MACROUR

1983

FAO SPECIES IDENTIFICATIONS SHEETS

FISHING AREA 51
(W. Indian Ocean)

MACROURIDAE

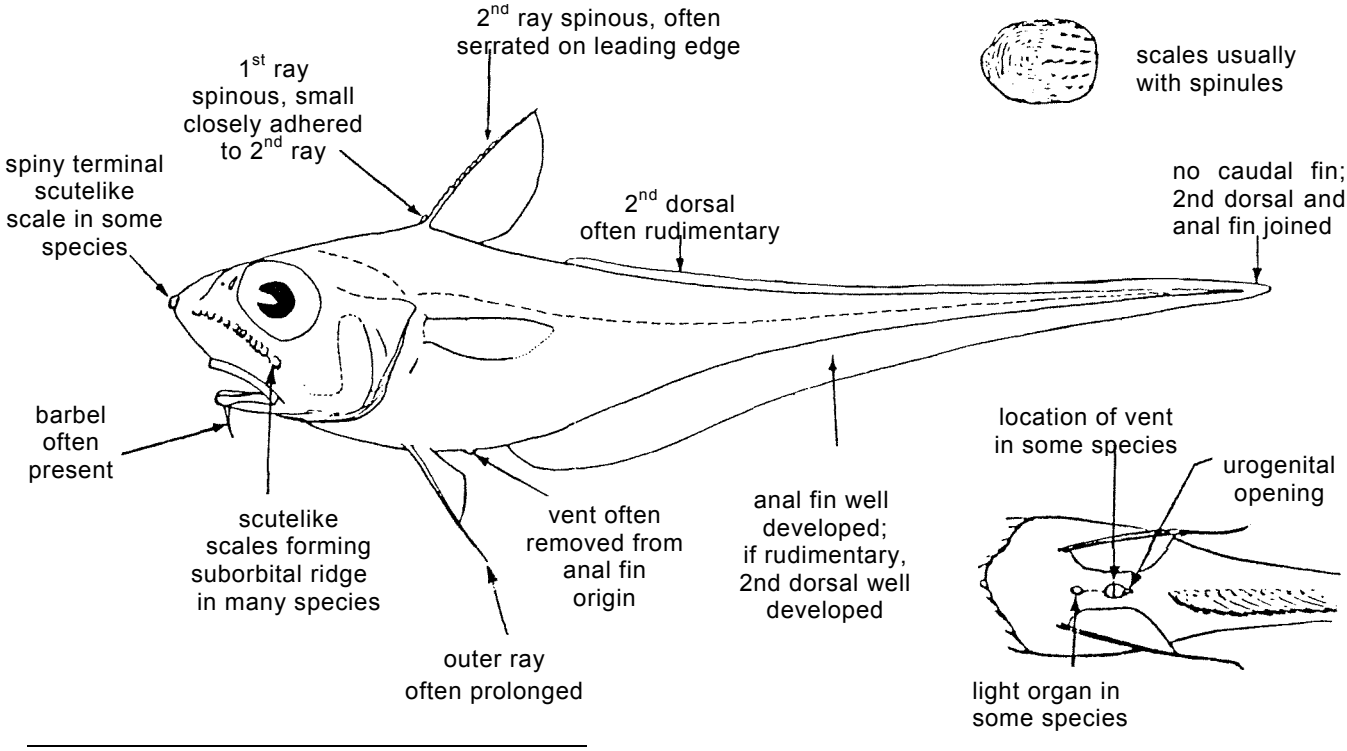
(sometimes Coryphaenoididae and Macrouroididae, in part, in literature)

Grenadiers

Trunk short, moderately compressed; tail greatly elongated, tapering to a point that usually lacks a caudal fin*. Head shape compressed, rounded or cylindrical, with a bluntly rounded to sharply pointed snout; mouth terminal to inferior, small to moderate in size; chin barbel usually present; eyes moderate to very large in most; teeth on premaxilla and mandible only, none on roof of mouth; arrangement variable, in single row to broad villiform band, sometimes with outer series enlarged; gillrakers tubercular in most, long and slender in some; branchiostegal rays 6 or 7. Dorsal fins two except in Macrouroidinae with one; first dorsal with the 2 anteriormost rays spinous except in Trachyrincus and Macrouroidinae; first ray often minute and closely appressed to base of long second ray; second dorsal and anal fins long, usually with more than 80 rays, both fins meet at tip of tail; pectoral fins narrow-based, positioned relatively high on trunk; pelvic fins narrow-based, thoracic to almost jugular in position, with 5 to 18 rays, outer ray often prolonged. Vent (or anus) closer to pelvic fins than to anal fin in some species; a light organ sometimes present on ventral midline of abdomen. Exposed fields of scales often covered with spinules, which are sometimes arranged in ridgelike rows; a stout, terminal, scutelike scale at tip of snout in some species; ridgelike rows of coarse, scutelike scales sometimes present on head.

