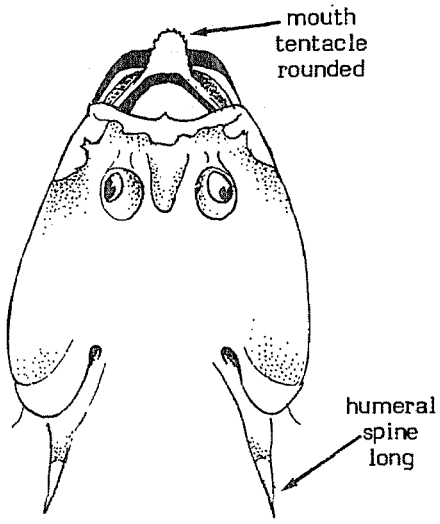
3 b. Humeral spine short, 4 to 4.4 times in head length; mouth tentacle long and slender (as long as, or larger than eye diameter) and greyish ..... U. scaber



U. cadenati Fig. 1



U. polli Fig. 2



U. albesca Fig. 3

LIST OF SPECIES OCCURRING IN THE AREA:

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

Uranoscopus albesca Regan, 1915	URAN Uran 2
*Uranoscopus bufo Valenciennes, 18	
Uranoscopus cadenati, Poll, 1959	URAN Uran 3
Uranoscopus polli Cadenat, 1953	URAN Uran 4
Uranoscopus scaber Linnaeus, 1758	URAN Uran 1

Prepared by C. Roux, Ichthyologie Générale et Appliquée, Muséum National d'Histoire Naturelle, Paris, France

*A form described from Canary Islands, but its specific status is doubtful

URAN Uran 1

1981

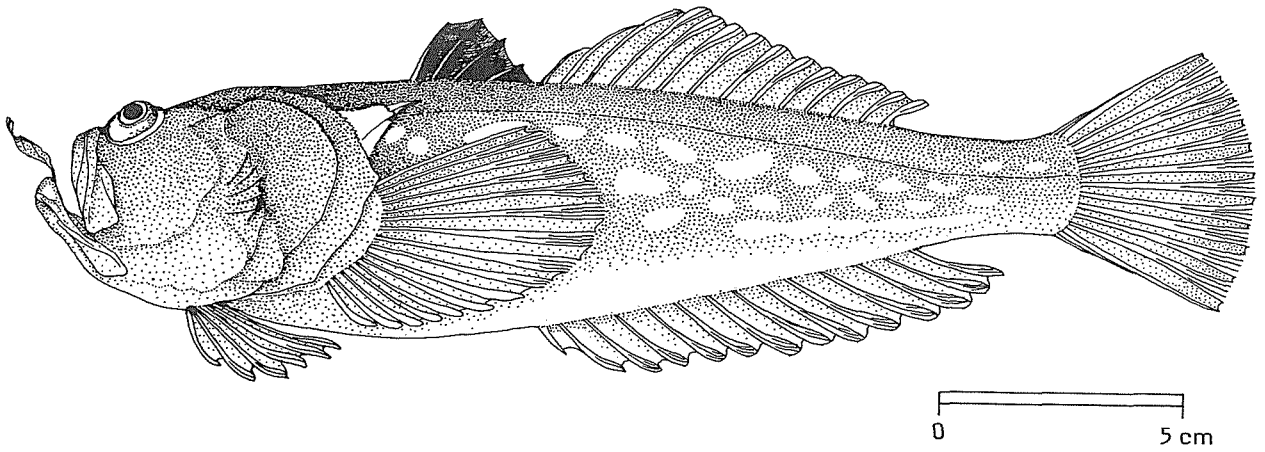
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : URANOSCOPIDAE

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

Uranoscopus scaber Linnaeus, 1758

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Stargazer
Fr - Uranoscope de l'Atlantique (= Boef, Area 37)
Sp - Miracielo (= Rata, Area 37)

NATIONAL :

DISTINCTIVE CHARACTERS :

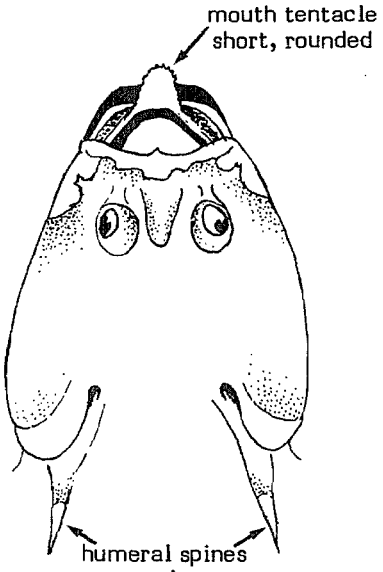
Body massive in front, somewhat compressed posteriorly, its depth contained 4.5 to 5 times in total length. Head large and flat dorsally, its length 3 to 3.1 times in standard length; eyes on top of head, small, their diameter 6 to 8 times in head length; interorbital space contained 5 to 5.7 times in head length; postorbital length 4 to 4.75 times greater than snout length; upper corners of gill openings widely separated (distance between them 1.6 to 1.8 times in head length); mouth vertical, the lower lip fringed with small appendages; tentacle of lower jaw inside mouth long and narrow (as long as, or longer than eye diameter); humeral spine contained 4 to 4.4 times in head length. First dorsal fin with 3 or 4 spines, second dorsal with 13 to 15 soft rays; anal fin with 1 spine and 12 to 14 soft rays. Scales in lateral line 76 to 90.

Colour: back and sides greyish brown, powdered and speckled with white, belly yellowish white. First dorsal fin black; mouth tentacle greyish.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Uranoscopus albesca: humeral spine long, 2.4 to 3 times in head length (4 to 4.4 times in U. scaber); mouth tentacle short and rounded (nearly as wide as long, shorter than eye diameter) and white.

U. cadenati and U. polli: origin of first dorsal fin surrounded by a distinct white blotch.



U. albesca

SIZE :

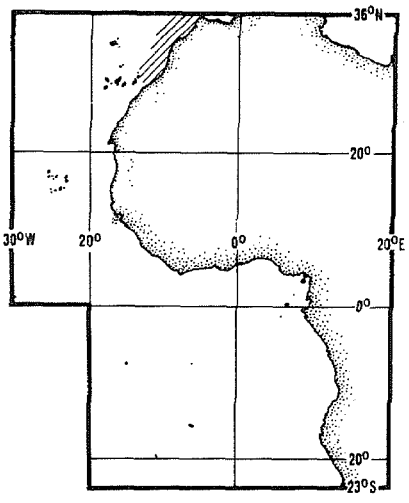
Maximum: to 35 cm (possibly even to 40 cm); common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the area, only reported from Morocco. Widespread in the Mediterranean, Black Sea and along the Atlantic coast of Europe up to Portugal and possibly to the Bay of Biscay.

Lives buried in sand or mud of the continental shelf and upper slope, between 15 and about 400 m depth.

Feeds mainly on fishes.



PRESENT FISHING GROUNDS :

Only marginally entering Fishing Area 34 from the north, its main fishery being in the Mediterranean, the Black Sea and off Portugal

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught mainly with bottom trawls.

Marketed fresh and dried-salted.

URAN Uran 2

1981

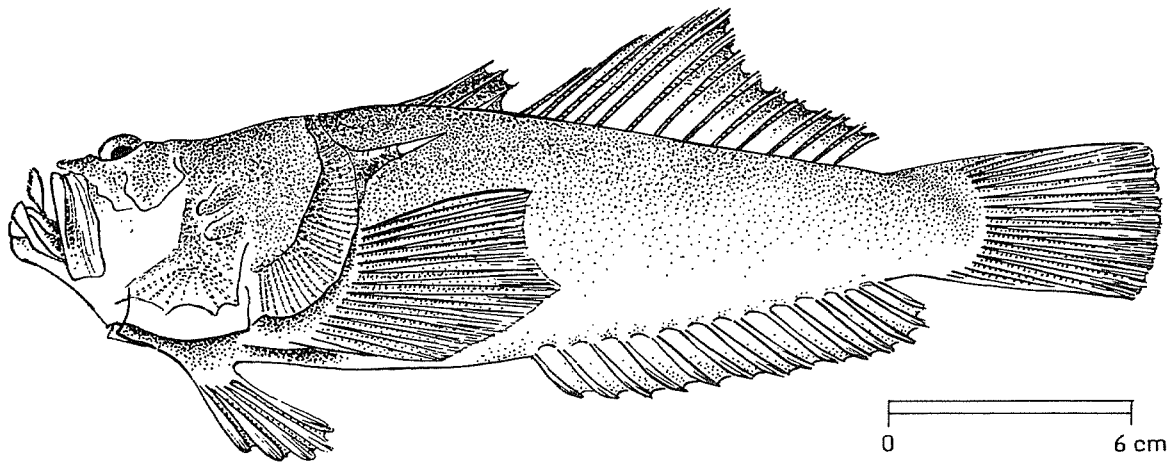
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : URANOSCOPIDAE

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

Uranoscopus albesca Regan, 1915

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Longspine stargazer
Fr - Uranoscope miou
Sp - Miracielo espinón

NATIONAL :

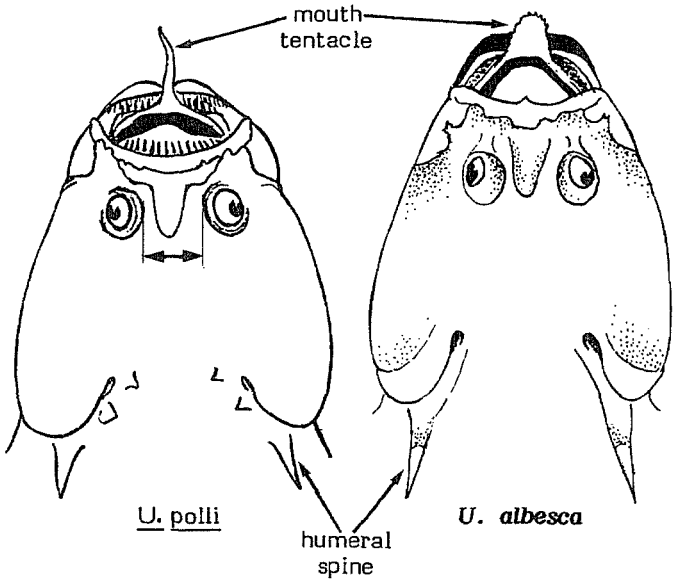
DISTINCTIVE CHARACTERS :

Body massive in front, somewhat compressed posteriorly, its depth contained 3.5 (juveniles) to 4 times in standard length. Head large and flat dorsally, only slightly longer than wide (contained 2.7 (juveniles) to 3.1 times in standard length), eyes on top of head, small, their diameter 4.5 (juveniles) to slightly over 7 times in head length; interorbital space small, contained 5.15 (juveniles) to 6.4 times in head length; postorbital length 3.65 to 4.4 times greater than snout length; upper corners or gill openings close together (distance between them 2.25 to 2.55 times in head length); mouth vertical; 3 rows of teeth anteriorly in upper jaw, and 2 rows in lower jaw; teeth on vomer (roof of mouth) in 2 groups; tentacle of lower jaw inside mouth rounded, as broad as long (or nearly so), shorter than eye diameter; 4 or 5 spines on lower margin of preopercle and 1 on subopercle; humeral spine long, contained 2.4 to 3 times in head length; a single, short occipital (nape) spine on each side near edge of gill cover. First dorsal fin with 3 or 4 spines, second dorsal with 13 or 14 soft rays; anal fin with 13 or 14 soft rays. Scales in lateral line 50 to 55.

Colour: light greyish brown on back and sides, whitish on belly; first dorsal fin blackish, its origin not surrounded by a white blotch. Mouth tentacle white.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other Uranoscopus species: humeral spine short, 4 to 5.1 times in head length (2.4 to 3 times in U. albesca); mouth tentacle long and slender (about as long as eye or longer) and not white. Furthermore, origin of first dorsal fin surrounded by a distinct white blotch in U. cadenati and U. polli; white spots on body of U. polli and U. scaber.



SIZE:

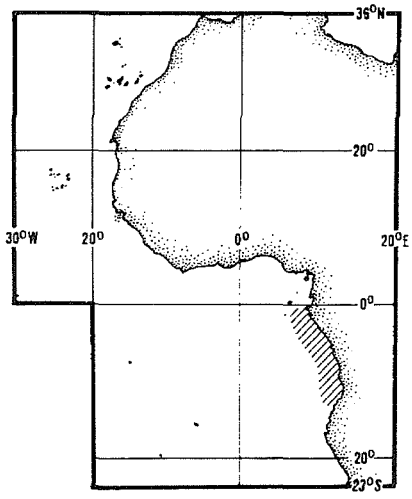
Maximum: to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Tropical coast of West Africa; so far only recorded from Gabon (0°) to Angola (13°30'S), but possibly more widespread.

Lives buried in sand and mud bottoms of the continental shelf and upper slope, between about 30 and 350 m depth.

Feeds on fish and cephalopods.



PRESENT FISHING GROUNDS:

Continental shelf throughout its range, mainly as bycatch in trawl fisheries; a rather common species.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls.

Marketed fresh, dried salted and reduced to fishmeal.

URAN Uran 3

1981

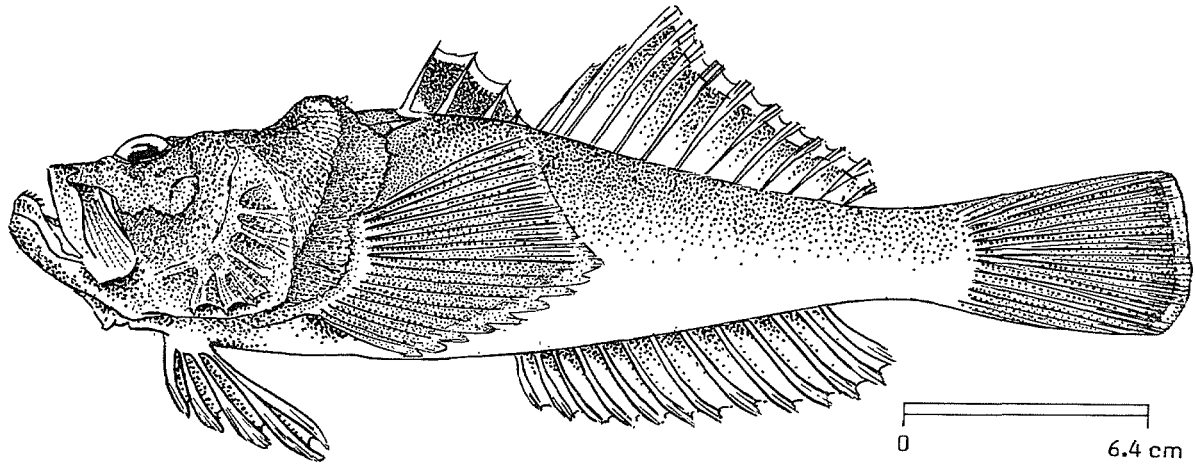
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : URANOSCOPIDAE

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

Uranoscopus cadenati Poll, 1959

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - West African stargazer
Fr - Uranoscope boeuf
Sp - Miracielo africano

NATIONAL :

DISTINCTIVE CHARACTERS :

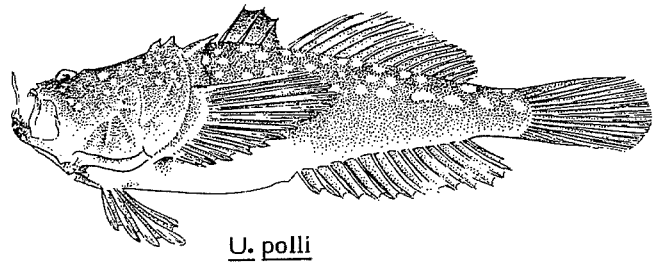
Body massive in front, somewhat compressed posteriorly, its depth contained 3.7 to 4.5 times in standard length. Head large and flat dorsally its length 1.2 to 1.3 times greater than the width; eyes on top of head, moderate-sized, their diameter 5 to 5.6 times in head length; interorbital space narrow, contained 5.8 to 6.1 times in head length; postorbital length 3.6 to 4.2 times greater than snout length; upper corners of gill openings rather close together (distance between them 2.3 to 2.6 times in head length); mouth vertical; 2 rows of teeth in upper and a single row in lower jaw; teeth on vomer (roof of mouth) arranged in 2 groups; tentacle of lower jaw inside mouth narrow, almost as long as eye diameter; 4 to 6 spines on lower margin of preopercle and 1 on subopercle; humeral spine contained 4.3 to 5 times in head length; hind margin of head with 2 almost contiguous flat and coarse areas. First dorsal fin with 3 or 4 spines; second dorsal with 13 or 14 soft rays; anal fin with 14 soft rays. About 50 scales in lateral line; no scales on belly, nape and around first dorsal fin.

Colour: reddish brown on back and sides, whitish on belly; young individuals with white spots on head and body. First dorsal fin black edged with white, its origin surrounded by a distinct white blotch; mouth tentacle grey.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Uranoscopus polli: interorbital space wider, 5.25 to 5.35 times in head length (5.8 to 6.1 times in U. cadenati); postorbital region longer (4.6 to 5 instead of 3.6 to 4.2 times longer than snout); eye smaller (5.7 to 6.1, instead of 5 to 5.6 times in head length); adults with white spots on back and sides.

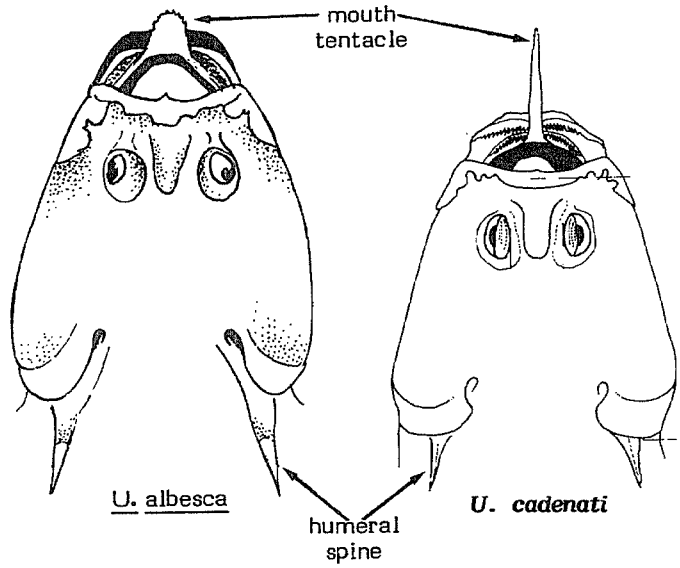
U. albesca and U. scaber: origin of first dorsal fin not surrounded by a white blotch. Furthermore, humeral spine very long, and mouth tentacle short, rounded and white in U. albesca: body less deep and head shorter in U. scaber.



