

GONORH

1983

**FAO SPECIES IDENTIFICATION SHEETS**

**FISHING AREA 51  
(W. Indian Ocean)**

GONORHYNCHIDAE

Beaked salmons

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

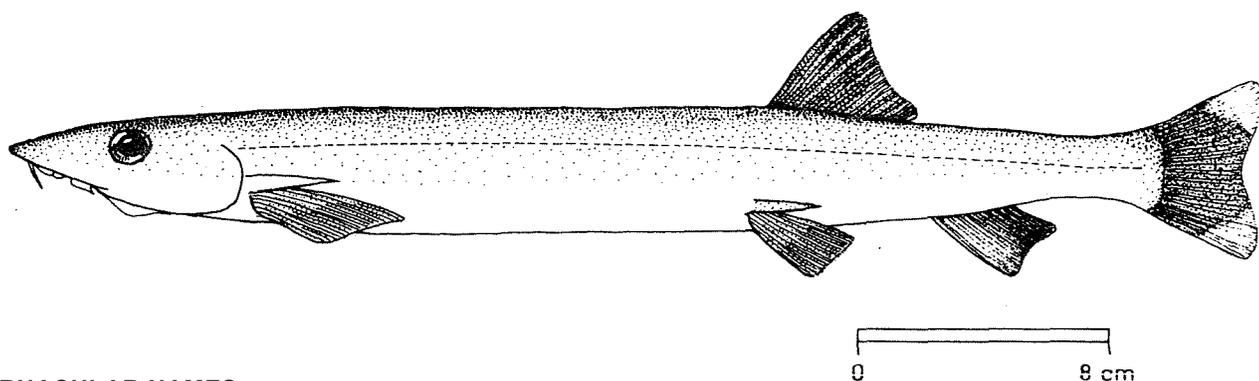
Gonorhynchus gonorhyncus (Linnaeus, 1758)      GONORH Gonorh 1

## FAO SPECIES IDENTIFICATION SHEETS

FAMILY: GONORHYNCHIDAE

FISHING AREA 51  
(W. Indian Ocean)Gonorhynchus gonorhynchus (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE: None



## VERNACULAR NAMES:

FAO :           En - Beaked salmon  
                   Fr - Caduchon  
                   Sp - Caduch6n

NATIONAL:

## DISTINCTIVE CHARACTERS:

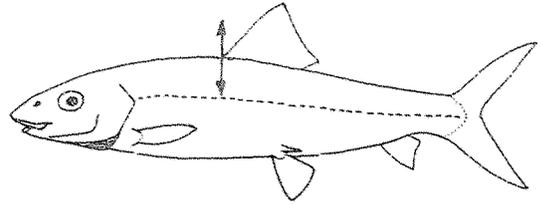
Body elongate, fusiform. Mouth small and inferior, lips thick, with papillae; a barbel under snout; eyes covered by skin; gillrakers few and short. Dorsal fin set far back on body, anal fin behind dorsal fin base, the unbranched fin rays soft. Scales very small and ctenoid (rough to touch).

Colour: back grey/blue, flanks silvery, becoming pink on lower part. Anterior part of anal fin and tips of caudal fin orange/pink.

**DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:**

Albula species: mouth also inferior, but dorsal fin at about midpoint of body and no barbel under snout.

Chanos chanos: dorsal fin at midpoint of body, mouth terminal; no barbel under snout.



Albula sp.

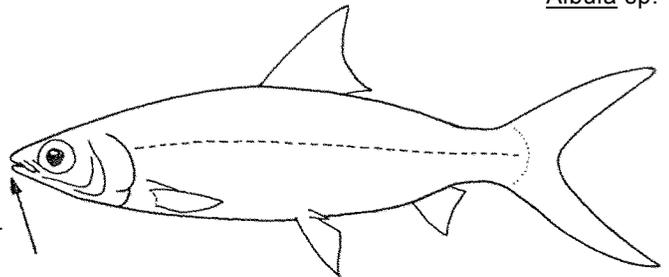
**SIZE:**

Maximum: 60 cm; common to 40 cm.

**GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:**

Southern African waters, also Madagascar (south-east only).

A bottom-living species, living mainly over sand at about 70 to 160 m depth.



Chanos chanos

**PRESENT FISHING GROUNDS:**

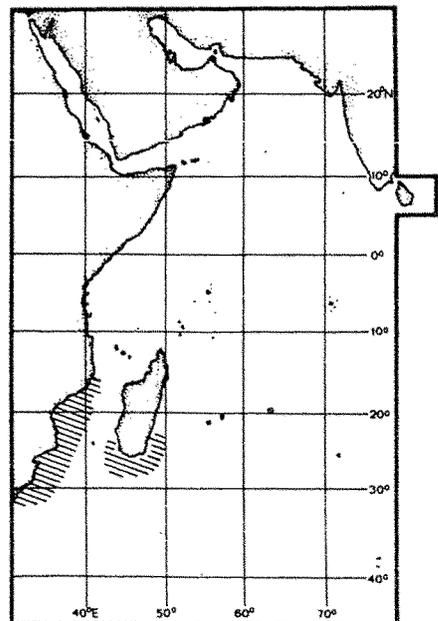
Caught throughout its range, but no special fishery.

**CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:**

Separate statistics are not reported for this species.

Caught mainly with trawls.

Marketed fresh.



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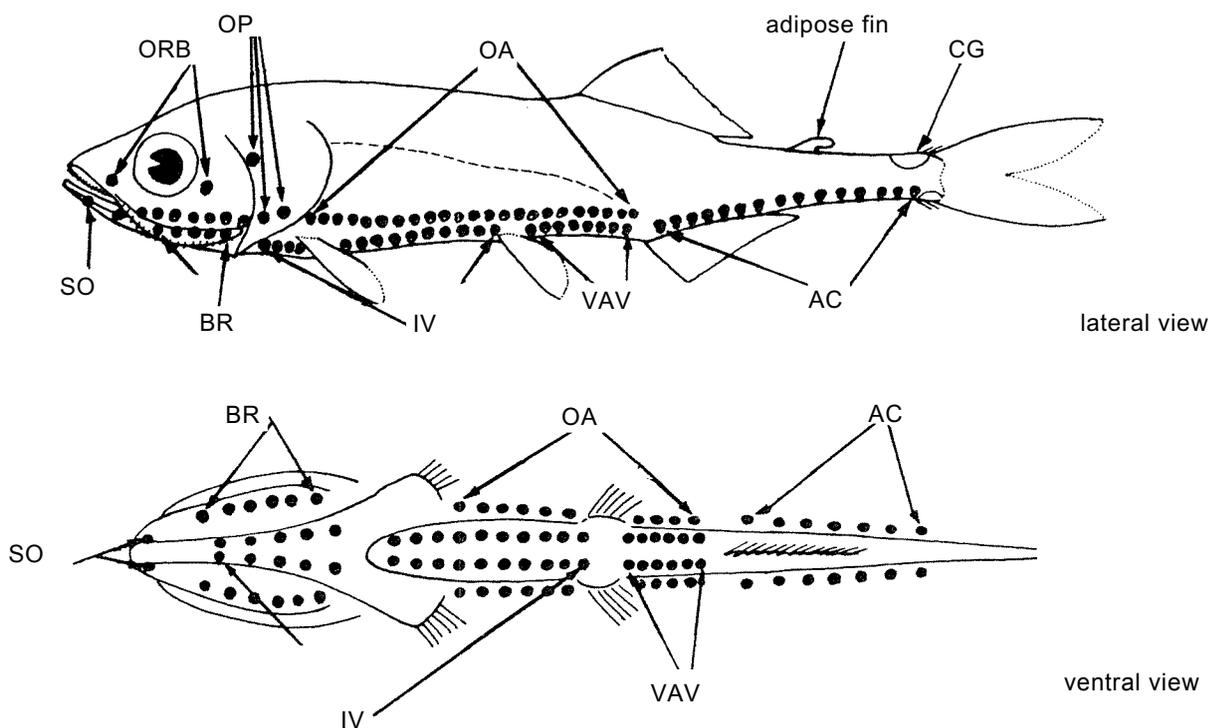
GONOSTOMATIDAE

