DIRET

1982

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREA 51
(W. Indian Ocean)

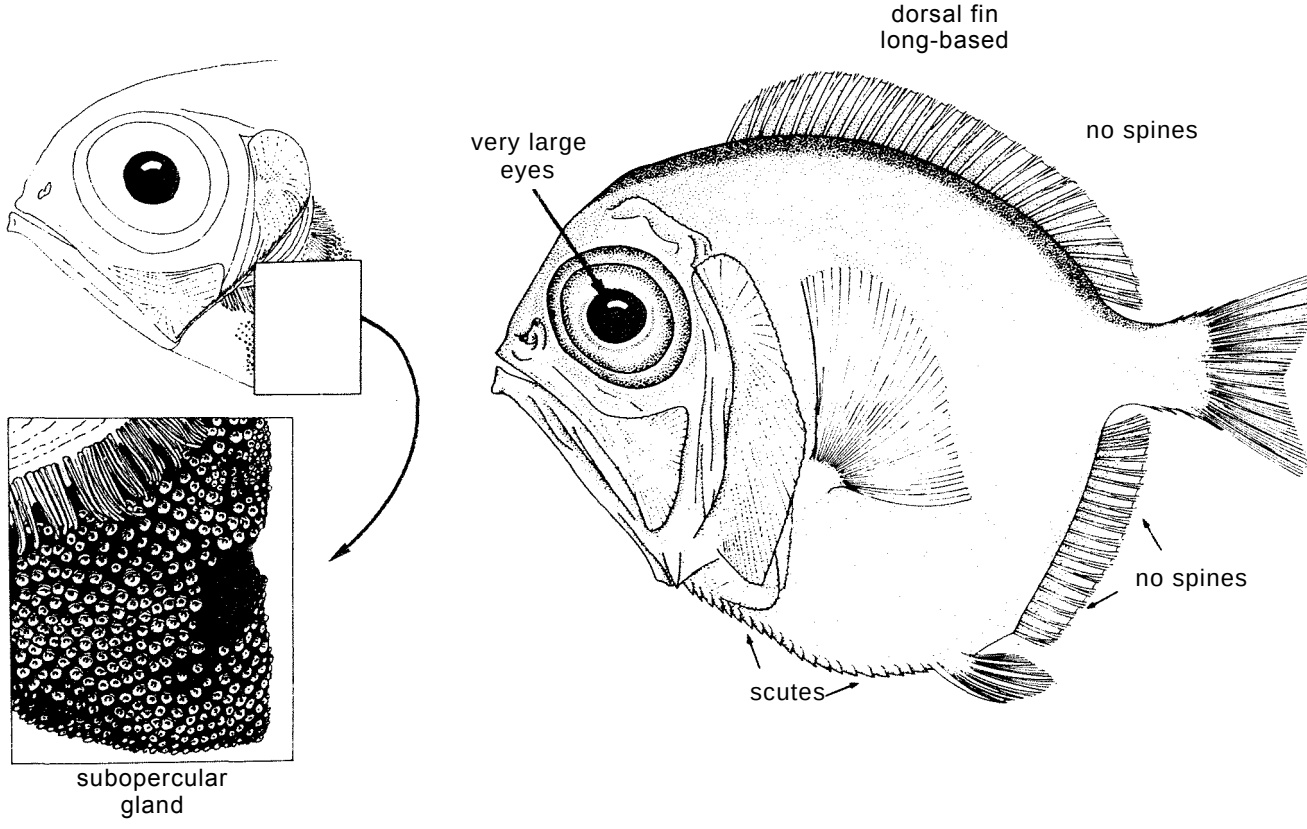
DIRETMIDAE

Diretmids

Small or medium-sized fishes, usually less than 40 cm in length (standard length). Body deep and strongly compressed, disc-like to elliptic. Head about as high as long; mouth large, oblique or steep; eye very large, its diameter about half the head length; teeth in jaws very small, multiserial, no teeth on roof of mouth (palatines and vomer; gillrakers lath-like. Special glands present beneath gill cover (unique within beryciform fishes). Vertical fins without spines; dorsal fin base longer than that of anal fin. Scales ctenoid (rough to touch); strong scutes on ventral midline; lateral line obscure. Swimbladder present.

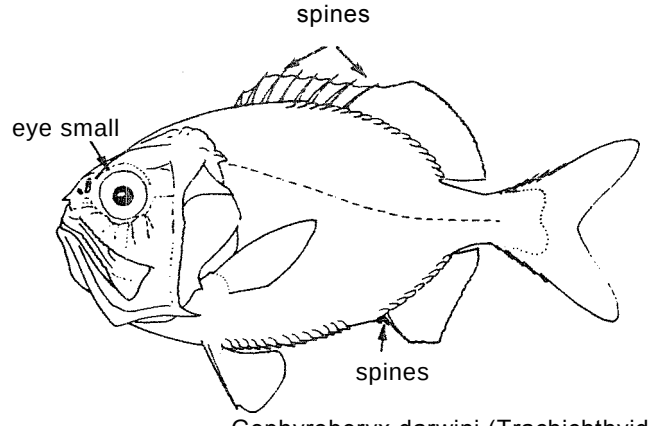
Colour: silvery or greyish black.

Diretmids are mesopelagic fishes usually occurring at depths between 400 and 600 m; very young specimens live near the surface, while old adults often descend to below 1 000 m; live singly or in small groups, sometimes above the continental slope. They feed on small crustaceans and planktonic organisms; nocturnal vertical migrations probable. All species are dioecious (sexes separate). Apparently abundant locally, and taken as by-catch in trawl fisheries but of no commercial importance at present.



