

***Lethrinus sp.1***

Fig. 147, Plate VII, 43

**LETH Leth 28**

Possibly undescribed species.

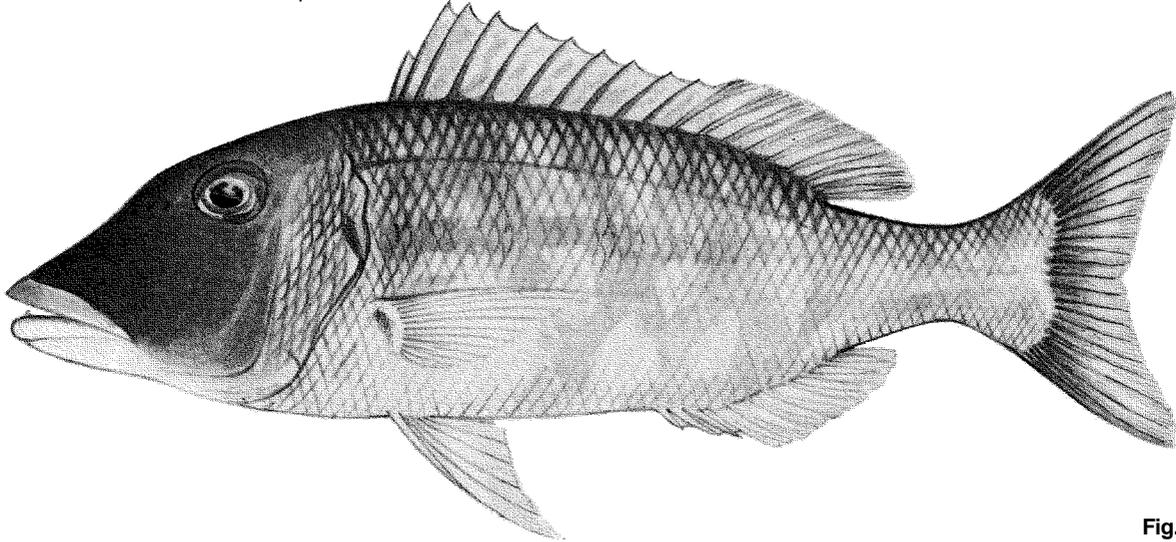
**Synonyms:** *Lethrinus sp.* Gloerfelt-Tarp & Kailola (1984)**FAO Names:** En - Maldive emperor.

Fig. 147

**Diagnostic Features:** Body moderately elongate, its depth 3.0 to 3.3 times in standard length. Head length 1.1 to 1.2 times in body depth, 2.6 to 2.8 times in standard length, dorsal profile near eye convex; snout length about 1.8 to 2.0 times in head length, measured without the tip the snout is 0.8 to 0.9 times in cheek height, its dorsal profile concave with a hump in front of eye, snout angle relative to upper jaw between 50 and 60 degrees; interorbital space flat or convex; posterior nostril a longitudinal oblong opening, closer to orbit than to anterior nostril; eye situated close to or removed from dorsal profile, its length 4.2 to 4.7 times in head length; cheek length 2.4 to 2.7 times in head length; lateral teeth in jaws conical; outer surface of maxilla smooth. Dorsal fin with 10 spines and 9 soft rays, the third dorsal spine the longest, its length 2.5 to 2.8 times in body depth; anal fin with 3 spines and 8 soft rays, the first soft ray usually the longest, its length approximately shorter than the length of the base of the soft-rayed portion of the anal fin and around 0.6 times in the length of the entire anal fin base; pectoral rays 13; pelvic fin membranes between the rays closest to the body without dense melanophores. Lateral-line scales 47 or 48; cheek without scales; 4 ½ scale rows between lateral line and base of middle dorsal fin spines; usually 15 scale rows in transverse series between origin of anal fin and lateral line; usually 15 scale rows in lower series of scales around caudal peduncle; 8 to 10 scales in supratemporal patch; inner surface of pectoral fin without scales; posterior angle of operculum fully scaled.

