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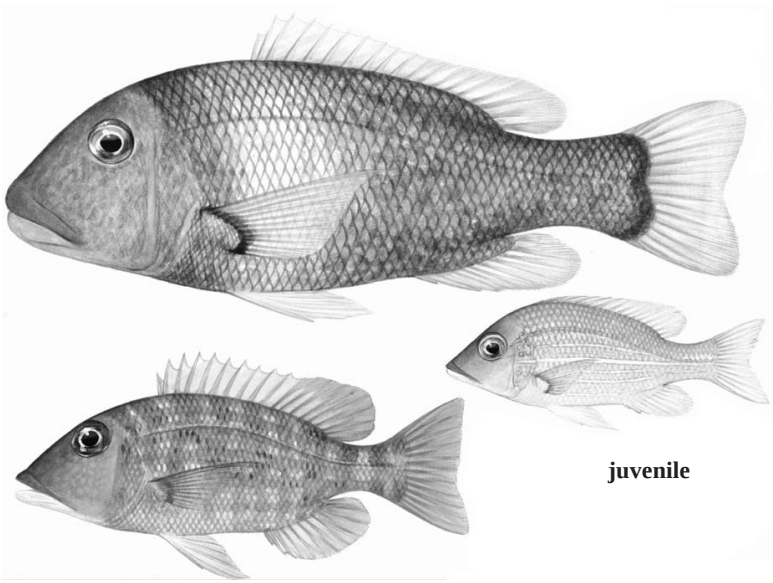
Lethrinus erythracanthus Valenciennes, 1830 **(Plate XVII, 129)**

Frequent synonyms / misidentifications: *Lethrinus kallopterus* Bleeker, 1856 / None.

FAO names: En - Orangespotted emperor; **Fr** - Empereur capitaine; **Sp** - Emperador de manchas.

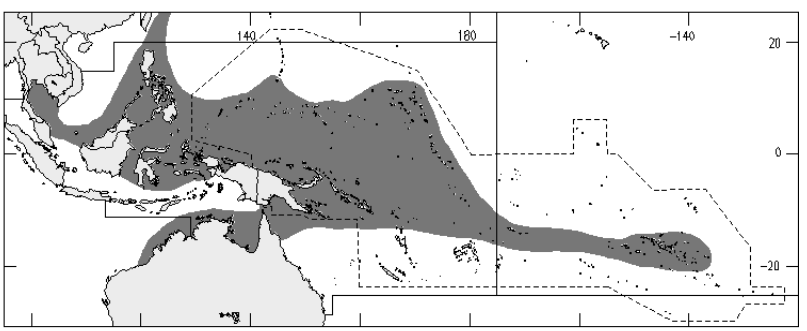


Diagnostic characters: Body moderately deep, its depth 2.5 to 2.7 times in standard length. Head length 0.9 to 1 times in body depth, 2.5 to 2.8 times in standard length, dorsal profile near eye nearly straight or slightly convex; snout moderately short, its length about 1.8 to 2.4 times in head length, measured without the lip the snout is 0.8 to 1.1 times in cheek height, its dorsal profile distinctly concave in large individuals and nearly straight in smaller individuals, snout angle relative to upper jaw between 55° and 69°; interorbital space convex; posterior nostril an oblong longitudinal opening, closer to orbit than anterior nostril; eye situated close to or far removed from dorsal profile, its length 2.7 to 5.2 times in head length; cheek moderately high, its height 2 to 3.4 times in head length; **lateral teeth in jaws conical**; outer surface of maxilla smooth or with a longitudinal ridge. Dorsal fin with X spines and 9 soft rays, **the fourth or fifth dorsal-fin spine the longest**, its length 2.5 to 3.5 times in body depth; **anal fin** with III spines and 8 soft rays, **the third, fourth, or fifth soft ray usually the longest, its length much longer than length of base of soft-rayed portion of anal fin and 0.8 to 1.1 times in length of entire anal-fin base**; pectoral-fin rays 13; pelvic-fin membranes between rays closest to body with or 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 to 18 scale rows in transverse series between origin of anal fin and lateral line; usually 15 rows in lower series of scales around caudal peduncle; 5 to 8 scales in supratemporal patch; **inner surface of pectoral-fin base densely covered with scales**; posterior angle of operculum fully scaly. **Colour:** body brown to dark grey, with indistinct scattered small dark and light spots, with irregular light stripes sometimes on lower sides; head brown or grey, often with many small orange spots on cheeks; pectoral and pelvic fins white to orangish, dorsal and anal fins mottled orange and bluish; caudal fin often bright orange.