Colour: usually greym brown, or blackish, sometimes with a blue or violet tinge; some silvery along sides.

Deep-sea fishes, almost all benthopelagic in habit, found primarily at upper continental slope depths of 250 to 2 000 m, but a few species recorded from below 'i 000 m. Distribution of family worldwide, except in high Arctic waters; species most numerous in tropics.



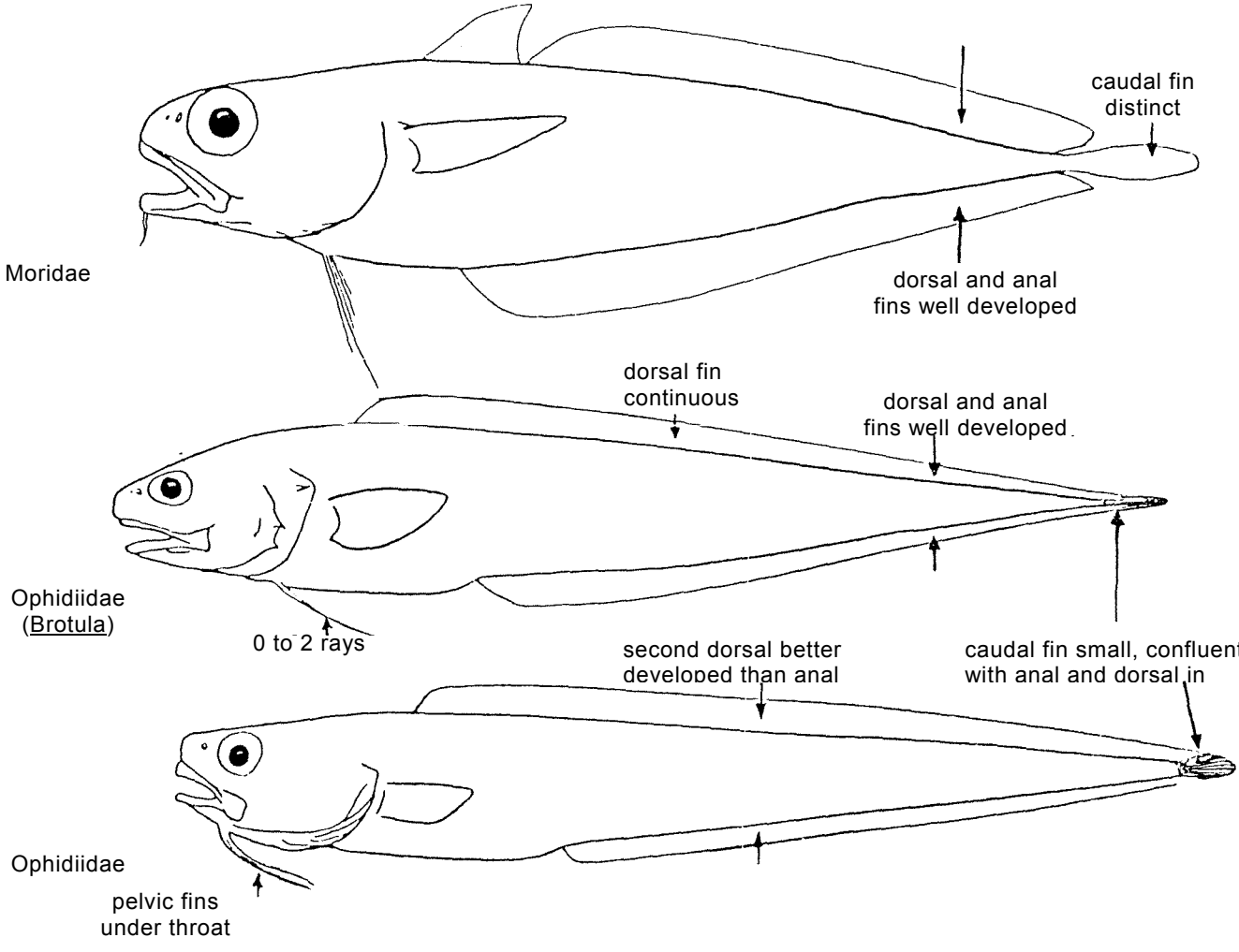
*Trachyrincus has a small caudal fin; other species may develop what appears to be a caudal fin when the tail tip is broken off and the dorsal and anal rays overgrow the broken end

At present of somewhat limited economic importance in the Western Indian Ocean except as incidental catch by trawlers working in deep waters. A few species are taken in sufficient numbers to be used for fishmeal in the area.