U. polli

SIZE:

Maximum: at least to 35 cm (unconfirmed reports indicate 50 cm).



GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

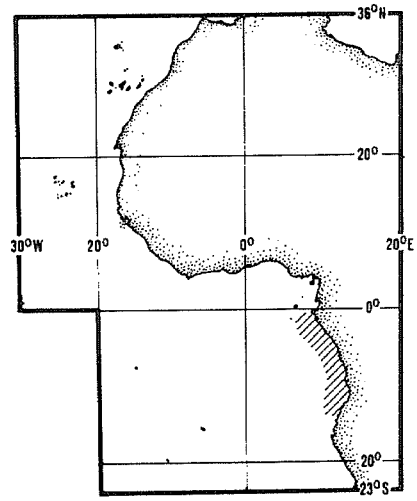
Tropical coast of West Africa; confirmed reports from Gabon to Angola (13°S), but probably more widespread, said to occur off Nigeria and Senegal.

Buries in sand and mud bottoms of the continental shelf down to the upper slope, between 30 and at least 300 m depth.

Feeds on shrimps and possibly fishes.

PRESENT FISHING GROUNDS:

Continental shelf throughout its range, mainly as bycatch in trawl fisheries; a rather common species.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls; also with fixed bottom nets and other artisanal gear.

Marketed fresh, dried salted and reduced to fishmeal.

URAN Uran 4

1981

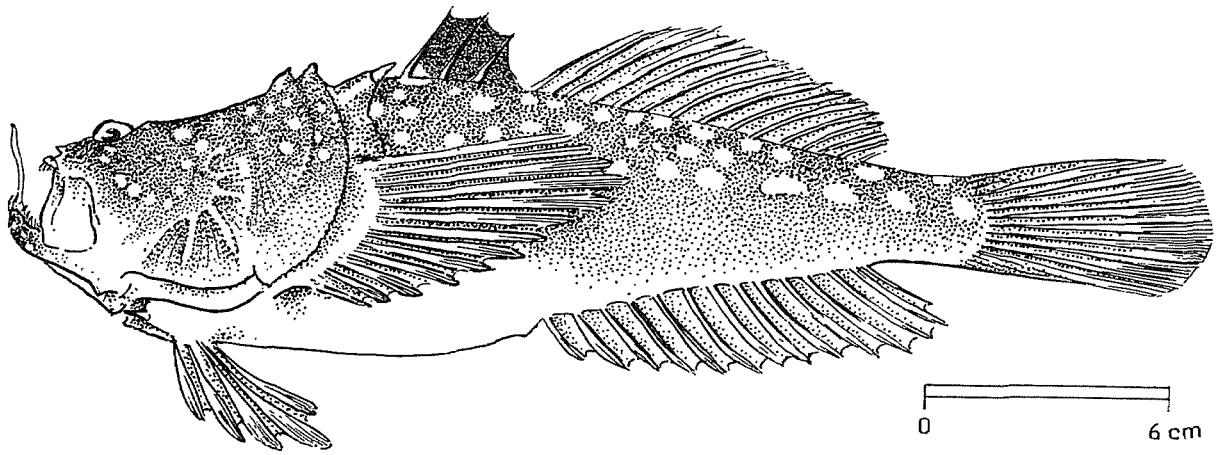
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : URANOSCOPIDAE

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

Uranoscopus polli Cadenat, 1953

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Whitespotted stargazer
Fr - Uranoscope à points blancs
Sp - Miracielo moteado

NATIONAL :

DISTINCTIVE CHARACTERS :

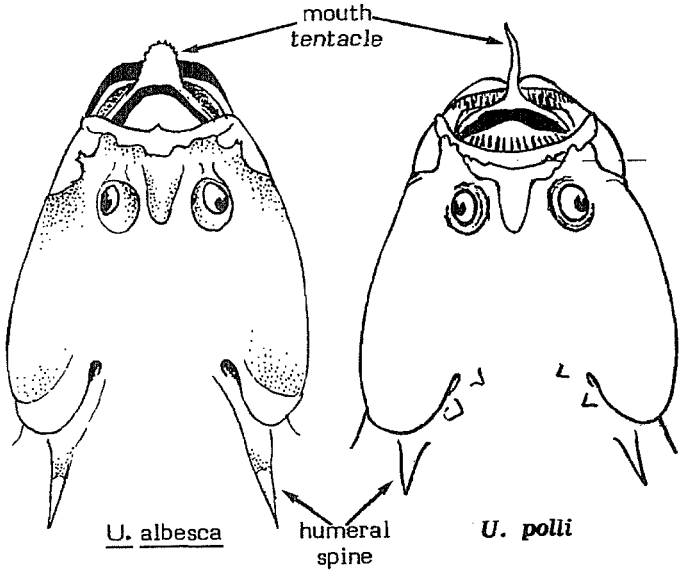
Body massive in front, somewhat compressed posteriorly, its depth contained 3.9 to 4.3 times in standard length. Head large and flat dorsally, its length 1.15 to 1.3 times greater than the width (2.8 to 2.9 times in standard length); eyes on top of head, small, their diameter 5.7 to 6.1 times in head length; interorbital space broad, contained 5.25 to 5.35 times in head length; postorbital length 4.6 to 5 times greater than snout length; upper corners of gill openings widely separated (distance between them 1.95 to 2.15 times in head length); mouth vertical, lips ornamented with a fringe of short appendices; 2 rows of teeth anteriorly in upper and lower jaw; teeth on vomer (roof of mouth) in 2 groups; tentacle of lower jaw inside mouth almost threadlike, about as long as eye diameter; 4 spines on lower margin of preopercle and 1 on subopercle; humeral spine contained 4.8 to 5.1 times in head length; 3 occipital (nape) spines on each side. First dorsal fin with 4 spines, second dorsal with 14 soft rays; anal fin with 14 soft rays. Scales in lateral line 58 to 60.

Colour: back and sides reddish brown with diffuse white spots, belly whitish. First dorsal fin black, except for white base of first spine, its origin surrounded by a distinct white blotch; mouth tentacle edged with black.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Uranoscopus cadenati: interorbital space narrower, 5.8 to 6.1 times in head length (5.25 to 5.35 times in U. polli); postorbital region shorter (3.6 instead of 4.6 to 5.1 times longer than snout); eye larger (5 to 5.6, instead of 5.7 to 6.1 times in head length); adults without white spots.

U. albesca and U. scaber: origin of first dorsal fin not surrounded by a white blotch. Furthermore, humeral spine very long, mouth tentacle short, rounded and white and body without white spots in U. albesca; body less deep and head shorter in U. scaber.



SIZE:

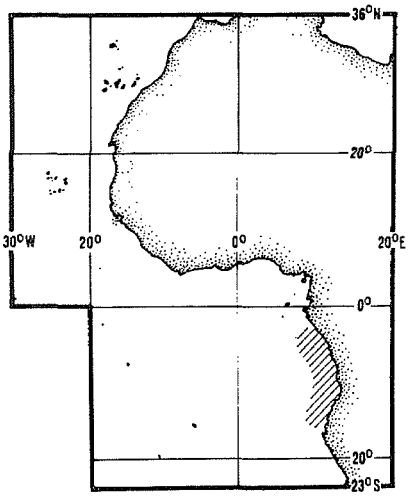
Maximum: to about 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Tropical West African coast mainly off Angola and Congo, but probably ranging much further north.

Inhabits mainly coastal waters between 25 and 50 m, but may extend down to about 200 m depth. Usually found burying in muddy sand bottoms, occasionally also on rocky substrate.

Feeds chiefly on fish.



PRESENT FISHING GROUNDS:

Coastal waters, as bycatch in trawl fisheries, but apparently not abundant.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls; also with fixed bottom nets and other artisanal gear.

Marketed fresh, dried-salted, and used for fishmeal by industrial offshore fleets.

XIPH

1981

FAO SPECIES IDENTIFICATION SHEETS

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

XIPHIIDAE

Swordfishes

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

Xiphias gladius Linnaeus, 1758 XIPH Xiph 1

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

XIPH Xiph 1

1981

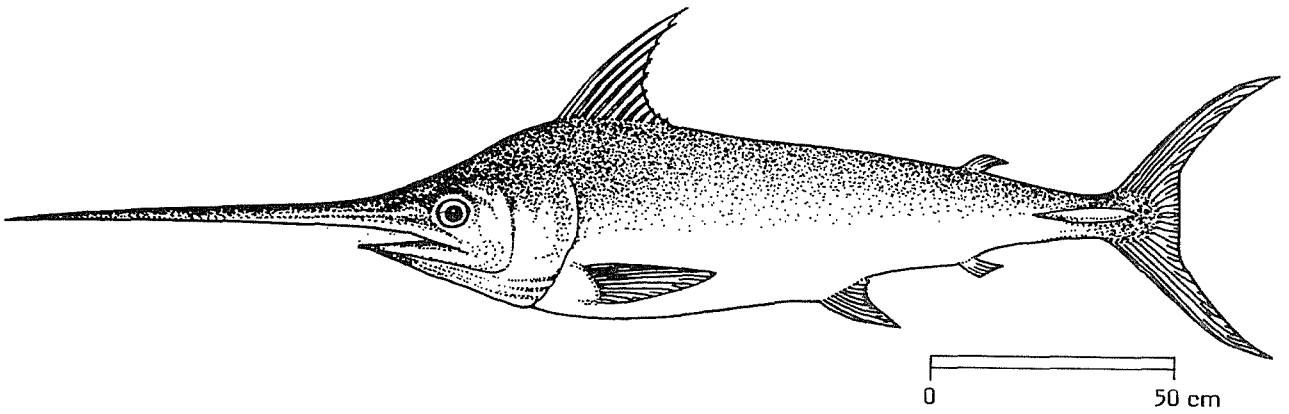
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : XIPHIIDAE

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

Xiphias gladius Linnaeus, 1758

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

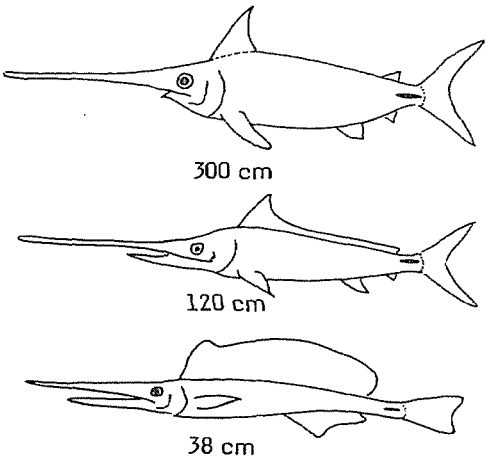
FAO : En - Swordfish
Fr - Espadón
Sp - Pez espada

NATIONAL :

DISTINCTIVE CHARACTERS :

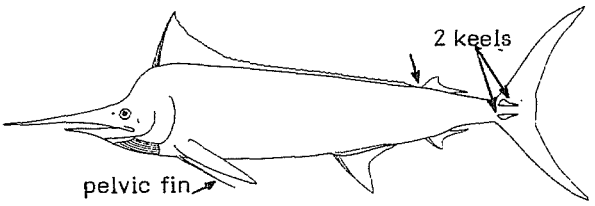
A large fish of rounded body, very robust in front; snout ending in a long, flattened sword; gill rakers absent. Dorsal and anal fins each consisting of two widely separated portions in adults, but both fins single in young and juveniles; pelvic fins absent; caudal fin lunate in adults, emarginate to forked in young. A single, strong, lateral keel on each side of caudal peduncle. Scales absent in adult, but peculiar scale-like structures present in young, gradually disappearing with growth.

Colour: back and upper sides brownish-black, lower sides and belly light brown.



DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Istiophoridae: prolonged upper jaw spear-like, rounded in cross section (sword-like and flat in cross section in Xiphiidae); pelvic fins present, long, narrow and rigid; two small (instead of one large central) keels on either side of caudal peduncle; dorsal fins close together (well separated in adults of Xiphiidae); vertebrae 24 (26 in Xiphiidae).



Istiophoridae (Makaira)

SIZE:

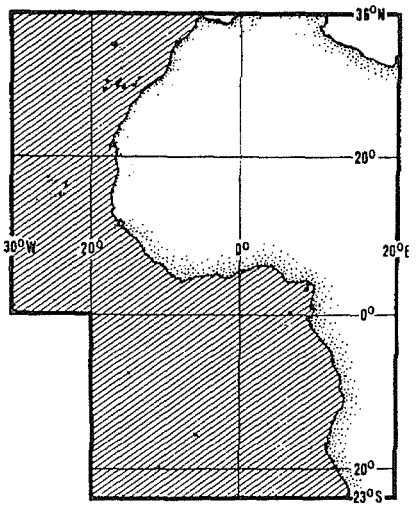
Maximum: 450 cm; common to 220 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Worldwide in tropical and temperate waters. Found throughout the area from the surface to about 800 m depth.

A highly migratory and aggressive fish, generally not forming schools; occurring in coastal waters as well as offshore. Reproduction takes place at temperatures between 25 and 29°C in upper water layers.

Feeds on a wide range of fishes, both surface and midwater forms, especially schooling species; also on pelagic crustaceans and squids. It is reported to use its sword to kill larger prey.



PRESENT FISHING GROUNDS:

Surface waters, throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catch reported for this species from Fishing Area 34 in 1978 totalled about 4 500 t (Ghana: 1 887 t; Korea: 989 t; Japan: 270 t; Cuba: 200 t, etc.).

Caught mainly with harpoons and longlines; also by trolling.

Marketed fresh and frozen. The flesh is highly appreciated for being tender and delicate, but it may contain high concentrations of mercury in the case of large individuals.

ZEID

1981

FAO SPECIES IDENTIFICATION SHEETS

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

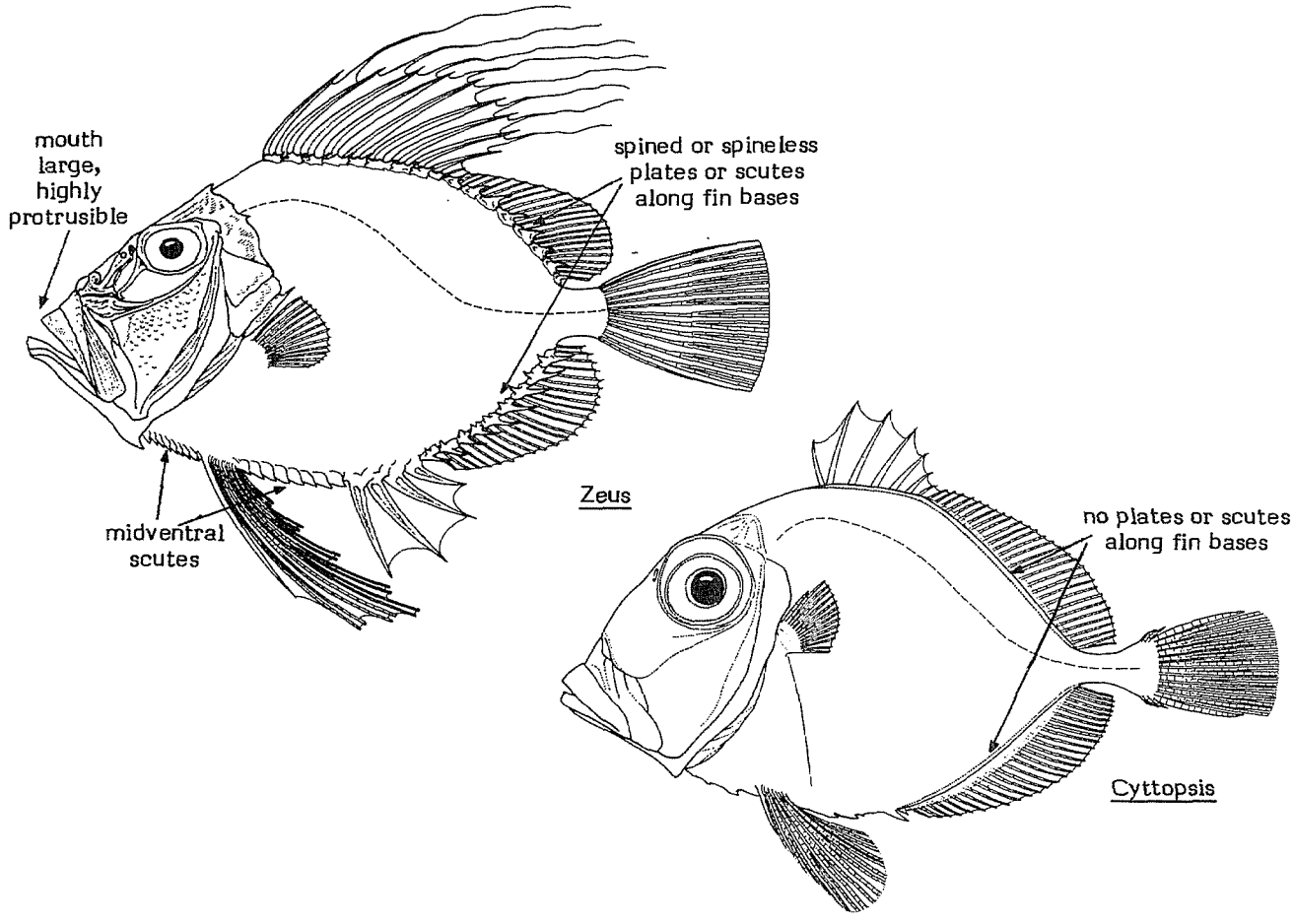
ZEIDAE*

Dories

Body deep and compressed. Head large; jaws massive; mouth large, strongly oblique and highly protrusible, small teeth in narrow bands in both jaws and on vomer (roof of mouth); occipital crest little developed or absent. Dorsal fin with 7 to 10 spines and 21 to 30 soft rays; anal fin with 1 to 5 spines and 20 to 30 soft rays; pectoral fins short; pelvic fins with or without a spine and with 6 to 10 soft rays, inserted below or in advance of pectoral fin bases. Body naked or covered with small scales; bony scutes present along mid-ventral profile; in Zenopsis and Zeus there is also a series of spined or spineless large bony plates or smaller scutes along the bases of dorsal and anal fins. Vertebrae 29 to 46.

Colour: usually silvery grey or pink to reddish; some species (i.e. Zeus faber) with conspicuous markings on body.