SIMILAR FAMILIES OCCURRING IN THE AREA*:

Trachichthyidae: spines always present in dorsal and anal fins; eye diameter distinctly less than half the head length; no dermal glands under gill cover.

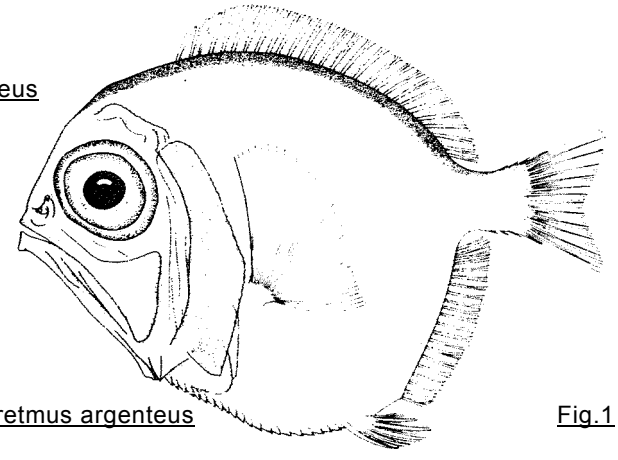


Gephyroberyx darwini (Trachichthyidae)

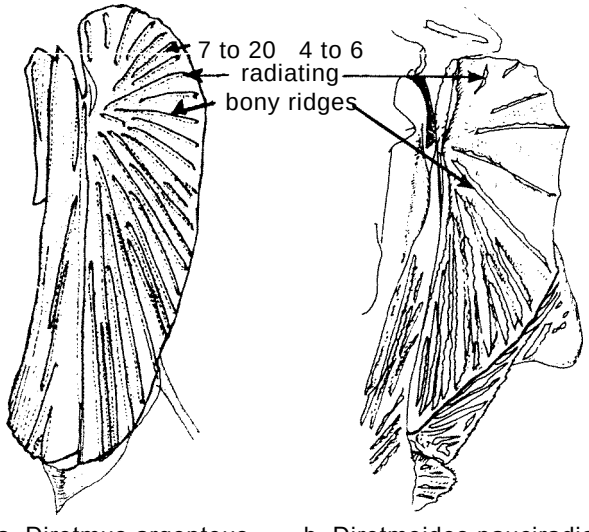
KEY TO SPECIES OCCURRING IN THE AREA*:

1 a. Body disc-like at all sizes (Fig. 1); gill cover with more than 10 radiating bony ridges on upper third (Fig. 2a); ventral midline anterior to pelvic fins sharply keeled, covered with spiny scutes (Fig. 3a); anus immediately in front of first anal finray (Fig. 4a) ..... Diretmus argenteus

1 b. Body elliptic (Figs. 5,6), but sometimes disc-like in juveniles; gill cover with 3 to 6 radiating bony ridges on upper third (Fig. 2b); ventral midline anterior to pelvic fins flat, covered with normal ctenoid scales (Fig. 3b) anus half way between origin of pelvics and anal fin (Fig. 4b)

