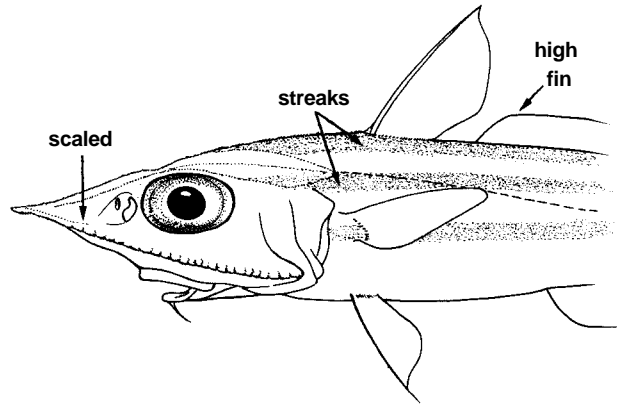


- 12b. Body markings absent or consisting primarily of longitudinal streaks; upper jaw about 3.7 to 4.6 times in head length; orbit about 3.1 to 3.7 times in head length; ventral end of subopercle not developed into a flap
- 13a. No body marks; upper jaw about 4.6 times in head length***C. brevirostris***
- 13b. Three streaks on body; upper jaw about 3.7 to 4.5 times in head length***C. hubbsi***
(Fig. 341)



C. hubbsi
(after Okamura, 1970a)

Fig. 341

List of Species :

- Coelorinchus abditilux*** Merrett, 1980
- Coelorinchus acanthiger*** Barnard, 1925
- Coelorinchus acantholepis*** Gilbert & Hubbs, 1920
- Coelorinchus aconcagua*** Iwamoto, 1978
- Coelorinchus acutirostris*** Smith & Radcliffe, 1912
- Coelorinchus anatirostris*** Jordan & Gilbert, 1904
- Coelorinchus aratrum*** Gilbert, 1905
- Coelorinchus argentatus*** Smith & Radcliffe, 1912
- Coelorinchus argus*** Weber, 1913
- Coelorinchus aspercephalus*** Waite, 1911
- Coelorinchus asteroides*** Okamura, 1963
- Coelorinchus australis*** (Richardson, 1839)
- Coelorinchus biclinozonalis*** Arai & McMillan, 1982
- Coelorinchus bollonsi*** McCann & McKnight, 1980
- Coelorinchus braueri*** Barnard, 1925
- Coelorinchus brevirostris*** Okamura, 1984
- Coelorinchus canus*** (Garman, 1899)
- Coelorinchus caribbaeus*** (Goode & Bean, 1885)
- Coelorinchus carinifer*** Gilbert & Hubbs, 1920
- Coelorinchus chilensis*** Gilbert & Thompson, 1916
- Coelorinchus cingulatus*** Gilbert & Hubbs, 1920
- Coelorinchus coelorhincus*** (Risso, 1810)
- Coelorinchus commutabilis*** Smith & Radcliffe, 1912
- Coelorinchus cookianus*** McCann & McKnight, 1980
- Coelorinchus denticulatus*** Regan, 1921
- Coelorinchus divergens*** Okamura & Yatou, 1984
- Coelorinchus dorsalis*** Gilbert & Hubbs, 1920
- Coelorinchus doryssus*** Gilbert, 1905

Coelorinchus fasciatus (Günther, 1878)
Coelorinchus flabellispinis (Alcock, 1894)
Coelorinchus formosanus Okamura, 1963
Coelorinchus gilberti Jordan & Hubbs, 1925
Coelorinchus gladius Gilbert & Cramer, 1897
Coelorinchus hexfasciatus Okamura, 1982
Coelorinchus hige Matsubara, 1943
Coelorinchus hubbsi Matsubara, 1936
Coelorinchus innotabilis McCulloch, 1907
Coelorinchus japonicus (Temminck & Schlegel, 1842)
Coelorinchus jordani Smith & Pope, 1906
Coelorinchus kaiyomaru Arai & Iwamoto, 1979
Coelorinchus kamoharai Matsubara, 1943
Coelorinchus karrerae Trunov, 1984
Coelorinchus kermadecus Jordan & Gilbert, 1904
Coelorinchus kishinouyei Jordan & Snyder, 1900
Coelorinchus labiatus (Koehler, 1896)
Coelorinchus longicephalus Okamura, 1982
Coelorinchus longissimus Matsubara, 1943
Coelorinchus macrochir (Günther, 1877)
Coelorinchus macrolepis Gilbert & Hubbs, 1920
Coelorinchus macrorhynchus Smith & Radcliffe, 1912
Coelorinchus maculatus Gilbert & Hubbs, 1920
Coelorinchus marinii Hubbs, 1934
Coelorinchus matamua (McCann & McKnight, 1980)
Coelorinchus matsubarai Okamura, 1982
Coelorinchus mirus McCulloch, 1926
Coelorinchus multispinulosus Katayama, 1942
Coelorinchus notatus Smith & Radcliffe, 1912
Coelorinchus occa (Goode & Bean, 1885)
Coelorinchus oliverianus Phillipps, 1927
Coelorinchus parallelus (Günther, 1877)
Coelorinchus platorhynchus Smith & Radcliffe, 1912
Coelorinchus productus Gilbert & Hubbs, 1916
Coelorinchus quadricristatus (Alcock, 1891)
Coelorinchus quincunciatus Gilbert & Hubbs, 1920
Coelorinchus radcliffei Gilbert & Hubbs, 1920
Coelorinchus scaphopsis (Gilbert, 1890)
Coelorinchus sexradiatus Gilbert & Hubbs, 1920
Coelorinchus smithi Gilbert & Hubbs, 1920
Coelorinchus sparsilepis Okamura & Yatou, 1984
Coelorinchus spinifer Gilbert & Hubbs, 1920
Coelorinchus thompsoni Gilbert & Hubbs, 1920
Coelorinchus tokiensis (Steindachner & Döderlein, 1887)
Coelorinchus triocellatus Gilbert & Hubbs, 1920
Coelorinchus velifer Gilbert & Hubbs, 1920
Coelorinchus ventrilux Marshall & Iwamoto, 1973
Coelorinchus weberi Gilbert & Hubbs, 1920

Coelorinchus acanthiger Barnard, 1925

Fig. 342

MACROUR Coel 4

Scientific Name with Reference : *Coelorinchus acanthiger* Barnard, 1925, Ann.Mag.Nat.Hist. ser. 9, 15(87):502 (off Cape Point, South Africa, 841 m).