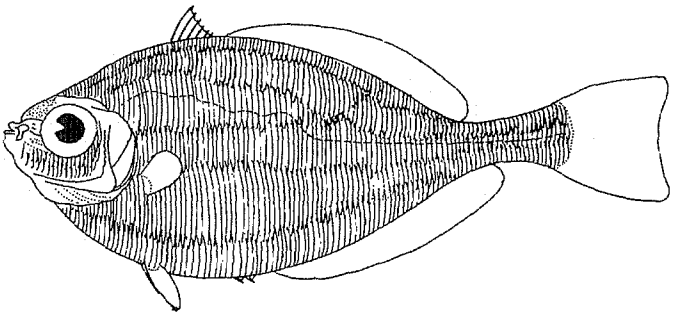
Medium- to large-sized fishes (to about 65 cm total length), poor swimmers, occurring solitary or in schools, either near the bottom or in midwater, from close inshore to depths of about 600 m. Excellent foodfishes, caught mainly with bottom trawls, although apparently not very abundant.



*Diagnosis applies to Eastern Central Atlantic representatives

SIMILAR FAMILIES OCCURRING IN THE AREA:

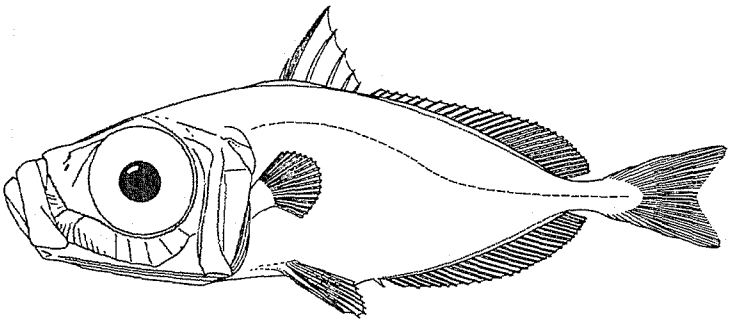
Grammicolepidae: body strongly compressed; mouth small; scales vertically elongated. Two or three species occur in Fishing Area 34: Grammicolepis brachiusculus (Poey), Xenolepidichthys dalgleishi Gilchrist and perhaps Daramattus armatus Smith.



Grammicolepidae

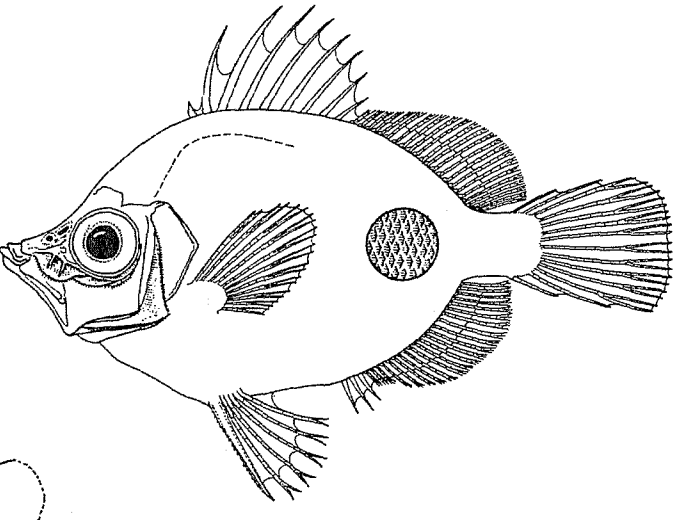
Zeniontidae: body always fully scaled and rather elongated, the depth more than two times in standard length (1.5 to 2 times in Zeidae); pelvic fins inserted further back than pectoral fin bases; eye very large, about half the length of head (less than half in Zeidae). A single species occurs in Fishing Area 34: Zenion hololepis Goode & Bean.

Oreosomatidae: body strongly compressed and always fully scaled; mouth and eye large; juveniles with scales transformed into large plates or elevated cones; soft rays in dorsal fin 29 to 35 (21 to 30 in Zeidae); pectoral fins with 16 to 22 rays (12 to 14 in Zeidae). Three, species are definitely known to occur in Fishing Area 34: Allocyttus verrucosus (Gilchrist), Neocyttus rhomboidalis Gilchrist, and Pseudocyttus maculatus Gilchrist; the presence of further two species, Neocyttus helgae (Holt & Byrne) and Oreosoma atlanticum Cuvier is doubtful.

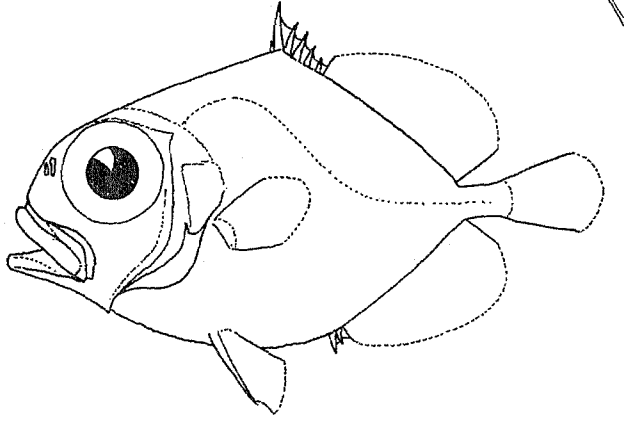


Zeniontidae

Caproidae: body more or less deep and compressed, covered with ctenoid (rough) scales; mouth relatively small; pelvic fins with 1 spine and 5 soft rays, inserted further back than pectoral fin bases (with or without a spine and 6 to 10 soft rays, inserted below or in advance of pectoral fin bases in Zeidae). Two species occur in Fishing Area 34: Capros aper (Linnaeus) and Antigonia capros Lowe.



Caproidae



Oreosomatidae

KEY TO SPECIES OCCURRING IN THE AREA:

1 a. Upper rim of orbit with small spines; no large bony scutes or plates along the bases of dorsal and anal fins; anal fin with 1 or 2 spines and 27 to 30 soft rays; spinous portion of dorsal fin without long filaments; pelvic fins inserted further back than hind margin of eye (Fig. 1); colour: deep pink to red ..... Cyttopsis roseus

1 b. Upper side of orbit spineless; bony plates or scutes present along the bases of dorsal and anal fins; anal fin with 3 to 5 spines and less than 27 soft rays; spinous portion of dorsal fin with filaments about as long as spines; pelvic fins inserted below or in advance of hind margin of eyes (Figs. 2,3); colour: not pink or red

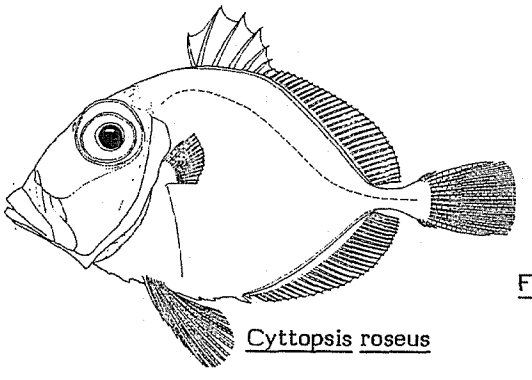


Fig. 1
Cyttopsis roseus

2 a. Large bony plates with spines along the bases of dorsal and anal fins; upper profile of head concave; pelvic fins inserted in advance of posterior eye margin; eye small, contained more than 4 times in head (Fig. 2); colour: silvery grey, without an ocellus on middle of side, but with black spots in juveniles ..... Zenopsis conchifer

2 b. Smaller bony scutes with spines along the bases of dorsal and anal fins; upper profile of head straight or convex; pelvic fins inserted about below posterior eye margin; eye moderate in size, contained about 3 or 4 times in head length (Fig. 3); colour: golden greenish grey with an ocellus (black spot encircled by a narrow greyish or yellowish border) on middle of side ..... Zeus faber

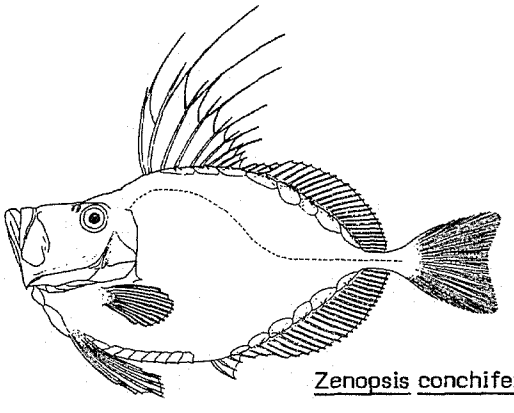


Fig. 2
Zenopsis conchifer

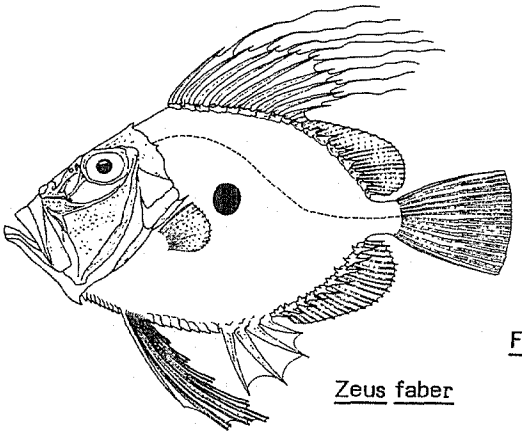


Fig. 3
Zeus faber

LIST OF SPECIES OCCURRING IN THE AREA :

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

Cyttopsis roseus (Lowe, 1843)	
Zenopsis conchifer (Lowe, 1852)	ZEID Zen 1
Zeus faber Linnaeus, 1758	ZEID Zeus 1

Prepared by J.C. Quéro and illustrated by J.J. Vayne, Institut scientifique et technique des Pêches maritimes, Laboratoire d'Ichthyologie, La Rochelle, France

Draft material revised by C. Karrer, Zoologisches Institut und Zoologisches Museum, Hamburg, Federal Republic of Germany

ZEID Zen 1

1981

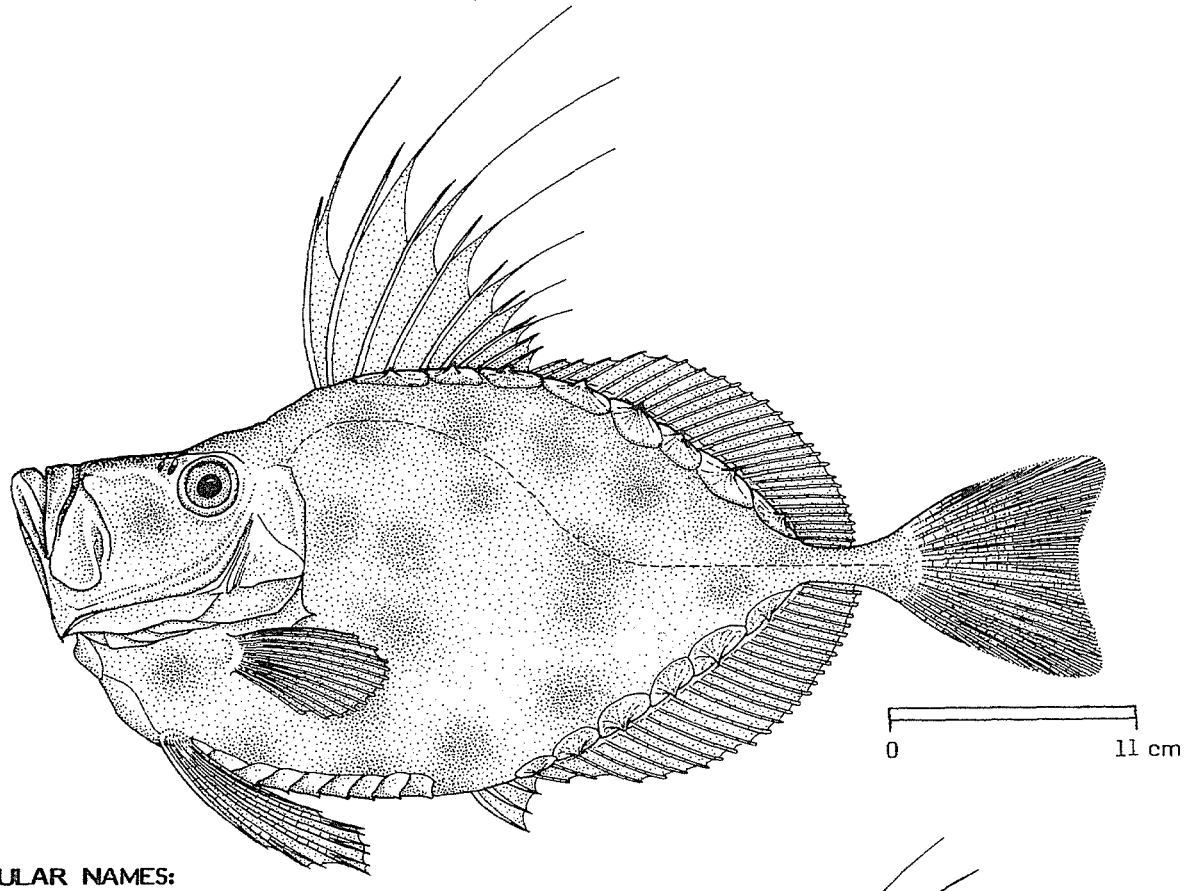
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : ZEIDAE

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

Zenopsis conchifer (Lowe, 1852)

OTHER SCIENTIFIC NAMES STILL IN USE : Zeus conchifer (Lowe, 1852)
Zeus ocellatus Storer, 1859



VERNACULAR NAMES:

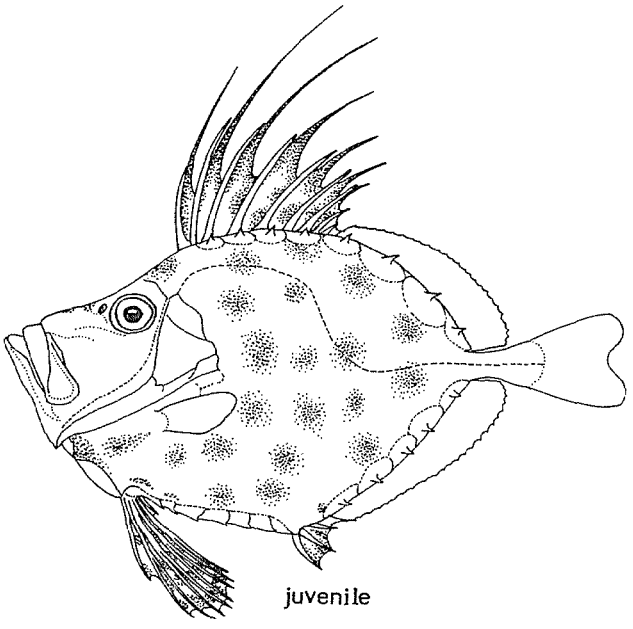
FAO : En - Silvery John dory
Fr - Saint Pierre argenté
Sp - San Pedro plateato

NATIONAL :

DISTINCTIVE CHARACTERS :

Body deep and strongly compressed; caudal peduncle longer than deep. Head large, its upper profile concave; eye small, contained more than 4 times in head; mouth large, jaws massive. Dorsal fin with 9 or 10 spines and 24 to 27 soft rays, the spinous portion with filaments about as long as the spines; anal fin with 3 spines and 24 to 26 soft rays; pelvic fins inserted in advance of posterior eye margin. Body scaleless, but large, spined bony plates present along the bases of dorsal (6 to 9) and anal (4 to 9) fins; bony plates also present on midventral profile.

Colour: silvery grey; moderate black spots present in juveniles.



juvenile

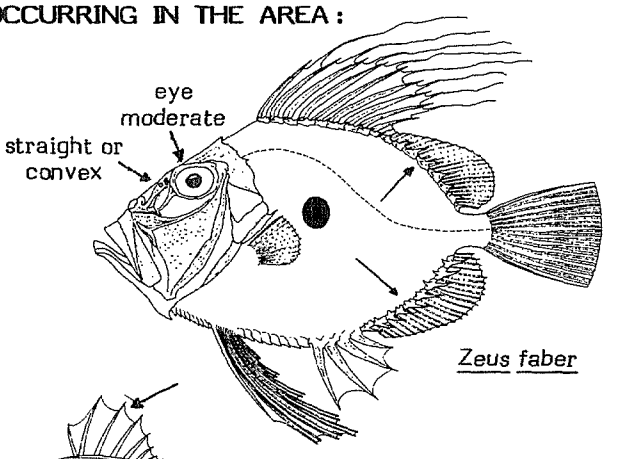
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Zeus faber: upper profile of head straight or convex; smaller spinous scutes along the bases of dorsal and anal fins; pelvic fins inserted about below posterior eye margin; eye moderate in size; colour, golden greenish grey with a conspicuous ocellus.

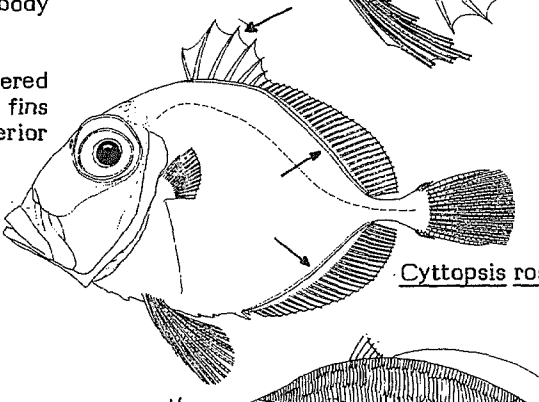
Cyttopsis roseus: no spinous scutes along the bases of dorsal and anal fins; no long filaments on spinous portion of dorsal fin; anal with 1 or 2 spines and 27 to 30 soft rays (3 spines and 24 to 26 soft rays in Z. conchifer); colour, deep pink to red.

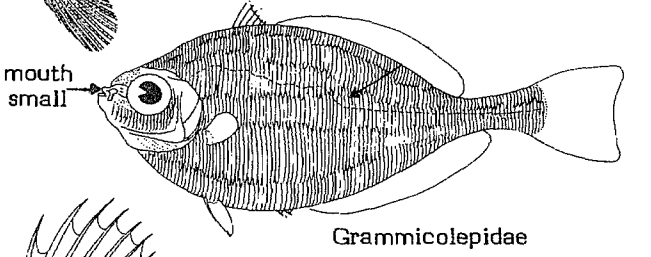
Species of Grammicolepidae: mouth small; body covered with vertically elongated scales.

Species of Caproidae; mouth small; body covered with well visible scales but no scutes; pelvic fins inserted further back than pectoral fin bases (anterior to pectorals in Z. conchifer).