SIMILAR FAMILIES OCCURRING IN THE AREA:

Moridae: a small but distinct caudal fin; both anal and second dorsal fins well developed, not confluent around tip of tail.

Ophidiidae (including Brotulidae): a small caudal fin often joined to dorsal and anal fins; one continuous dorsal fin; no spinous dorsal fin rays; pelvic fins located far forward under throat in some species; fewer than 5 pelvic fin rays; teeth on roof of mouth.



KEY TO GENERA OCCURRING IN THE AREA:

1.a One continuous dorsal fin, anterior portion not elevated; pelvic fins small, with 5 rays (Fig.l), or absent.

2 a. Pelvic fins present..... Squalogadus

2 b. Pelvic fins absent..... Macrouroides

1.b Two dorsal fins, the first elevated; pelvic fins with 6 to 18 rays

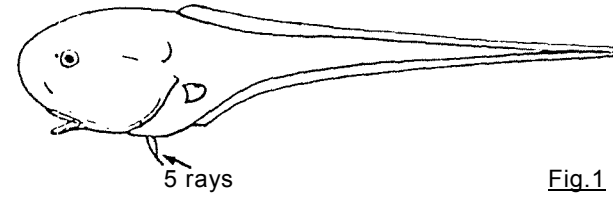


Fig.1

3 a. Second dorsal fin better developed than anal fin and starting close behind first dorsal (Fig.2); gillrakers on first arch slender, not tubercular (Fig.3a)

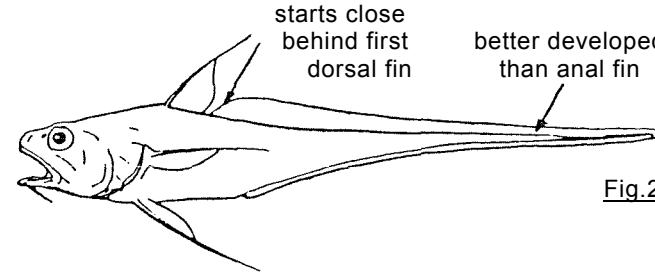


Fig.2

4 a. Snout long, pointed, and covered with stout, spinous scales; mouth inferior; body scales spinous; a distinct raw of keeled, scutelike scales below dorsal fins and another row above anal fin; post-temporal fossa present (Fig.4) ..... Trachyrincus*

4 b. Snout rounded, not projecting beyond large terminal mouth; all scales of body unmodified and without spinules; no post-temporal fossa present.

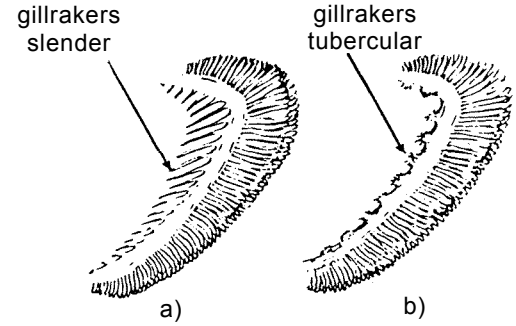
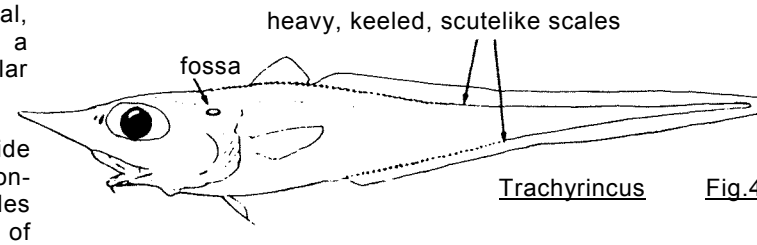


Fig.3

5 a. Elongated rays in dorsal and pectoral fins (Fig.2); chin barbel long, well developed (Fig. 5a) ..... Gadomus

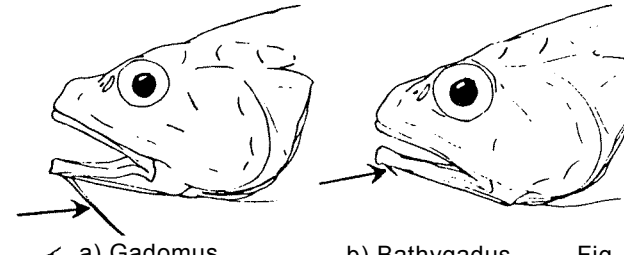
5 b. No elongated rays in dorsal and pectoral fins; chin barbel rudimentary or absent (Fig.5b) ..... Bathygadus