**Colour:** body tight grey or tan, head darker; base of pectoral fin, spot on upper posterior margin of opercle, posterior edge of preoperculum and indistinct area on snout in front of eye usually reddish; fins pale or reddish.

**Geographical Distribution:** The Maldives and Southwest Indonesia (Fig. 148).

**Habitat and Biology:** Inhabits sandy areas near coral reefs. Presumably feeds mostly on crustaceans and fish.

**Size:** Maximum size recorded around 32 cm total length, but presumably attains a much larger size.

**Interest to Fisheries:** Occasionally caught by hand-lines in the Maldives and by trawls in Indonesia.

**Literature:** Gloerfelt-Tarp & Kailola (1984, as *Lethrinus sp.*).

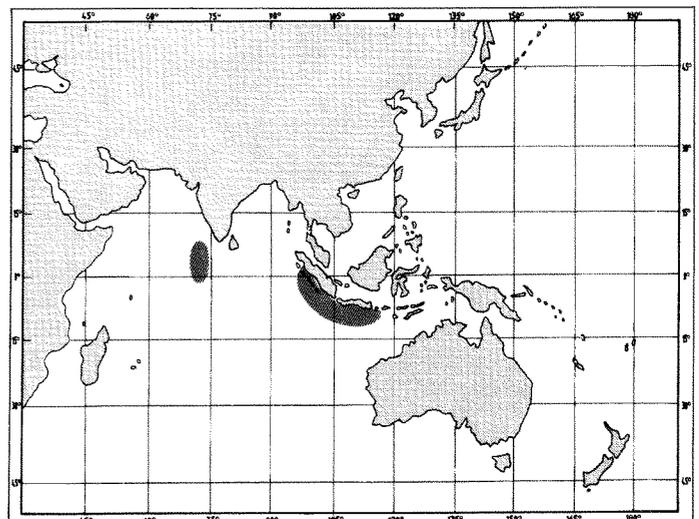


Fig. 148

**Remarks:** Further work is necessary to confirm that this species does not represent a colour form of *L. conchylatus*.

**Lethrinus sp.2**

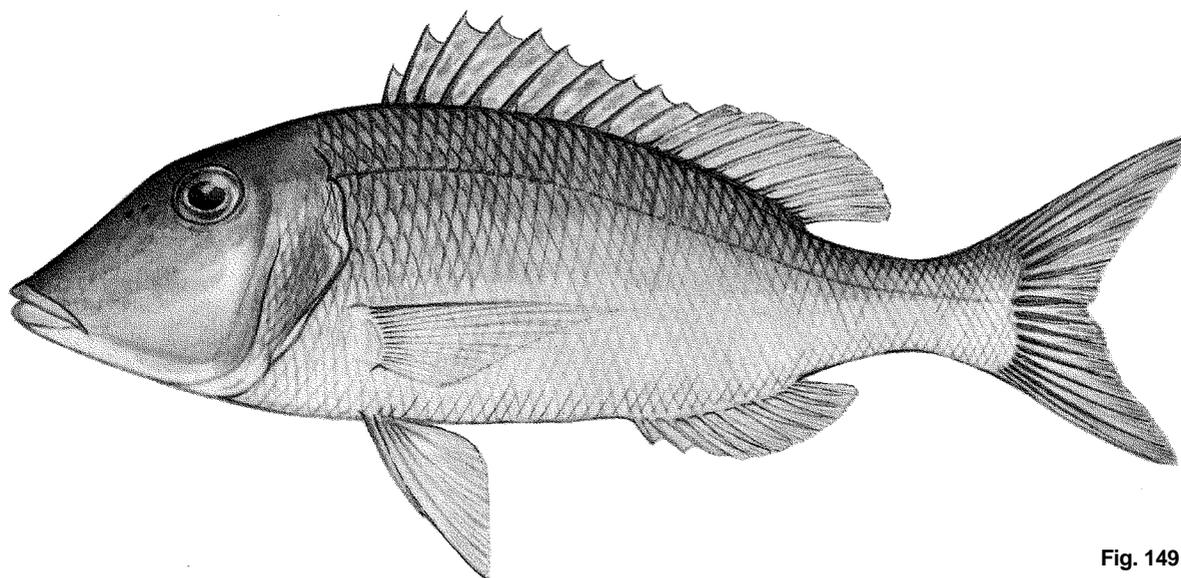
Fig. 149, Plate VIII, 44

**LETH Leth 29**

Possibly undescribed species.