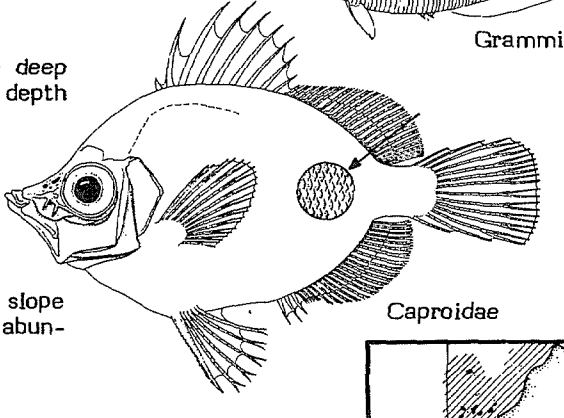


Zeus faber


Cyttopsis roseus



Grammicolepidae


Caproidae

SIZE:

Maximum: 75 cm; common to 50 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

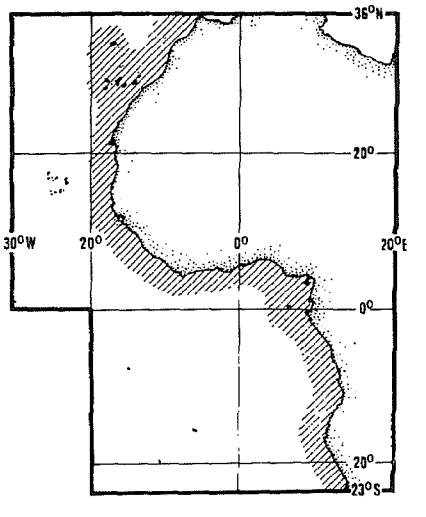
Found throughout the area; extending northward to the Bay of Biscay (48°N) and southward to South Africa. Also present in the Western Atlantic and in the Indian Ocean.

A poor swimmer, near the bottom or in deep midwater between 100 m and more than 400 m depth but more common between 200 and 300 m.

Feeds on a wide range of fishes.

PRESENT FISHING GROUNDS:

Edge of the continental shelf and upper slope mainly between 17°N and 6°S; reported to be abundant to the south of Cape Blanc.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with bottom trawls.

Utilized fresh, frozen and dried salted; also used for fishmeal and oil.

ZEID Zeus 1
1981

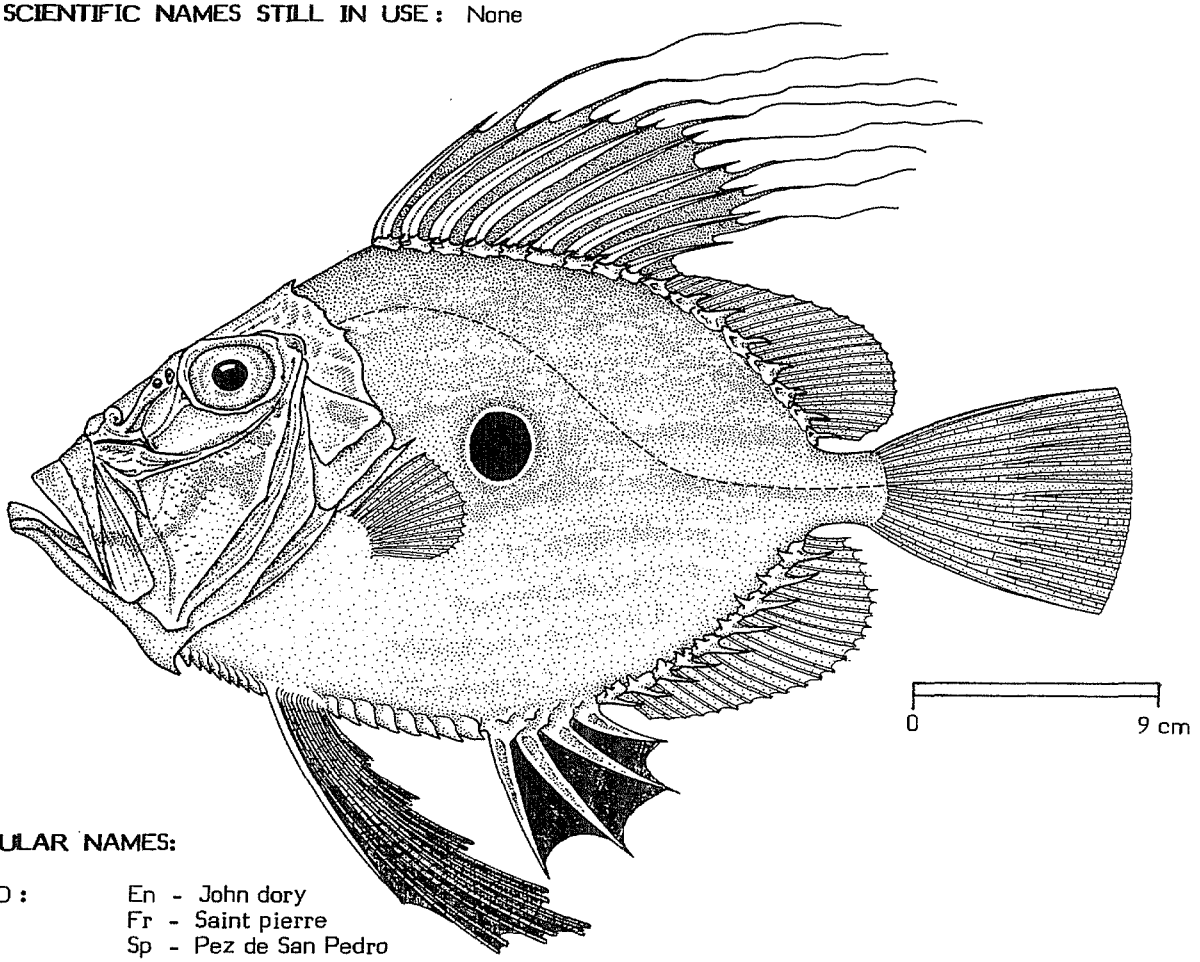
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : ZEIDAE

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

Zeus faber Linnaeus, 1758

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - John dory
Fr - Saint pierre
Sp - Pez de San Pedro

NATIONAL :

DISTINCTIVE CHARACTERS :

Body deep and strongly compressed; caudal peduncle about as long as deep. Head large, its upper profile straight or convex; eye moderate in size, contained about 3 or 4 times in head; mouth large and oblique, jaws massive. Dorsal fin with 9 or 10 spines and 21 to 25 soft rays; the spinous portion with filaments about as long as the spines; anal fin with 4 (rarely 3 to 5) spines and 20 to 24 soft rays; pelvic fins inserted about below posterior eye margin. Body apparently naked (covered with very small scales not visible without magnification), but spined scutes present along the bases of dorsal (5 to 10) and anal (6 to 11) fins. Bony plates also present on midventral profile.

Colour: golden greenish grey with a conspicuous ocellus (a black spot encircled by a narrow greyish or yellowish border on middle of side); fin membrane of spinous dorsal fin dark, those of the spinous anal and pelvics black.

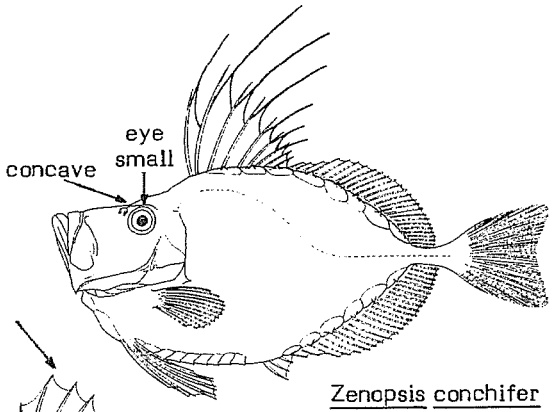
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Zenopsis conchifer: upper profile of head concave; larger bony plates along the bases of dorsal and anal fins; pelvic fins inserted in advance of posterior eye margin; eye small; colour silvery grey, without conspicuous markings.

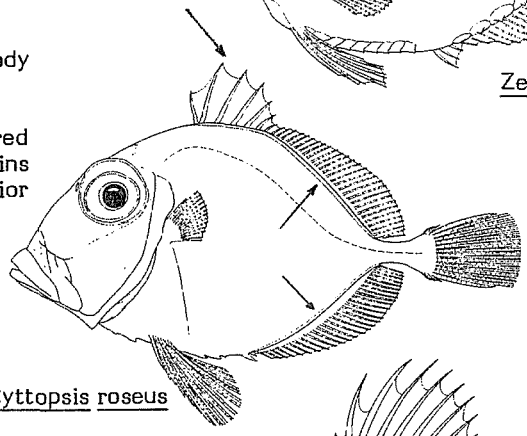
Cyttopsis roseus: no spinous scutes along the bases of dorsal and anal fins; no long filaments on spinous portion of dorsal fin; anal fin with 1 or 2 spines and 27 to 30 soft rays (3 to 5 spines and 20 to 24 soft rays in Z. faber; colour deep pink to red without conspicuous markings.

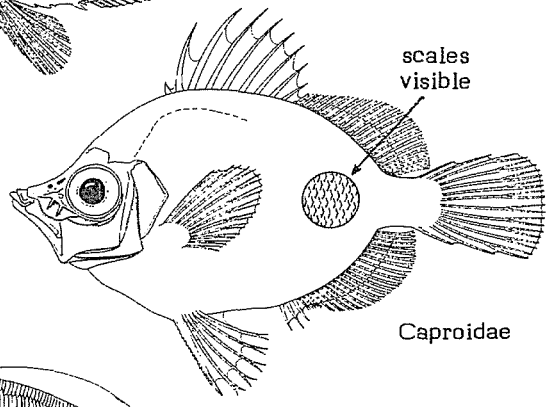
Species of Grammicolepidae: mouth small, body with vertically elongated scales but no scutes.

Species of Caproidae: mouth small; body covered with well visible scales but no scutes; pelvic fins inserted further back than pectoral fin bases (anterior to pectorals in Z. faber).

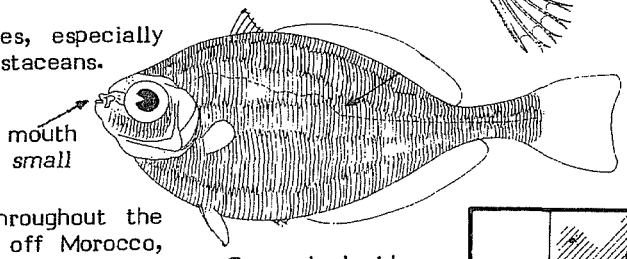


Zenopsis conchifer


Cyttopsis roseus



Caproidae



Grammicolepidae

SIZE:

Maximum: about 65 cm; common to 40 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

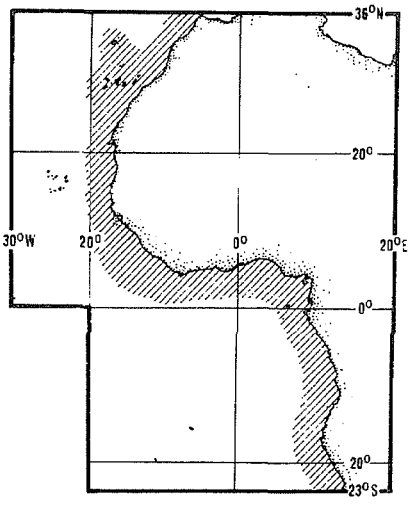
Found throughout the area. Also in the North-eastern Atlantic up to the Faeroe Islands, off South Africa, and in the Indian Ocean.

A poor swimmer, generally solitary either near the bottom or in midwater, from the coast to at least 400 m depth, but more common between 20 and 160 m.

Feeds on a wide range of fishes, especially schooling species; sometimes also on crustaceans.

PRESENT FISHING GROUNDS:

Continental and island shelves throughout the area. Reported to be rather abundant off Morocco, Senegal and Madeira.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The 1978 catch reported for this species from the area totalled 493 t (Morocco, 105 t; U.S.S.R., 287 t; Portugal, 78 t; Japan, 23 t).

Caught mainly with bottom trawls.

Marketed fresh, frozen, dried salted and smoked; an excellent foodfish. Also used for fishmeal and oil by industrial offshore fishing fleets.

CHIMAERAS

GENERAL REMARKS

Chimaeras are somewhat compressed, sharklike fishes that resemble grenadiers (Macruridae) in shape but are true cartilaginous fishes (Chondrichthyes), with no bone in the skeleton, no bony fin rays, and no bony plate scales. Unlike sharks and rays (Elasmobranchii), chimaeras (Holocephalii) have only 4 pairs of gill openings on the sides of the head, which are hidden by a pair of soft gill covers that extend to the bases of the pectoral fins and form a single external gill opening on each side of the head. Chimaeras have prominent, large eyes on the sides of the head but no spiracles; the mouth is small, ventral, and connected to the nostrils by a pair of deep grooves, which serve to channel water from the nostrils to the mouth for respiration; the teeth in the mouth are formed into two pairs of ever-growing tooth plates in the upper jaw and one pair in the lower jaw, which unlike sharks and rays are not serially replaced; these protrude from the mouth like rodent's incisors, and have suggested the names ratfish or rabbitfish for some of the species. The pectoral fins are broad, leaf-shaped, and with a delicate external fin web supported by connective tissue fin rays (ceratotrichia); the pectorals serve to propel these fishes slowly through the water; all chimaeras have 2 dorsal fins, the first erectile, with a slender, toxic spine and the second long and spineless; an anal fin is either present or absent. The tail of chimaeras is elongated and tapering, with a sharklike, asymmetrical (heterocercal) or straight, leaf-shaped (diphycercal) caudal fin, often with a long terminal filament extending beyond the fin. All living chimaeras have virtually naked skin, except for a few dermal denticles on the back and along the lateral-line canals in some species and on the claspers and tentacula of males. The canals of the lateral line system on the head and sides of the body and tail are superficial in the skin and very prominent, unlike sharks and rays where they are more or less hidden under the skin. Male chimaeras have a pair of cylindrical or forked copulatory organs or claspers on their pelvic fins, used for internal fertilization of the eggs of females; adult males additionally have a pair of denticle-studded grasping organs, the prepelvic tentaculae, just in front of the pelvic fin bases, and a knocker-like, denticle-covered frontal tentaculum on the forehead; these structures aid the male in grasping the female during copulation. Chimaeras are oviparous, depositing eggs on the bottom in long-necked, spindle or bottle-shaped egg cases, with a pair of narrow or broad, delicate side fins variably developed. Mature chimaeras vary in length from about 40 to 200 cm, the females being generally larger than males.

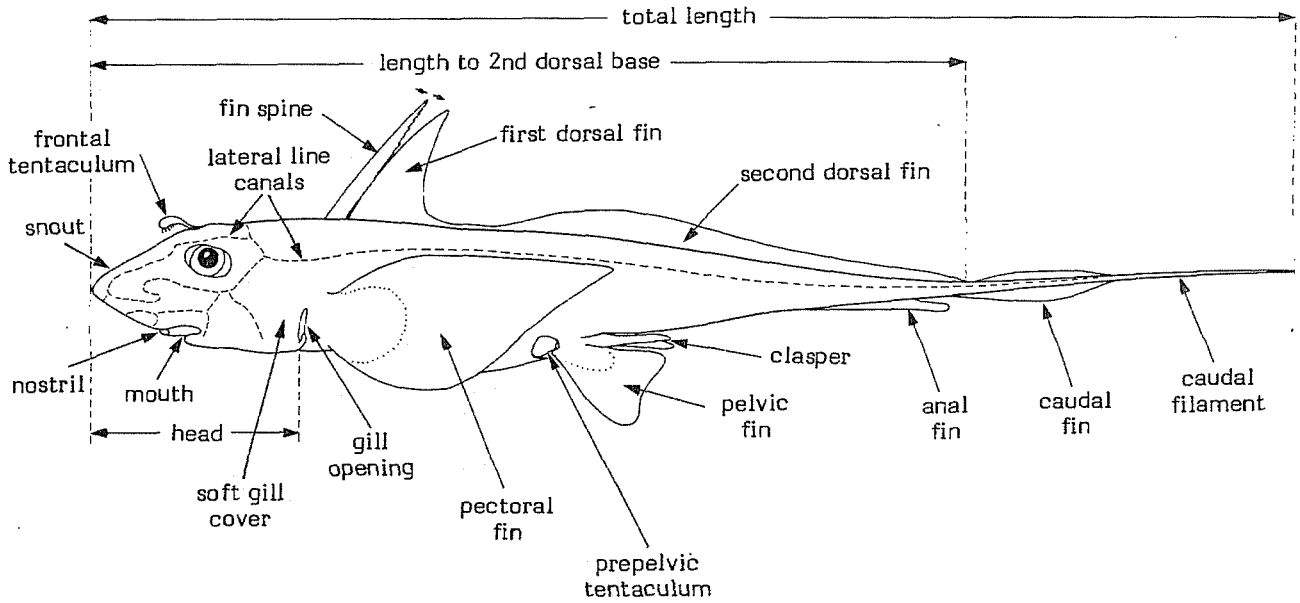


diagram of a male chimaera

(Chimaera)

Chimaeras are predators on small bottom invertebrates and small fishes, which are crushed or cut up by their tooth plates. These fishes are entirely marine and have their greatest diversity on the upper continental and insular slopes, down to at least 2 600 m, but some species are common on continental and insular shelves, from well offshore on the outer shelf to inside shallow bays and in the intertidal. Chimaeras are widely, although spottily distributed in all oceans, from arctic and subantarctic waters to the tropics. All occur on or usually near the bottom close to land; none are oceanic.

The Eastern Central Atlantic has a relatively diverse chimaera fauna, with all 3 families, all 6 genera, and 9 of the approximately 29 to 34 species worldwide occurring in the area. Many species of chimaeras are poorly known, and new species as well as range extensions of known species are occasionally reported from deepwater habitats. Basic knowledge of the biology of most chimaeras is extremely limited, and can be added to by fisheries workers in the area working aboard offshore trawlers.

In the Eastern Central Atlantic chimaeras are primarily taken in bottom trawls, but also in pelagic trawls, by the offshore trawling fleets. They are used fresh or frozen for human consumption, but are also processed for oil and fishmeal. The liver of chimaeras yields a fine-quality oil of use for lubricating machinery.