3 b. Anal fin better developed than second dorsal, which is separated from first dorsal by a distinct gap (Fig.6); all gillrakers tubercular (Fig.3b)



Trachyrincus Fig.4

6 a. Rakers absent on lateral side of first gill arch; a continuous ridge of stout scales from tip of snout to angle of preopercle (Figs.7,8); pelvic fin rays 7


a) Gadomus b) Bathygadus Fig. 5

7 a. Mouth large, upper jaw more than one third of head length (Fig.7).....Mahia

7 b. Mouth small to rnoderate in size, upper jaw one third or less into head length (Fig.8).Coelorinchus

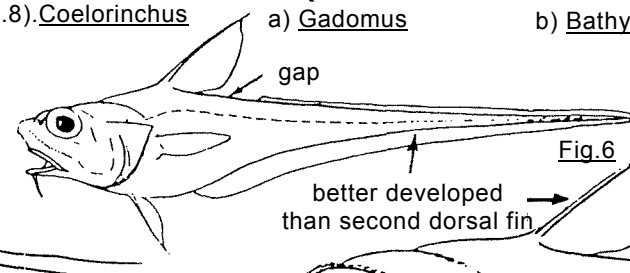
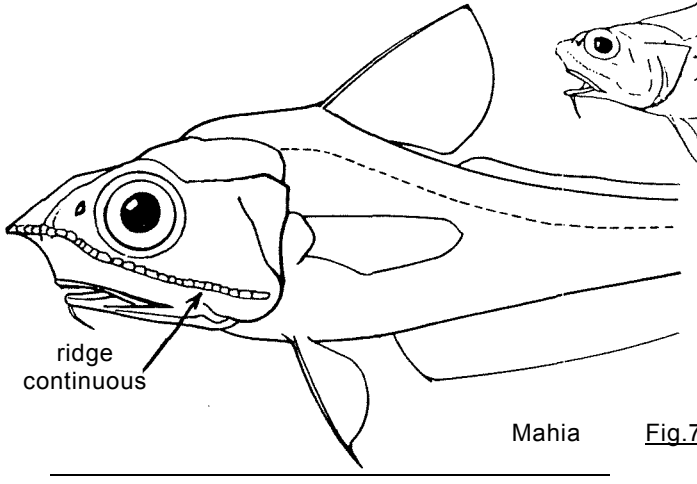
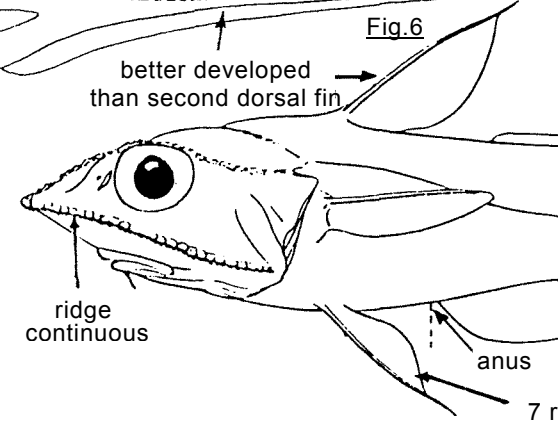


Fig.6



Mahia Fig.7



Coelorinchus Fig.8

*Has not been recorded from this area but may occur there

6 b. Rakers present on both sides of first gill arch; scaly ridges on head present or absent, but never one running continuously from tip of snout to angle of preopercle; pelvic fin rays 6 to 18

8a. Anus immediately anterior to anal fin, not separated from fin by a broad margin of naked black skin or numerous scale rows (Fig.9)

9 a. Head covering membranous (Fig.10), almost transparent; a lens-like structure before anus and on chest; sides silvery with black striations on isthmus and abdomen; branchiostegal rays 7 (Fig.11)..Hymenocephalus

9 a. Head covering thick, opaque; no lens-like structures on ventral midline; no black striations on body; branchiostegal rays 6 ..... Coryphaenoides

8 b. Anus separated from origin of anal fin by a broad margin of naked skin (Fig.12) or by several rows of scales (Fig.20)

10 a. Anus and urogenital opening surrounded by a broad margin of naked skin, the entire region closely abutting origin of anal fin (Fig.12); no accessory fossa anterior to anus region