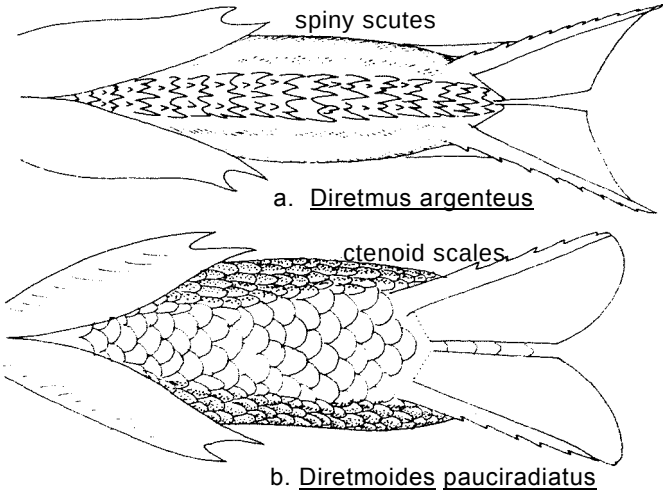


Diretmus argenteus Fig.1



a. Diretmus argenteus b. Diretmoides pauciradiatus

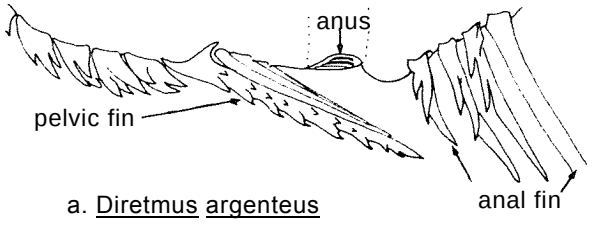
gill cover (left side) Fig.2



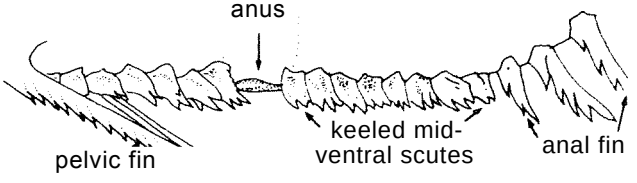
a. Diretmus argenteus

b. Diretmoides pauciradiatus

ventral midline of body Fig. 3



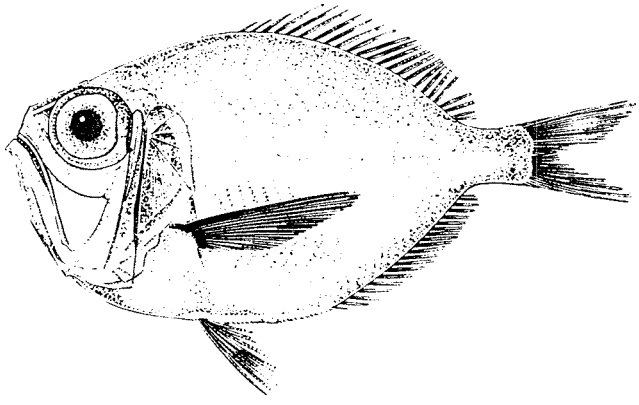
a. Diretmus argenteus



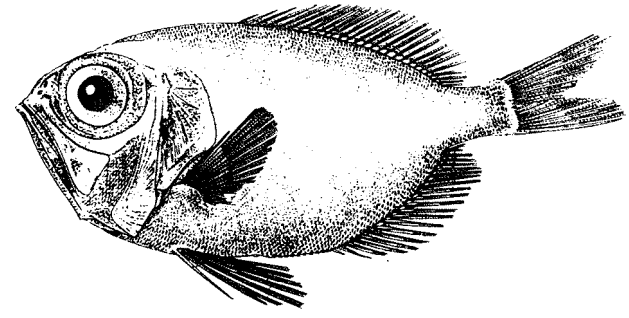
b. Diretmoides pauciradiatus Fig.4

2 a. Dorsal fin rays 24 or 25; anal fin rays 18 to 20; rakers on first gill arch 13 to 15; tips of pelvic fins not, or scarcely, reaching anterior anal fin ray (Fig. 5) ..... Diretmoides pauciradiatus

2 b. Dorsal fin rays 27 or 28; anal fin rays 21 or 22; rakers on first gill arch 17 to 19; tips of pelvic fins reaching to anterior anal fin rays (Fig. 6) ..... Diretmoides parini



Diretmoides pauciradiatus Fig.5



Diretmoides crini Fig.6

LIST OF SPECIES OCCURRING IN THE AREA*:

Diretmus argenteus Johnson, 1863
size to 15 cm, occurrence from slightly north of equator to 35° S

Diretmoides arini post & Quéro, 1981
size to 40 cm; two records from 37°S, 66°E and 34°S, 52°E; further records of Diretmoides larvae from between the equator and 20°S, not referred to species

Diretmoides pauciradiatus (Woods, 1973)
size to 14 cm; no reliable records, but some of the Diretmoides larvae mentioned under D. parini presumably belong to this species

Prepared by A. Post, Aussenstelle Ichthyologie, Institut Mr Seefischerei, Zoologisches Institut and Zoologisches Museum, Hamburg, Federal Republic of Germany

Illustrations provided by author

DREP

1983

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREA 51
(W. Indian Ocean)

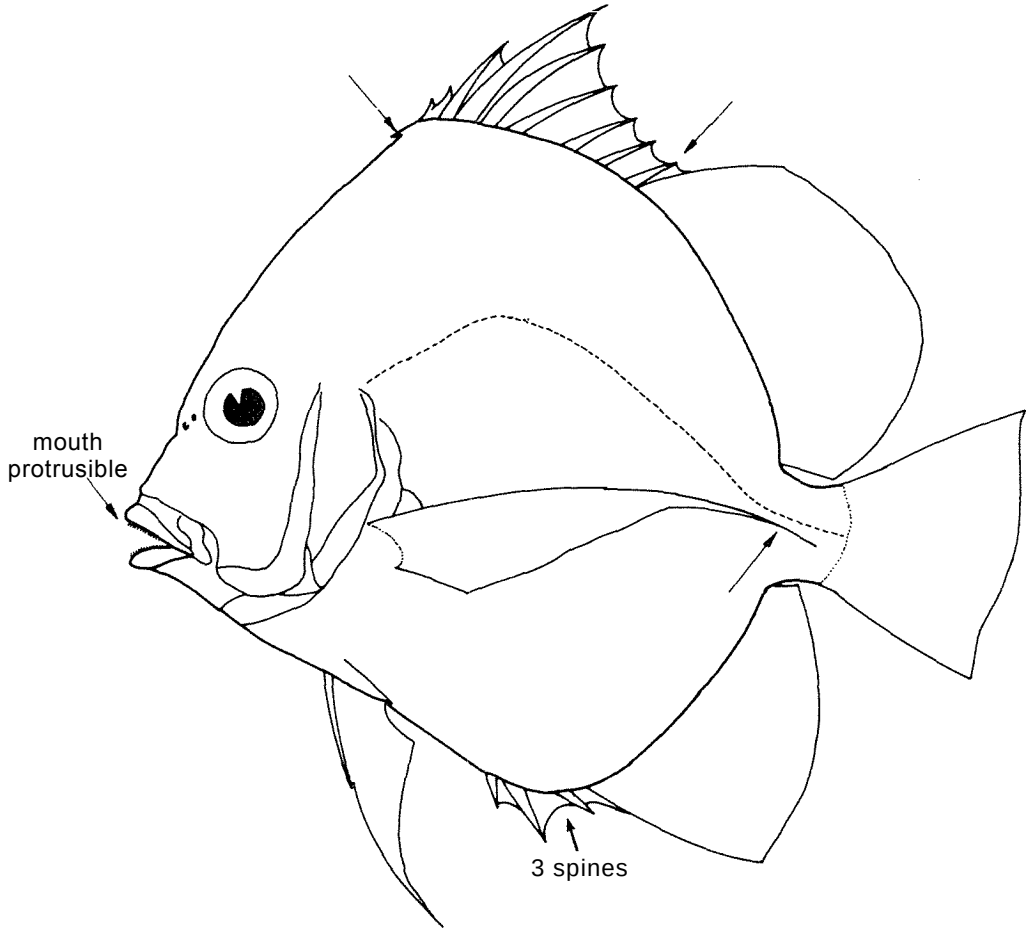
DREPANIDAE

Sicklefishes

(placed by some authors, together with the Platacidae, in the family Ephippidae)