KEY TO FAMILIES, GENERA AND SPECIES REPORTED FROM THE AREA

1 a. Snout with a hoe-shaped terminal lobe; caudal fin with axis bent upward (heterocercal) and with a strong ventral lobe (Fig. 1) ..... Family Callorhinchidae (Callorhinchus) Callorhinchus capensis

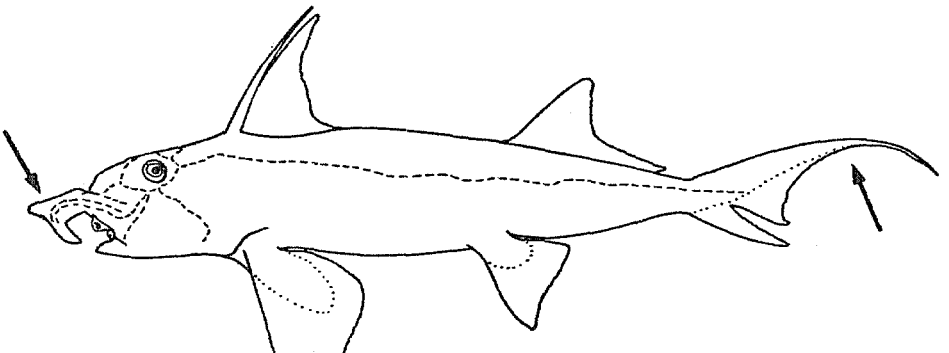
1 b. Snout rounded, conical, flattened or pointed, not hoe-shaped; caudal fin with a horizontal axis (diphycercal) and no ventral lobe

2 a. Snout short, rounded or conical ..... Family Chimaeridae

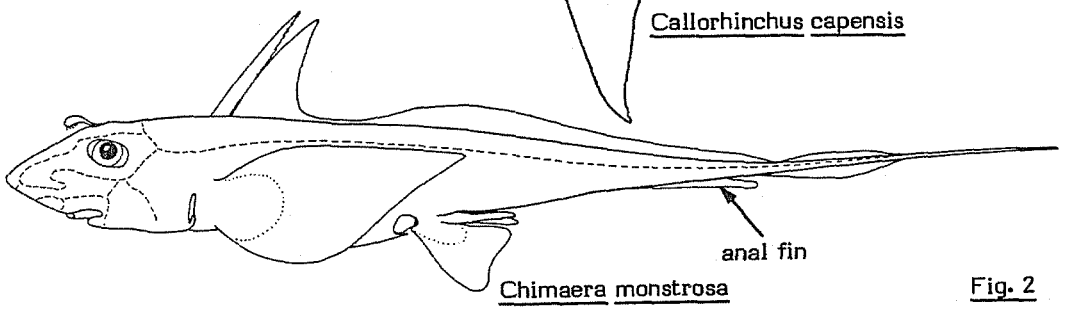
3 a. An anal fin present (Fig. 2) ..... (Chimaera)

4 a. Greatest height of first dorsal rays only two thirds of distance from snout tip to gill openings; sides silvery (Fig. 2) ..... Chimaera monstrosa

4 b. Greatest height of first dorsal rays about four fifths of distance from snout tip to gill openings; sides brown ..... Chimaera jordani



Callorhinchus capensis Fig. 1



Chimaera monstrosa Fig. 2

3 b. No anal fin (Fig. 3) ..... (Hydrolagus)

5 a. Dorsal margin of second dorsal fin deeply concave at midlength ..... Hydrolagus mirabilis

5 b. Dorsal margin of second dorsal fin straight (Fig. 3) ..... Hydrolagus alberti

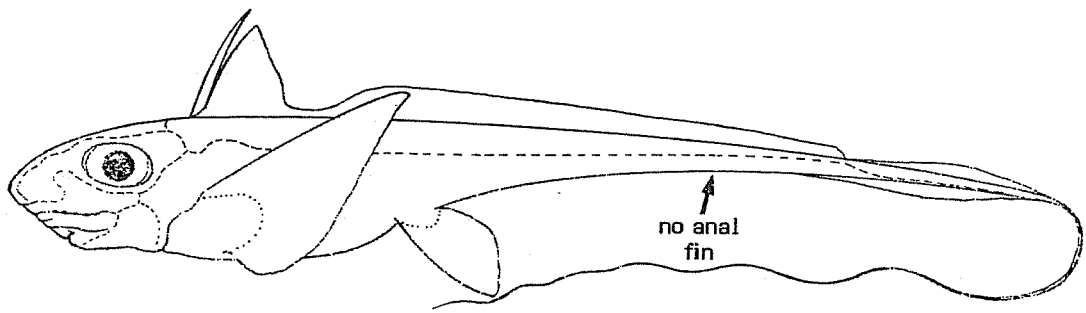
2 b. Snout elongate, pointed and more or less flattened ..... Family Rhinochimaeridae

6 a. Anal fin present (Fig. 4) ..... (Neoharriotta) Neoharriotta pinnata

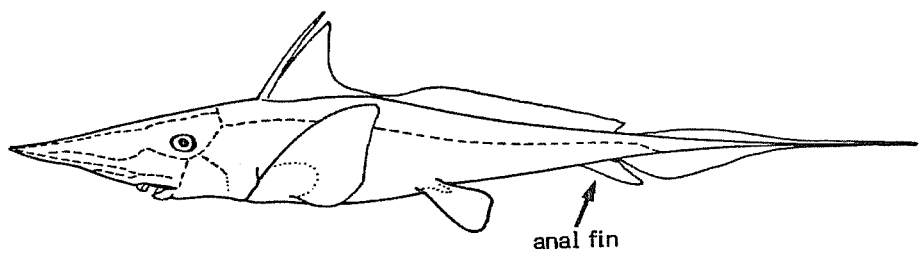
6 b. No anal fin

7 a. Dorsal profile of head nearly straight; mouth in front of eyes; tooth plates narrow, elongated, smooth and sharp-edged; dorsal spine unserrated (Fig. 5) ..... (Rhinochimaera) Rhinochimaera atlantica

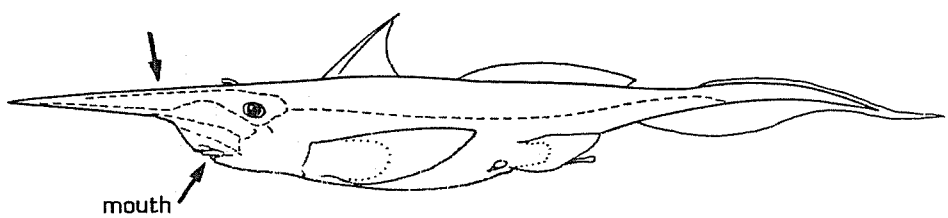
7 b. Dorsal profile of head arched; mouth beneath eyes; tooth plates broad, short, not sharp-edged, and covered with ridges; dorsal spine with serrations on hind edges (Fig. 6) ..... (Harriotta)



Hydrolagus alberti Fig. 3



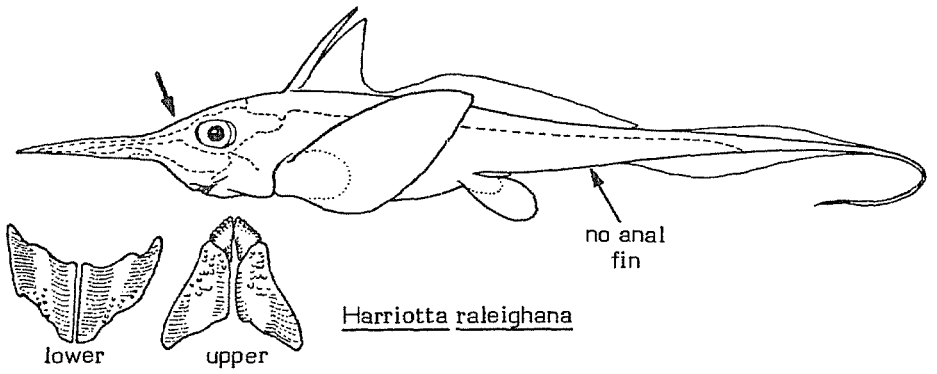
Neoharriotta pinnata Fig. 4



Rhinochimaera atlantica Fig. 5

8 a. Eyes large, their lengths about equal to horizontal distance between them and level of gill openings; dorsal fin spines weakly curved and long, longer than distance from mouth to gill openings; pectoral fins elongate, with narrowly rounded or pointed apices (Fig. 6) ..... Harriotta raleighana

8 b. Eyes small, their lengths much less than horizontal distance between them and level of gill openings; dorsal fin spine strongly curved and short, much less than distance from mouth to gill openings; pectoral fins not elongated, with broadly rounded apices ..... Harriotta haeckeli



Harriotta raleighana Fig. 6

LIST OF FAMILIES AND SPECIES OF CHIMAERAS OCCURRING IN THE AREA

CALLORHINCHIDAE - Elephant fishes

Callorhinchus capensis Dumeril, 1865

RHINOCHIMAERIDAE - Longnose chimaeras

Harriotta haeckeli Karrer, 1972
Harriotta raleighana Goode & Bean, 1895

Neoharriotta pinnata (Schnakenbeck, 1931)

Rhinochimaera atlantica Holt & Byrne, 1909

CHIMAERIDAE - Shortnose chimaeras

* Chimaera jordani Tanaka, 1905
Chimaera monstrosa Linnaeus, 1758

** Hydrolagus alberti Bigelow & Schroeder, 1951
Hydrolagus mirabilis (Collett, 1904)

Prepared by Leonard J.V. Compagno, Tiburón Center for Environmental Studies, San Francisco State University, Tiburon, California, U.S.A.

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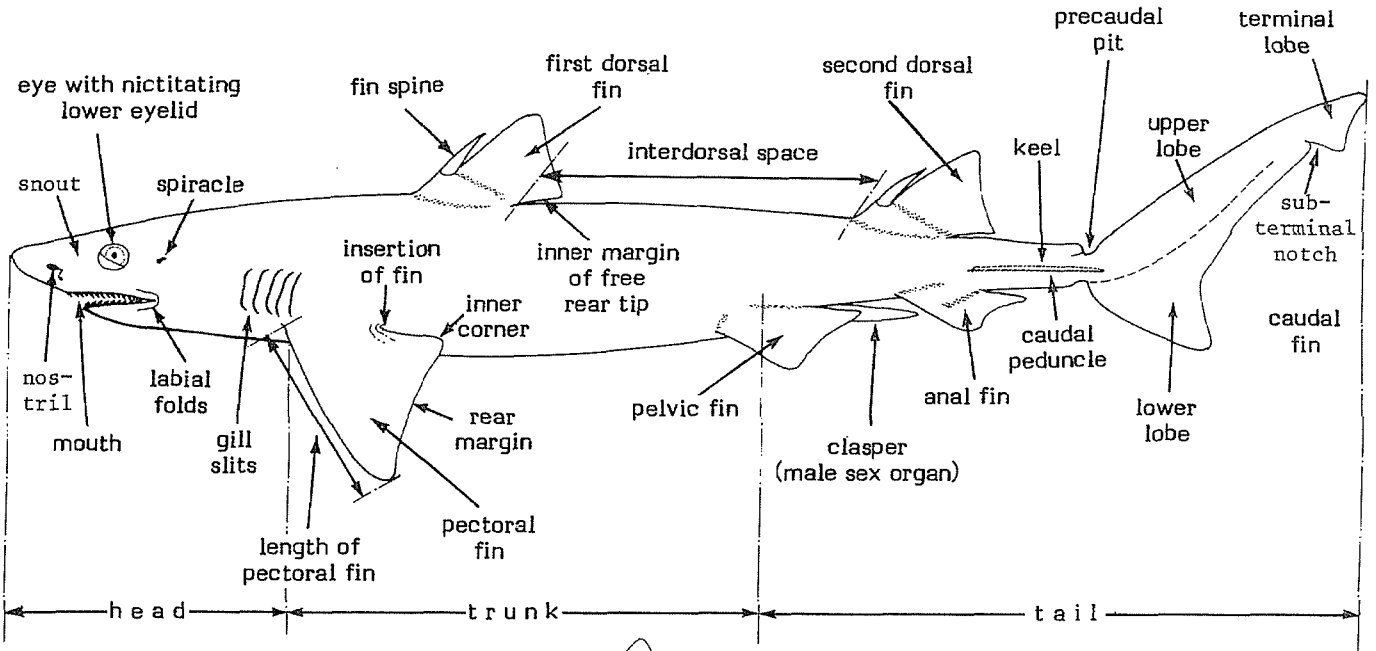
* Chimaera jordani was recently reported from Northern Mauritania, Guinea and Sierra Leone in the area, but its presence needs to be confirmed as the species is otherwise known from the Western North Pacific (Japan)

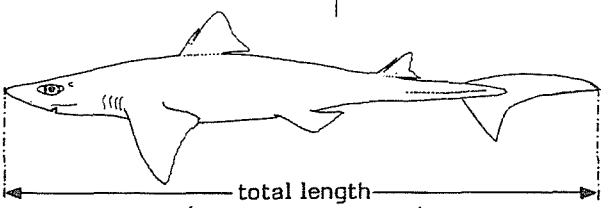
** Hydrolagus alberti was recently reported from northern Mauritania, but its presence needs confirmation as it is otherwise known from the Western North Atlantic (Gulf of Mexico)

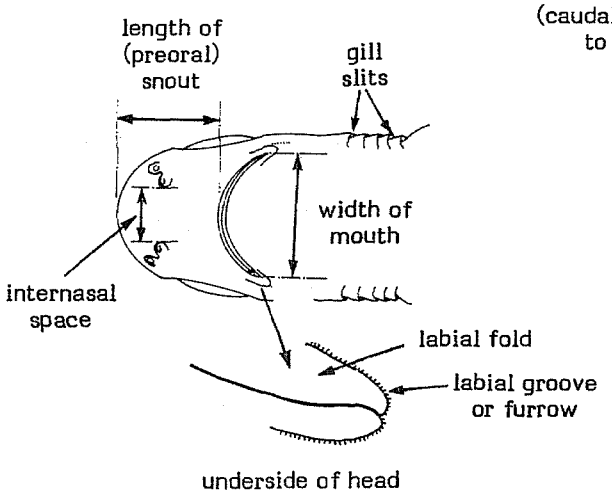
SHARKS

TECHNICAL TERMS AND PRINCIPAL MEASUREMENT USED

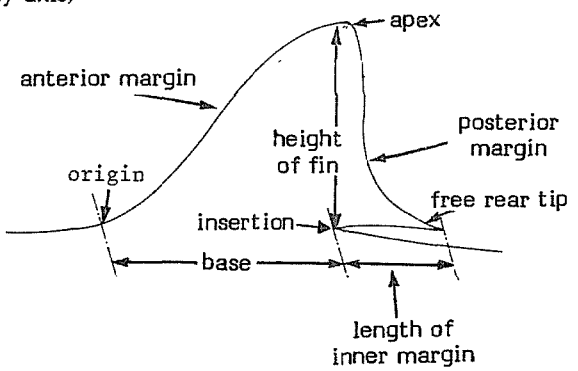
(Straight-line distances)







underside of head



dorsal fin

GENERAL REMARKS

Sharks include a variety of usually cylindrical, elongated, or moderately depressed fishes which differ from the rays in having lateral gill openings (or gill slits) and pectoral fins not fused to the sides of the head. The greatly depressed angel sharks (Family Squatinidae) might be mistaken for rays at first sight; they have large, broad, raylike pectoral fins that extend as triangular flaps alongside the gills, but are not connected to the head above them. Sharks have eyes on the dorsal surface or sides of the head and spiracles (when present) on its dorsal or dorsolateral surfaces. The tail and caudal fin are always well developed and serve to propel the animal by lateral undulations; gill openings are usually 5 on each side, more rarely 6 or 7; the mouth is most often ventral, occasionally terminal or nearly so. Most sharks have two (rarely one) dorsal fins, sometimes with spines on their front edges; an anal fin is usually present, but missing in several families. The teeth on the jaws are set in numerous transverse rows and are constantly replaced from inside the mouth. All shark species are more or less covered by small (occasionally enlarged) toothlike scales or dermal denticles. Male sharks have cylindrical copulatory organs or claspers on their pelvic fins, used for internal fertilization of eggs in females; many female sharks deposit eggs in rectangular or conical capsules, formed of a hornlike material (oviparity), but the majority are livebearers; some of the latter, including hammerheads (Sphyrnidae), most requiem sharks (Carcharhinidae), some houndsharks (Triakidae) and all members of the barbeled houndsharks (Leptochariidae) and the weaselsharks (Hemigaleidae) are viviparous, with yolk sacks of fetuses forming a placenta with the maternal uterus for nutrient transfer; other livebearing sharks are ovoviviparous, without a placenta.

Mature sharks vary in total length from about 15 cm (dwarf species of Squalidae) to at least 12.1 m (whale shark, Family Rhiniodontidae) and in weight from between 10 to 20 g to several metric tons. Most sharks are of small or moderate size; about 65 percent of known species are mature between lengths of 15 cm and 1.2 m, about 29 percent between 1.2 and 3.7 m and the remainder (6 percent) above 3.7 m.

All sharks are predators, their prey ranging widely, from planktonic crustaceans and benthic invertebrates to pelagic cephalopods and large marine fishes, mammals and other vertebrates. They are primarily marine, but a few requiem sharks (Carcharhinidae) have broad salinity tolerances, and one species (bull shark, Carcharhinus leucas) is wide-ranging in tropical lakes and rivers with sea access as well as shallow inshore waters. Sharks are widely distributed in all oceans, from the Arctic to subantarctic islands, and from close inshore on reefs or off beaches to the lower continental slopes, possibly to abyssal plains, and the high seas. They are most diverse in tropical to warm-temperate seas, from inshore waters down to upper continental slopes, but are less so in colder waters, at greater depths, in the open ocean and off oceanic islands. The richest shark faunas occur in the Indo-West Pacific from South Africa and the Red Sea to Australia and Japan.

The Eastern Central Atlantic has a diverse shark fauna, including 21 families, 42 genera, and about 81 to 86 species. Worldwide there are 30 families, 92 to 94 genera, and between 339 to 356 species of sharks. Many genera and families are poorly known and require further taxonomic study. New species have been commonly collected in deep-water habitats in the past thirty years, and more undoubtedly will be discovered with further collecting in poorly known areas. Knowledge of the shark fauna of the Eastern Central Atlantic is very sketchy, and many maritime countries need further surveys to determine which species occur there. Basic knowledge of the biology of many species is often very deficient or entirely lacking, and fishery workers can contribute much new information on this subject. If possible, representative material of rare or uncommon species should be forwarded to large national museum collections, and basic information, such as total length, weight, sex, maturity, stomach contents, locality of capture, date, collector, method of collection, depth of capture, as well as photographs of the sharks in side, top and bottom views, should be recorded. Difficulties with the keys, or the possible use of better field characters, should be brought to the attention of the author, so that modifications can be made in subsequent versions of this section. Problems might also arise from the occurrence, in the area, of previously unrecorded species, new species, or variations within species not taken into consideration in the present keys and species accounts.