11 a. Chin barbel absent; species bathypelagic (Fig.13) ..... Mesobius

11 b. Chin barbel present; species benthopelagic

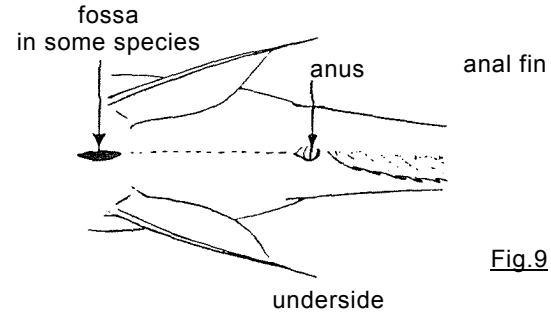
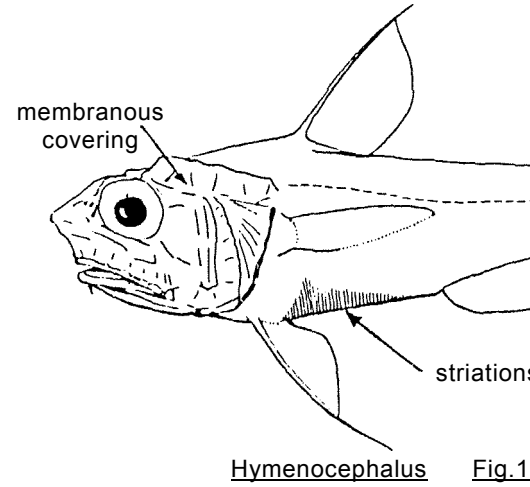
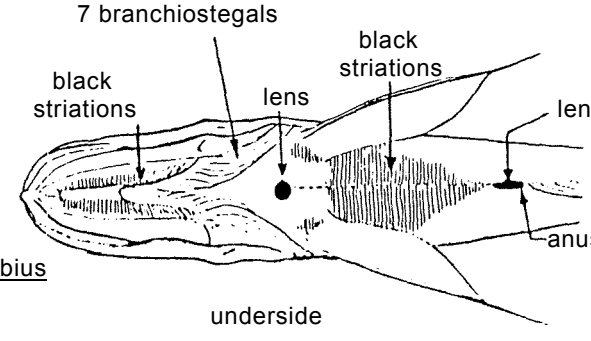


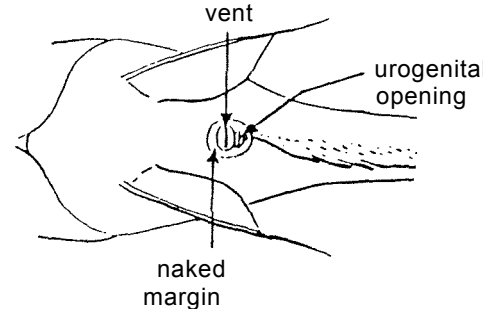
Fig.9



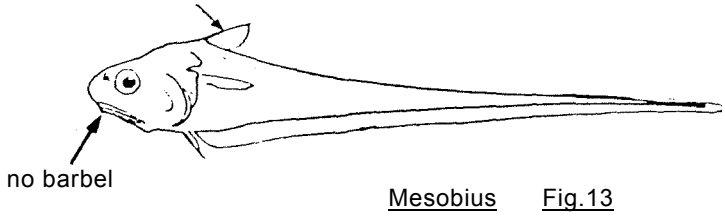
Hymenocephalus Fig.10



Hymenocephalus Fig.11



underside Fig.12



Mesobius Fig.13

12 a. Spinous ray of dorsal fin smooth (Fig.14); pelvic fin rays 7..... Trachonurus

12 b. Spinous ray of dorsal fin serrated (Fig.15); pelvic fin rays 6 to 12

13 a. Pelvic fin rays 6 or 7; chin barbel moderate in size, 14 to 20 percent of head length (Fig.15)..... Paracetonurus

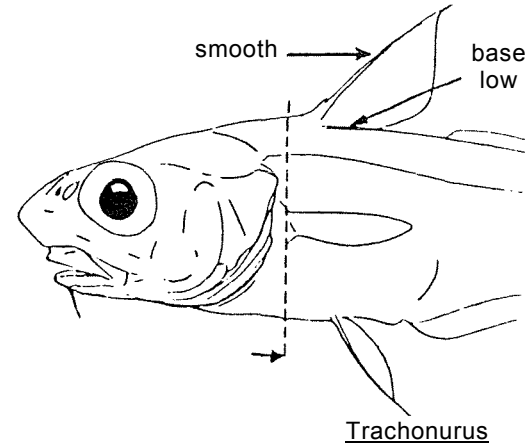
13 b. Pelvic fin rays 8 to 12; chin barbel minute, less than 10 percent of head length