**Synonyms:** None.

**FAO Names:** En - Drabemperor.



**Fig. 149**

**Diagnostic Features:** Body moderately elongate, its depth 2.9 to 3.1 times in standard length. Head length 1.0 to 1.2 times in body depth, 2.7 to 2.9 times in standard length, dorsal profile near eye convex; snout length about 1.9 to 2.0 times in head length, measured without the lip the snout is 0.8 to 0.9 times in cheek height, its dorsal profile nearly straight, snout angle relative to upper jaw between 60 and 70 degrees; interorbital space flat or convex; posterior nostril a longitudinal oblong opening, closer to orbit than to anterior nostril; eye situated close to dorsal profile, its length 3.6 to 4.1 times in head length; cheek length 2.4 to 2.9 times in head length; lateral teeth in jaws conical; outer surface of maxilla smooth or with a longitudinal ridge. Dorsal fin with 10 spines and 9 soft rays, the third dorsal spine the longest, its length 2.4 to 2.6 times in body depth; anal fin with 3 spines and 8 soft rays, the first soft ray usually the longest, its length shorter than the length of the base of the soft-rayed portion of the anal fin and 0.6 to 0.7 times in the length of the entire anal fin base; pectoral rays 13; pelvic fin membranes between the rays closest to the body without dense melanophores. Lateral-line scales 48 or 49; cheek without scales; 4 ½ scale rows between lateral line and base of middle dorsal fin spines; 15 or 16 scale rows in transverse series between origin of anal fin and lateral line; usually 15 rows in lower series of scales around caudal peduncle; 6 to 8 scales in supratemporal patch; inner surface of pectoral fin without scales; posterior angle of operculum fully scaled. **Colour:** body tight grey or tan with scattered irregular dark blotches; head brown or tan; fins pale.

**Geographical Distribution:** So far known only from the Philippines, the Ryukyu Islands and the Loyalty Islands (Fig. 150)

**Habitat and Biology:** Nothing is recorded about the biology of this species. All that is known is that in the Philippines it is caught together with smaller specimens of such species as *Lethrinus olivaceus*, *L. reticulatus* and *L. semicinctus*; it presumably has habitat characteristics similar to these species.

**Size:** Maximum recorded total length of around 27 cm, probably attains a slightly larger size.

**Interest to Fisheries:** Caught by shore seines and trawls.

**Local Names:** PHILIPPINES: Bitilya, Katambak, Kilawan.

**Remarks:** Sato's (1978) account of *L. semicinctus* includes what he shows as two body types belonging to the same species. *Lethrinus sp.2* will key out to *L. semicinctus* using Sato's key. I have collected *Lethrinus sp.2* in Philippines together with *L. semicinctus* and the consistent differences in presence of the black blotch, head shape, and number of scales in the supratemporal patch of scales has convinced me that they are distinct species. Further research is necessary to confirm that this species is undescribed.