The shark attack hazard has been grossly exaggerated in recent years. Large carcharhinids and lamnids, and less frequently other sharks, pose a potential, even if minor threat, to people in the water or boats, especially in the tropics or warm-temperate seas. About 9 percent of known shark species are definitely known to be dangerous, and about 10 percent more are large enough and sufficiently well-armed to be potentially so; the rest are mostly too small and poorly armed to be a hazard to man.

In the Eastern Central Atlantic, sharks are used mainly for food and fishmeal; shark meat is marketed fresh, frozen, smoked, or dried salted. Sharks are also caught to supply the oriental market for fins, for hides to produce leather, and for their livers to produce liver oil (Vitamin A and squalene). The total catch of sharks reported from Fishing Area 34 in 1977 was 16 800 metric tons, down about half from the highest catch in the

previous 10 years, 38 700 tons in 1971 (CECAF Statistical Bulletin No. 2, 1979). The actual landings of sharks in the area are doubtlessly much higher. Most species are caught with line gear (including pelagic longlines), bottom trawls, and fixed as well as floating gillnets, but some are also taken in pelagic trawls and purse seines. Sharks are taken in artisanal fisheries, by local inshore and offshore commercial fisheries, and by large fishing fleets in offshore waters.

KEY WITH PICTURE GUIDE TO FAMILIES OCCURRING IN THE AREA

1 a. No anal fin (Figs. 1 to 4)

2 a. Body strongly depressed and raylike; pectoral fins greatly enlarged, with anterior triangular projections that overlap gill slits; mouth terminal (Fig. 1) ..... Squatinidae

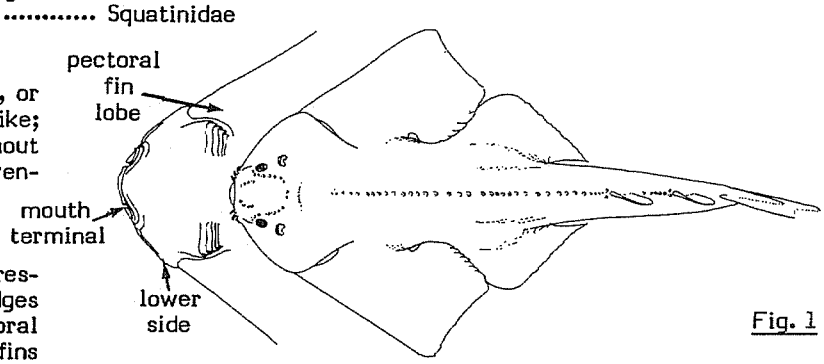


Fig. 1

Squatinidae

2 b. Body cylindrical, compressed, or slightly depressed, not raylike; pectoral fins small, without anterior projections; mouth ventral

3 a. Trunk high and compressed, with conspicuous ridges between bases of pectoral and pelvic fins*; dorsal fins very high (Fig. 2) ..... Oxynotidae

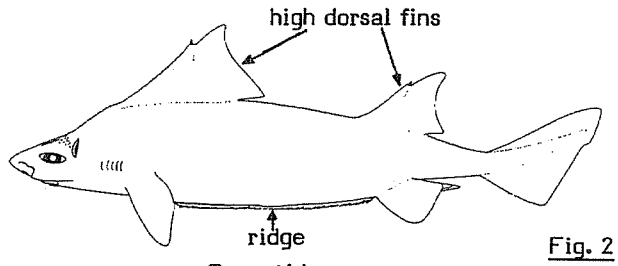
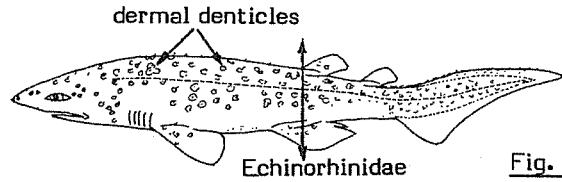


Fig. 2

Oxynotidae

3 b. Trunk low and cylindrical, without conspicuous ridges between pectoral and pelvic fin bases ; dorsal fins lower

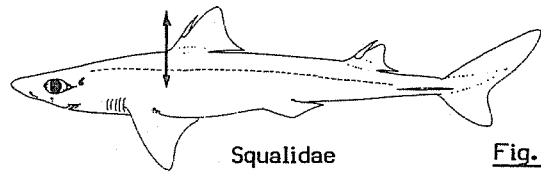
4 a. First dorsal fin behind pelvic fin origins; dermal denticles expanded as large plates** (Fig. 3) .. Echinorhinidae



Echinorhinidae

Fig. 3

4 b. First dorsal fin partially or entirely in front of pelvic fin origins (Fig. 4); dermal denticles not expanded as large plates ..... Squalidae



Squalidae

Fig. 4

1 b. Anal fin present

---

*Members of the genera Scymnodon and Centroscymnus have low ridges on their sides, similar to those of Oxynotidae but inconspicuous and easily overlooked

**Character applying to E.C. Atlantic representatives only

5 a. Only one dorsal fin, far posterior on back; 6 or 7 gill slits on each side (Figs. 6,7,8,10)

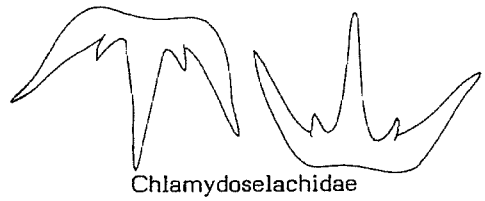


Fig. 5

6 a. Mouth nearly terminal (Fig. 7); teeth alike in both jaws, 3-cusped, not formed as cutting blades (Fig. 5); body slender and eel-shaped (Fig. 6); a fold of skin uniting lower ends of first pair of gill slits across throat (Fig. 7) ..... Chlamydoselachidae

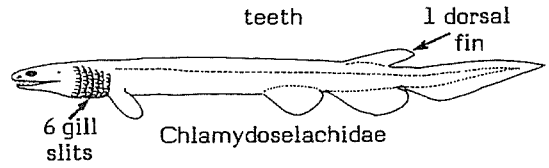


Fig. 6

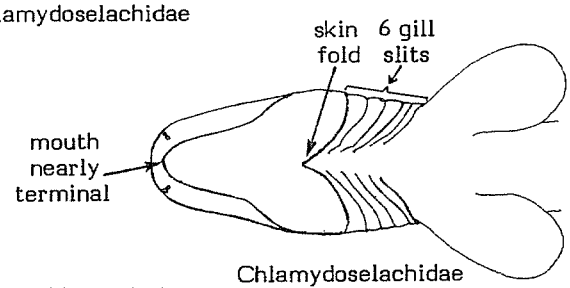


Fig. 7

6 b. Mouth ventral (Fig. 10); teeth unlike in both jaws, uppers with a strong cusp and cusplets, lowers formed as large, comblike, cutting blades with a cusp and several cusplets (Fig. 8); body stouter, not eel-shaped (Fig. 9); no fold of skin across throat (Fig. 10) ..... Hexanchidae

5 b. Two dorsal fins*; 5 gill slits on each side

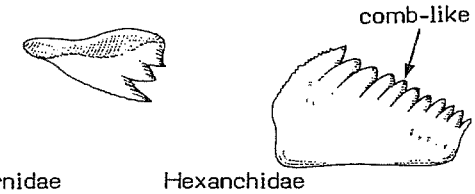


Fig. 8

7 a. Head with lateral expansions or blades, like a double-edged ax (Fig. 11) ..... Sphyrnidae

7 b. Head normal, not expanded laterally

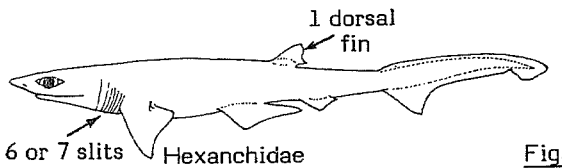


Fig. 9

8 a. Caudal fin about as long as rest of shark (Fig. 12) ..... Alopiidae

8 b. Caudal fin less than half the length of rest of shark

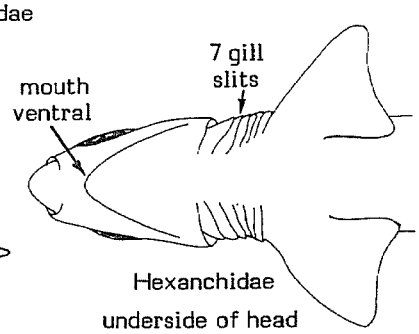


Fig. 10

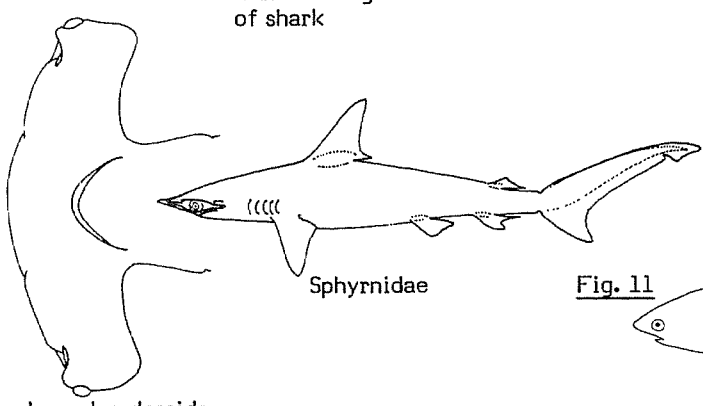


Fig. 11

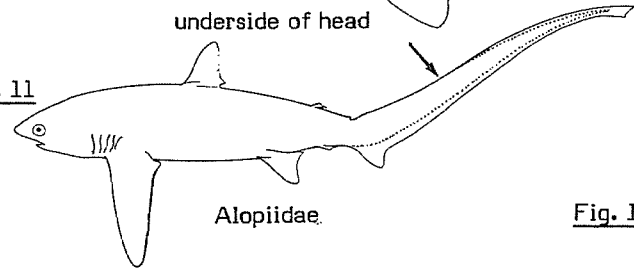


Fig. 12

* Character applying to Eastern Central Atlantic representatives only

9 a. Eyes behind mouth; deep oronasal grooves connecting nostrils and mouth (Fig. 13a)

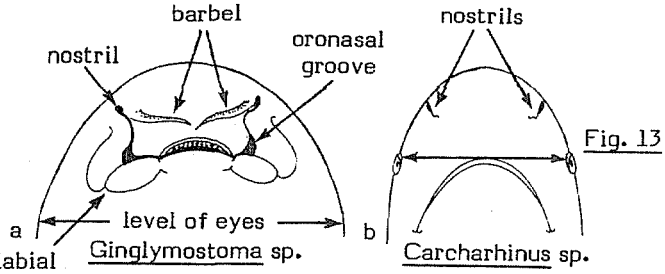


Fig. 13

10 a. Mouth huge and terminal on head; 3 ridges on sides of trunk, the lowest ending in a strong keel on the caudal peduncle (Fig. 14); light spots and stripes present at all stages ..... Rhiniodontidae

10 b. Mouth small and ventral; no ridges on trunk or keels on tail (Fig. 15); dark spots in young*, absent in adults ..... Ginglymostomatidae

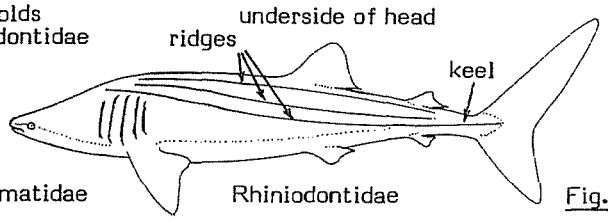


Fig. 14

9 b. Eyes over mouth; oronasal grooves absent (Fig. 13b) or, when present, broad and shallow (Scyliorhinus caniculus only)

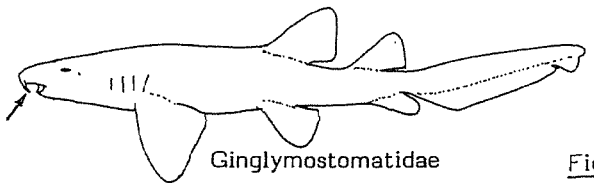


Fig. 15

11 a. A strong keel present on each side of caudal peduncle; caudal fin crescentic and nearly symmetrical, with a long lower lobe (Figs. 16,17)

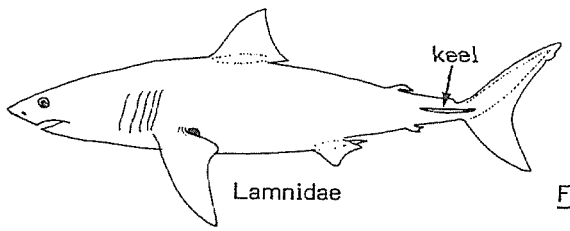


Fig. 16

12 a. Teeth large and few, bladelike and sharp-edged; gill slits large, but not extending onto upper surface of head (Fig. 16); no gillrakers ..... Lamnidae

12 b. Teeth minute and very numerous, hooklike and not sharp-edged; gill slits huge, extending onto upper surface of head (Fig. 17); gillrakers present on internal gill slits in throat, absent after shedding ..... Cetorhinidae

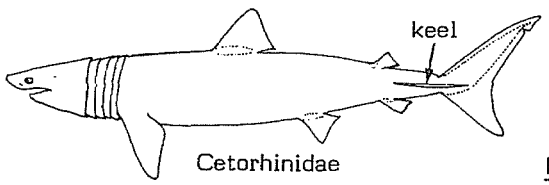


Fig. 17

11 b. No keels on caudal peduncle, or very weak ones (Pseudocarcharias, Galeocerdo, Prionace); caudal fin asymmetrical, not crescentic, with lower lobe relatively short or absent

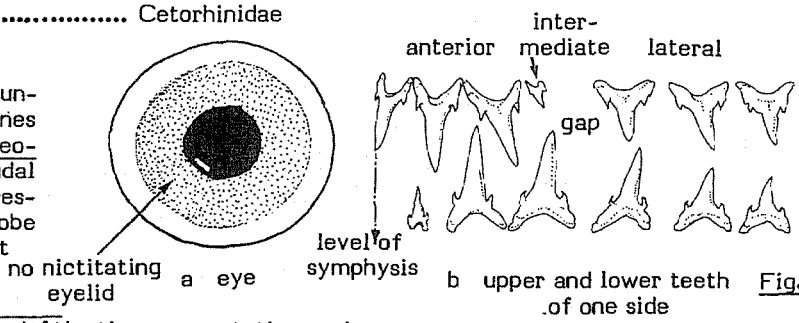
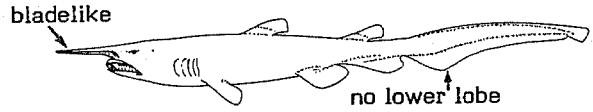


Fig. 18

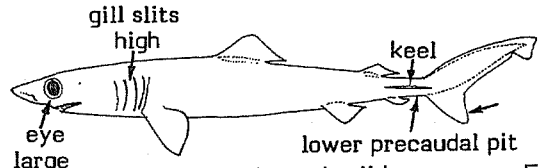
* Character applying to Eastern Central Atlantic representatives only

13 a. No nictitating eyelids (Fig. 18a), largest teeth in mouth are 2 or 3 rows of anteriors on either side of symphysis (anterior junction of lower jaws); upper anteriors separated from large lateral teeth at sides of jaw by a gap that may have one or more rows of small intermediate teeth (Fig. 18b); all gill slits in front of pectoral fins (Figs. 19 to 21)



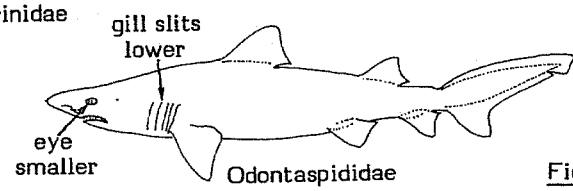
Mitsukurinidae Fig. 19

14 a. Snout greatly elongated, flattened and bladelike; pectoral, pelvic, dorsal and anal fins with broadly rounded apices; no precaudal pits; no lower caudal fin lobe (Fig. 19) ..... Mitsukurinidae



Pseudocarchariidae Fig. 20

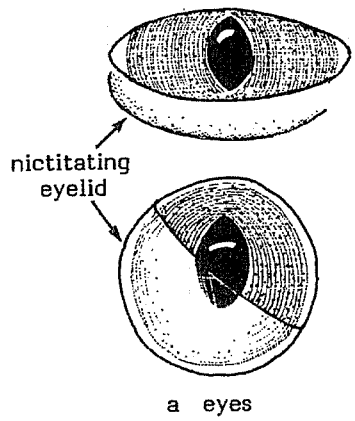
14 b. Snout moderately elongated, conical or moderately flattened, not bladelike; pectoral, pelvic, dorsal and anal fins with narrowly rounded apices; precaudal pits present; lower caudal fin lobe present (Figs. 20,21)



Odontaspididae Fig. 21

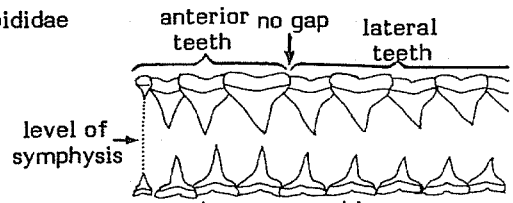
15 a. Eyes very large; gill slits extending onto upper surface of head; both upper and lower precaudal pits present; a low keel on each side of caudal peduncle (Fig. 20) ..... Pseudocarchariidae

15 b. Eyes smaller; gill slits not extending onto upper surface of head; lower precaudal pits absent; no keels on caudal peduncle (Fig. 21) ..... Odontaspididae



a eyes

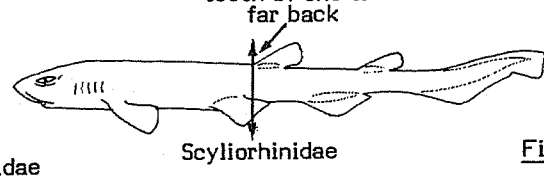
13 b. Nictitating eyelids present (Fig. 22a); largest teeth in mouth are well lateral on dental band, not on either side of symphysis; no gap or intermediate teeth separating large anterior teeth from still larger lateral teeth in upper jaw (Fig. 22b); last one or two gill slits over pectoral fin bases



b upper and lower teeth of one side

Fig. 22

16 a. Origin of first dorsal fin over or behind pelvic fin bases (Fig.23) ..... Scyliorhinidae

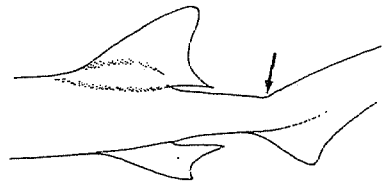


Scyliorhinidae Fig. 23

16 b. Origin of first dorsal fin well ahead of pelvic fin bases

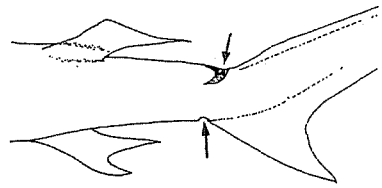
17 a. No precaudal pits (Fig. 24a)