14 a. Head globose, expanded and soft (Fig.16); a distinctly enlarged series of scales along each side of second dorsal fin (Fig.17)..... Cetonurus

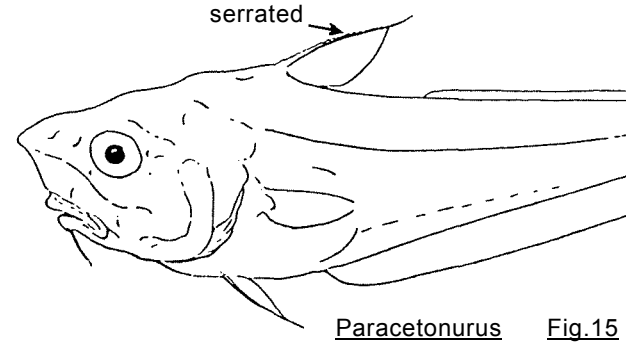
14 b. Head compact, firm, not expanded

15 a. Snout blunt, shorter than orbit diameter; origin of pelvic fins below opercle; pelvic fin rays 10 to 12 (Fig.18) ..... Sphagemacrurus

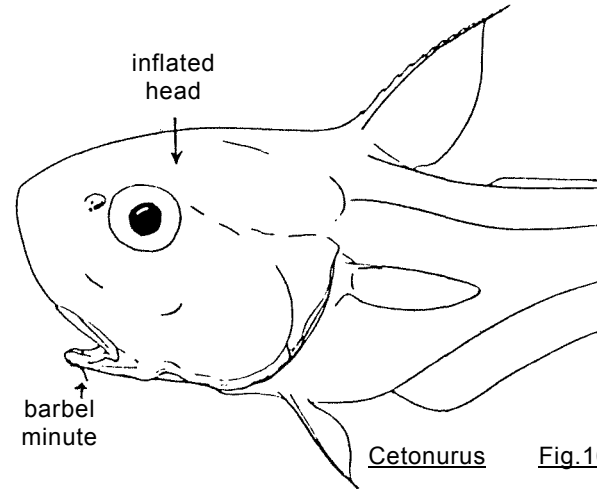
15 b. Snout pointed, longer than orbit diameter; origin of pelvic fins below first dorsal fin; pelvic fin rays 7 to 9 (Fig.19) ..... Mataeocephalus



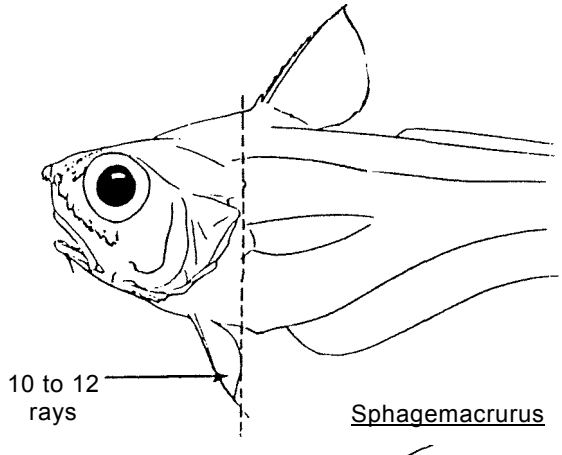
Trachonurus Fig.14



Paracetonurus Fig.15



Cetonurus Fig.16



Sphagemacrurus Fig.18

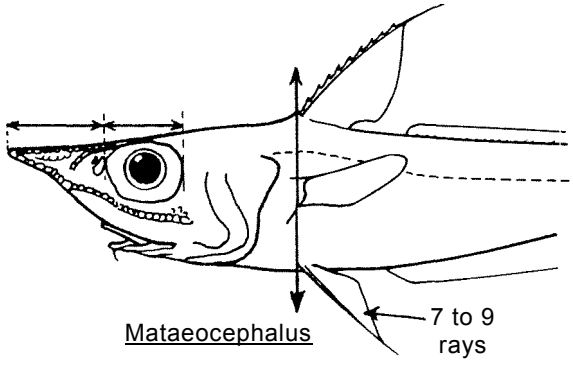
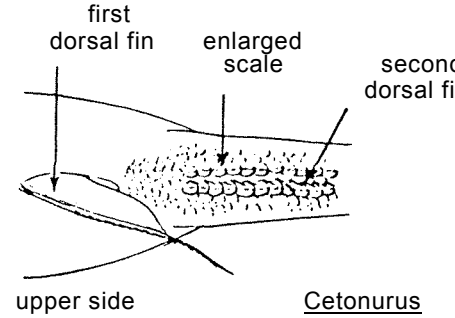