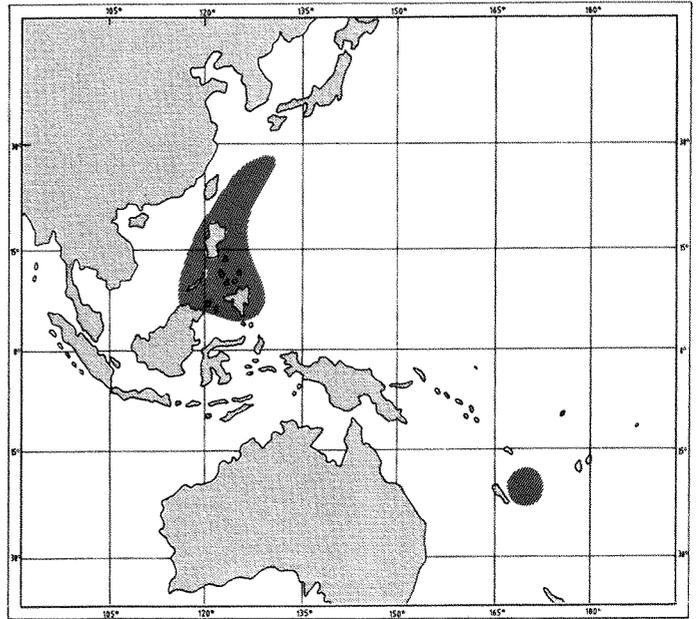


Fig. 150

***Lethrinus variegatus* Valenciennes, 1830**

Fig. 151, Plate VIII, 45

**LETH Leth 19**

*Lethrinus variegatus* Valenciennes in C. & V., 1830 Hist.nat.poiss., 6: 287 (Massuah, Red Sea).