Bristlemouths

Small compressed fishes, rarely exceeding 25 cm in length. Head without barbels; mouth large, with teeth present in jaws; gill openings very wide; gillrakers usually well developed. Positions of dorsal, anal, and pelvic fins variable; pectoral fins low on body; dorsal adipose fin present on many species. Scales, if present, large and easily removed. Photophores (light organs) present on all species except *Cyclothone obscura*: one or more on the head, always a series on branchiostegal membrane, and one or more lengthwise rows on body; other patches of luminous tissue may also be present on head and/or body.

Colour: depending on the species, either uniformly dark brown or black, often with silvery iridescence on body and cheeks, or translucent white with scattered black chromatophores (pigment spots).

All species are mesopelagic to bathypelagic, but many exhibit diel vertical migrations, and some are found in the upper 50 m of water at night, and may be incidentally taken in various types of fishing gear. At present they are of no commercial importance.

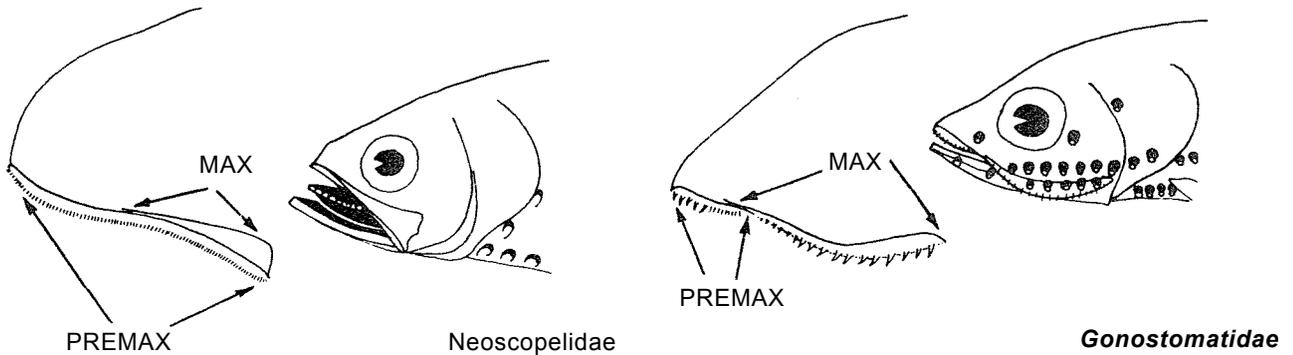


- AC ventral series posterior to anal fin origin
- BR on the branchiostegal membranes
- CG on procumbent caudal rays
- IV preventral photophores of the ventral series
- OA lateral series

- OP opercular photophores
- ORB situated close to the eye
- SO pair near symphysis of lower jaw
- VAV ventral series between ventral fins and anal fin origin

**SIMILAR FAMILIES OCCURRING IN THE AREA:**

Myctophidae and Neoscopelidae somewhat similar in body shape and also bearing light organs, but maxilla (MAX) completely excluded from the gape by the premaxilla (PREMAX).



**KEY TO GENERA OCCURRING IN THE AREA\*:**

1 a. BR 8 or more; serial photophores separate, not grouped in common glands

2 a. Photophores present on isthmus (Fig. 1); IV 20 or more

3 a. More than 2 rows of photophores on body; no adipose fin (Figs. 2 and 3)

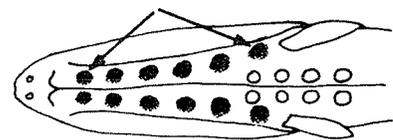
4 a. Lateral-line area with a row of small photophores extending unto caudal fin (Fig.2) ..... Diplophos

4 b. Lateral-line area not marked by a row of photophores; trunk much shorter than tail; origin of dorsal fin well in advance of middle of body (Fig.3).....Triplophos

