

Geographical Distribution : Recorded from southern Japan, East China Sea, and Philippines; distribution probably continuous between these points (Fig. 646).

Habitat and Biology : Benthopelagic in 355 to 910 m depth; temperature preferences about 4 to 8°C.

Size : To about 37 cm total length.

Interest to Fisheries : Apparently a fairly common species in southern Japan and the East China Sea, but no catch statistics are maintained as far as known.

Local Names : JAPAN: Higo-sokodara

Literature : Radcliffe (1912); Gilbert & Hubbs (1916); Okamura (1970a); Okamura, Amaoka & Mitani (1982).

Remarks : *Nezumia spinosa* (Gilbert & Hubbs, 1916) has been synonymized with this species by Okamura (1970a), but the two species are quite different, *N. spinosa* having a much higher first dorsal fin (about 130 to 160% of head length), the spine and proximal portions of segmented rays black; underside of head completely naked; scale spinulation long, conical, needlelike; pelvic fin rays 8; barbel slightly shorter (12 to 15% head length); suborbital slightly narrower (12 to 13% of head length vs. 13.5 to 16%); and various other less-notable differences.

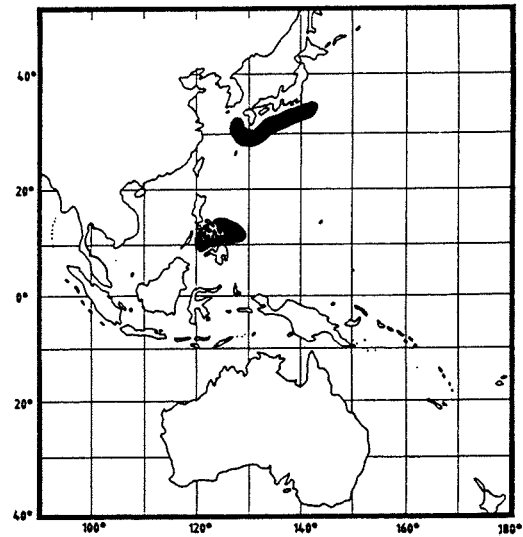


Fig. 646

Nezumia pudens Gilbert & Thompson, 1916

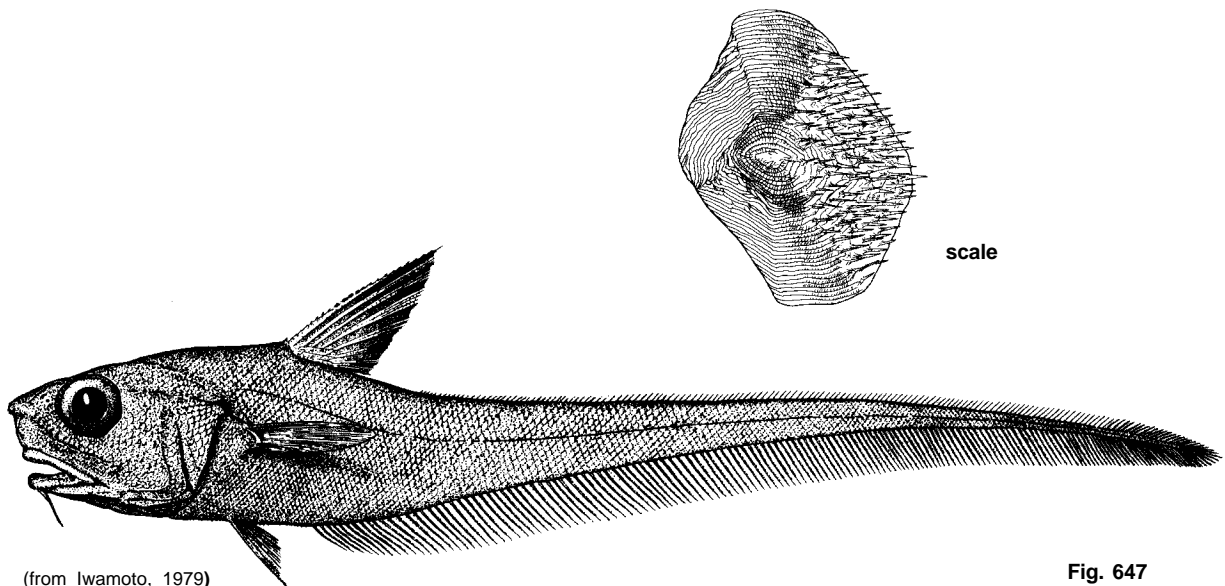
Fig. 647

MACROUR Nez 16

Scientific Name with Reference : *Nezumia pudens* Gilbert & Thompson, 1916, Proc. U.S. Natl. Mus. 50: 472-473, pl. 5, fig. 2 (off Lota, Chile; 38°08'S, 75°53'W; 1 240 m).

Synonyms : *Lionorus (Nezumia) pulchella* -- Gilbert & Hubbs, 1916; *Macruroplus pudens*--Fowler, 1944.

FAO Names : En - Atacama grenadier.



(from Iwamoto, 1979)

Fig. 647

Diagnostic Features : Head relatively compressed laterally, surfaces smoothly rounded, suborbital ridge low; snout short, blunt and narrow, terminal and lateral angles not especially set off from adjacent scales; scales cover most of head except for a ventromedian strip on the snout and ventral margin