**Synonyms:** *Lethrinus latifrons* Rüppell (1840).

**FAO Names:** En - Stender emperor.

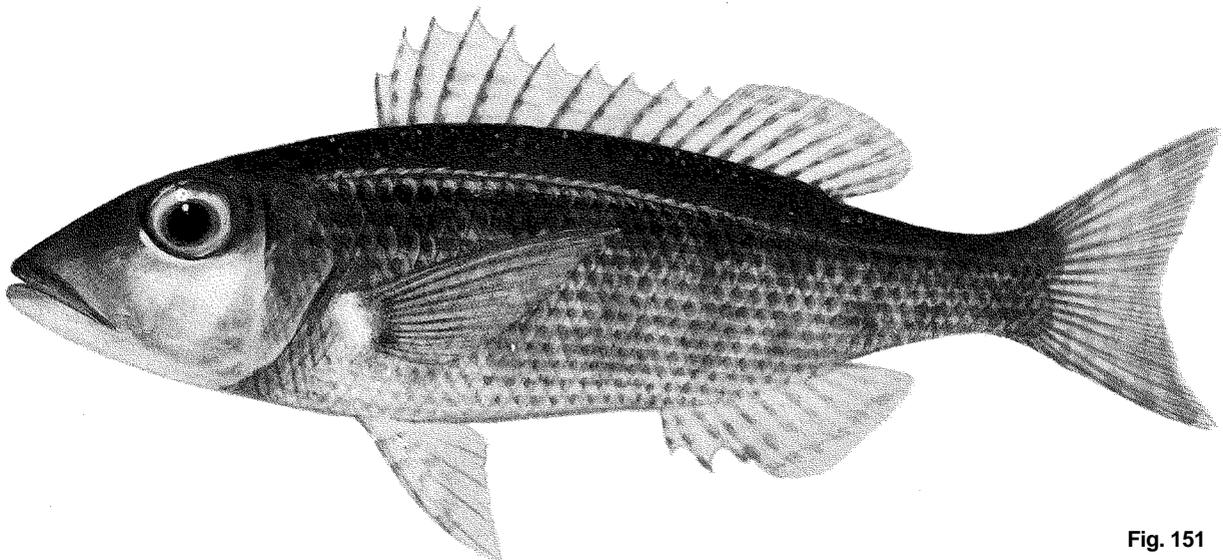


Fig. 151

**Diagnostic Features:** Body slender, its depth 3.4 to 3.9 times in standard length. Head length 1.2 to 1.4 times in body depth, 2.6 to 2.9 times in standard length, dorsal profile near eye convex; snout length about 2.3 to 2.7 times in head length, measured without the lip the snout is 0.8 to 0.9 times in cheek height, its dorsal profile nearly straight, snout angle relative to upper jaw between 50 and 60 degrees; interorbital space flat or convex; posterior nostril a vertical oblong opening, closer to anterior nostril than to orbit, or closer to orbit than anterior nostril; eye situated close to dorsal profile, its length 3.5 to 4.4 times in head length; cheek length 3.0 to 3.8 times in head length; lateral teeth in jaws conical; outer surface of maxilla smooth. Dorsal fin with 10 spines and 9 soft rays, the fourth dorsal spine usually the longest, its length 2.0 to 2.5 times in body depth; anal fin with 3 spines and 8 soft rays, the first soft ray usually the longest, its length approximately equal to or shorter than the length of the base of the soft-rayed portion of the anal fin and 0.6 to 0.8 times in the length of the entire anal fin base; pectoral rays 13; pelvic fin membranes between the rays closest to the body without dense melanophores. Lateral-line scales 45 to 47; cheek without scales; 4  $\frac{1}{2}$  scale rows between lateral line and base of middle dorsal fin spines; 13 or 14 scale rows in transverse series between origin of anal fin and lateral line; 14 or 15 rows in cower series of scales around caudal peduncle; 4 to 7 scales in supratemporal patch; inner surface of pectoral fin without scales; posterior angle of operculum fully scaled. **Colour:** body brown and grey, lighter ventrally, with scattered irregular dark spots; often two dark bands below eye, one to lower rim of preopercle and one to corner of mouth, another dark band across interorbital space; dorsal, anal, pectoral and pelvic fins light or translucent; caudal fin light and dark striped.

**Geographical Distribution:** Widespread in the Indo-West Pacific, including the Red Sea, East Africa to the Ryukyu Islands and New Caldedonia (Fig. 152).

**Habitat and Biology:** Inhabits sandy and weedy areas near coral reefs. Feeds on small benthic invertebrates.

**Size:** Maximum total length to around 20 cm.

**Interest to Fisheries:** Caught mostly by shore seines and trawls. This species is only of minor importance to fisheries where it occurs.

**Local Names:** JAPAN: Hoso-fuefuki; MAURITIUS: Soudanné; PHILIPPINES: Bitilya, Katambak, Kilawan; SEYCHELLES: Baxou goemon; TANZANIA: Sororo.

**Literature:** Lee (1986, as *L. semicinctus*); Masuda et al. (1984); Randall (1983); Sato in Fischer & Bianchi (eds) (1984); Schroeder (1980, as *L. reticulatus*).

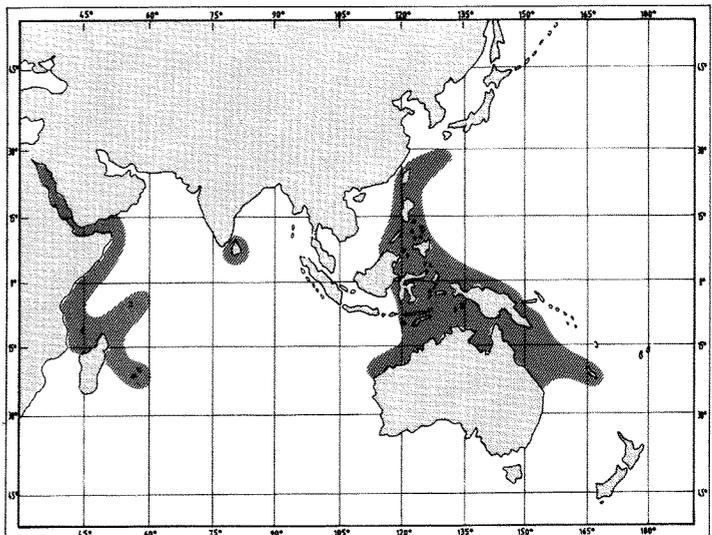


Fig. 152

**Remarks:** See Remarks under *L. rubrioperculatus*.

***Lethrinus xanthochilus* Klunzinger, 1870**

Fig. 153, Plate VIII, 46

**LETH Leth 20**

*Lethrinus xanthochilus* Klunzinger, 1870, *Verh.Zool.-Bot.Ges.Mein.*, 20:753 (Red Sea).