Body very deep and strongly compressed; head with a parabolic upper profile; snout short; scales absent in front of eye and on preopercle, lower preopercular margin denticulate; mouth terminal and protrusible, forming a downward-pointing tube when protracted; teeth small and setiform in bands on each jaw. Dorsal fin with 8 to 10 spines (the first small, procumbent, visible only in young), the spinous part separated from the soft part by a deep notch and depressible in a high basal scaly sheath; pectoral fins long, falcate; pelvic fins present; anal fin with 3 spines; hind margin of caudal fin rounded. Lateral line strongly arched. Scales of moderate size, finely ctenoid, extending onto dorsal and anal fins.

Colour: silvery grey above, silvery white below, with dusky spots or grey vertical bars.

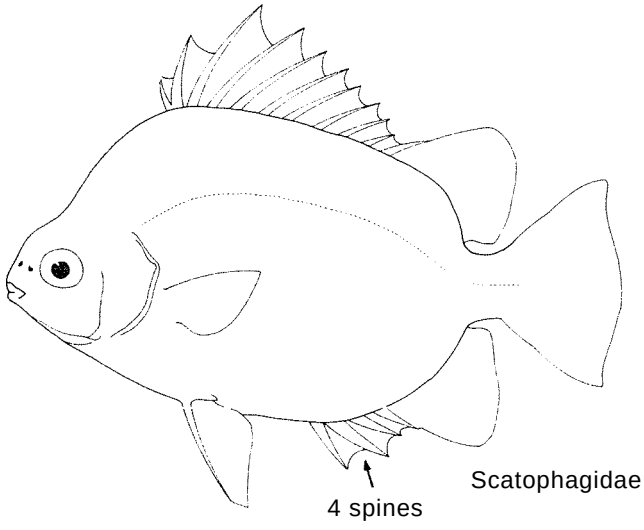


SIMILAR FAMILIES OCCURRING IN THE AREA:

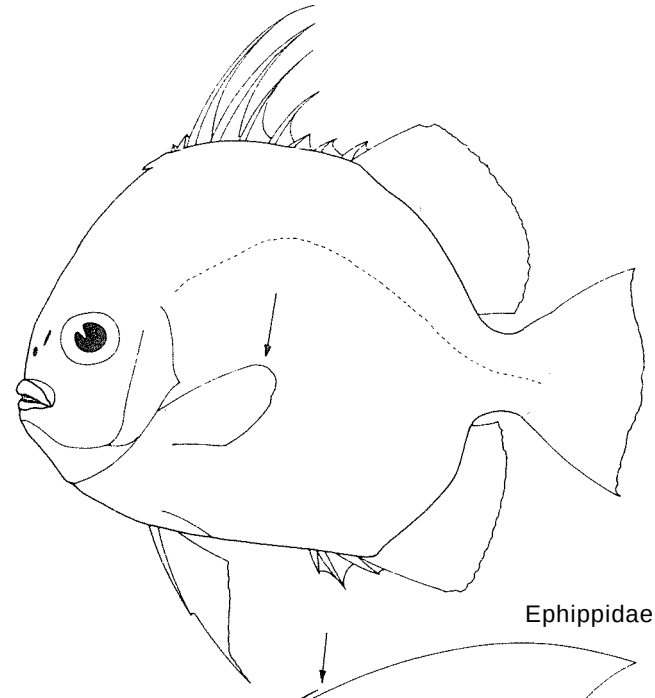
Ephippidae: pectoral fins short, not falcate; also, mouth not protrusible.

Platacidae: pectoral fins short, not falcate; also, 5 to 9 spines in dorsal fin, increasing in length posteriorly and not separated from soft part of fin by a notch.

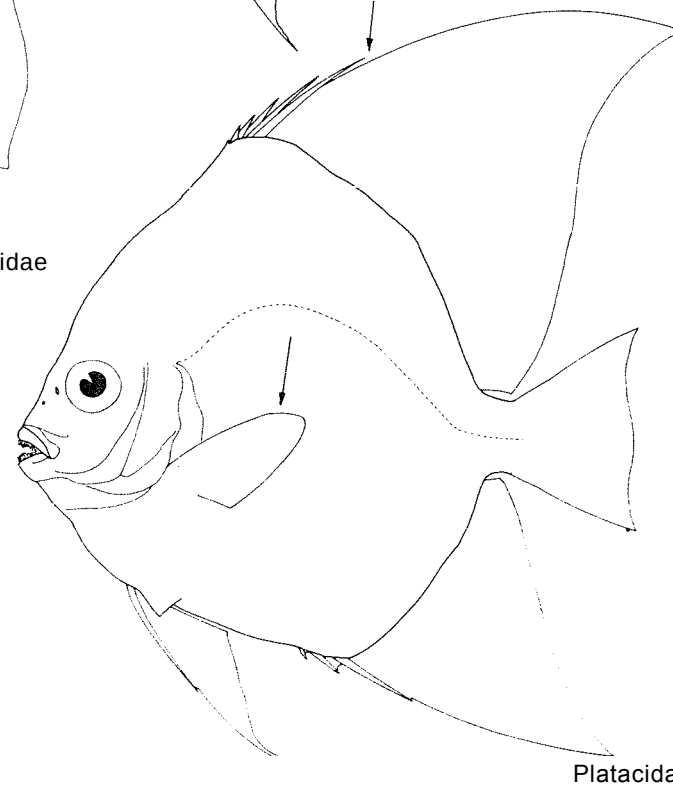
Scatophagidae: 4 anal fin spines (3 in Drepanidae); pectoral fins small; head profile concave.