Size: Maximum total length 70 cm; commonly to 50 cm.

Habitat, biology, and fisheries: Inhabits deep lagoons and channels, and outer reef slopes and adjacent soft-bottom areas at depth of 20 to 120 m. It feeds mostly on echinoderms, crustaceans, and molluscs. Caught by handline, vertical longline, traps, and trawls. Marketed mostly fresh.

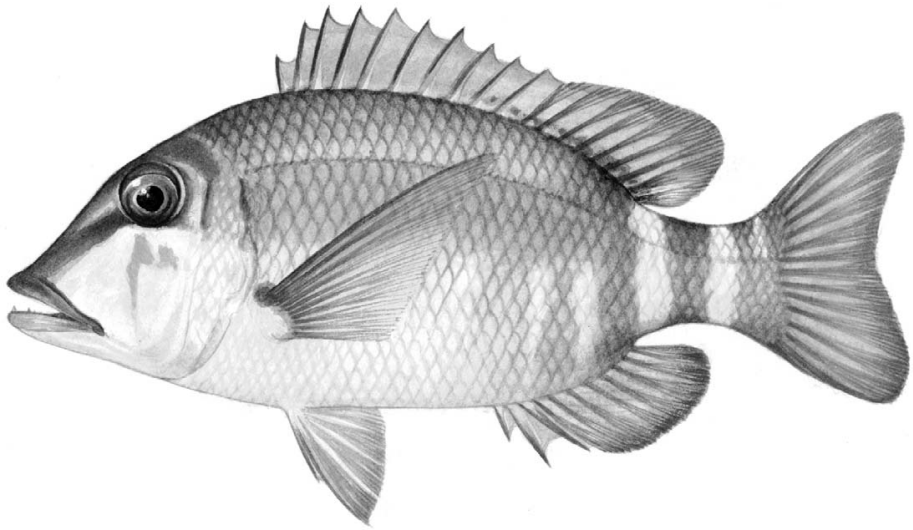
Distribution: Western Indian Ocean to the Central Pacific, from East Africa, Seychelles, Chagos, and Maldives, to Thailand, Philippines, Ryukyus, Micronesia, northwestern and northeastern Australia, Samoa, Society Islands, and Tuamotus.



Lethrinus erythropterus Valenciennes, 1830 **(Plate XVIII, 130)**

Frequent synonyms / misidentifications: *Lethrinus hypselopterus* Bleeker, 1873 / None.

FAO names: En - Longfin emperor; **Fr** - Empereur békine.

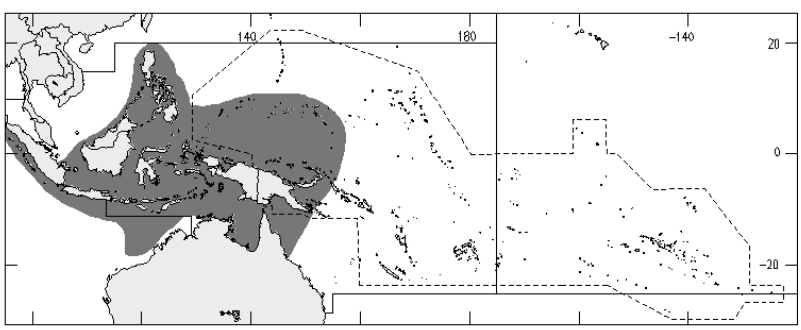


Diagnostic characters: Body moderately deep, its depth 2.3 to 2.5 times in standard length. Head length 0.8 to 1.0 times in body depth, 2.5 to 2.8 times in standard length, dorsal profile near eye nearly straight or slightly convex; snout moderately short, its length about 1.9 to 2.2 times in head length, measured without the lip the snout is 0.9 to 1 times in cheek height, its dorsal profile concave, snout angle relative to upper jaw between 53° and 64°; interorbital space convex or almost flat; posterior nostril an oblong longitudinal opening, closer to orbit than anterior nostril; eye situated close to or slightly removed from dorsal profile, its length 3.3 to 4.6 times in head length; cheek moderately high, its height 2.1 to 2.7 times in head length; **lateral teeth in jaws of adults molars or rounded**; outer surface of maxilla usually smooth. Dorsal fin with X spines and 9 soft rays, the fourth or fifth dorsal-fin spine the longest, its length 2.7 to 3.3 times in body depth; **anal fin** with III spines and 8 soft rays, **the third, fourth, or fifth soft ray usually the longest, its length much longer than length of base of soft-rayed portion of anal fin and 0.7 to 1 times in length of entire anal-fin base**; pectoral-fin rays 13; pelvic-fin membranes between rays closest to body without dense melanophores. Lateral-line scales 44 to 46; **cheek without scales; 4 ½ scale rows between lateral line and base of middle dorsal-fin spines**; 15 to 17 scale rows in transverse series between origin of anal fin and lateral line; usually 15 rows in lower series of scales around caudal peduncle; 5 to 9 scales in supratemporal patch; **inner surface of pectoral-fin base densely covered with scales**; posterior angle of operculum fully scaly. **Colour:** head and body brown or rust red, lighter ventrally; sometimes 2 light bars on caudal peduncle; area around eye, a broad streak from eye to tip of snout, lips, and base of pectoral fins red; all fins reddish, often a bright red or orange.