**Synonyms:** None.

**FAO Names:** En – Yellowlip emperor.

**Diagnostic Features:** Body moderately elongate, its depth 2.9 to 3.4 times in standard length. Head length 1.0 to 1.2 times in body depth, 2.6 to 2.9 times in standard length, dorsal profile near eye convex; snout length about 1.8 to 2.3 times in head length, measured without the tip the snout is 0.8 to 0.9 times in cheek height, its dorsal profile nearly straight, snout angle relative to upper jaw between 50 and 60 degrees; interorbital space concave; posterior nostril a longitudinal or vertical oblong opening, closer to orbit than to anterior nostril; eye situated close to dorsal profile, its length 3.4 to 5.1 times in head length; cheek length 2.3 to 3.3 times in head length; lateral teeth in jaws conical; outer surface of maxilla smooth. Dorsal fin with 10 spines and 9 soft rays, the third dorsal spine usually the longest, its length 2.2 to 2.8 times in body depth; anal fin with 3 spines and 8 soft rays, the first soft ray usually the longest, its

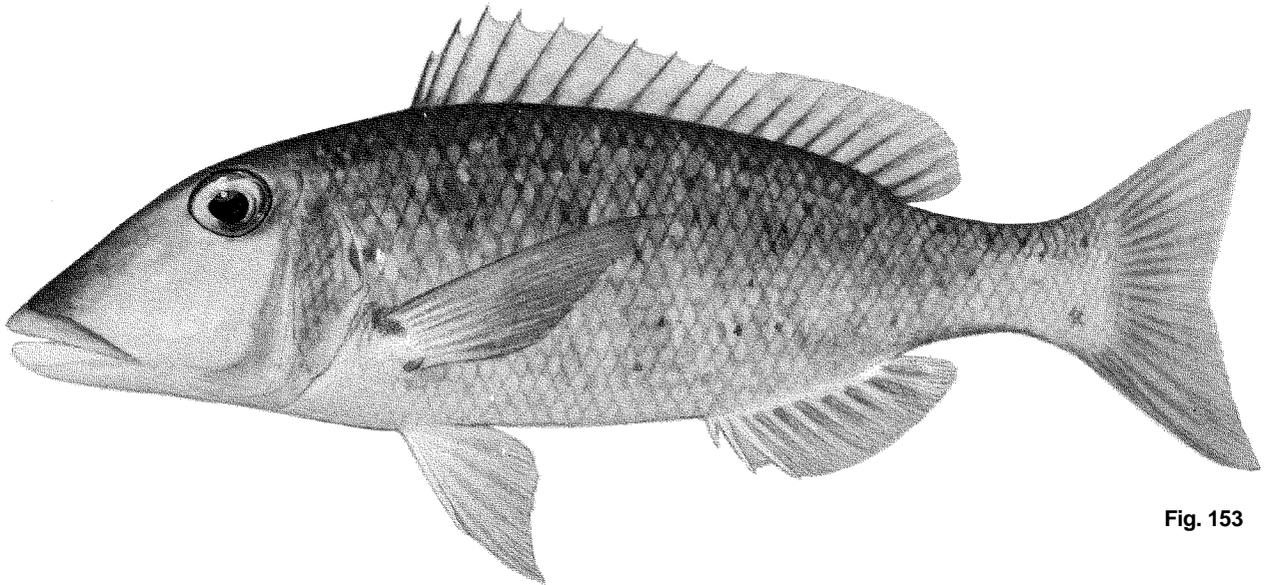


Fig. 153

length approximately equal to or shorter than the length of the base of the soft-rayed portion of the anal fin and 0.6 to 0.7 times in the length of the entire anal fin base; pectoral rays 13; pelvic fin membranes between the rays closest to the body with dense melanophores. Lateral-line scales 47 or 48; cheek without scales;  $4\frac{1}{2}$  scale rows between lateral line and base of middle dorsal fin spines; 15 or 16 scale rows in transverse series between origin of anal fin and lateral line; 15 rows in lower series of scales around caudal peduncle; 5 to 8 scales in supratemporal patch; inner surface of pectoral fin without scales; posterior