Scatophagidae



Ephippidae



Platacidae

KEY TO GENERA OCCURRING IN THE AREA:

Drepane only.

LIST OF SPECIES OCCURRING IN THE AREA:

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

Drepane longimana (Bloch & Schneider, 1801)*
Drepane punctata (Linnaeus, 1758) DREP Drep 1

Prepared by A. Maugé, Ichtyologie Générale et Appliquée, Muséum National d'Histoire Naturelle, 43 rue Cuvier, 75231 Paris, Cedex 05, France. Main species drawings for Drepane punctata provided by author
Revised by P.C. Heemstra, J.L.B. Smith Institute for Ichthyology, Grahamstown, South Africa

*Not unanimously recognized as a valid species (personal comment, Dr P.C. Heemstra)

DREP Drep 1

1983

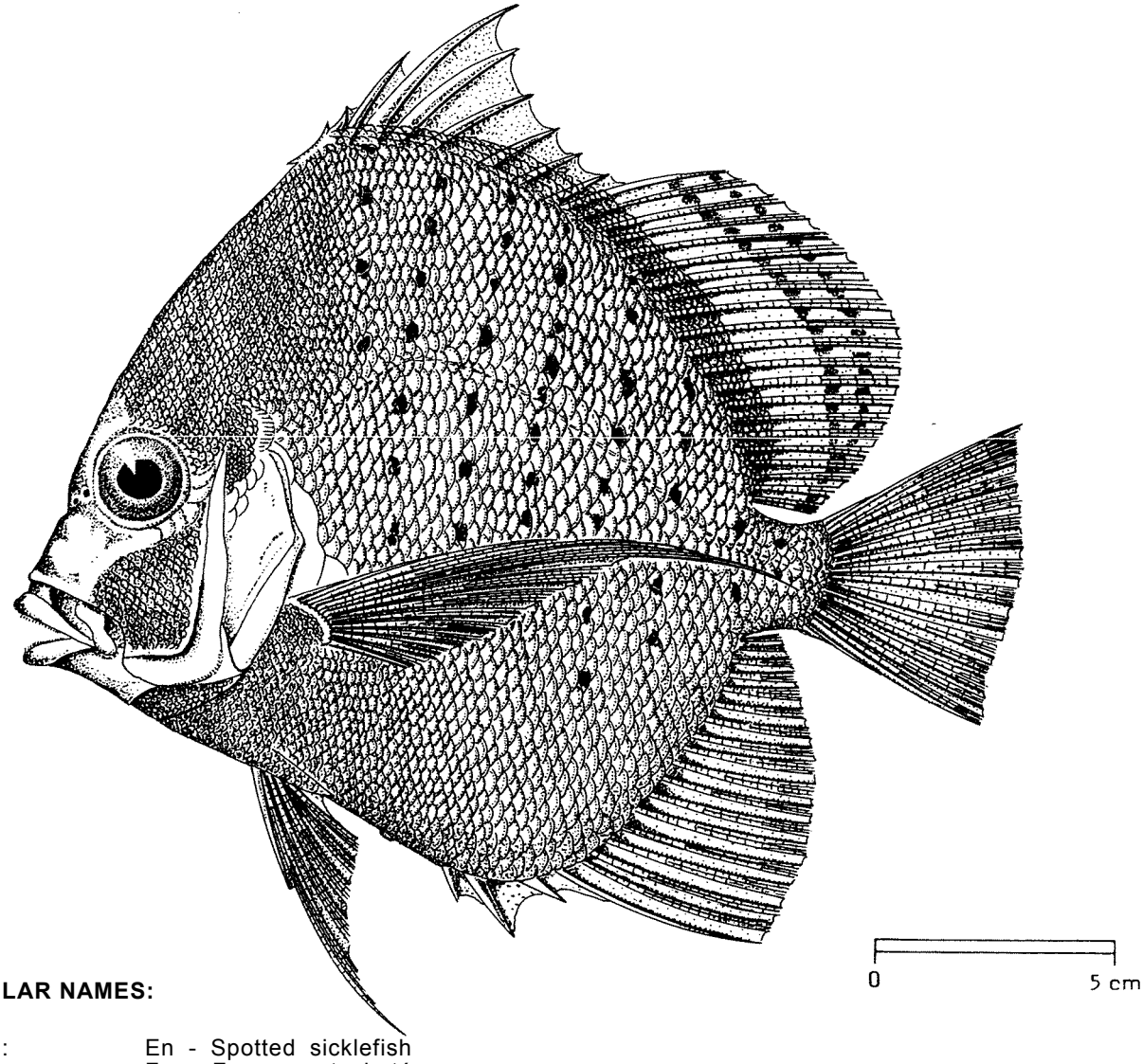
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: DREPANIDAE

FISHING AREA 51
(W. Indian Ocean)

Drepane punctata (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE: Chaetodon punctata Linnaeus, 1758



VERNACULAR NAMES:

FAO : En - Spotted sicklefish
Fr - Forgeron tacheté
Sp - Catemo manchado

NATIONAL:

DISTINCTIVE CHARACTERS:

Head and body deep, strongly compressed. Mouth protrusible; teeth pointed, slender, crowded together; a fringe of 4 to 6 short cirri ventrally on lower jaw (absent in specimens 25 cm or more in total length). Dorsal fin with 8 or 9 spines and 19 to 22 soft rays; the 4th dorsal spine the longest; anal fin with 3 spines and 17 to 19 soft rays; pectoral fins long and pointed, reaching to base of caudal fin.