Size: Maximum total length about 50 cm; commonly around 30 cm.

Habitat, biology, and fisheries: Mostly inhabits coral reefs and adjacent sandy areas. Occurs singly or in small groups. Feeds on echinoderms, molluscs, crustaceans, and small fishes. Limited interest to fisheries in the countries it occurs in. Caught mostly by handlines and traps. Marketed fresh.

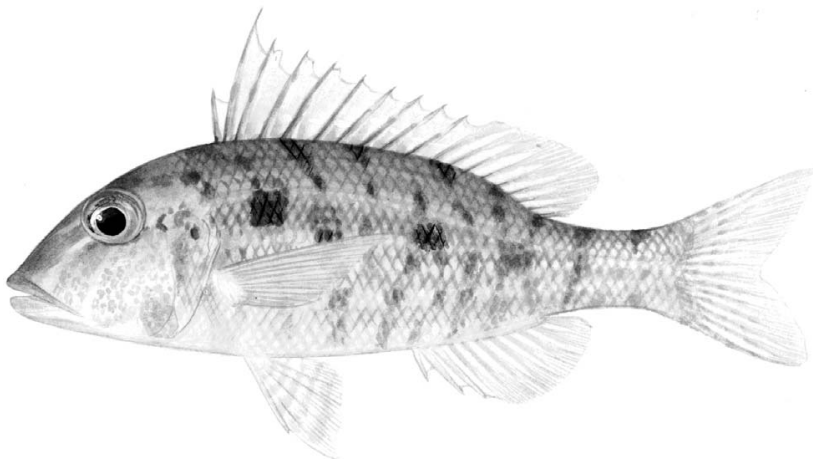
Distribution: Western Indian Ocean and West Pacific; Tanzania and Mozambique, Chagos, Celebes, the Philippines, northwestern Australia, Papua New Guinea, Palau, and Caroline Islands.



Lethrinus genivittatus Valenciennes, 1830 **(Plate XVIII, 131)**

Frequent synonyms / misidentifications: *Lethrinus nematacanthus* Bleeker, 1854 / None.

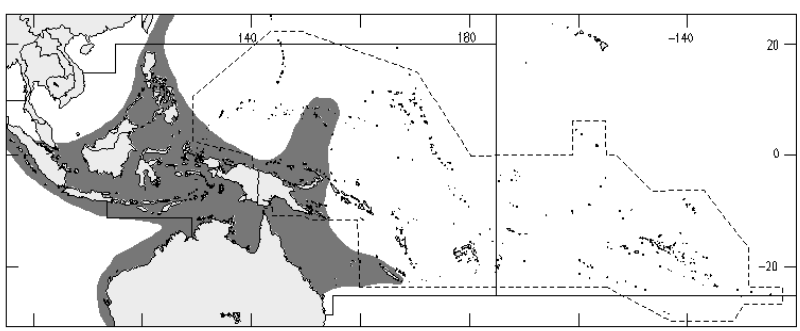
FAO names: En - Longspine emperor.