of suborbital region; orbits longer than interorbital width, upper jaws extend posteriorly to below hind edge of pupil. Teeth small, in broad tapered bands, outer series of upper jaw enlarged. Inner gill rakers on first arch 9 to 10 total. First dorsal fin with 2 spines and 9 to 11 rays; spinous second ray armed with slender, sharp spikes, fairly widely spaced along leading edge, its height 80 to 95% of head length; pectoral fin rays 19 to 24; pelvic fin rays 10 or 11, the outermost filamentous and extending beyond anal fin origin. Measurements in percentages of head length: snout length 18 to 22; orbits 31 to 35; interorbital width 22 to 23; upper jaw 30 to 39; outer gill slit 14 to 18; barbel length 20 to 25. Anus in the middle third of space between pelvic fin bases and origin of anal fin. Pyloric caeca numerous, about 35 to 45. Body scales densely covered with slender, sharp spinules arranged in quincunx pattern or in close, strongly convergent rows; scales below midbase of first dorsal 7.5 to 8.5; scale rows below origin of second dorsal 8.5 to 10. **Colour**: medium brown, blackish ventrally; fins, gill membranes, and linings of mouth and gullet also blackish; first dorsal fin slightly paler near base.

Geographical Distribution : Central Chile (between 32°S and 38°S) (Fig. 648).

Habitat and Biology : Benthopelagic in 580 to 1 238 m depth.

Size : To at least 40 cm total length.

Interest to Fisheries : Taken incidentally by trawlers fishing in deep waters off Chile, but no catch statistics are maintained.

Literature : Gilbert & Thompson (1916); Iwamoto (1979).

Remarks : In the eastern Pacific, *Nezumia pudens* is likely to be confused only with *N. stelgidolepis*, *N. pulchella*, and *N. liolepis*, but can be distinguished from those species by its more fully scaled head, smaller mucous pores on suborbital and mandibles, shorter gill filaments (less than diameter of eye lens), and more posteriorly placed first dorsal fin.