3 b. Only 2 rows of photophores on body; adipose fin present; ORB 2, one close to front of eye, the other close to its hind margin or below centre (Fig. 4)

5a. Eye normal (not tubular); pelvic fins in advance of dorsal fin origin (Figs. 4 and 5)

6a. Origin of anal fin beneath middle or end of dorsal fin; ORB'S equal in size, or posterior one larger; AC 12 to 16; BR 8 to 9; OA 19 to 25 (Fig. 4)..... Vinciguerria



head viewed from below Fig.1



Diplophos

Fig.2

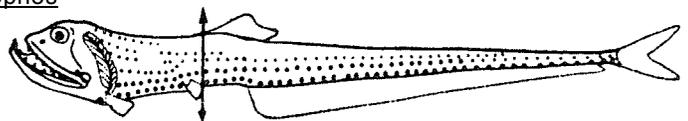


Fig.3

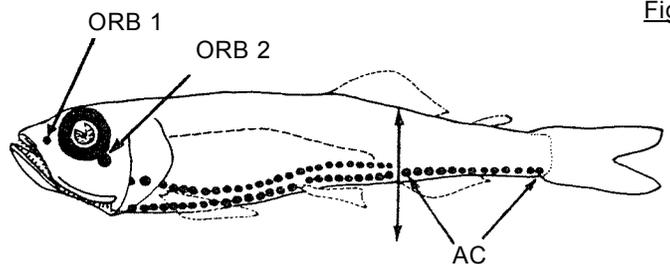


Fig.4

\*All abbreviations refer to photophores (see code)

6 b. Origin of anal fin well behind end of dorsal fin; BR 14 to 18; OA 29 to 34 (Fig. 5) ..... Photichthys

5 b. Eye tubular; ventral fins behind dorsal fin origin; BR 11 to 12; IV 25 to 28; VAV 9 to 14; AC 12 to 14; OA 23 to 31 (Fig. 6) ..... Ichthyococcus

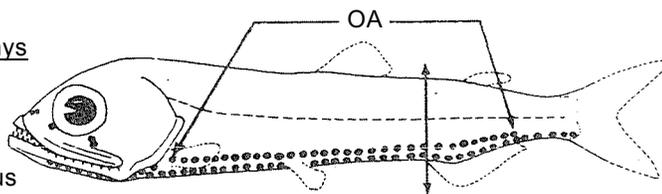


Fig.5

2 b. No photophores on isthmus (Fig. 7)

7a. Dorsal fin origin opposite or behind anal fin origin (Fig. 10); no pseudobranchiae\*

8 a. Body with at least 2 rows of photophores, or photophores inconspicuous; luminous glands (CG) usually present on procumbent caudal rays; adipose fin present or absent

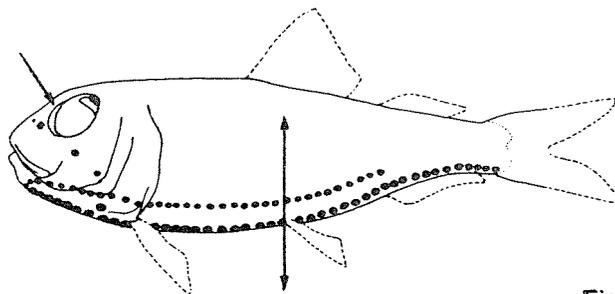
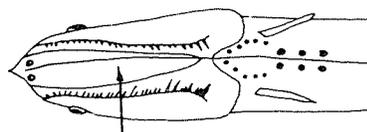


Fig.6

9 a. Maxilla with a series of well separated, relatively long slender teeth, and short teeth in the interspaces (Fig. 9a); eyes moderate to small (Fig. 9a); OA 11 to 12; SO present (except in G. bathyphilum)..... Gonostoma

