

**Diagnostic Features:** Body relatively deep, its depth 2.4 to 2.6 times in standard length. Head length 0.8 to 0.9 times in body depth, 2.7 to 3.0 times in standard length, dorsal profile near eye convex; snout length 2.0 to 2.5 times in head length, measured without the tip the snout is 0.9 to 1.0 times in cheek height, its dorsal profile nearly straight or slightly concave, snout angle relative to upper jaw between 65 and 75 degrees; interorbital space convex; posterior nostril a longitudinal oblong opening, closer to orbit than to anterior nostril; eye situated close to dorsal profile, its length 3.4 to 3.7 times in head length; cheek length 2.3 to 2.9 times in head length; lateral teeth in jaws rounded with points or molars; outer surface of maxilla usually smooth, sometimes with a longitudinal ridge. Dorsal fin with 10 spines and 9 soft rays, the fourth or fifth dorsal spine the longest, its length 2.7 to 3.2 times in body depth; anal fin with 3 spines and 8 soft rays, the first soft ray usually the longest, its length longer than the length of the base of the soft-rayed portion of the anal fin and 0.7 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 usually 46 or 47; cheek without scales; 5 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; 13 to 15 rows in cower series of scales around caudal peduncle; usually 6 to 8 scales in supratemporal patch; inner surface of pectoral fin densely covered with scales; posterior angle of operculum fully scaled. **Colour:** body dusky whitish, lighter below, with four or six orange stripes; posterior edge of operculum and preoperculum bright red (the former more conspicuous); head brown or tan, sometimes a red spot on cower front edge of eye; pectoral fin orangish; pelvic, anal and most of dorsal fin whitish; edge of dorsal fin and caudal fin reddish.

**Geographical Distribution:** Eastern Indian Ocean and Western Pacific, from Sri Lanka to the Ryukyu Islands, Papua New Guinea, and Northeast Australia (Fig. 140).

**Habitat and Biology:** Inhabits sandy and soft bottoms and seagrass beds in inshore bays, lagoons and areas adjacent to reefs. Feeds on crustaceans, molluscs, echinoderms, polychaetes and small fishes.

**Size:** Maximum total length to 40 cm.

**Interest to Fisheries:** Caught by traps, handlines, shore seines, trawls and handlines. Of minor importance in fisheries where it occurs.

**Local Names:** Yellow-striped emperor; JAPAN: Hana-fuefuki; PAPUA NEW GUINEA: Daryya; PHILIPPINES: Bitilya, Katambak, Kilawan.

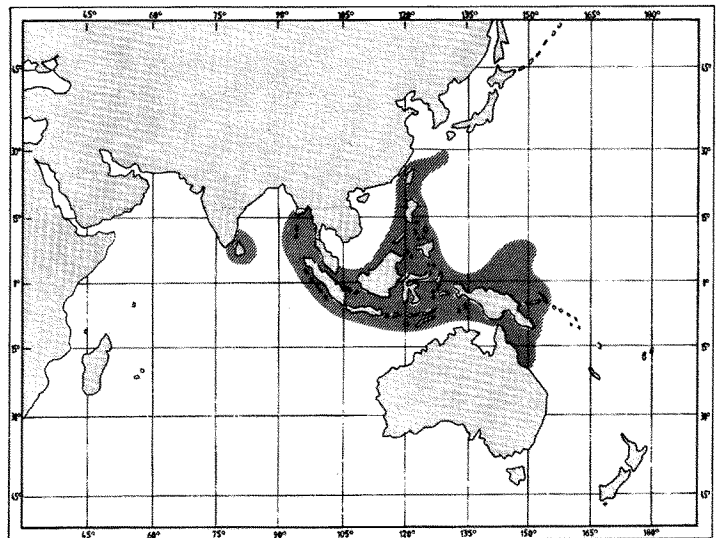


Fig. 140

**Literature:** Gloerfelt-Tarp & Kailola (1984); Lee (1986); Masuda *et al.* (1984); Saio *in* Fischer & Bianchi (eds) (1984); Schroeder (1980).