Synonyms : *Coelorinchus pseudoparallelus* Trunov, 1983.

FAO Names: En - Surgeon grenadier.

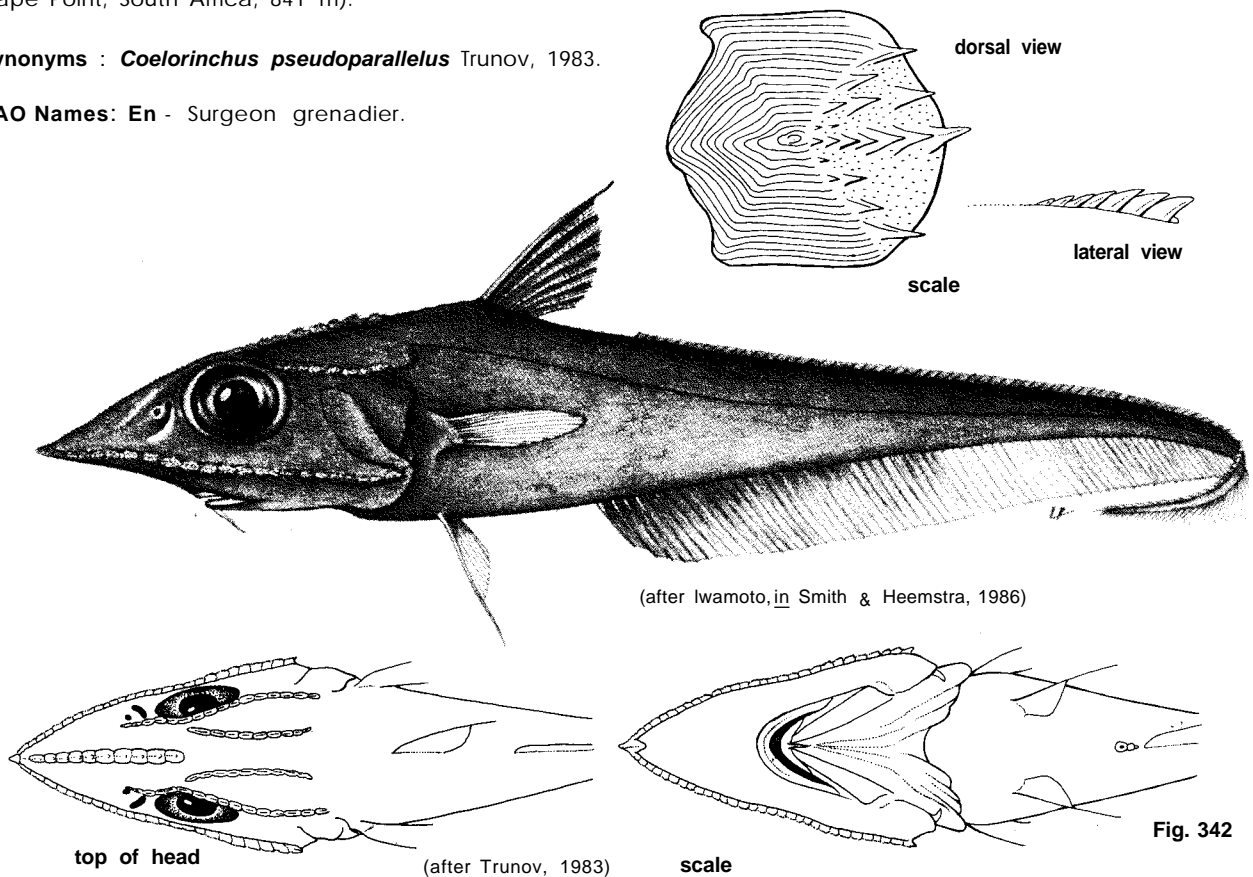


Fig. 342

Diagnostic Features : Snout long, pointed, its length much more than orbit diameter, its anterolateral margins incompletely supported by bone; upper jaw extending to below posterior 1/4 of orbits; barbel short; underside of head scaled; subopercle posteroventrally forms a narrow flap; teeth in bands in both jaws, premaxillary band shorter than mandibular band; inner gill rakers on first arch 2 upper and 6 or 7 lower (8 or 9 total); snout 43 to 46% of head length; orbit 25 to 30%; interorbital space 21 to 25%; upper jaw 22 to 26% barbel; 7 to 9% of head length.

First dorsal fin 2 spines, 7 to 9 rays; pectoral fins 20 or 21 rays (including 1 rudimentary ray). Light organ small, its length equal to anterior nostril. Body scales coarse, with 1 to 3 sharp, ridgelike rows of close, essentially overlapping, recurved, blade-like spinules, rows parallel to slightly divergent. Scale rows below midbase of first dorsal fin 5.5 to 7. Swimbladder weakly bilobed anteriorly; 4 retia mirabilia. Pyloric caeca 10 to 12. **Colour**: brownish overall, darker over gill covers, gill membranes and fins; mouth and gill cavities darker.

Geographical Distribution: Southeastern Atlantic on Walvis Ridge, Discovery Seamount, off Namibia and South Africa; Mozambique Plateau and Mascarene Ridge in the Indian Ocean; possibly off West Australia and New Zealand (Fig. 343).

Habitat and Biology : A benthopelagic slope species of the temperate southeastern Atlantic and tropical Indian Ocean, in depths from 800 to 1 270 m.

Size : To 50 cm total length.