18 a. First dorsal fin long, about the length of caudal fin, and formed as a low, rounded keel; adults with over 200 rows of teeth in each jaw; spiracles about as long as eyes (Fig. 25) ..... Pseudotriakidae



a. no precaudal pits

18 b. First dorsal fin short, about two-thirds of caudal fin or less*, subtriangular in shape; adults with less than 110 rows of teeth in each jaw; spiracles much smaller than eyes

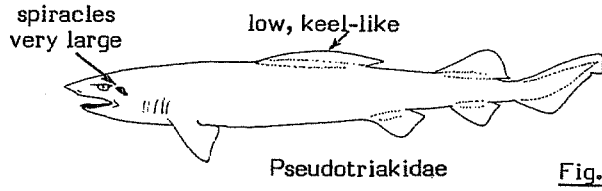


b. precaudal pits

Fig. 24

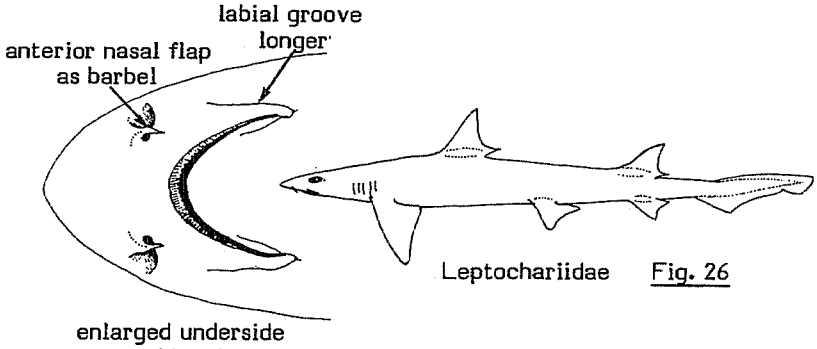
19 a. Nostrils with anterior nasal flaps formed as slender barbels; outer labial grooves longer (Fig. 26a); 14 to 16 turns in intestinal valve ..... Leptochariidae (Fig. 26b)

19 b. Nostrils with anterior nasal flaps formed as truncated lobes or rudimentary triangular points, not as slender barbels*; outer labial grooves shorter (Fig. 27a); 4 to 10 turns in intestinal valve ..... Triakidae (Fig. 27b)

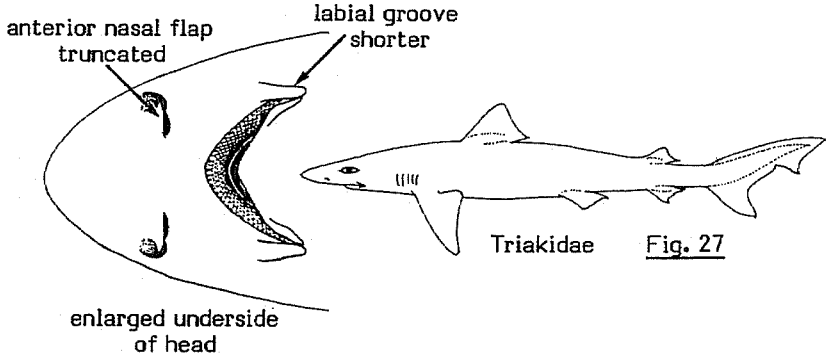


Pseudotriakidae

Fig. 25



Leptochariidae Fig. 26



Triakidae Fig. 27

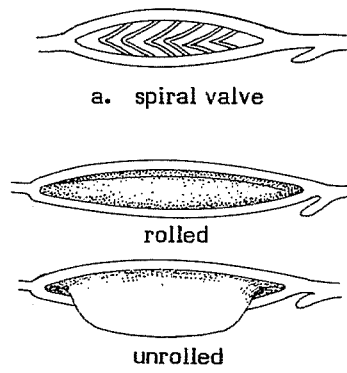


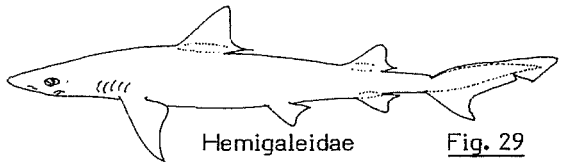
Fig. 28

* Character applying to Eastern Central Atlantic representatives only

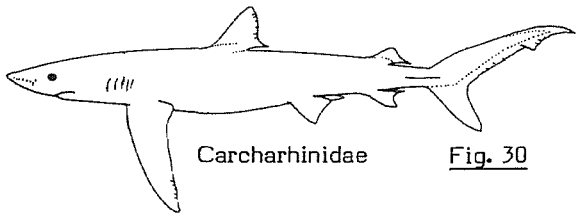
17 b. Precaudal pits present (Fig. 24b)

20 a. Intestine with a spiral valve (Fig. 28a) having 4 to 6 turns .....Hemigaleidae (Fig. 29)

20 b. Intestine with a scroll valve (Fig. 28b) ..... Carcharhinidae (Fig. 30)



Hemigaleidae Fig. 29



Carcharhinidae Fig. 30

LIST OF SPECIES OCCURRING IN THE AREA

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

CHLAMYDOSELACHIDAE : Frilled sharks	CHLAM
Chlamydoselachus anguineus Garman, 1884	CHLAM Chlam 1
HEXANCHIDAE : Sixgill and sevengill sharks, cow sharks	HEX
Heptranchias perlo (Bonnaterre, 1788)	HEX Hept 1
Hexanchus griseus (Bonnaterre, 1788)	HEX Hex 1
Hexanchus vitulus (Springer & Waller, 1969)	
ECHINORHINIDAE : Bramble sharks	ECHIN
Echinorhinus brucus (Bonnaterre, 1788)	ECHIN Echin 1
SQUALIDAE : Dogfish sharks	SQUAL
Centrophorus granulosus (Bloch & Schneider, 1801)	SQUAL Centrop 1
Centrophorus lusitanicus Bocage & Capello, 1864	SQUAL Centrop 2
Centrophorus machiquensis Maul, 1955*	
Centrophorus squamosus (Bonnaterre, 1788)	SQUAL Centrop 3
Centrophorus uyato (Rafinesque, 1809)	SQUAL Centrop 4

* This may not be a valid species

FAO Sheets	SHARKS	Fishing Areas 34, 47 (in part)
	Centroscyllium fabricii (Reinhardt, 1825)	
	Centroscymnus coelolepis Bocage & Capello, 1864	SQUAL Centros 1
	Centroscymnus crepidater (Bocage & Capello, 1864)	SQUAL Centros 2
	Centroscymnus cryptacanthus Regan, 1906	
	Dalatias licha (Bonnaterre, 1788)	SQUAL Dal 1
	Deania calcea (Lowe, 1839)	SQUAL Dean 1
	Deania profundorum (Smith & Radcliffe, 1912)	
	Etmopterus polli Bigelow, Schroeder & Springer, 1953	
	Etmopterus princeps Collett, 1904	
	Etmopterus pusillus (Lowe, 1839)	
	Etmopterus spinax (Linnaeus, 1758)	SQUAL Etmo 2
	Euprotomicrus bispinatus (Quoy & Gaimard, 1824)	
	Isistius brasiliensis (Quoy & Gaimard, 1824)	
	Scymnodon obscurus (Vaillant, 1888)	
	Scymnodon ringens Bocage & Capello, 1864	SQUAL Scymn 1
	Somniosus rostratus (Risso, 1826)	SQUAL Somn 1
	Squaliolus laticaudatus Smith & Radcliffe, 1912	
	Squalus acanthias Linnaeus, 1758	SQUAL Squal 1
	Squalus blainvillei (Risso, 1826)*	SQUAL Squal 3
	Squalus megalops (Macleay, 1881)	SQUAL Squal 4
OXYNOTIDAE :	Rough sharks	OXYN
	Oxynotus centrina (Linnaeus, 1758)	OXYN Oxyn 2
	Oxynotus paradoxus Frade, 1929	
	Oxynotus sp.**	
SQUATINIDAE :	Angel sharks	SQUAT
	Squatina aculeata Cuvier, 1829	SQUAT Squat 3
	Squatina oculata Bonaparte, 1840	SQUAT Squat 4
	Squatina squatina (Linnaeus, 1758)	SQUAT Squat 1
GINGLYMOSTOMATIDAE :	Nurse and tawny sharks***	GINGL
	Ginglymostoma cirratum (Bonnaterre, 1788)	GINGL Gingl 1
RHINIODONTIDAE :	Whale sharks	RHIN
	Rhiniodon typus Smith, 1828	RHIN Rhin 1
ODONTASPIDIDAE :	Sand tiger sharks	ODONT
	Eugomphodus taurus (Rafinesque, 1809)****	ODONT Eug 1
	Odontaspis ferox (Risso, 1810)	ODONT Odont 1
	Odontaspis noronhai Maul, 1955	

* This probably includes 2 species, one with a long, and the other with a short first dorsal fin spine
** The Oxynotus from Angola, Namibia and South Africa may be distinct from O. centrina
*** Formerly combined with Orectolobidae
**** Formerly included in Odontaspis

FAO Sheets	SHARKS	Fishing Areas 34, 47 (in part)
	PSEUDOCARCHARIIDAE : Crocodile sharks	PSEUD
	Pseudocarcharias kamoharai (Matsubara, 1936) *	PSEUD Pseud 1
	MITSUKURINIDAE : Goblin sharks	MITSU
	Mitsukurina owstoni Jordan, 1898	MITSU Mitsu 1
	ALOPIIDAE : Thresher sharks	ALOP
	Alopias superciliosus (Lowe, 1839)	ALOP Alop 1
	Alopias vulpinus (Bonnaterre, 1788)	ALOP Alop 2
	CETORHINIDAE : Basking sharks	CETOR
	Cetorhinus maximus (Gunnerus, 1765)	CETOR Cetor 1
	LAMNIDAE : Mackerel sharks	LAMN
	Carcharodon carcharias (Linnaeus, 1758)	LAMN Car 1
	Isurus oxyrinchus Rafinesque, 1810	LAMN Isur 1
	Isurus paucus Guitart, 1965 **	LAMN Isur 2
	Lamna nasus (Bonnaterre, 1788)	LAMN Lamn 1
	SCYLIORHINIDAE : Catsharks	SCYL
	Apristurus atlanticus Koefoed, 1932 ***	
	Apristurus laurussoni (Saemundsson, 1922)	
	Apristurus maderensis Cadenat & Maul, 1966	
	Galeus melastomus Rafinesque, 1809	SCYL Gal 2
	Galeus polli Cadenat, 1959	
	Scyliorhinus canicula (Linnaeus, 1758)	SCYL Scyl 1
	Scyliorhinus cervigoni Maurin & Bonnet, 1970	
	Scyliorhinus stellaris (Linnaeus, 1758)	SCYL Scyl 3
	PSEUDOTRIAKIDAE : False catsharks	PSEUDOT
	Pseudotriakis microdon Capello, 1868	PSEUDOT Pseu 1
	LEPTOCHARIIDAE : Barbeled houndsharks ****	LEPTOC
	Leptocharias smithii (Müller & Henle, 1839)	LEPTOC Lep 1
	TRIAKIDAE : Houndsharks	TRIAK
	Galeorhinus galeus (Linnaeus, 1758)	TRIAK Galeo 1
	Mustelus asterias Cloquet, 1821	TRIAK Must 4
	Mustelus mustelus (Linnaeus, 1758)	TRIAK Must 1
	Mustelus punctulatus Risso, 1826	TRIAK Must 5

* Formerly included in Odontaspis and Odontaspidae
** Likely to be changed to Isurus belyaevi (Glikman), which may be a senior synonym
*** The species of Apristurus in the area are not well known
**** Formerly combined with Triakidae

FAO Sheets	SHARKS	Fishing Areas 34, 47 (in part)
HEMIGALEIDAE : Weasel sharks *		HEMIG
Paragaleus pectoralis (Garman, 1906)		HEMIG Para 1
CARCHARHINIDAE : Ground or requiem sharks		CARCH
Carcharhinus altimus (Springer, 1950)		CARCH Carch 2
Carcharhinus amboinensis (Müller & Henle, 1839)		CARCH Carch 14
Carcharhinus brachyurus (Günther, 1870) **		CARCH Carch 15
Carcharhinus brevipinna (Müller & Henle, 1839)		CARCH Carch 3
Carcharhinus falciformis (Bibron, in Müller & Henle, 1839)		CARCH Carch 4
Carcharhinus galapagensis (Snodgrass & Heller, 1905)		CARCH Carch 16
Carcharhinus isodon (Valenciennes, in Müller & Henle, 1839) **		CARCH Carch 5
Carcharhinus leucas (Valenciennes, in Müller & Henle, 1839)		CARCH Carch 6
Carcharhinus limbatus (Valenciennes, in Müller & Henle, 1839)		CARCH Carch 7
Carcharhinus longimanus (Poey, 1861)		CARCH Carch 8
Carcharhinus obscurus (LeSueur, 1818)		CARCH Carch 9
Carcharhinus plumbeus (Nardo, 1827)		CARCH Carch 11
Carcharhinus signatus (Poey, 1868)		CARCH Carch 13
Galeocerdo cuvieri (Peron & LeSueur, in LeSueur, 1822)		CARCH Gal 1
Negaprion brevirostris (Poey, 1868) ***		CARCH Neg 1
Prionace glauca (Linnaeus, 1758)		CARCH Prion 1
Rhizoprionodon acutus (Rüppell, 1837)		CARCH Rhiz 3
SPHYRNIDAE : Hammerheads		SPHYRN
Sphyrna couardi Cadenat, 1950 ****		
Sphyrna lewini (Cuvier, Griffith & Smith, 1834)		SPHYRN Sphyrn 1
Sphyrna mokarran (Rüppell, 1837)		SPHYRN Sphyrn 3
Sphyrna zygaena (Linnaeus, 1758)		SPHYRN Sphyrn 4

Prepared by L.J.V. Compagno, Tiburon Center of Environmental Studies, San Francisco State University, Tiburon, California, U.S.A.

* Formerly combined with the Carcharhinidae

** It is uncertain if either of these species occur in the area

*** It is uncertain if the species of Negaprion in the area is brevirostris, as listed by various writers, or acuditens (otherwise known from the Indo-West Pacific)

**** A poorly known species, most likely to be confused with S. lewini or S. mokarran

ALOP

1981

FAO SPECIES IDENTIFICATION SHEETS

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

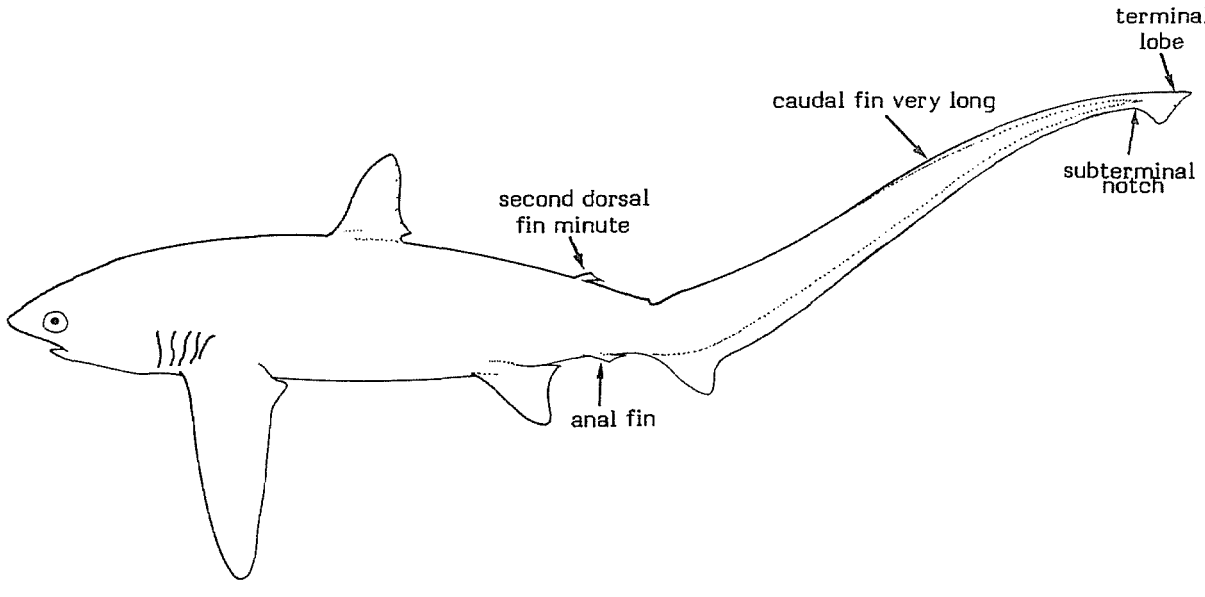
ALOPIIDAE

Thresher sharks

Large sharks. Head with 5 small to medium-sized gill slits, the last 2 behind the pectoral fin origins; no gillrakers; nostrils without barbels or oronasal grooves; no nictitating lower eyelids; snout moderately long, bluntly conical; mouth small but elongated and extending well behind eyes; teeth small, blade-like and compressed, with erect to oblique cusps, similar in both jaws and not strongly protruding; anterior teeth in upper jaw slightly larger than lateral teeth and sometimes separated from them by a row of smaller intermediate teeth on each side. Two dorsal fins, the first above space between pectoral and pelvic fins, the second minute and less than one tenth the size of first; anal fin present, very small; caudal fin strongly asymmetrical, the upper lobe enormously enlarged, about half the total length and with a subterminal notch, the lower lobe short, but strong. Caudal peduncle not depressed, without keels; precaudal pits present. Intestinal valve of ring type.

Colour: bluish, blackish, grey or brown above, shading to white or grey below.

These are active, strong-swimming, pelagic, and deepwater sharks, with the young of one species occurring close inshore and inside bays. They feed mainly on small schooling fishes and squid, which may be herded and stunned by the long, straplike tail. The 2 species in Fishing Area 34 occur sporadically in the area from Morocco to Ivory Coast, but are probably wide-ranging. Threshers are circumtemperate and tropical in all warm oceans. In the area they are fished for meat (fresh, dried salted and smoked).