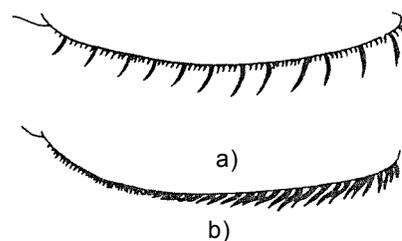


isthmus

head viewed from below

Fig.7

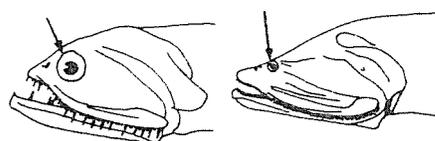
9 b. Maxilla with a series of close-set teeth, increasing in size posteriorly (Fig. 8b); eyes very small (Fig. 9b); OA 6 to 10 (except absent in C. obscura); SO absent ..... Cyclothone



teeth on maxilla (upper jaw)

Fig.8

8 b. Body with a single row of conspicuous photophores; no CG; SO present; BR 11 to 13; no adipose fin (Fig. 10) ..... Bonapartia



a)

b)

Fig.9

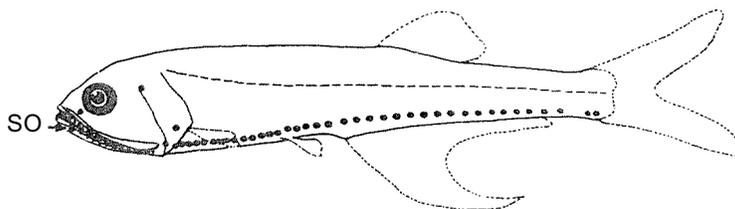


Fig.10

\*Gill-like structures on inner surface of gill cover

7 b. Dorsal fin origin slightly in advance of anal fin origin; pseudobranchiae\* present; body with only one row of large, conspicuous, somewhat irregular photophores; SO absent; BR 9 to 12; adipose fin present (Fig. 11) ..... Margrethia

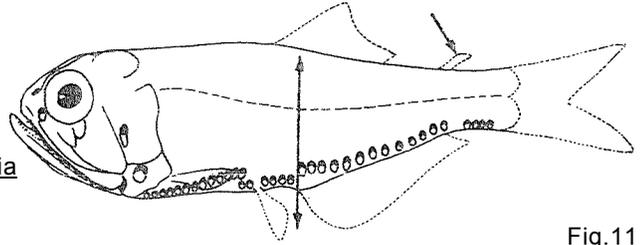


Fig.11

1 b. BR photophores 6; at least some of the serial photophores grouped together in common glands, appearing as black or silvery bands; photophores present on isthmus (Figs. 12 and 13)

10a. AC's in 3 to 6 groups of 2 to 4 small photophores each; IV: 3+4 on isthmus, 16 or 17 on abdomen (total 23 or 24); VAV 4 or 5 (Fig.12)..... Valenciennellus

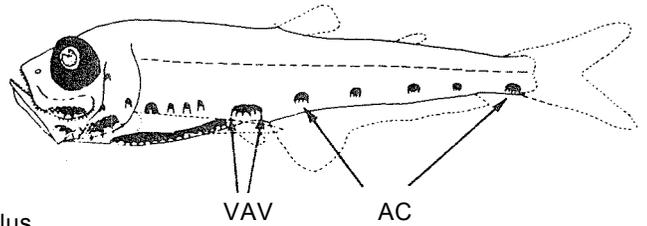


Fig.12

10 b. AC's in 2 or 3 groups of 5 or more photophores each; anus near anal fin; dorsal fin origin well behind middle of body length; SO present; lower posterior OP not enlarged; IV: 6+12 or 13 (total 18 or 19); OA 9 rarely 10; adipose fin well developed (Fig.17)...Maurolicus

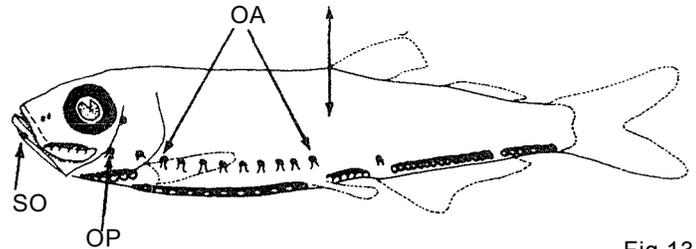


Fig.13

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

Bonapartia pedaliota Goode & Bean, 1896

Cyclothone acclinidens Garman, 1899

Cyclothone alba Brauer, 1906

Cyclothone braueri Jespersen & Tåning, 1926

Cyclothone livida Brauer, 1906

Cyclothone microdon (Günther, 1878)