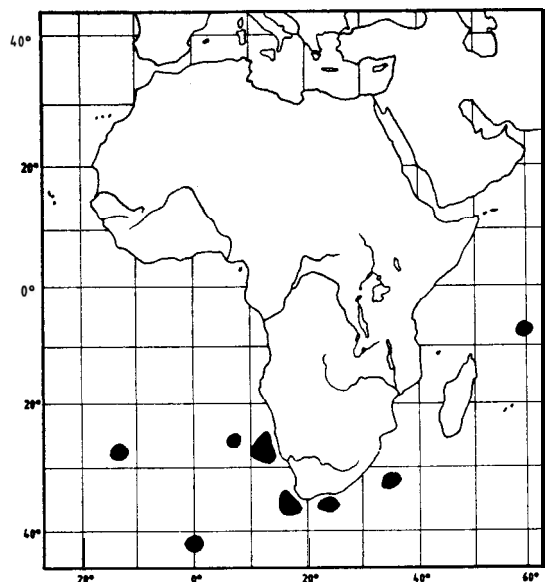


Fig. 343

Interest to Fisheries : A rather common species in slope waters of southern Africa, but not now of commercial interest.

Literature : Barnard (1925a, b); Trunov (1983).

Remarks : *Coelorinchus acanthiger* is apparently closest to *C. parallelus* (Gunther, 1877) from the area off Japan and the East China Sea but differs in having more scale rows below mid-dorsal fin (5.5 to 7 compared with 4 to 4.5); fewer spinules rows on trunk scales (3 to 5 compared with 7 to 9); and interspace between dorsals more than first dorsal fin base (about equal to in *C. parallelus*). Among South African species, it is most similar to *C. braueri* but can be distinguished from that species in its somewhat broader snout, its fewer rows of spinules on trunk scales (1 to 5 compared with 5 to 8), the individual bladelike spinules being more dilated at the base than in *C. braueri*; its more numerous scales below mid-base of first dorsal fin (5.5 to 7 compared with 4 to 4.5); and some differences in pigmentation.

Coelorinchus aconcagua Iwamoto, 1978

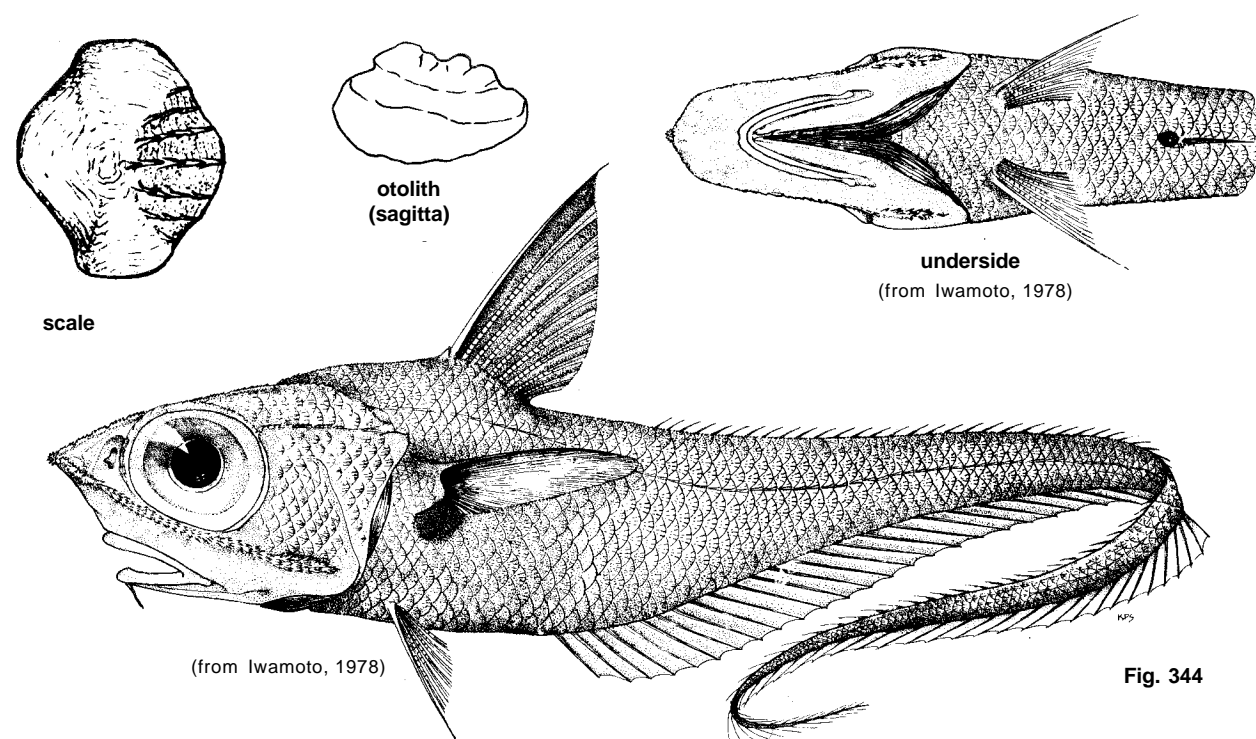
Fig.344

MACROUR Coel 5

Scientific Name with Reference : *Coelorinchus aconcagua* Iwamoto, 1978, Proc.Calif.Acad.Sci., ser.4,41(12):319, figs 30,7E, 8, 10 (Chile; 33°22'S,71°53'W; 240 to 260 m).

Synonyms : *Coelorrhynchus patagoniae* (non *C. patagoniae* Gilbert & Thompson, 1916) - Pequeño, 1971.