Diagnostic characters: Body moderately elongate, moderately slender, its depth 2.9 to 3.5 times in standard length. Head length 1 to 1.2 times in body depth, 2.8 to 3 times in standard length, dorsal profile near eye slightly convex; snout moderately short and blunt, its length about 2.2 to 2.5 times in head length, measured without the lip the snout is 0.9 to 1 times in cheek height, its dorsal profile nearly straight, snout angle relative to upper jaw between 60° and 74°; interorbital space convex to flat; posterior nostril an oblong nearly vertical opening, about half-way between orbit and anterior nostril; eye situated close to dorsal profile, its length 3.6 to 4 times in head length; cheek not high, its height 2.6 to 3.2 times in head length; lateral teeth in jaws conical; **a pair of teeth in lower jaw strongly curved outward**; outer surface of maxilla with a distinct knob. **Dorsal fin** with X spines and 9 soft rays, **the second dorsal-fin spine the longest, sometimes much longer than other dorsal-fin spines, its length 1.3 to 1.9 times in body depth**; anal fin with III spines and 8 soft rays, the first or second soft ray usually the longest, its length almost equal to or slightly shorter than length of base of soft-rayed portion of anal fin and 1.2 to 1.7 times in length of entire anal-fin base; pectoral-fin rays 13; pelvic-fin membranes between rays closest to body without dense melanophores. Lateral-line scales 45 to 47; **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; 5 to 8 scales in supratemporal patch; inner surface of pectoral-fin base without scales, partially covered with scales or, densely covered with scales; posterior angle of operculum fully scaly. **Colour:** body tan or brown on upper sides, lower sides white with 3 brown or tan stripes, sides often with scattered irregular black oblique bars and a square black blotch above pectoral fins and bordering below lateral line; head brown or tan sometimes with several broad, somewhat indistinct vertical and oblique bands (the bands sometimes composed of fine reticulations); fins pale, speckled with small white blotches.

Size: Maximum total length about 25 cm; commonly to around 15 cm.

Habitat, biology, and fisheries: Primarily in shallow sandy and seagrass areas, but also in mangrove swamps, lagoons, channels, and outer reefs slopes at depths of 5 to 25 m; penetrates into rivers in some areas. Feeds mostly on crustaceans and small fishes. Caught mostly by shore seine. Minor importance in fisheries. Marketed fresh.

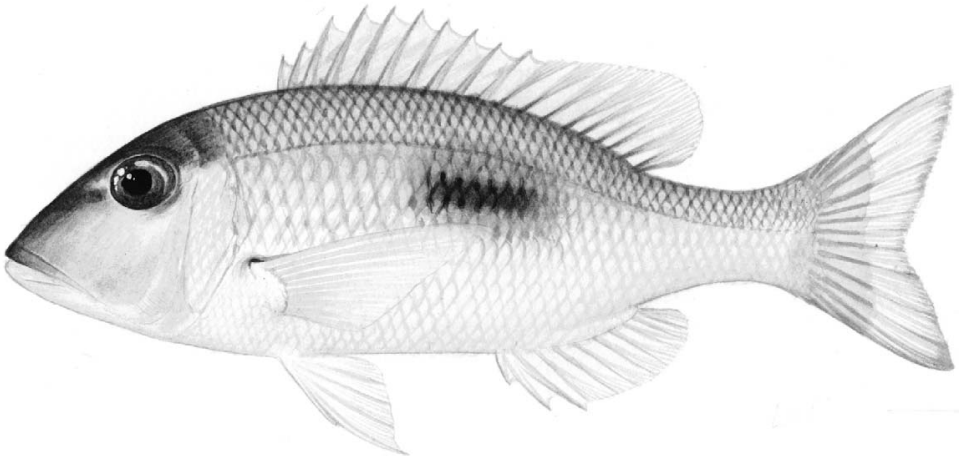


Distribution: Eastern Indian Ocean and West Pacific, including Indonesia, northern Australia, the Philippines, southern Japan, Papua New Guinea, and the Caroline Islands.

Lethrinus harak (Forsskål, 1775) **(Plate XVIII, 132)**

Frequent synonyms / misidentifications: *Lethrinus rhodopterus* Bleeker, 1852 / None.

FAO names: En - Thumbprint emperor; **Fr** - Empereur Saint Pierre; **Sp** - Emperador San Pedro.