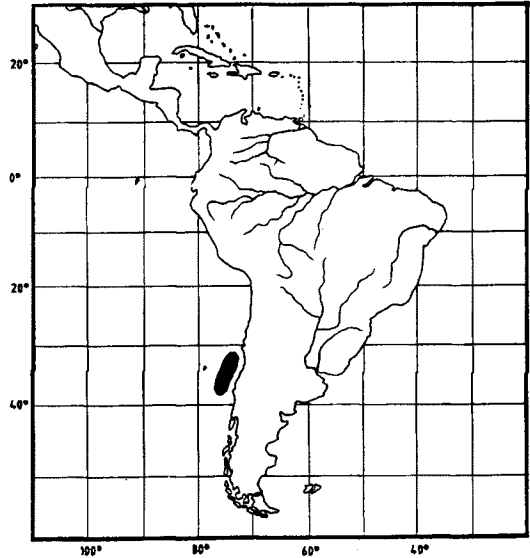


Fig. 648

***Nezumia pulchella* (Pequeño, 1971)**

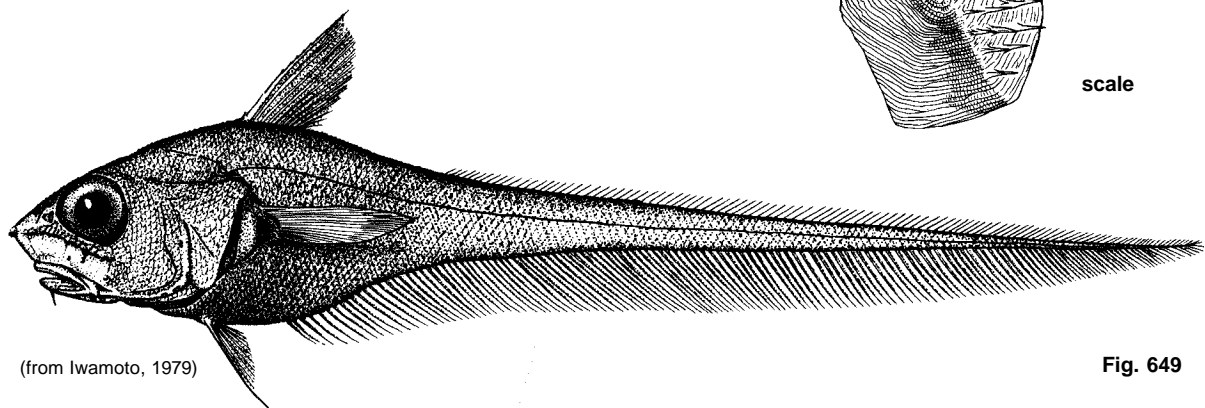
Fig. 649

MACROUR Nez 17

Scientific Name with Reference : *Macruropus pulchellus* Pequeño, 1971 *Bol.Mus. Nac. Hist. Nat. Santiago*, 32: 293, fig. 17 (off Chile; 25°26'S, 70°37'W; 374-424 m).

Synonyms : *Nezumia pulchella* -- Iwamoto, 1979.

FAO Names : En - Thumb grenadier.



(from Iwamoto, 1979)

Fig. 649

Diagnostic Features : Snout rather narrow, bluntly pointed, protruding slightly beyond the rather large mouth; suborbital ridge well developed, low and not markedly raised; terminal snout scute well developed; underside and upper leading margin of snout, underside of suborbital, mandible, lower edge of preopercle, and gill membranes naked; pores of lateralis system prominent on head. Teeth small, in moderate bands in upper jaws, outer series slightly enlarged; in broad tapered bands in lower jaw; teeth extend posteriorly almost to end of rictus. Inner gill rakers on first arch 1 to 3 + 7 to 9 (9 to 11 total), on second arch 8 to 10 total. First dorsal fin with 2 spines and 10 or 11 rays, serrations on second spine numerous, closely set; pectoral fin rays i18 to i27; pelvic fin rays 11 or 12. Measurements in percentages of head length: snout length 21 to 26; orbit diameter 30 to 34; interorbital width 20 to 25; upper jaw 30 to 34; orbit to angle of preopercle 34 to 38; barbel 9 to 16. Pyloric caeca 23 to 31. Body scales densely covered with small conical spinules arranged in parallel to slightly convergent rows; scales below midbase of first dorsal 4.5 to 6, below origin of second dorsal fin 5.5 to 7.5. **Colour**: swarthy to medium brown overall, blackish ventrally, bluish tinge over abdomen; oral and gill cavities generally pale but blackish around margin of latter; fins dusky to blackish, first dorsal fin blacker distally.