FAO Names : En - Aconcagua grenadier



Diagnostic Features : Snout short (24 to 30% of head length), bluntly pointed, its anterolateral margin incompletely supported by bone; orbits large, 37 to 44% of head length; upper jaw moderately large, 29 to 36% of head length; head ridges rather low and narrow; underside of head and broad areas around nostrils and dorsal snout surfaces naked; teeth small, fine, in moderately wide bands that extend to posterior angles of mouth (rictus not restricted); inner gill rakers of first arch 2 or 3 + 9 to 12. First dorsal fin with 2 spines and 9 or 10 rays, its height usually less than the postrostral length of head; pectoral fin rays i16 to i 20. Light organ rather short, extending in front of anus within body wall as a flattened, elongate diverticulum falling well short of pelvic fin bases, its length about 2/3 of pupil diameter, externally visible only as a blackish area before anus; fossa absent. Scales rather deciduous, large; those

on body with 7 to 12 subparallel rows of short spinules, none markedly enlarged, most body scales with broad spinuleless margins; scale rows below midbase of first dorsal fin 3.5 to 4.5. Swimbladder large, oval with 4 short, broad retia mirabilia. Pyloric caeca 16 to 20, their length about equal to pupil diameter. **Colour** : brownish to swarthy; trunk bluish to violet; fins dusky to blackish; a prominent blackish area behind pectoral fin bases; mouth and gill cavities pale, except blackish distally in the latter.

Geographical Distribution : Chile between 30°S and 41°S; Argentine Patagonia (Fig. 345).

Habitat and Biology : Benthopelagic in 119 to 450 m depth. Feeds on copepods, pagurid and brachyurid crabs, and shrimp-like crustaceans.

Size : To 39 cm.

Interest to Fisheries : Apparently encountered in moderate numbers as bycatch of trawlers off southern Chile, but no separate statistics are maintained.

Literature : Pequeño (1971) (as *C. patagoniae*); Iwamoto (1978); Nakamura (1986) (as *Coryphaenoides whitsoni*).

Remarks : Pequeño (1971) understandably thought that his specimens of this species were representatives of *C. patagoniae*, the only other nominal species of the genus then known from Pacific waters off southern Chile. The holotype of *C. patagoniae* is, however, a small specimen of *C. fasciatus* (Günther, 1878), a species that superficially resembles *C. aconcagua*. The 10 specimens from the Patagonian slopes of Argentina reported by Nakamura (1986) (as *Coryphaenoides whitsoni*) are the first records of the species from the Atlantic.

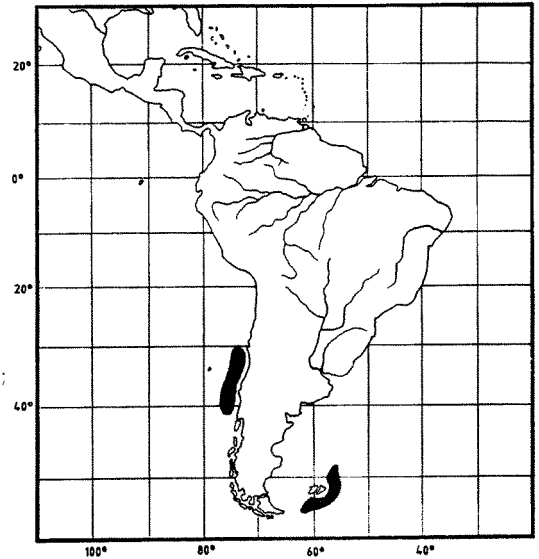


Fig. 345

***Coelorhynchus anatirostris* Jordan & Gilbert, 1904**

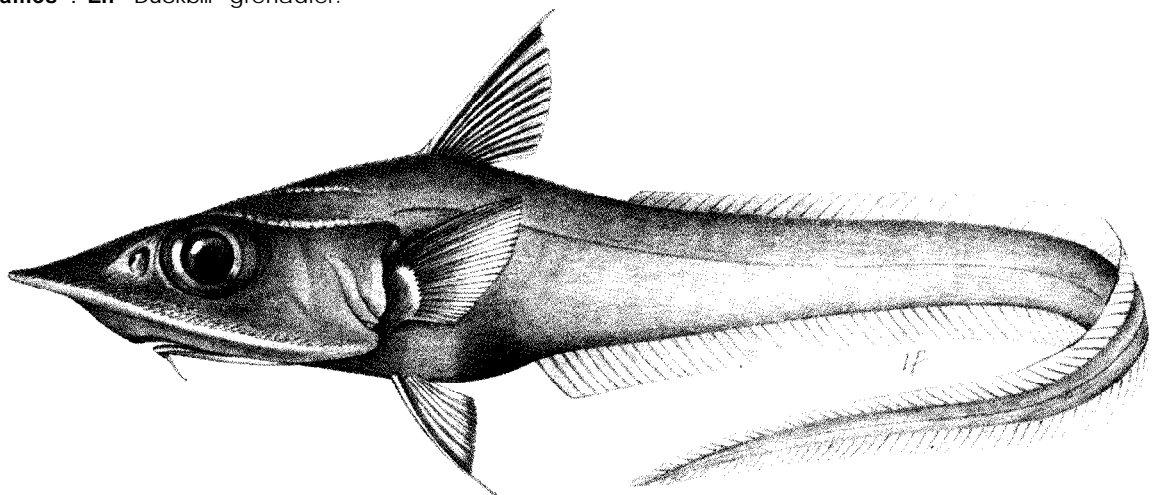
Fig. 346

MACROUR Coel 6

Scientific Name with Reference : *Coelorhynchus anatirostris* Jordan & Gilbert, 1904, Bull. U.S. Fish. Comm., 1902:619, fig. (Misaki, Japan).

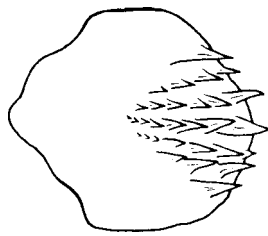
Synonyms : *Coelorhynchus anatirostris* - Franz, 1910; *Coelorhynchus anagiostrostris* - Jordan & Thompson, 1914.

FAO Names : En - Duckbill grenadier.