Cyclothone obscura Brauer, 1906

Cyclothone pallida Brauer, 1906

Cyclothone pseudopallida Mukacheva, 1964

Diplophos taenia Günther, 1873

Gcnostoma atlenticum Norman, 1930

Gonostoma elongatum Günther, 1878

Ichthyococcus ovatus (Cocco, 1838)

Margrethia obtusirostra Jespersen & Tåning, 1919

Maurolicus muelleri (Gmelin, 1788)

\*Gill-like structures on inner surface of gill cover

Photichthys argenteus Hutton, 1872

Triplophos hemingi (McArdle, 1901)

Valenciennellus tripunctulatus (Esmark, 1871)

Vinciguerria lucetia (Garman, 1899)

Vinciguerria nimbaria (Jordan & Williams, 1895)

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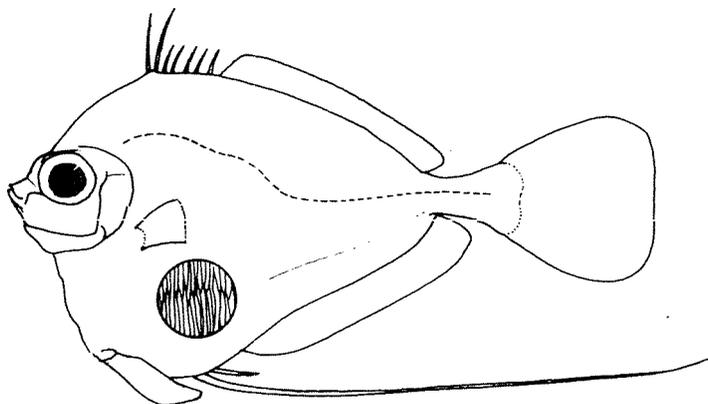
GRAMMICOLEPIDAE

Scaly daries

Body very deep and compressed, covered with narrow, vertically elongate scales. Head small; mouth small, almost vertical, not highly protrusible; upper jaw contained twice in eye diameter. Second dorsal and first anal fin spines very elongate in juveniles; pelvic fins with 1 spine and 6 soft rays, inserted in front of or below pectoral fin bases. Spiny scutes present on sides of body in Daramattus armatus.

Colour: silver; juveniles with dark spots.

Small- to medium-sized fishes (to 35 cm total length), inhabiting moderately deep waters (mainly between 150 and 500 m) and occurring near the bottom (juveniles and larvae are pelagic). Uncommon and not commercially important.



Daramattus armatus



Xenolepidichthys dalgleishi

**DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:**

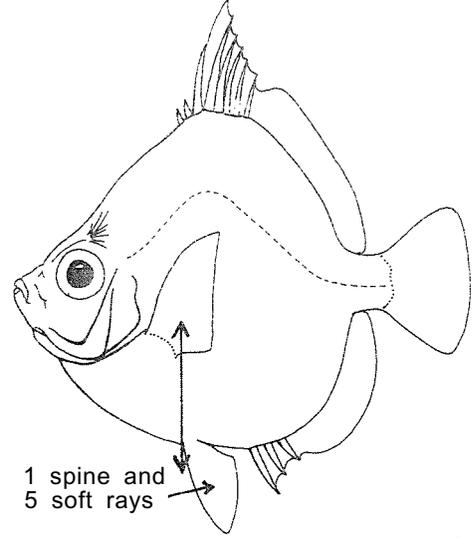
Caproidae: body relatively deep and compressed, covered with small, circular to oval etenoid (rough) scales; mouth relatively small; pelvic fins with 1 spine and 5 soft rays (1 spine and 6 soft rays in Grammicolepidae), inserted behind pectoral fin bases. A single species, Antigonia rubescens (Günther) occurs in Fishing Area 51.