Geographical Distribution : Northern Peru (7°49'S) to central Chile (33°S) (Fig. 650).

Habitat and Biology : Benthopelagic in 250 to 960 m depth.

Size : To at least 30 cm total length.

Interest to Fisheries : This species is taken incidentally by trawlers fishing in deep waters off Chile and Peru, but no catch statistics are maintained for it.

Literature : Pequeño (1971); Iwamoto (1979).

Remarks : *Nezumia pulchella* is closely related to *N. stelgidolepis*, the two overlapping in their distributions in Peru. The pelvic fin ray count (9 or 10 in *N. stelgidolepis*), scale spinules (conical to lanceolate, in somewhat quincunx order in *N. stelgidolepis*), and absence of scales on branchiostegal membranes distinguish the two. *Nezumia pudens* from Chile is distinguishable by its fully scaled underside of head and shorter barbel (9 to 16% of head length).

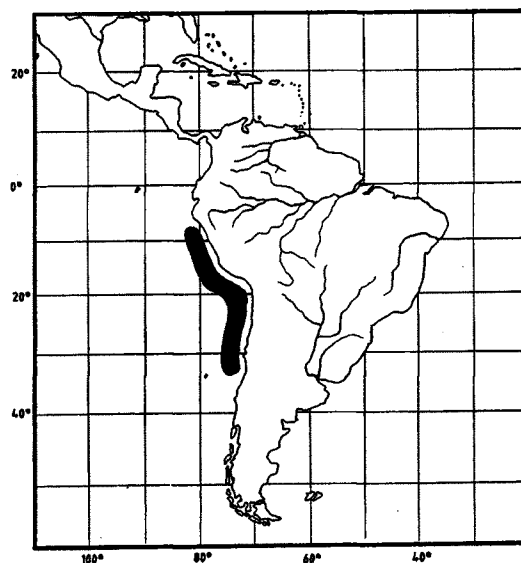


Fig. 650

Nezumia sclerorhynchus (Valenciennes, 1838)