Fig.19



Cetonurus Fig.17

10 b. Anus distinctly separated from anal fin origin by several scale rows, usually closer to insertion of pelvic fins than to origin of anal fin; a small to moderate-sized fossa usually present before anus region (Fig.20)

16a. Chin barbel absent; large fanglike teeth in one row in both upper and lower jaws (Fig.21)..... Odontomacrurus

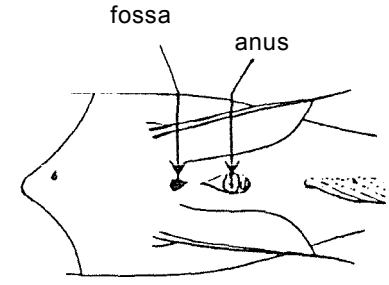
16 b. Chin barbel present; teeth small to large, 2 or more rows in upper jaw, 1 or more in lower jaw

17 a. Snout smoothly rounded, head naked ventrally, without ridges or modified scales; mouth almost terminal, posterior margin of upper jaws below anterior margin of orbits (Fig.22) ..... Haplomacrurus*

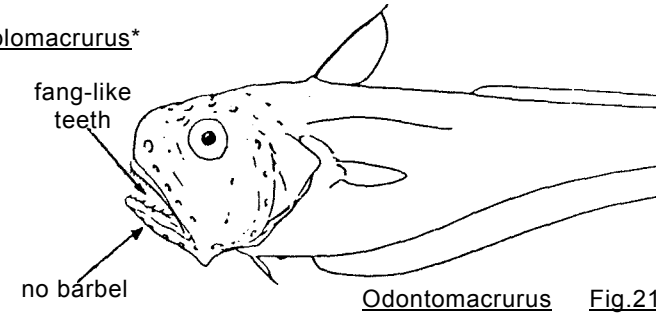
17 b. Snout rounded to pointed, head variously scaled with ridges and usually modified scales; mouth basically subterminal; upper jaws terminate posterior to anterior edge of orbits

18 a. Teeth in lower jaw large, caninelike, a single row laterally; scale rows on branchiostegals (Fig.23) .. Malacocephalus

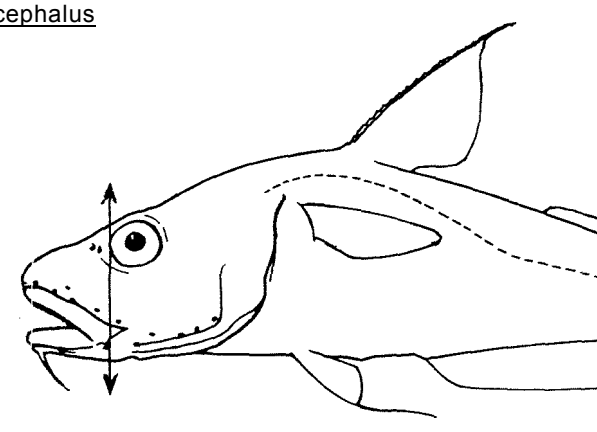
18 b. Teeth in lower jaw small, in 2 or more rows, or in one irregular row, no scales on branchiostegals



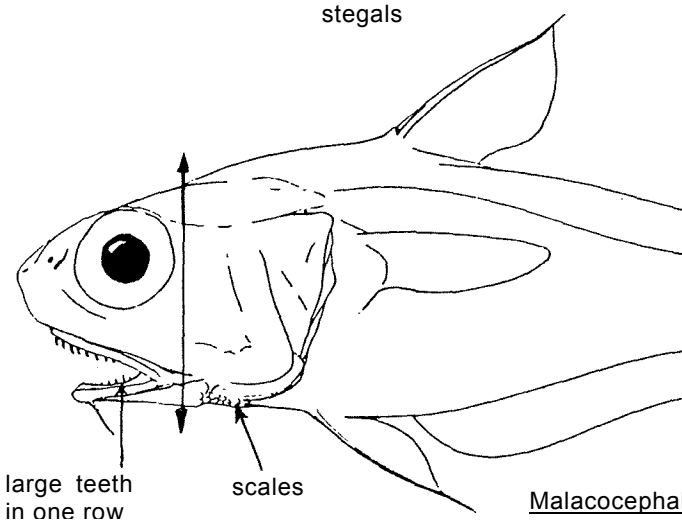
underside Fig.20



Odontomacrurus Fig.21



Haplomacrurus Fig.22



Malacocephalus Fig.23

* Genera not yet recorded from area but might be expected

19 a. Snout and suborbital region completely and uniformly covered with small, finely spinulated scales; a small, median tubercle present or absent; leading edge of snout usually blackish (Fig.24) ..... Ventrifossa