Oreosomatidae: body deep and compressed, covered with small, oval scales; juveniles with many large, conical scutes on body; mouth and eye large, eye diameter less than twice length of upper jaw; distance from hind end of lower jaw to eye less than eye diameter. Five species occur in Fishing Area 51: Allocyttus verrucosus (Gilchrist), Neocyttus acanthorhynchus Regan, Neocyttus rhomboidalis Gilchrist, Oreosoma atlanticum Cuvier and Pseudocyttus maculatus Gilchrist.

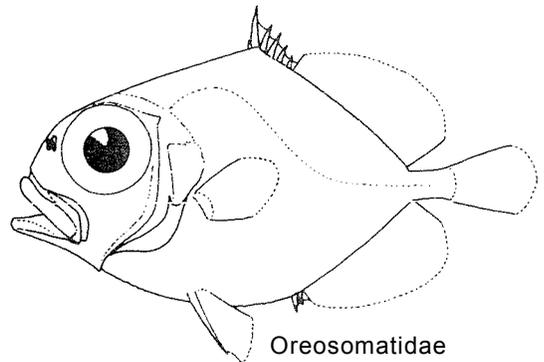
Parazenidae: body depth approximately equal to head length, covered with small, oval, deciduous (easily shed) scales; mouth large, highly protrusible; pelvic fins inserted well behind pectoral fin bases, with no true spine (only 1 unbranched and 6 branched soft rays); 2 lateral lines, joining below end of soft dorsal fin. A single species, Parazen pacificus Kamohara occurs in Fishing Area 51.

Zeidae: body deep and compressed, either naked or covered with small circular to oval scales; head large, mouth very protrusible, eye large; pelvic fins inserted in front of or below pectoral fin base; scutes at vertical fin bases in 2 genera; bony bucklers or scutes mostly present along ventral surface. Six species occur in Fishing Area 51: Cyttomimus stelgis Gilchrist, Cytopsopsis roseus (Lowe), Cyttus traversi Hutton, Zenopsis conchifer (Lowe), Zeus capensis Valenciennes and Zeus faber Linnaeus.

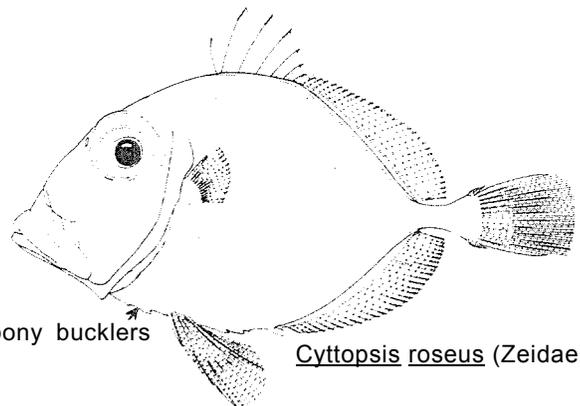
Zeniontidae: body relatively elongated (its depth contained more than 2 times in standard length), not greatly compressed, covered with small oval scales; head large, eye very large, contained approximately twice in head length, mouth large, almost vertical, highly protrusible; pelvic fins inserted behind pectoral fin bases. A single species, Zenion leptolepis (Gilchrist & von Bonde) occurs in Fishing Area 51.