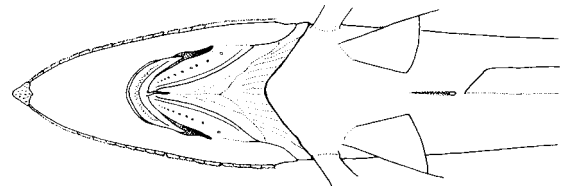


(after Okamura, 1970a)

Fig. 346



scale
(after Okamura, 1970a)



underside
(after Okamura, 1970a)

Diagnostic Features : Snout moderately long, pointed, 1.3 to 1.6 times the orbit diameter, 40 to 44% of head length, sides of snout convex in dorsal view, its antero-lateral margin completely supported by bone; orbit 28 to 30% of head length; upper jaw 25 to 27% of head length; head ridges very strong, supraoccipital scute developed, several dorsomedian scutes follow on nape; underside of head naked except for 2 small patches (one below orbit, the other below preopercle angle in largest specimens). First dorsal fin with 2 spines and 8 to 10 rays, its height about equal to or less than the postrostral length of head; pectoral fin rays i 16 to i 18; inner gill rakers of first arch 0 to 2 + 5 to 7. Light organ small, its length 2.1 to 3.5 times into orbit; fossa narrow, extending forward immediately before anus, its anterior end falling well short of level of pelvic fin insertions. Body scales covered with narrowly lanceolate to triangular spinules in 4 to 10 slightly divergent, ridgelike rows, the median row strongest; scale rows below midbase of first dorsal fin 3.5 to 4.5. Pyloric caeca 21 to 30. **Colour**: overall greyish, fins dusky to black; no distinctive body or fin markings; mouth cavity greyish, gill cavity blackish.

Geographical Distribution : Southern Japan to East China Sea (Fig. 347).

Habitat and Biology : Benthopelagic in 300 to 550 m, in waters of 7 to 12°C temperature.

Size : To at least 43 cm.

Interest to Fisheries : Used for fish sausages or reduction to fish meal. No separate catch statistics are recorded.

Local Names : JAPAN: Nezumia-hige.

Literature : Jordan & Gilbert (1904); Okamura (1970a); Okamura *et al.* (1982); Yatou *in* Okamura & Kitajima (1984).

Remarks : Okamura (1970a) synonymized *C. productus* with this species, attributing supposed differences to individual or ontogenetic variation. Yatou (*in* Okamura & Kitajima, 1984), however, subsequently recognized its distinctness based on its longer snout (43.5 to 45.5% of head length compared with 40 to 43.5% of head length in *C. anatrostris*), shorter upper jaw (21.7 to 23.3% of head length compared with 25 to 27%), narrower head width (43.5 to 45.5% of head length compared with 45.5 to 52.7%), and shorter barbel (25 to 33.3% of orbit diameter compared with 33 to 43%).

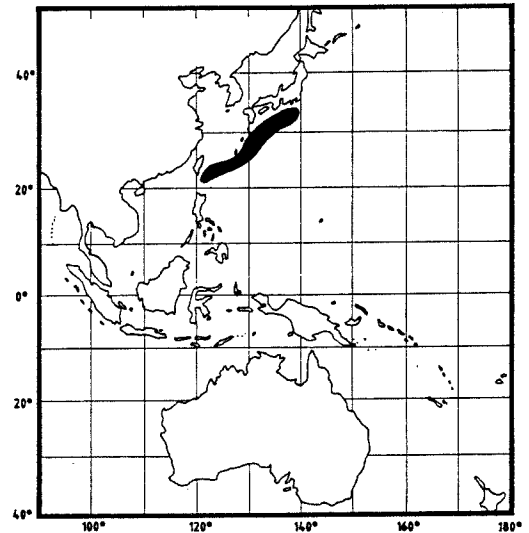


Fig. 347

Coelorhynchus argenteus Smith & Radcliffe, 1912

Fig. 348

MACROUR Coel 7

Scientific Name with Reference : *Coelorhynchus argenteus* Smith & Radcliffe, *in* Radcliffe, 1912, Proc.U.S.Natl.Mus.,43:137, pl. 31,fig. 1.

Synonyms : *Coelorhynchus acus* Weber, 1913.

FAO Names: En- Silver whiptail.