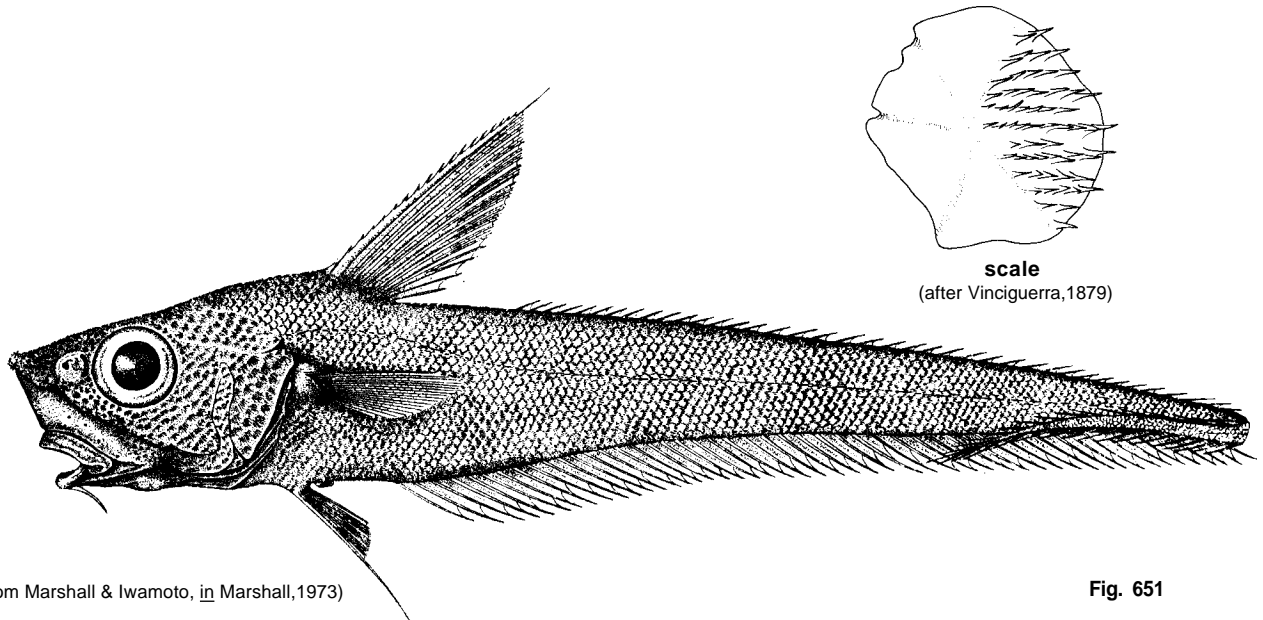
Fig. 651

MACROUR Nez 18

Scientific Name with Reference : *Macrourus sclerorhynchus* Valenciennes, in Webb & Berthelot, Hist. Nat. des îles Canaries, Zool., pt. 1, Ichthyol., 1838: 80, pl. 14, fig. 1 (Canary Is.).

Synonyms : *Coryphaenoides serratus* -- Thomson, 1878; *Macrurus violaceus* Zugmayer, 1911; *Lionurus (Nezumia) sclerorhynchus* -- Gilbert & Hubbs, 1916; *Macruroplus sclerorhynchus* -- Fowler, 1936; *Macruroplus violaceus* -- Fowler, 1936; *Nezumia sclerorhynchus* -- Grey, 1956.

FAO Names : En - Roughtip grenadier.



(from Marshall & Iwamoto, *in* Marshall, 1973)

Fig. 651

Diagnostic Features : Snout short, bluntly acute; terminal snout scute broad, blunt; ventral surface of snout naked posteriorly onto most of suborbital, mandible mostly naked, pores prominent on head. Teeth small, in wide bands. Inner gill rakers on first arch usually 1 or 2 + 7 to 9 (9 to 11 total). First dorsal with 2 spines and 9 to 11 rays, serrations on second spine slender, rather widely spaced, 21 or fewer; pectoral fin rays 16 to 20; pelvic fin rays 9 (rarely 7, 8, or 10). Measurements in percentages of head length: snout length 27 to 34; orbit diameter 31 to 41; interorbital space 22 to 29; upper jaw length 24 to 32; orbit to angle of preopercle 31 to 38; barbel 11 to 22. Pyloric caeca 22 to 25. Spinules on body scales slender, conical, reclined, arranged in converging rows, median row somewhat enlarged in some scales; scales below second dorsal origin 9; lateral-line scales over distance equal to predorsal length 34 to 40. **Colour**: in alcohol brownish overall, paler on head, violet tinged over abdomen, some silvery reflections; fins pale to blackish; first dorsal fin uniformly blackish; mouth and gill cavity mostly black.

Geographical Distribution : North Atlantic to the north of the Gulf of Guinea in the east, into the Mediterranean Sea, and north of Straits of Florida in the west (Fig. 652).

Habitat and Biology : Benthopelagic in 130 to 1 097 m depth, with the species most numerous in depths of 450 to 730 m (Marshall & Iwamoto, 1973) in the open Atlantic and in 500 to 800 m in the Mediterranean (Rannou, 1976). Feeds on small crustaceans (copepods, amphipods, decapods, mysids, etc.) and polychaetes. Sexual maturity is attained at 30 to 40 mm in head length, which corresponds to an age of 11 to 20 years (Merrett & Marshall, 1981)

Size : To about 27 cm total length.

Interest to Fisheries : Taken as bycatch in trawls.

Literature : Vinciguerra (1879); Vaillant (1888); Collett (1896); Zugmayer (1911); Koefoed (1927); Marshall & Iwamoto, *in* Marshall (1973); Rannou (1976); Merrett & Marshall (1981). (See Grey, 1956, and Marshall, 1973, for extensive references.)