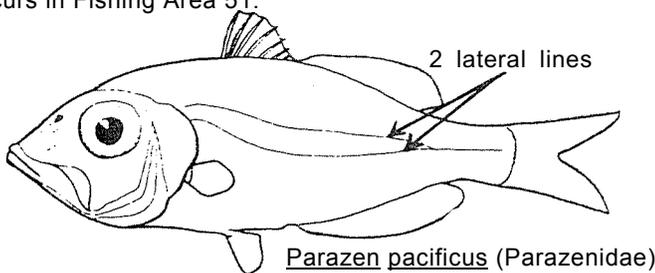
Antigonia rubescens (Caproidae)



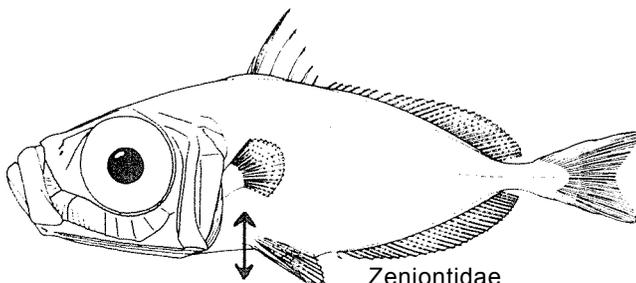
Oreosomatidae



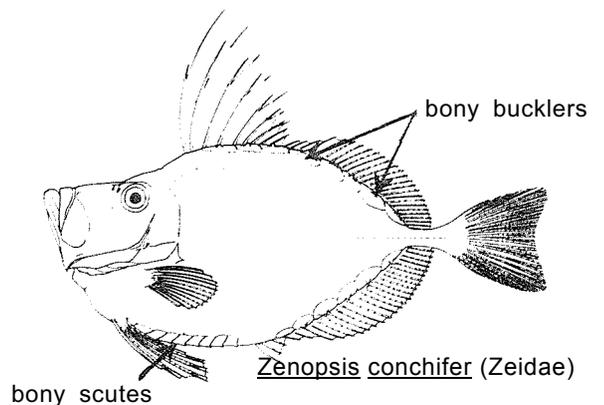
Cytopsopsis roseus (Zeidae)



Parazen pacificus (Parazenidae)



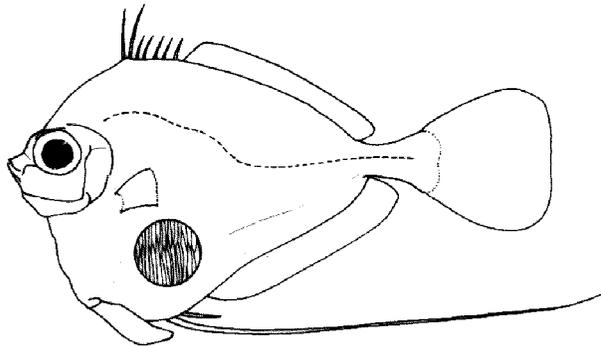
Zeniontidae



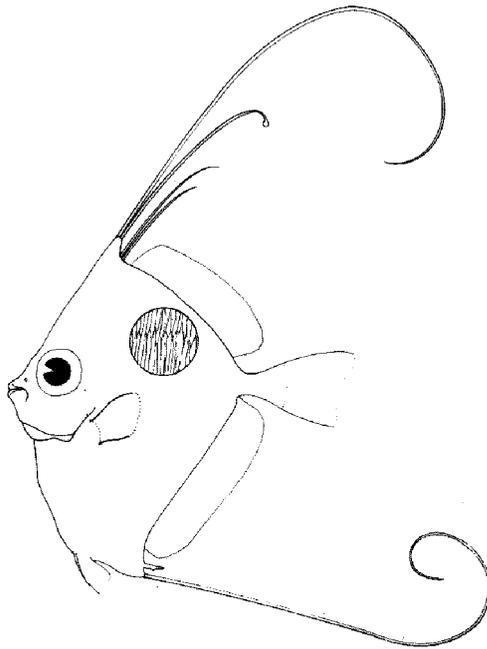
Zenopsis conchifer (Zeidae)

**KEY TO SPECIES OCCURRING IN THE AREA:**

- 1a. Sides of body with 11 flattened, spiny keels (which may be very low in large specimens) dorsal fin spines and rays 38 to 41 ..... Darumattus armatus Smith, 1960
- 1b. No spiny keels on sides of body; dorsal fin spines and rays 32 to 35..... Xenolepidichthys dalgleishi Gilchrist, 1922



Darumattus armatus



Xenolepidichthys dalgleishi