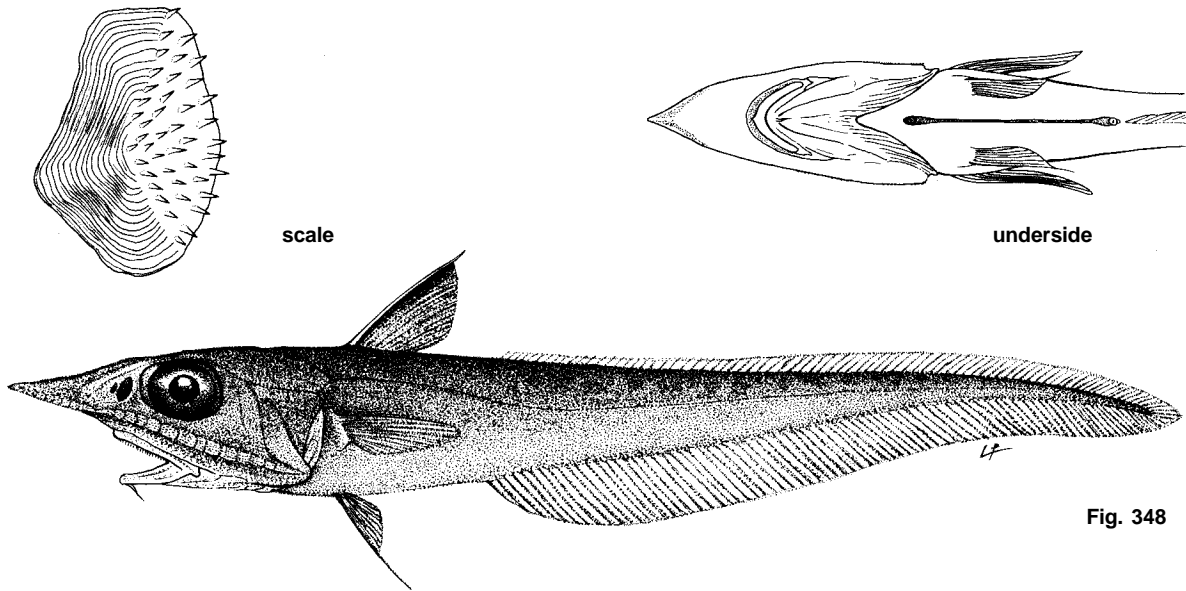


Fig. 348

Diagnostic Features : Snout long (40 to 42% of head length), sharply pointed, much longer than orbit diameter (24 to 26% of head length), anterolateral margin incompletely supported by bone; upper jaw rather long (31 to 34% of head length), slightly longer than orbit but shorter than snout, extends to below posterior 1/4 of orbit; mouth scarcely restricted by lip folds, rictus extends to below midorbit; barbel small (8 to 11 %, of head length), less than length of posterior nostril; subopercle lacking prolonged tip; preopercular margin acute at posteroventral corner; head ridges well developed but rather finely spinulated; underside of head completely naked except for characteristic scales along anteroventral edge of snout; entire nasal region, large crescent-shaped area anterolaterally on either side of dorsal snout surface, and area below posteroventral corner of orbit, naked; teeth in upper jaw in a long, moderately tapered band about 5 teeth wide, outer series slightly enlarged, the band extending to the end of rictus; lower jaw teeth 2 or 3 irregular series wide, the teeth developed to end of rictus; inner gill rakers of first arch 2 + 6 or 7 (8 or 9 total). First dorsal fin with 2 spines and 8 to 10 rays, its height less than postrostral length of head; pectoral fin rays i15 to i18. Anus immediately before anal fin; a long black streak of light organ extending from before anus to close behind isthmus, dilated at each end and forming shallow fossae. Scales covered with fine spinulation, the spinules short, conical, slightly recurved, in quincunx order; scale rows below midbase of first dorsal fin 4. Swimbladder oval, the anterior end forming blunt lobes. Pyloric caeca about 9. **Colour:** pale brown dorsally, silvery ventrally; faint blotches dorsally below dorsal fins, more prominent in young; perimeter of first dorsal fin base, second dorsal spine and median process of nasal bone all blackish; head covering translucent to transparent; mouth lining whitish, branchial cavity whitish along hyoid arch, dark elsewhere.

Geographical Distribution : The Philippines, Indonesia, and northwestern Australia (Fig. 349); questionably from South Africa.

Habitat and Biology : Benthopelagic in 85 to 582 m. Feeds on shrimplike crustaceans, among other items.

Size : To about 37 cm.

Interest to Fisheries : A common species in relatively shallow waters where it is occasionally taken by trawlers.

Literature : Smith & Radcliffe (1912); Gilbert & Hubbs (1920).

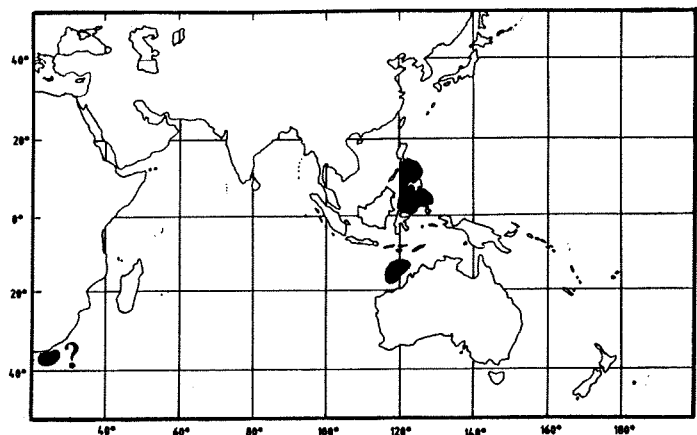


Fig. 349

Remarks : Barnard's (1925b) reference of a 10 cm specimen from east of Algoa Bay, South Africa, must be considered questionable in view of the shorter maxilla and longer barbel of that individual, compared with Philippine specimens.

Coelorinchus argus Weber, 1913

Fig. 350

MACROUR Coel 8

Scientific Name with Reference : *Coelorhynchus argus* Weber, 1913, Fische SIBOGA Exped., 57:161, pl. 4, fig. 4,4a (Flores Sea, Makassar Strait, Molucca Passage, Bali, 397 to 538 m).

Synonyms : None.

FAO Names: En - Eyespot grenadier.