**Remarks:** This is a distinctive species and has not been confused with other species in recent literature.

***Lethrinus reticulatus*** Valenciennes, 1830

Fig. 141, Plate VII, 40

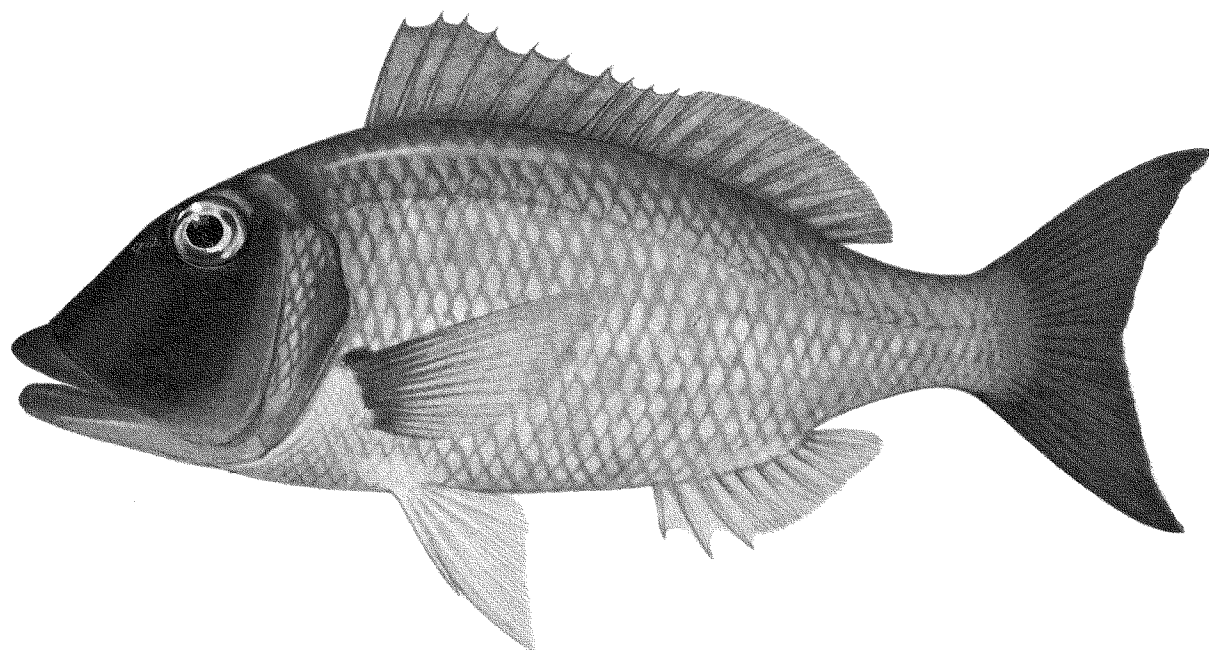
LETH Leth 27

***Lethrinus reticulatus*** Valenciennes *in* C. & V., 1830 *Hist.nat.poiss.*, 6: 298 (New Guinea).

**Synonyms:** None.

**FAO Names:** En - Red snout emperor.

**Diagnostic Features:** Body moderately elongate, its depth 2.9 to 3.2 times in standard length. Head length 1.1 to 1.2 times in body depth, 2.5 to 2.8 times in standard length, dorsal profile near eye distinctly convex; snout length about 1.9 to 2.3 times in head length, measured without the lip the snout is contained 0.8 to 0.9 times in cheek height, its dorsal profile distinctly concave, snout angle relative to upper jaw between 50 and 60 degrees; interorbital space flat or concave; posterior nostril a longitudinal oblong opening, closer to orbit than to anterior nostril; eye situated close to dorsal profile, its length 3.3 to 4.3 times in head length; cheek length 2.7 to 3.3 times in head length; lateral teeth in jaws conical; outer surface of maxilla usually smooth. Dorsal fin with 10 spines and 9 soft rays, the third dorsal spine the longest, its length 2.0 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 almost equal to, shorter or slightly longer 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 46 to 48; 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; 7 to 10 scales in supratemporal patch; inner surface of pectoral fin without scales; posterior angle of operculum fully scaled. **Colour:** body olive-grey or tan, often with scattered irregular black blotches; base of pectoral, upper edge of operculum and sometimes posterior edge of preoperculum red; head brown or olive with a somewhat indistinct reddish band on snout, originating midway between eye and snout and terminating on tip of snout; lips red; fins pale or orangish.