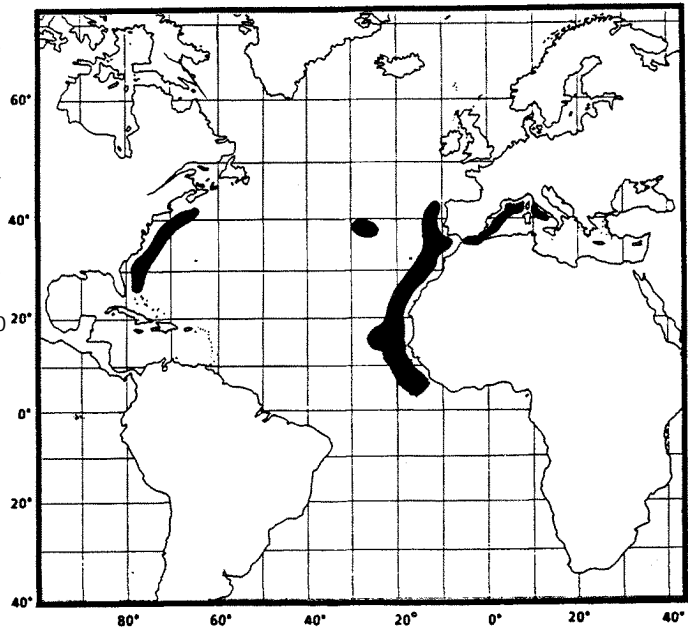


Fig. 652

Remarks : Sometimes confused with *Nezumia aequalis* (Günther) but easily distinguished from that species in having the ventral aspects of snout, suborbital, and mandible mostly naked; conical rather than shield-shaped spinules; and enlarged head pores.

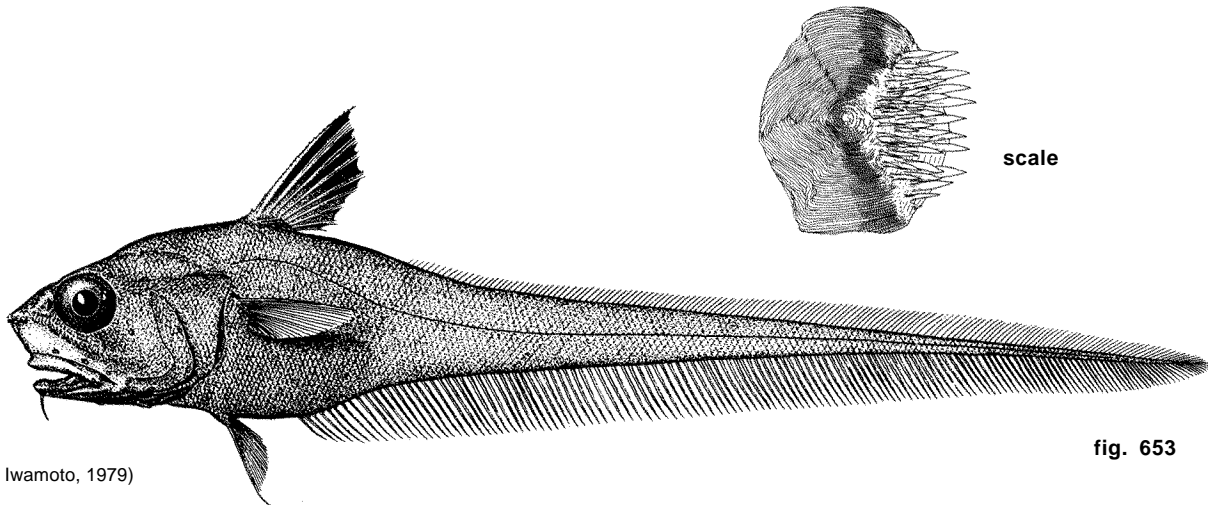
Nezumia stelgidolepis (Gilbert, 1890)

Fig. 653

MACROUR Nez 19

Scientific Name with Reference : *Macrurus (Macrurus) stelgidolepis* Gilbert, 1890, *Proc. U.S. Natl. Mus.*, 13: 116 (off Pt. Conception, California, USA; 34°10'45"N, 120°16'45"W; 488 m; ALBATROSS sta. 2960).