19 b. Snout and suborbital region incompletely scaled on ventral surfaces; coarse, scutelike scales along suborbital ridge in most species; usually a distinctive bifid tubercle at tip of snout; leading edge of snout not marked with a blackish streak (Fig.25) ..... Nezumia

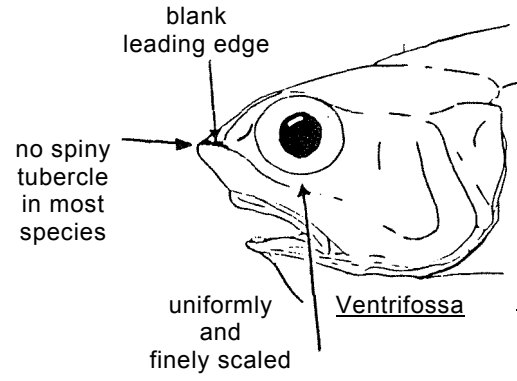
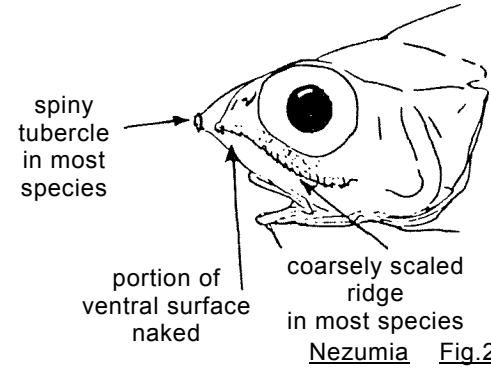


Fig.24



Nezumia Fig.25

LIST OF SPECIES OCCURRING IN THE AREA:

MACROUROIDINAE

Macrouroides inflaticeps Smith & Radcliffe, 1912

BATHYGADINAE

* Bathygadus favosus Goode & Bean, 1886
Bathygadus furvescens Alcock,1894
Bathygadus melanobranchus Vaillant, 1888
Bathygadus sp. (aff. favosus)

Gadomus capensis Gilchrist & von Bonde, 1924
Gadomus multifilis (Günther, 1887)

MACROURINAE

Coelorinchus argentatus Smith & Radcliffe, 1912
Coelorinchus braueri Barnard, 1925
Coelorinchus denticulatus Regan, 1921
* Coelorinchus fasciatus (Günther, 1878)
Coelorinchus fabellispinis (Alcock, 1894)
Coelorinchus quadricristatus (Wood-Mason & Alcock, 1891)
Coelorinchus sp. (aff. argentatus)

* Coryphaenoides armatus (Hector, 1875)
Coryphaenoides lophotes (Alcock,1889)
* Coryphaenoides macrolophus (Alcock, 1889)
Coryphaenoides rudis Günther, 1878
Coryphaenoides striatura Barnard, 1925
* Coryphaenoides subserrulatus Makushok, 1976
Coryphaenoides woodmasoni (Alcock, 1890)
Coryphaenoides sp. indet.

* Haplomacrurus nudirostris Trunov, 1980

Hymenocephalus gracilis Gilbert & Hubbs, 1916
Hymenocephalus heterolepis (Alcock, 1889)

Mahia matamua McCann & McKnight, 1980

Malacocephalus laevis (Lowe, 1843)

Mataeocephalus microstomus (Regan, 1908)

Mesobius berryi Hubbs & Iwamoto, 1977
Mesobius antipodum Hubbs & Iwamoto, 1977

Nezumia brevibarbata (Barnard, 1925)
Nezumia brevirostris (Alcock, 1689)
Nezumia hebetata Gilbert, 1905)
Nezumia investigatoris (Alcock, 1889)
Nezumia leonis (Barnard, 1925)
Nezumia propinqua (Gilbert & Cramer, 1896)
Nezumia semiquincunciata (Alcock, 1889)

Odontomacrurus murrayi Norman, 1939

Paracetonurus sp. indet.

Sphagemacrurus pumiliceps (Alcock, 1894)

Trachonurus villosus (Günther, 1877)

Ventrifossa divergens (Gilbert & Hubbs, 1920)
Ventrifossa nasuta (Smith, 1936)
Ventrifossa ori (Smith, 1968)
Ventrifossa petersoni (Weber, 1913)

Prepared by T. Iwamoto, Department of Ichthyology, California Academy of Sciences, San Francisco, California, U.S.A.

* Peripheral species, but may stray into area