**Geographical Distribution:** Chagos, West Thailand, Ryukyu Islands, the Philippines to New Guinea (Fig. 142).

**Habitat and Biology:** Nothing specific is reported on the habitat or biology of this species. It is thought to occur on soft bottoms near reefs. The diet presumably consists of benthic invertebrates and fish.

**Size:** Maximum size around 40 cm total length.

**Interest to Fisheries:** Caught mostly by trawls and handlines. Marketed fresh.

**Local Names:** JAPAN: Yaeyama-fuefuki; PHILIPPINES: Bitilya, Katambak, Kilawan.

**Literature:** Masuda *et al.* (1984).

**Remarks:** The type specimen of this species is small and it is difficult to compare the morphometrics of the type with the species being recognized here as *L. reticulatus*. The evidence available however, suggests that Sato (1978) was correct in assigning this name to the present species.

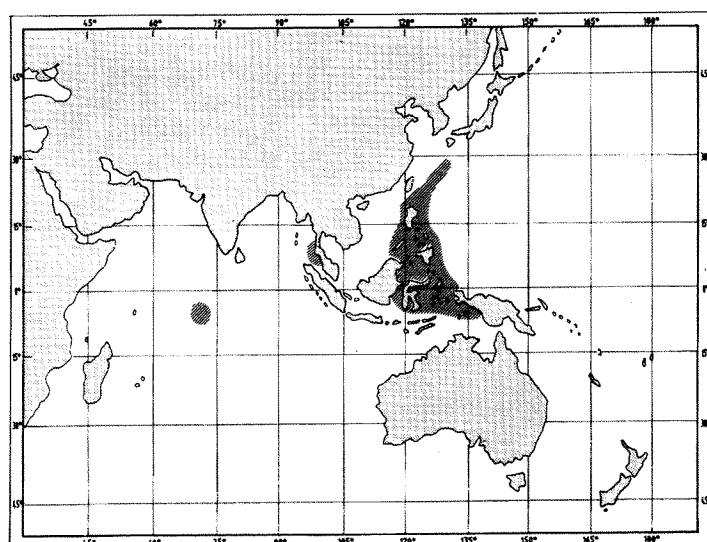


Fig. 142

***Lethrinus rubrioperculatus*** Sato, 1978

Fig. 143, Plate VII, 41

LETH Leth 17

*Lethrinus rubrioperculatus* Sato, 1978, Univ.Mus., Univ.Tokyo Bull., 15:58, pl. 12, fig. A (Okinawa).