angle of operculum fully scaled or rarely with a naked patch. **Colour:** body yellowish grey with scattered irregular dark spots; lips yellowish, the upper lip more intense; a red spot at upper base of pectoral fin; fins bluish grey and mottled, the bases of fins lighter and the edges of the dorsal and caudal fins reddish.

**Geographical Distribution:** Widespread in the Indo-West Pacific, including the Red Sea, East Africa, Central Indian Ocean, Indonesia to the Ryukyu Islands, the Caroline Islands to the Marquesas, New Caledonia and Vanuatu (Fig. 154).

**Habitat and Biology:** Inhabits seagrass beds and sand and rubble areas of coral reefs, deep channels, and lagoons. Often found in shallow water but recorded to depths of 150 m. Occurs usually in small groups. Feeds primarily on crustacea, fishes, and echinoderms.

Estimates of asymptotic length ( $L_{\infty}$ ) and coefficient of growth ( $K$ ) have been made for a population in Papua New Guinea:  $L_{\infty} = 55.0$  cm fork length, and  $K = 0.30$ .

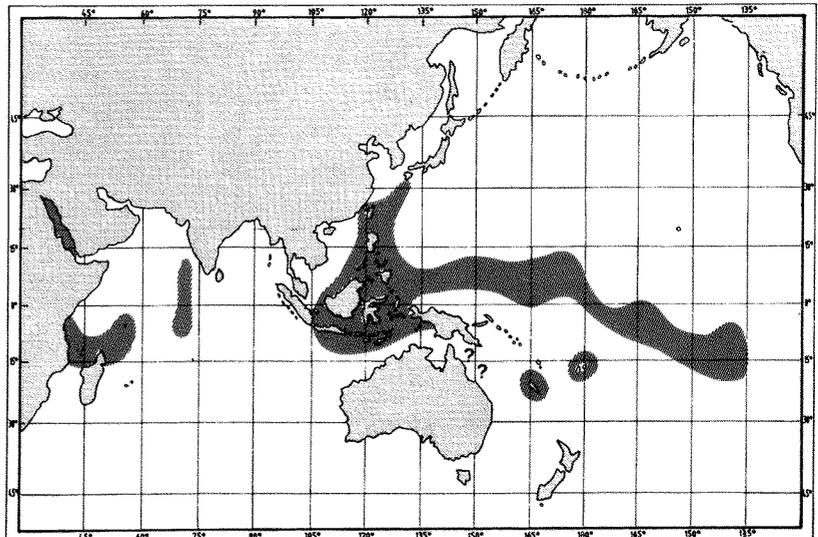


Fig. 154

**Size:** Maximum size to around 60 cm total length.

**Interest to Fisheries:** Caught mostly with handlines, traps and trawls.

**Local Names:** JAPAN: Muneaka-kuchibi; LACCADIVES: Kilukkam-metti, Rythung-filolu; KENYA: Kibora; MAURITIUS: Barrois; PHILIPPINES: Bitilya, Katambak, Kilawan; POLYNESIA: Oeo utupoto, Oeo tiamu, Ninuki, Vipuake, Manukena; SAUDI ARABIA: Shaoor, Sheiry; SOUTH AFRICA: Yellowlip emperor, Geelip-keiser; TANZANIA: Changu m'domo, Changu n'yavi, Changu n'doba.

**Literature:** Allen & Steene (1987, as *L. variegatus*); Bagnis *et al.* (1972); Masuda *et al.* (1984); Randall (1983); Sato *in* Fischer & Bianchi (eds) (1984).