Colour: generally silvery with a greenish tinge on upper half of body and a large orange spot just above base of pectoral fin; 4 to 11 vertical bars of small black spots on upper half of body; margins of dorsal, anal, caudal and pelvic fins greyish black.

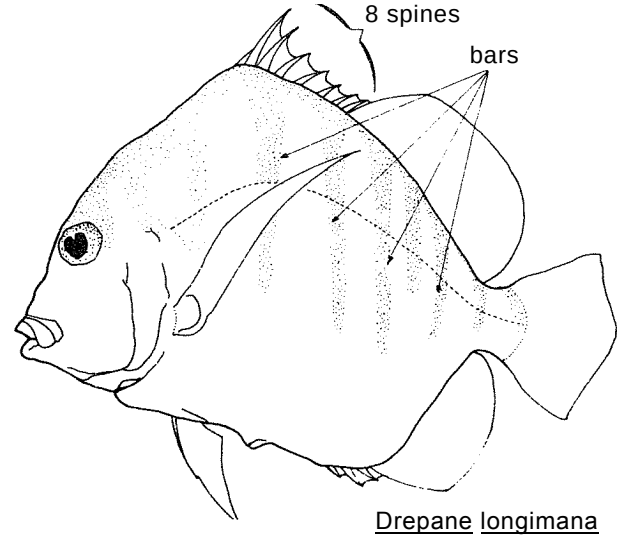
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Drepane longimana: 4 to 9 vertical grey bars on upper half of sides, but no spots; also 8 dorsal fin spines (9 in D. punctata).

Species of Ephippidae: pectoral fins short, not falcate; mouth not protrusible.

Species of Scatophagidae: 4 anal fin spines, pectoral fins small; also, head profile concave above snout.

Species of Platacidae: pectoral fins short, not falcate; spines of dorsal fin increasing in length posteriorly; no notch between spinous and soft parts of dorsal fin.



Drepane longimana

SIZE:

Maximum: 40 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Across the western indian Ocean trom the Red Sea and east coast of Africa, southward to Natal to the coasts of Pakistan, India and Sri Lanka. Outside the area extending eastward to China, the Philippines, Samoa and Australia.

Found in shallow waters around coral and rocky reefs, living in the sea but entering brackish waters.

Feeds on bottom-living invertebrates and fishes.

PRESENT FISHING GROUNDS:

Shallow waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with handlines, traps and bottom trawls.

Marketed fresh only.

ECHEN

1983

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREA 51
(W. Indian Ocean)

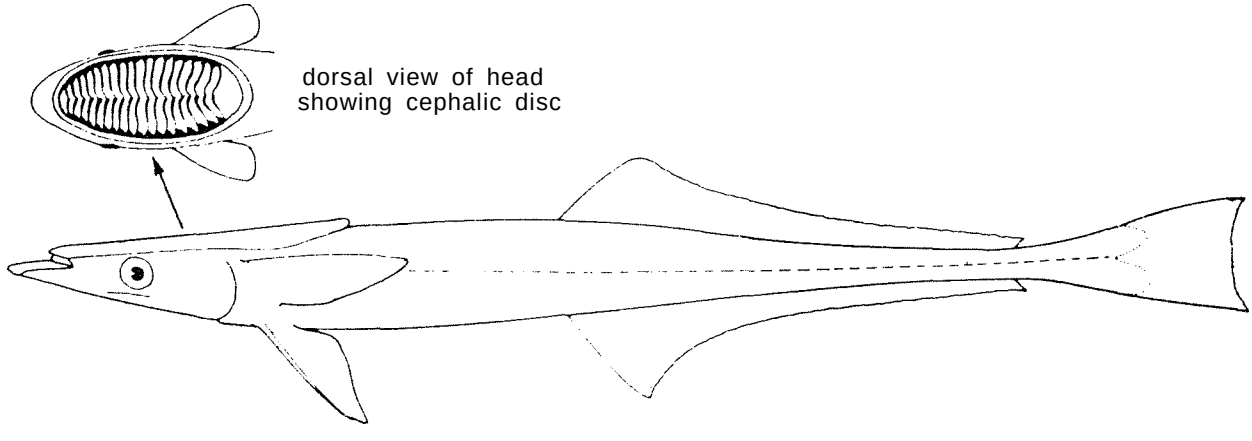
ECHENEIDAE

Remoras, sharksuckers, discfishes

Perciform fishes with a transversely laminated, oval-shaped cephalic disc, this structure homologous with spinous dorsal fin; skull wide, depressed to support disc; body fusiform, elongate. Opercle without spines, premaxillae not protractile, gill membranes free from isthmus. Jaws broad, the lower projecting beyond the upper; villiform teeth present in jaws and vomer (centrally on roof of mouth), usually on tongue and in certain species on palatines (laterally on roof of mouth). Dorsal and anal fins long, lacking spines, dorsal rays range from 18 to 45, anal rays from 18 to 41; pectoral fins set high on body, pointed or rounded, with 18 to 32 rays; pelvic fins far forward, close together, narrowly or broadly attached to underside of body, with 1 spine and 5 soft rays; caudal fin slightly forked, emarginate, or slightly rounded (in large specimens of some species), juveniles of some species with an elongate median caudal filament. Scales small, cycloid (smooth), usually embedded in the skin. No swimbladder.