**Synonyms:** None.

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

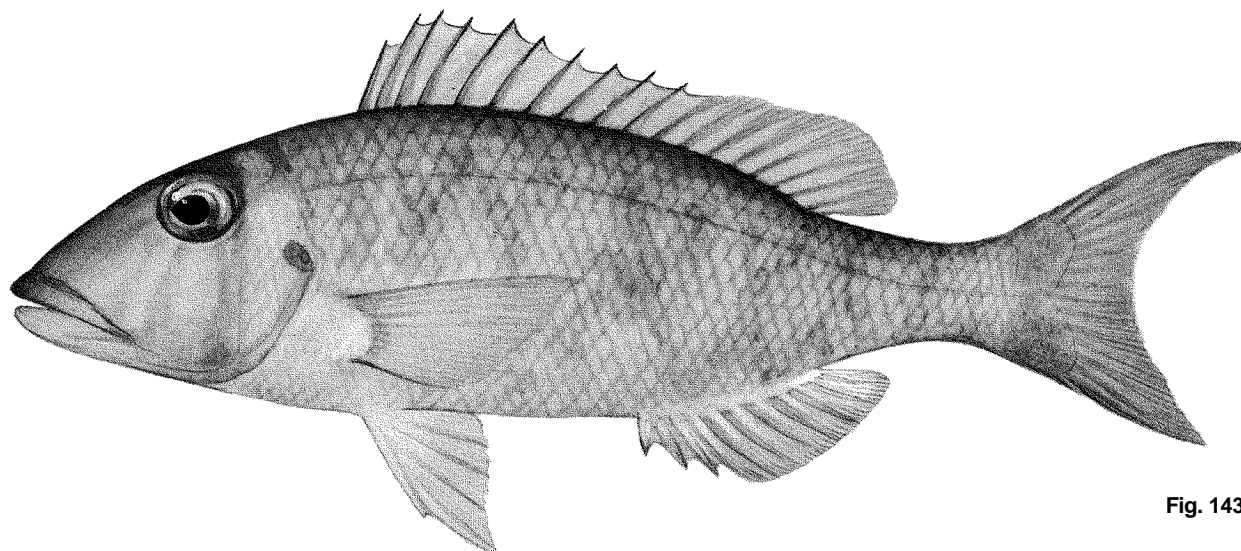


Fig. 143

**Diagnostic Features:** Body moderately elongate, its depth 3.0 to 3.4 times in standard length. Head length 1.1 to 1.2 times in body depth, 2.7 to 3.0 times in standard length, dorsal profile near eye distinctly convex; snout length about 1.8 to 2.1 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 or slightly concave, snout angle relative to upper jaw between 55 and 65 degrees; interorbital space flat or slightly 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 3.9 to 4.7 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 2.7 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 47 to 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; 7 to 10 scales in supratemporal patch; inner surface of pectoral fin without scales; posterior angle of operculum with a wide scaleless area. **Colour:** body olive-grey or brown, with scattered irregular small black blotches; lips and a spot on upper edge of operculum usually red; fins pale or pinkish.

**Geographical Distribution:** Widespread in the Indo-West Pacific, including East Africa to southern Japan and the Marquesas (Fig. 144).

**Habitat and Biology:** Inhabits sand and rubble areas of other reef slopes to depths of 160 m. Feeds mostly on crustaceans, fish echinoderms and molluscs. In New Caledonia there are spawning peaks in December and a fairly high percentage of gonads in advanced stages of maturity occurs between October and February.

**Size:** Maximum reported total length of 50 cm, commonly to 30 cm total length.

**Interest to Fisheries:** Caught mostly by handlines, traps and trawls. Marketed mostly fresh. An excellent food fish. One of the most abundant species taken in bottom fisheries in the Marianas.

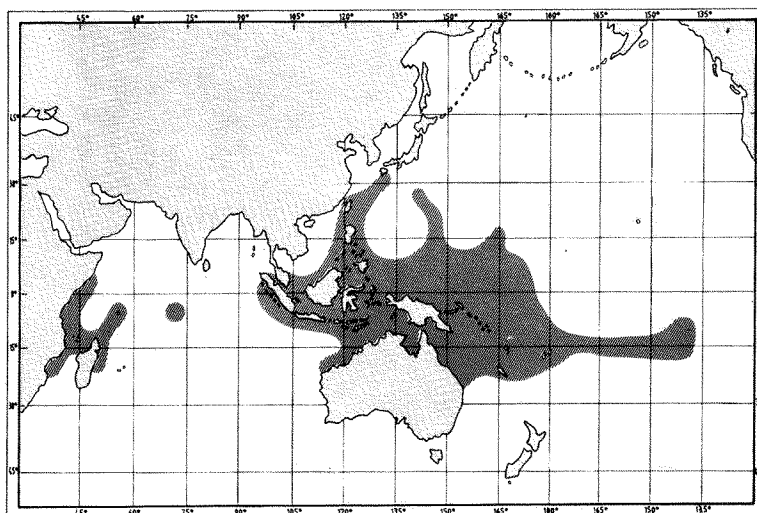


Fig. 144

**Local Names:** AUSTRALIA: Red-ears; GUAM: Red-gilled emperor, Mafuti; JAPAN: Hôaka-kuchibi; MAURITIUS: Kaya, Cailla, Baxou; NEW CALEDONIA: Bossu varié, Bossu rond; PHILIPPINES: Bitilya, Katambak, Kilawan; SOUTH AFRICA: Spotcheek emperor; Kolwang-keiser; SEYCHELLES: Baxou; TANZANIA: Changu, Changu nyamvi.