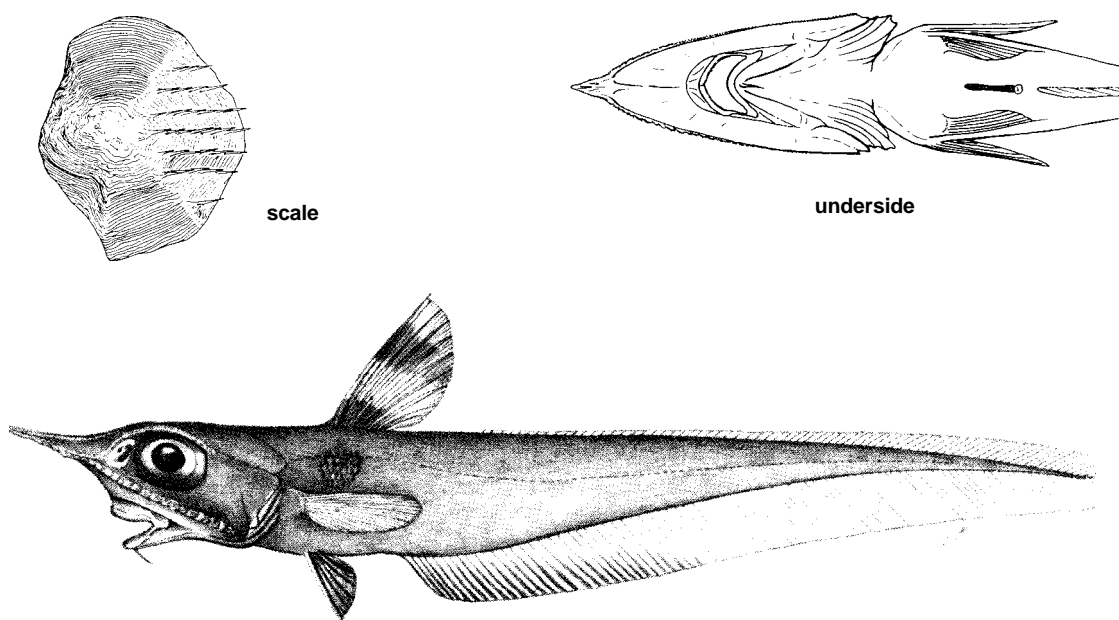


Fig. 350

Diagnostic Features : Snout moderately long, about 1.5 times the orbit diameter, 42 to 45% of head length, slender, acutely pointed, tipped with a sharp, finely spinulated scute, its anterolateral margin completely supported by bone; orbit less than snout length, 27 to 29% of head length; upper jaw 21 to 26% of head length; maxillary extends to below middle of orbit; barbel short, about 1/2 of pupil diameter, much less than diameter of posterior nostril; subopercle produced into a small, narrow tab at ventral end; suborbital ridge strong and sharp, but rather finely spinulated; other head ridges stout and similarly spinulated; underside of head completely naked; small areas above snout, around nostrils, and below anteroventral rim of orbit also naked; teeth all small, in a broad short band on premaxillae, the band extending slightly more than 1/2 of length of rictus; mandibular teeth in narrow band extending to end of rictus; inner gill rakers on first arch 2 + 5. First dorsal fin with 2 spines and 8 or 9 rays, its height about equal to postrostral length of head; pectoral fin rays i13 to i16. Scales with 6 to 10 parallel to slightly divergent rows of small, close-set spinules; scale rows below midbase of first dorsal fin 4 to 4.5. Swimbladder truncated or slightly bilobed anteriorly; 4 retia mirabilia. Light organ extends as a narrow black strip forward of anus to about level of pelvic fin insertions; anus separated by about 3 scale rows from anal fin origin. **Colour**: overall coloration grey-brown; a large black blotch 7 scale rows wide by 5 deep above and behind pectoral fin bases; first dorsal fin and pelvic fins blackish; pectoral fins dusky; mouth and gill cavities dusky, lip and jaw surfaces otherwise pale; operculum and trunk ventrally blackish.

Geographical Distribution : The Philippines and Indonesia (Fig. 351).

Habitat and Biology : Benthopelagic in 124 to 424 m. Small fish (including juveniles of *Bregmaceros*), copepods, polychaetes, and other bottom invertebrates have been found in the stomachs.

Size : To about 20 cm total length.

Interest to Fisheries : A common but small species in about 100 to 400 m depth.

Literature : Weber (1913); Weber & de Beaufort (1929); Gilbert & Hubbs (1920).

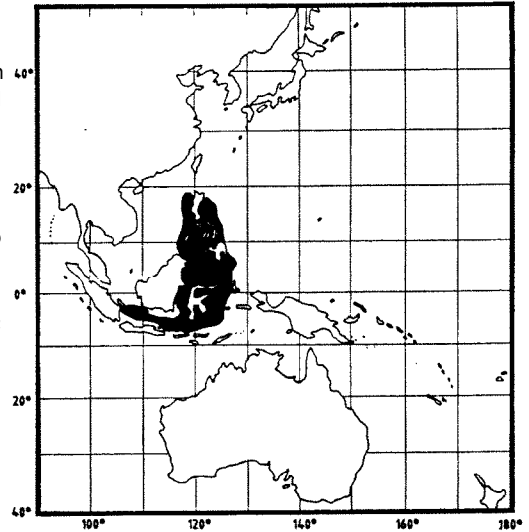


Fig. 351

Coelorhynchus aspercephalus Waite, 1911

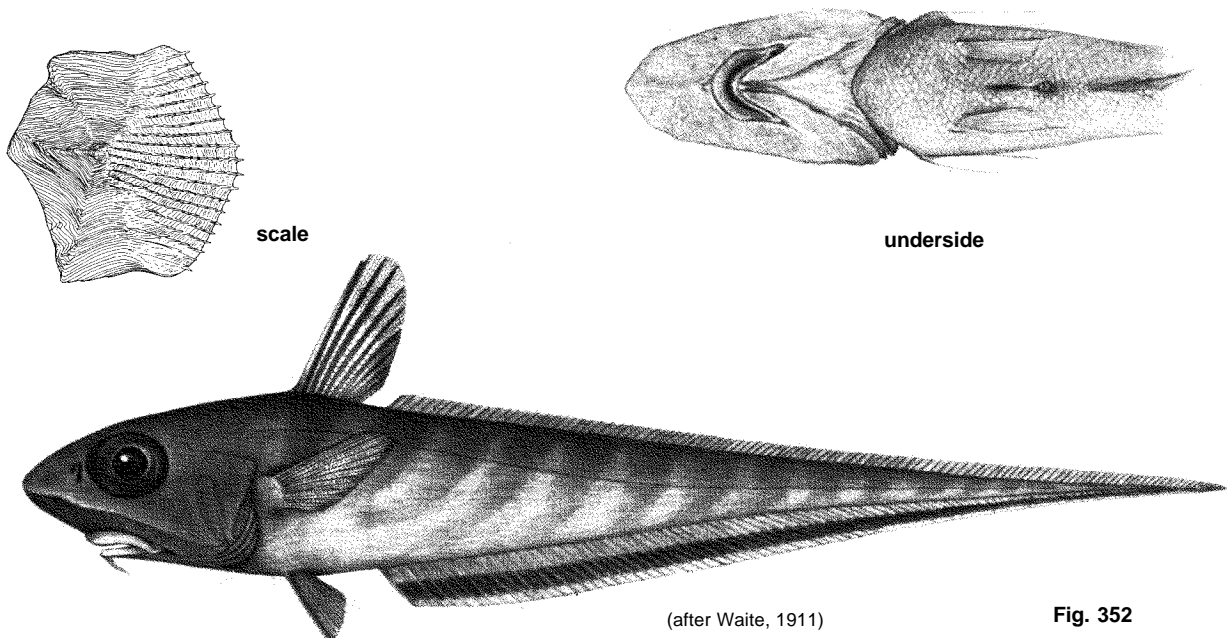
Fig. 352

MACROUR Coel 9

Scientific Name with Reference : *Coelorhynchus aspercephalus* Waite, 1911, *Rec. Canterbury Mus.*, 1(3):178, pl. 29, text-fig. 2 (off New Zealand).