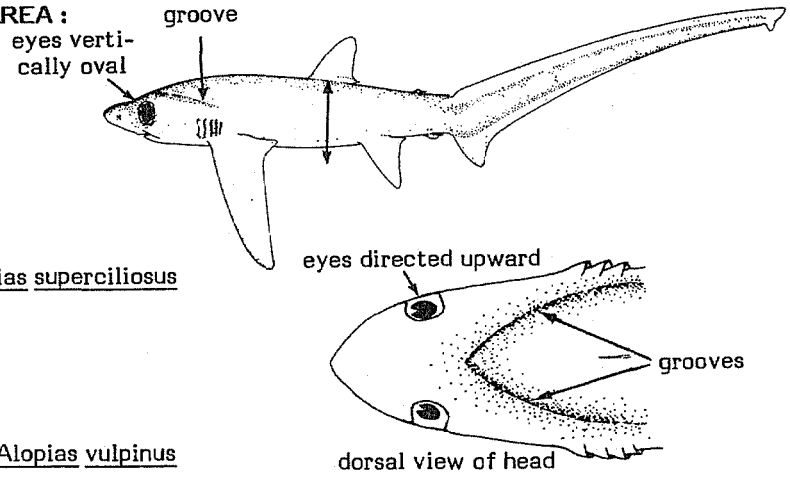
SIMILAR FAMILIES OCCURRING IN THE AREA:

No other sharks in the area have the caudal fin about half the total length.

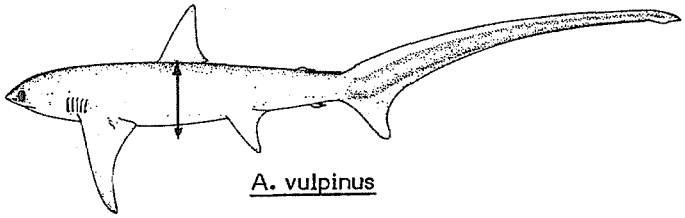
KEY TO SPECIES OCCURRING IN THE AREA :

1 a. Eyes very large, with orbits transversely oval, expanding onto dorsal surface of head; teeth larger, less than 25 in each jaw; snout relatively elongated; first dorsal fin closer to pelvic than to pectoral fins; a deep horizontal groove on nape on each side, above gills (Fig. 1) ..... Alopias superciliosus

1 b. Eyes smaller, with orbits lateral; teeth smaller, 29 or (usually) more in each jaw; snout shorter; first dorsal fin closer to pectoral fins than to pelvic fins; no grooves on nape (Fig. 2) ..... Alopias vulpinus



A. superciliosus Fig. 1



A. vulpinus Fig. 2

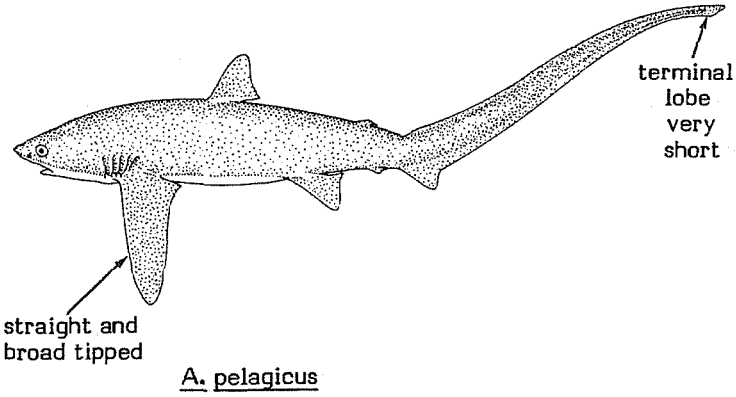
LIST OF SPECIES OCCURRING IN THE AREA :

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

Alopias superciliosus (Lowe, 1839)	ALOP Alop 1
Alopias vulpinus (Bonnaterre, 1788)	ALOP Alop 2

Prepared by L.J.V. Compagno, Tiburon Center of Environmental Studies, San Francisco State University, Tiburon, California, U.S.A.

Note The smalltooth (pelagic) thresher, Alopias pelagicus Nakamura, 1935, is a poorly known oceanic species presently recorded from Southeast Africa, Madagascar, Northwestern Indian Ocean, Taiwan, the Central Pacific and the tropical Eastern Pacific. It has not been taken in the Atlantic, but should be watched for, as it has been mistaken for A. vulpinus elsewhere, but it differs in having the eyes placed more ventrally, the forehead less convex, the snout more elongated, the head narrower, teeth more oblique, pectoral fins less falcate and more broad-tipped, the terminal lobe of caudal fin shorter, and the white colour from belly not expanding over pectoral fin bases.



A. pelagicus

ALOP Alop 1

1981

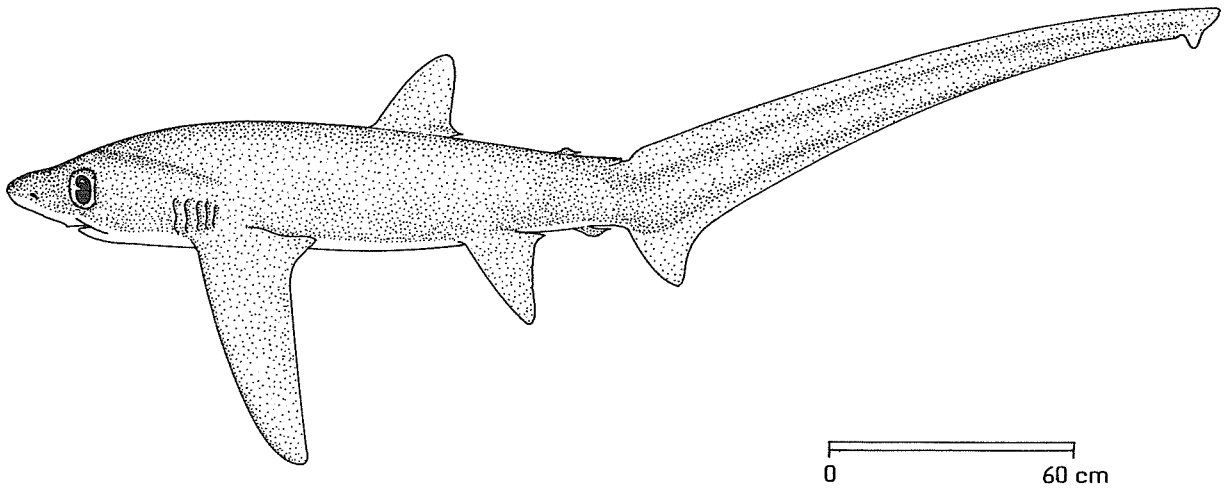
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : ALOPIIDAE

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

Alopias superciliosus (Lowe, 1839)

OTHER SCIENTIFIC NAMES STILL IN USE : None



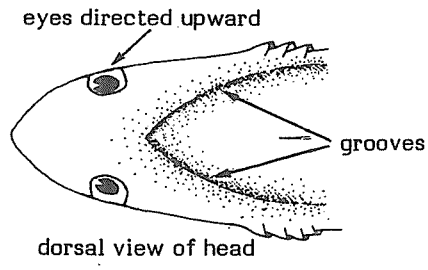
VERNACULAR NAMES:

FAO : En - Bigeye thresher
Fr - Renard à gros yeux
Sp - Zorro ojón

NATIONAL :

DISTINCTIVE CHARACTERS :

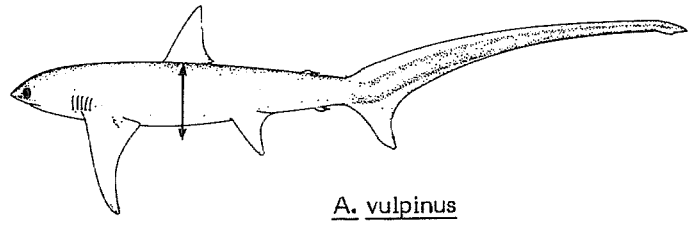
A large shark. Head with 5 medium-sized gill slits, the last 2 above pectoral fin bases; a deep horizontal groove on nape on each side from the level of mouth to pectoral fins; no nasal barbels or oronasal grooves on nostrils; snout moderately long and conical; no nictitating eyelids; eyes very large, expanding unto dorsal surface of head, permitting upward vision; mouth moderately long and semicircular, placed below the eyes, with rudimentary labial furrows; teeth moderately large, less than 25 rows in upper or lower jaws, sharp-edged, with a single, broad, straight or posteriorly curved cusp and no cusplets; anterior teeth not greatly enlarged, uppers not separated from the large laterals by smaller intermediate teeth. Two dorsal fins, the first moderately large and located just in front of the pelvic fin origins, closer to the pelvics than to the pectorals; second dorsal fin minute and positioned well ahead of the small anal fin; pectoral fins very narrow, long and falcate, broad-tipped; upper lobe of caudal fin very long and straplike, almost or quite equal to the length of rest of shark; lower lobe short but well-developed. Upper precaudal pit present but caudal keels absent. Intestinal valve of ring type.



Colour: purplish-grey above, cream below, posterior edges of pectorals, pelvics and sometimes first dorsal fin dusky; light colour of abdomen not expanded over pectoral fin bases.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

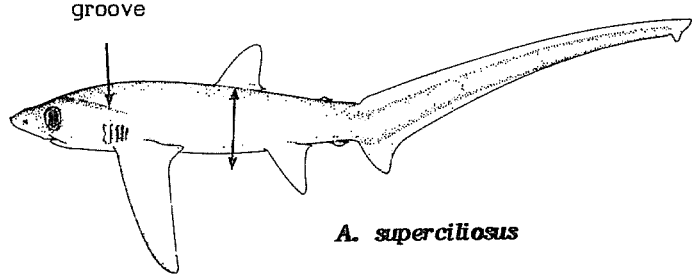
Alopias vulpinus: no grooves on nape; snout shorter and head more bluntly convex dorsally; eyes smaller and not expanded unto dorsal surface of head; teeth smaller, usually over 29 rows in upper and lower jaws (less than 25 in A. superciliosus); usually a smaller intermediate tooth between upper anterior and lateral teeth; pectoral fins with narrower, more pointed tips; first dorsal fin closer to pectoral than to pelvic fin bases, well in front of pelvic fins; white colour of abdomen extending to above pectoral fin bases.



A. vulpinus

No other sharks in the area have grooves on the nape and the caudal fin about half the total length.

groove

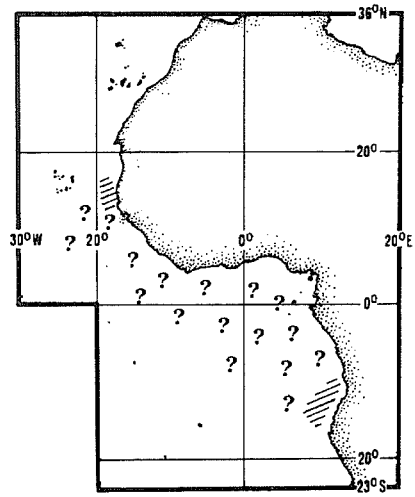


A. superciliosus

SIZE:

Maximum: about 460 to 470 cm; most adults between about 300 to 400 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:



Found in the area off Madeira, Senegal, Guinea, Sierra Leone, Ghana and Angola, and northward to Portugal. Elsewhere wide-ranging in the warm-temperate to tropical Western Atlantic, the Indian Ocean, and the Western, Central and Eastern Pacific.

An oceanic species that may come close to the coast and occurs near the bottom at depths down to 475 m. Ovoviviparous, with 2 young; size at birth probably about 100 to 130 cm.

Feeds on pelagic fishes (alepisaurids, clupeoids, scombrids, and small istiophorids), bottom-fishes (hake), and squid. Probably uses its tail to herd and stun prey as does in A. vulpinus, as some individuals have been hooked on longlines by their tails. Apparently harmless to people.

PRESENT FISHING GROUNDS:

Both inshore and offshore in the area.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken with longlines, on hook and line, in set nets, and pelagic trawls.

Utilized smoked and dried salted.

ALOP Alop 2

1981

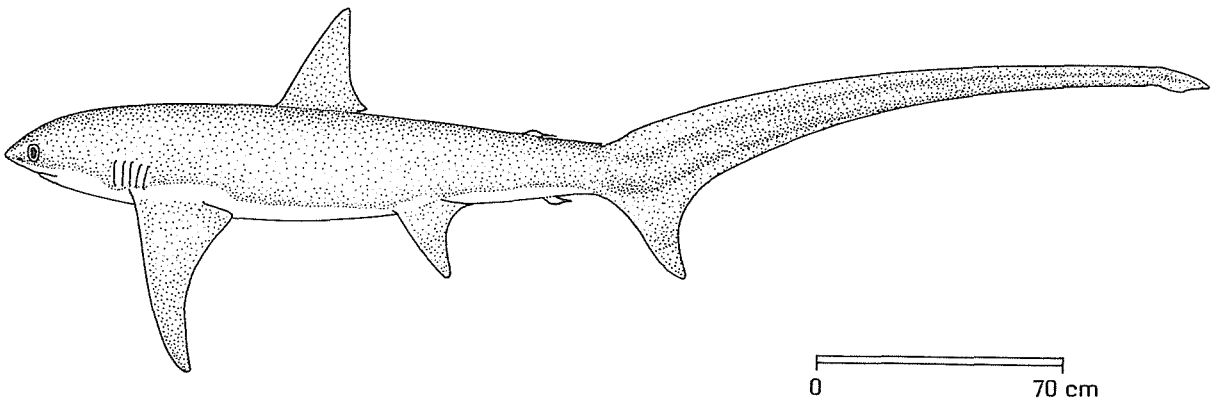
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : ALOPIIDAE

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

Alopias vulpinus (Bonnaterre, 1788)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Thresher shark
Fr - Renard
Sp - Zorro

NATIONAL :

DISTINCTIVE CHARACTERS :

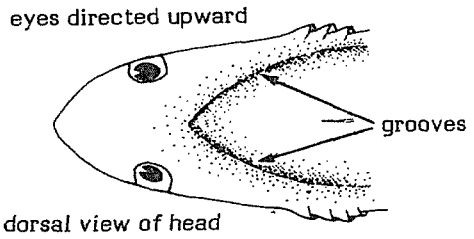
A large shark. Head with 5 medium-sized gill slits, the last two above pectoral fin bases; no grooves on nape; no gillrakers; no nasal barbels or oronasal grooves on nostrils; snout short and conical; no nictitating eyelids; eyes moderately large, not expanding unto the dorsal surface of head; mouth short and semicircular, below eyes, with short lower labial furrows; teeth small, usually over 29 rows in upper and lower jaws, sharp-edged, with a single, broad, straight or posteriorly curved cusp and usually no cusplets; anterior teeth not greatly enlarged, uppers usually separated from the laterals by a small intermediate tooth. Two dorsal fins, the first moderately large, with its base well ahead of the pelvic fin bases and farther from them than from the pectoral fin bases; second dorsal fin minute and positioned just in front of the small anal fin; pectoral fins very long and falcate, with narrowly rounded (small juveniles) to acutely pointed, narrow tips; upper lobe of caudal fin very long and straplike, about as long as or longer than rest of shark; lower lobe short but well-developed. Upper precaudal pit present but caudal keels absent. Intestinal valve of ring type.

Colour: brown, grey, blue-grey or blackish on back and underside of snout, lighter on sides, and abruptly white below; a white area extends from the abdomen over the pectoral fin bases; pectoral, pelvic and dorsal fins blackish, white dots sometimes present on pectoral, pelvic and caudal fin tips.

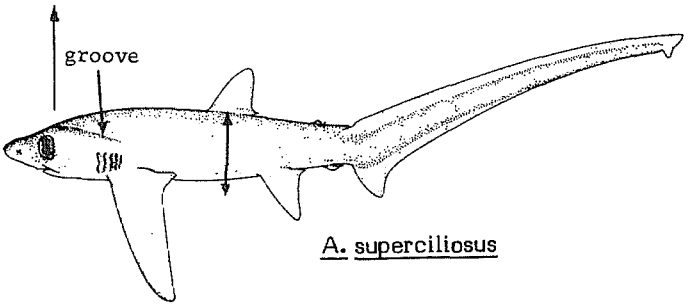
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Alopias superciliosus: horizontal grooves present on nape; snout longer and head less convex dorsally; teeth larger and less numerous, 25 rows or less in upper and lower jaws (usually more than 29 in A. vulpinus); no intermediate teeth in upper jaws; pectoral fins with broader, less pointed tips; first dorsal fin close to pelvic fin bases and distant from pectorals; white colour of abdomen not extending over pectoral fin bases.

No other sharks in the area have the caudal fin about half the total length.



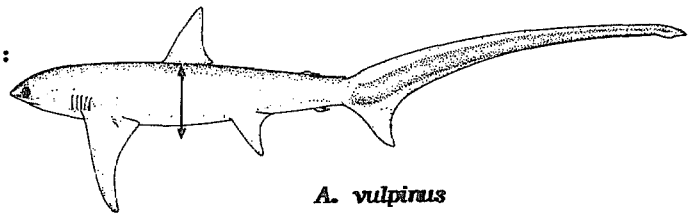
dorsal view of head



A. superciliosus

SIZE:

Maximum: between 500 and 609 cm; common between 430 and 490 cm; apparently larger than A. superciliosus.

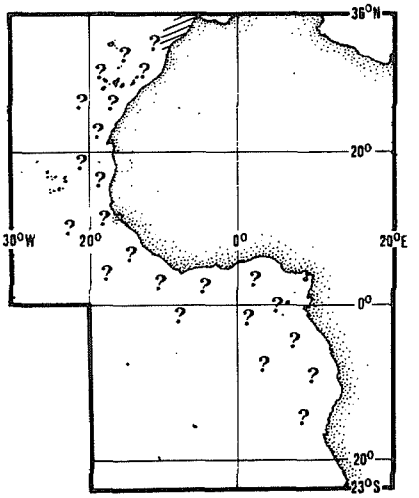

A. vulpinus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from Morocco southward at least to Ghana and Ivory Coast; also northward to Norway and the British Isles and in the Mediterranean Sea. Wide-ranging in the Western Atlantic, Indian Ocean, and Pacific. Some Western Pacific and Indian Ocean records of this species may be based on A. pelagicus.

A cold-temperate to tropical, oceanic as well as coastal shark, the young of which are often found close inshore and in shallow bays. Uncommon in the area. Ovoviviparous, number of young 2 to 4; size at birth about 120 to 150 cm.

This shark feeds mostly on small schooling fishes, including mackerel, bluefish, clupeids, needlefishes, lancetfishes and lanternfishes; also squids, octopuses and pelagic crustaceans. Definitely recorded as herding and stunning fishes with its long tail. A few attacks on boats are attributed to this species, but it otherwise is not known to be dangerous.



PRESENT FISHING GROUNDS:

Both inshore and offshore in the area.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Captured with line gear, and with anchored and floating nets.

Utilized smoked and dried salted.