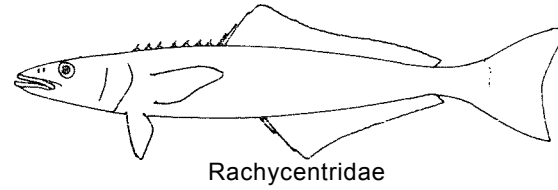
Colour: in life colours subdued, pale brown, greyish to black, sometimes light to whitish or with light and dark horizontal stripes on trunk.

The Echeneidae is divisible into two subfamilles, four genera, eight species, seven of which occur in the Western Indian Ocean. The remoras attach themselves to many different marine vertebrates including sharks, rays, tarpons, barracudas, sailfishes, marlins, swordfishes, jacks, basses, groupers, ocean sunfish, sea turtles, whales, and dolphins; they may also attach to ships and various floating objects. Some remoras have a great preference or specificity toward certain hosts. Remora australis, the whalesucker, is only known from marine mammals. Remora osteochir, the marlinsucker, is almost always found attached to spearfishes, particularly the sailfish and white marlin. The preferred host of Remorina albescens, the white sucker, is the manta ray. Species of the genus Echeneis are often free-swimming and occur in shallow, inshore waters. Remora and Remorina are almost always captured on their host where they may be found attached to the body, in the mouth, or in the gill cavity. Although remoras are not considered to be of any commercial importance, at least Echeneis naucrates is taken in coastal fisheries along with other species and sold in local markets.



SIMILAR FAMILIES OCCURRING IN THE AREA:

No other family of fishes has a cephalic sucking disc. The cobia family (Family Rachycentridae) bears some resemblance to the remoras. It has been postulated that a cobia-like ancestor may have given rise to the echeneid fishes.



Rachycentridae

KEY TO GENERA OCCURRING IN THE AREA:

1 a. Body very elongate, the depth contained 8 to 14 times in standard length; pectoral fins pointed; usually a dark longitudinal band on sides, bordered with white; anal fin base long, anal rays 29 to 41; caudal fin lanceolate io young, the middle rays filamentous, almost truncate in adults, the lobes pronounced (subfamily Echeneinae) (Fig. 1)

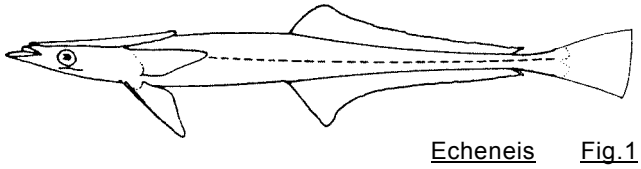
2 a. Sucking disc with 18 to 28 laminae; vertebrae 30 ..... Echeneis

2 b. Sucking disc with 9 to 11 laminae; vertebrae 39 to 41 ..... Phtheirichthys

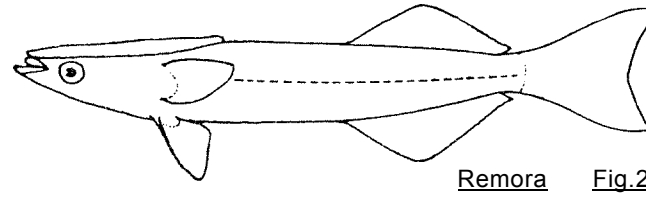
1 b. Body not elongate, the depth contained 5 to 8 times in standard length; pectoral fins rounded; colour nearly uniform, without bands; anal fin base short, anal rays 18 to 28; caudal fin forked in young becoming emarginate or truncate in adults (subfamily Remorinae) (Fig. 2)

3 a. Pelvic fins broadly attached to abdomen; disc laminae 15 to 19; vertebrae 27; colour light to dark brown; hosts include sharks, billfishes or cetaceans, depending on species ..... Remora

3 b. Pelvic fins narrowly attached to abdomen disc laminae 13 or 14; vertebrae 26; colour whitish; usual host, manta rays ..... Remorina



Echeneis Fig.1



Remora Fig.2

LIST OF SPECIES OCCURRING IN MARINE WATERS OF THE AREA :*

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

Echeneis naucrates Linnaeus, 1758 ECHEN Echen 1

Phtheirichthys lineatus (Menzies, 1791)

Remora australis (Bennett, 1840)
Remora beachyptera (Lowe, 1839)
Remora osteochir Cuvier, 1829)
Remora remora Linnaeus, 1758)

Remorina albescens (Temminck & Schlegel, 1845)

Prepared by E.A. Lachner, Division of Fishes, National Museum of Natural History, Smithsonian Institution, Washington, DC, USA, and B.B. Collette, National Marine Fisheries Service, Systematics Laboratory, Washington, DC, USA

*The only remora species not occurring in this area is Echeneis naucratoides Zuieuw, which is confined to the W. Atlantic Ocean