Synonyms : None

FAO Names : En - Rough-head whiptail.



(after Waite, 1911)

Fig. 352

Diagnostic Features : Snout rounded, without sharp points, its anterolateral margin incompletely supported by bone; orbit about 35 to 40% of head length, longer than snout, about equal to postorbital length of head; upper jaw 33 to 34% of head length; head gently rounded, completely scaled, without strong scutelike ridges and no broad naked areas; teeth small, in a broad band on premaxillary, extending about half the length of rictus; in a broad, tapered band on mandible extending to the posterior end of rictus; inner gill rakers on first arch 1 or 2 + 7 or 8. First dorsal fin with 2 spines and 9 or 10 rays, its greatest height about equal to postrostral length of head; pectoral

fin rays i 14 to i 17. Light organ lanceolate to narrowly oval, extending forward to midway between anus and pelvic fin insertions. Scales adherent, finely spinulated, the tiny imbricate keel-like spinules arranged in up to 22 subparallel rows, none enlarged; scale rows below midbase of first dorsal fin 4.5 to 5.5. Swimbladder rather deeply bilobed anteriorly. Pyloric caeca about 32. **Colour:** overall greyish to light brown; 10 or more narrow, oblique pale bars extend down and forward over head and body, faint in some individuals. A prominent lateral stripe on anal fin, darker posteriorly; first dorsal fin pale at base but mostly blackish overall; other fins dusky to blackish; mouth and gill cavities dark.

Geographical Distribution : New Zealand (Fig. 353).

Habitat and Biology : Benthopelagic in 33 to 335 m.

Size : To at least 34 cm.

Interest to Fisheries : Common in upper slope waters off New Zealand where they are frequently caught by commercial and research vessels (McMillan in litt.).

Literature : Waite (1911); McCann & McKnight (1980).

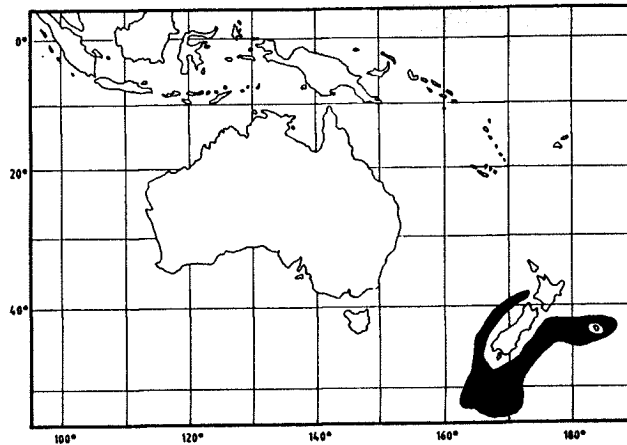


Fig. 353

Coelorinchus australis (Richardson, 1839)

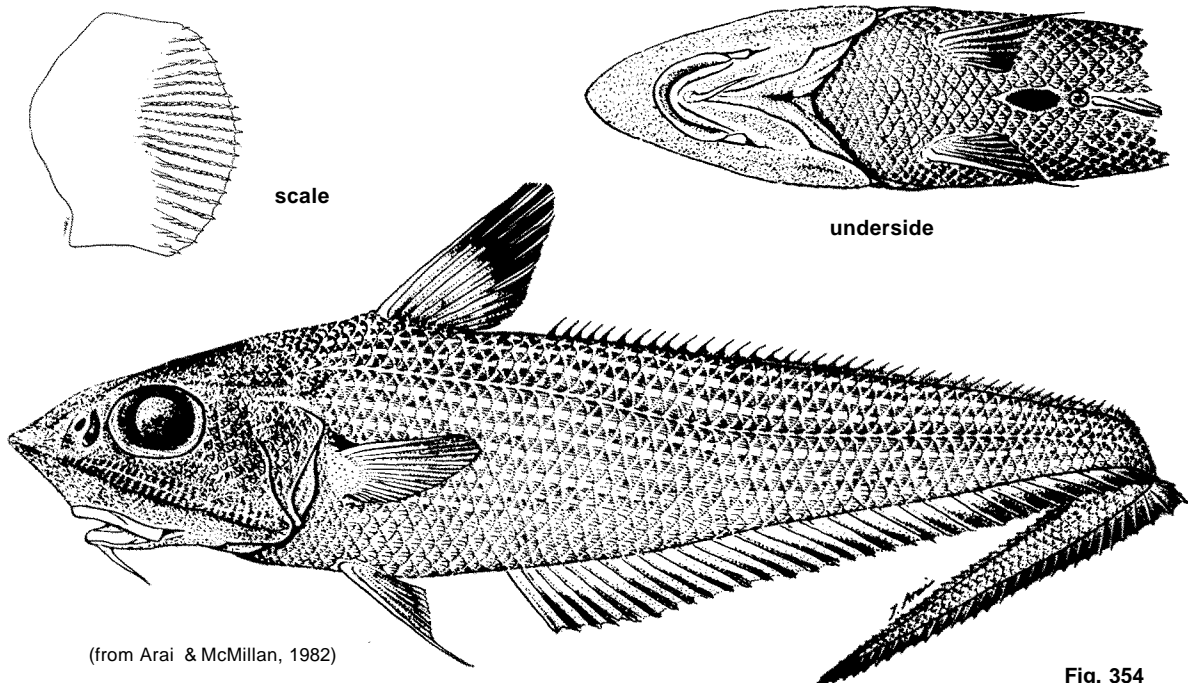
Fig. 354

MACROUR Coel 10

Scientific Name with Reference : *Lepidoleprus australis* Richardson, 1839, Rec.Zool.Soc.Lond., 3: 100 (Port Arthur, Tasmania).

Synonyms : *Macrurus australis* Günther, 1862; *Coelorhynchus mortoni* Ogilby, 1897; *Coelorhynchus australis*-McCulloch, 1911.

FAO Names : En- Javelin.



(from Arai & McMillan, 1982)

Fig. 354