**Literature:** Amesbury & Myers (1982); Burgess & Axelrod (1972, as *L. reticulatus*); Fourmanoir & Laboute (1976, as *Lethrinus variegatus*); Gloerfelt-Tarp & Kailola (1984); Lee (1986); Masuda *et al.* (1984); Myers (1989); Sainsbury *et al.* (1985); Smith (1959, as *L. variegatus*); Smith (1986).

**Remarks:** This is a common and widespread species and it is surprising that it was described and named as late as 1978. It has been assumed by most taxonomists dealing with *Lethrinus* that this species represented the adult form of *L. variegatus*. *Lethrinus variegatus* however, is a small species with distinctive scale counts that are very different from *L. rubrioperculatus*.

The only other possible name for *L. rubrioperculatus* that I have been able to find is *L. jagorii* which was described from the Philippines where *L. rubrioperculatus* is abundant. Sato examined the type and remarked that it was in very bad condition, the only recognizable feature on this 48 mm standard length specimen was that the head is longer than the body depth and that there are 5 scale rows above the lateral line. Peters' (1868) description of the species states that the body depth is 3.5 in standard length and therefore it is most likely one of the slender emperors with conical teeth. The only species of these emperors that has a head length almost equal to body depth in smaller specimens is *L. rubrioperculatus*. This possibility will never be tested however, as the type apparently was destroyed. At my request, N. Downing (formerly of the Kuwait Institute for Scientific Research) who was examining other types in the Zoologisches Museum an der Humboldt Univeristat in Berlin in January, 1989, requested to see the type of *L. jagorii*. He was informed that the records showed that the type was discarded because it had become severely dried out.

***Lethrinus semicinctus*** Valenciennes, 1830

Fig. 145, Plate V11, 42

**LETH Leth 18**

*Lethrinus semicinctus* Valenciennes in C. & V., 1830 *Hist.nat.pois.*, 6: 294 (Bourou).

**Synonyms:** *Lethrinus sordidus* Valenciennes (1830); *Lethrinus moensii* Bleeker (1855).

**FAO Names:** En -Black blotch emperor.

**Diagnostic Features:** Body moderately elongate, its depth 2.9 to 3.1 times in standard length. Head length 1.1 to 1.2 times in body depth, 2.5 to 2.8 times in standard length, the 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 55 and 65 degrees; interorbital space flat or slightly