ECHEN Echen 1

1983

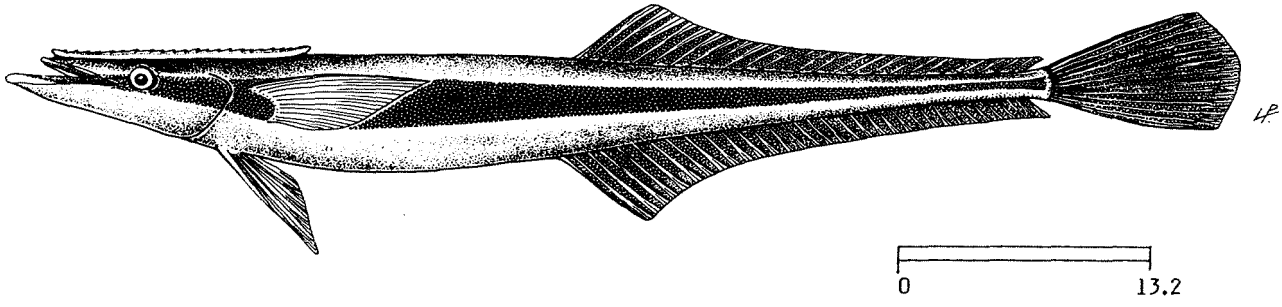
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: ECHENEIDAE

FISHING AREA 51
(W. Indian Ocean)

Echeneis naucrates Linnaeus, 1758

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Live sharksucker
Fr - Rémora commun
Sp - Pegatimón

NATIONAL:

DISTINCTIVE CHARACTERS:

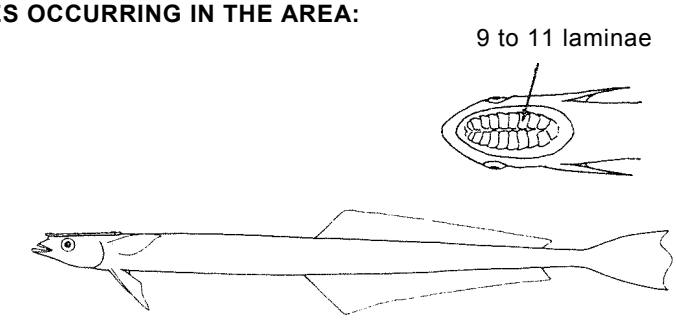
An elongate fish, depth of body contained 8 to 14 times in standard length. Jaws broad, the lower projecting beyond the upper. First dorsal fin replaced by a transversal, laminated, oval cephalic disc with 16 to 28 laminae; second dorsal fin and anal fin long, lacking spines, the anal with 29 to 41 rays; pectoral fins short, high on body, pointed; caudal fin lanceolate in young, the middle rays elongate and filamentous; almost truncate in adults, with the upper and lower lobes larger than the middle rays.

Colour: dark longitudinal band on sides bordered with white. Juveniles with upper and lower margins of fins white.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Phtheirichthys lineatus: sucking disc with only 9 to 11 laminae 18 to 28 in Echeneis naucrates).

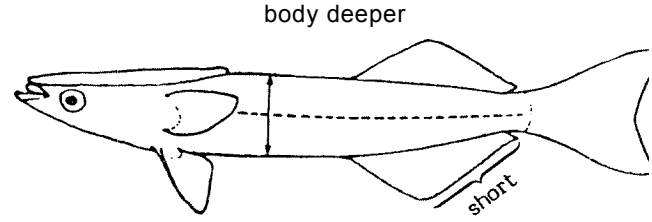
Remora and Remorina species: shorter-bodied, the depth contained 5 to 8 times in standard length (8 to 14 times in Echeneis); colour nearly uniform, without a lateral band; anal fin base short, with 16 to 28 rays (29 to 41 in Echeneis); sucking disc with 13 to 19 laminae (18 to 28 in Echeneis).



Phtheirichthys lineatus

SIZE:

Maximum: more than 75 cm total length, 66 cm standard length.

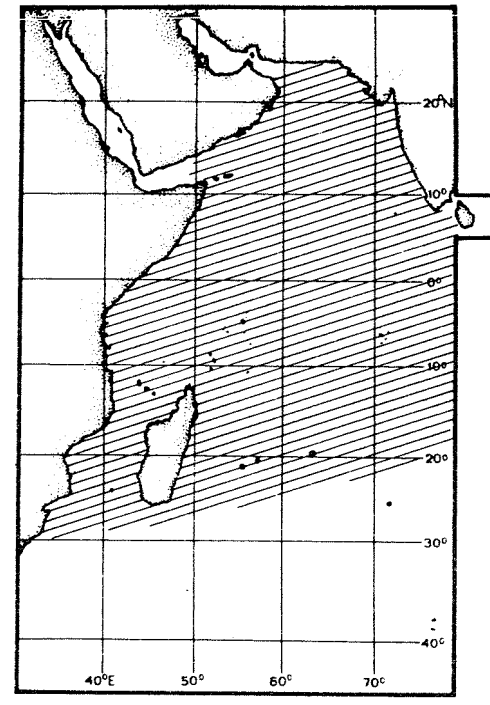


Remora species

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

World-wide in tropical and temperate seas; probably absent from the Red Sea and the Persian Gulf.

Unlike most other remoras, Echeneis naucrates is often found free-swimming and occurs in shallow inshore waters. It will attach temporarily to a wide variety of hosts such as sharks and sea turtles and also to ships. Sometimes used by natives as an aid to fishing. A line is tied to the caudal peduncle of the remora and then it is released; upon attaching to another fish, the remora and its host are hauled in by the fishermen.



PRESENT FISHING GROUNDS :

Shallow coastal waters; no special fishery.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken with drift nets and trawls on the west coast of India.

Regularly sold in the markets at Cochin in southwest India.