Synonyms : *Macrurus gracillicauda* Garman, 1899; *Lionurus (Nezumia) stelgidolepis* -- Gilbert & Hubbs, 1916; *Lionurus stelgidolepis* -- Barnhart, 1936; *Nezumia stelgidolepis* -- Roedel, 1951; *Nezumia gracillicauda* -- Marshall & Iwamoto, in Marshall, 1973.



(from Iwamoto, 1979)

Diagnostic Features : Snout narrow, bluntly pointed, protruding slightly beyond rather large mouth; terminal snout scute developed but not conspicuously; suborbital ridge low, not markedly raised; underside of snout, most of suborbital region, and anterior half of mandible naked; lowermost branchiostegal rays scaled; pores of lateralis system prominent on head. Teeth small, in broad tapered bands in both jaws; outer premaxillary series slightly enlarged; teeth extend posteriorly almost to end of rictus. Inner gill rakers on first arch 10 or 11 total, on second arch 9 to 11. First dorsal fin with 2 spines and 9 or 10 segmented rays, serrations on second spine numerous, closely spaced; pectoral fin rays i19 to i25; pelvic fin rays 9 or 10. Measurements in percentages of head length: snout length 22 to 28; orbit diameter 26 to 32; interorbital space 20 to 26; upper jaw length 31 to 37; orbit to angle of preopercle 35 to 45; barbel length 15 to 26. Pyloric caeca 24 to 58. Body scales densely covered with conical to narrowly lanceolate spinules arranged in short, slightly convergent rows; scales below second dorsal origin 7 or 8. **Colour**: swarthy overall, but blackish ventrally, bluish tinge over abdominal region; oral and gill cavities generally pale with some blackish areas; fins dusky to blackish, first dorsal fin slightly paler basally.

Geographical Distribution : A wide-ranging species known from British Columbia off Vancouver Island to southern Peru (18°10'S) (Fig. 654).

Habitat and Biology : Benthopelagic in 277 to 909 m depth.

Size : To about 45 cm total length.

Interest to Fisheries : This common species is taken incidentally by trawlers fishing for Dover sole in deep waters off northern and central California, and perhaps elsewhere, but is not landed so far as known.

Local Names : USA: California grenadier.

Literature : Gilbert (1890); Garman (1899); Iwamoto & Stein (1974); Iwamoto (1979).

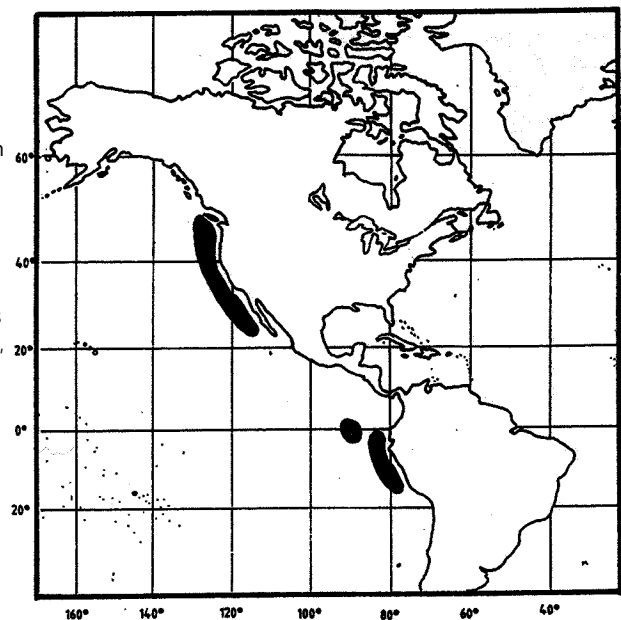


Fig. 654