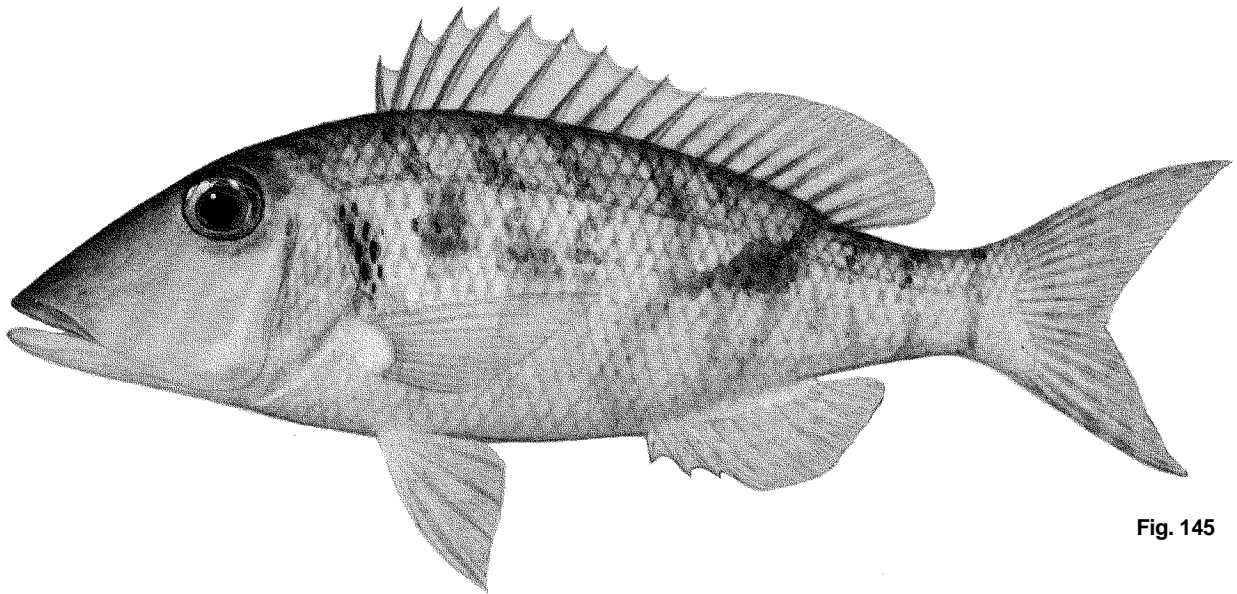


Fig. 145

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 4.3 times in head length; cheek length 2.5 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 or fourth dorsal spine the longest, its length 2.3 to 2.7 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 46 to 48; cheek without scales; 4 ½ scale rows between lateral line and base of middle dorsal fin spines; 14 or 15 scale rows in transverse series between origin of anal fin and lateral line; 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 or tan, with scattered irregular small black blotches, a large oblong black blotch below soft-rayed portion of dorsal fin and bordering below the lateral line; fins pale or pinkish.

**Geographical Distribution:** Eastern Indian Ocean and Western Pacific, including Sri Lanka, Indonesia, northern Australia, the Ryukyu Islands to the Marshall and Solomon Islands (Fig. 146).

**Habitat and Biology:** Inhabits shallow seagrass beds, reef flats, lagoons and sandy areas near coral reefs. Feeds on benthic invertebrates and small fish.

**Size:** Maximum size to around 35 cm total length.

**Interest to Fisheries:** Caught by shore seines, trawls, traps and handlines. Marketed fresh. This species is of minor importance to fisheries where it occurs.

**Local Names:** JAPAN: Ami-fuefuki;  
PHILIPPINES: Bitilya, Katambak, Kilawan.

**Literature:** Gloerfelt-Tarp & Kailola (1984); Grant (1982, as *L. variegatus*); Masuda *et al.* (1984); Sainsbury *et al.* (1985); Sato *in* Fischer & Bianchi (eds) (1984).

**Remarks:** See Remarks under *Lethrinus* sp. 2.

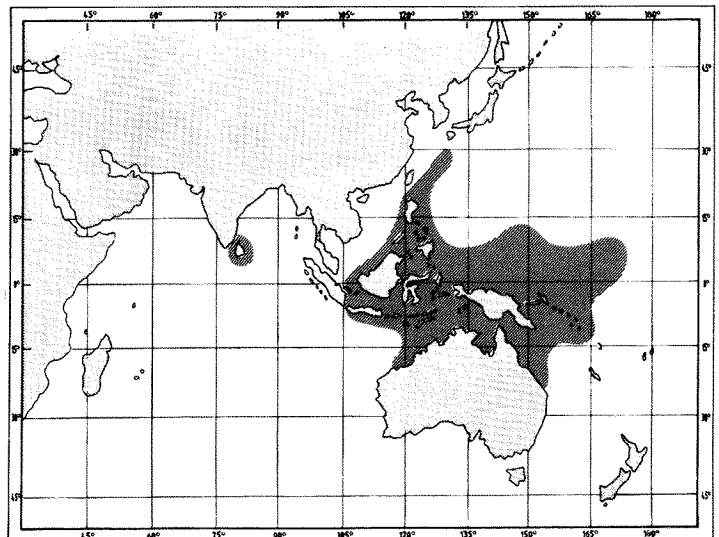


Fig. 146