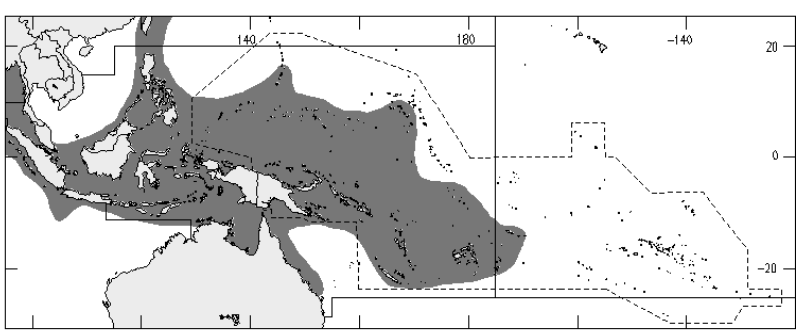


Diagnostic characters: Body moderately deep, its depth 2.6 to 2.8 times in standard length. Head length 0.9 to 1 times in body depth, 2.7 to 3.1 times in standard length, dorsal profile near eye distinctly or slightly convex; snout short and blunt, its length about 2.0 to 2.6 times in head length, measured without the lip the snout is 0.9 to 1 times in cheek height, its dorsal profile nearly straight, snout angle relative to upper jaw between 60° and 70°; interorbital space convex or almost flat; posterior nostril a narrow longitudinal slit, closer to orbit than anterior nostril; eye situated close to dorsal profile, its length 3.4 to 4.2 times in head length; cheek not very high, its height 2.3 to 3.1 times in head length; lateral teeth in jaws of adults molars or rounded; outer surface of maxilla smooth or with a longitudinal ridge. Dorsal fin with X spines and 9 soft rays, the fourth or fifth dorsal-fin spine the longest, its length 2.5 to 3.1 times in body depth; anal fin with III spines and 8 soft rays, the first soft ray usually the longest, its length almost equal to or longer or shorter than length of base of soft-rayed portion of anal fin and 1.2 to 1.6 times in length of entire anal-fin base; pectoral-fin rays 13; pelvic-fin membranes between rays closest to body without dense melanophores. Lateral-line scales usually 46 or 47; **cheek without scales; usually 5 ½ but sometimes 4 ½ scale rows between lateral line and base of middle dorsal-fin spines**; 14 to 16 scale rows in transverse series between origin of anal fin and lateral line; **13 or 14 rows in lower series of scales around caudal peduncle**; 4 to 8 scales in supratemporal patch; **inner surface of pectoral-fin base densely covered with scales**; posterior angle of operculum fully scaly. **Colour:** olive or grey above, shading to silvery white below; **a large elliptical black spot, often broadly edged in yellow, on side directly below lateral line and centred at a vertical near the posterior tip of pectoral fins**; sometimes light blue dots bordering lower rim of eye and around nostrils; pectoral, pelvic, dorsal, and anal fins white to pinkish; caudal fin orange or reddish; vertical fins sometimes lightly mottled or striped.

Size: Maximum total length about 50 cm (perhaps 60 cm); most commonly between 20 to 30 cm.

Habitat, biology, and fisheries: In shallow sandy, coral rubble, mangrove, lagoon, channel, and seagrass areas inshore and adjacent to coral reefs. Feeds on polychaetes, crustaceans, molluscs, echinoderms, and small fishes. Often observed solitary but also in small schools. Caught mostly by shore seine, gill nets, traps, and handline. Marketed mostly fresh.

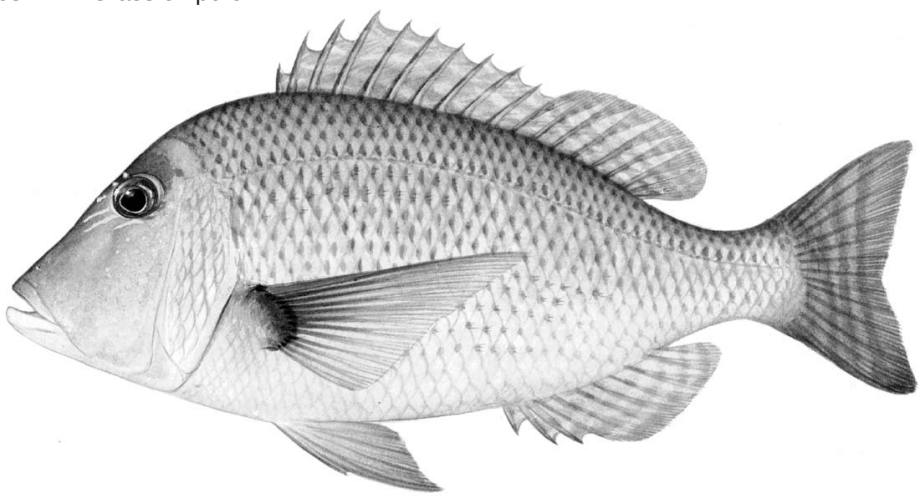
Distribution: Indian Ocean and West Pacific, including the Red Sea, East Africa, Seychelles, Maldives, Sri Lanka, Andamans, Indonesia, the Philippines, southern Japan, northeast Australia, Papua New Guinea, the Caroline Islands, the Marshall Islands, Solomons, Vanuatu, Fiji, and Samoa.



Lethrinus laticaudis Alleyne and Macleay, 1877

Frequent synonyms / misidentifications: *Lethrinus fletus* Whitley, 1943; *L. anarhynchus* Postel, 1965 / *Lethrinus fraenatus* non Valenciennes, 1830.

FAO names: En - Grass emperor.

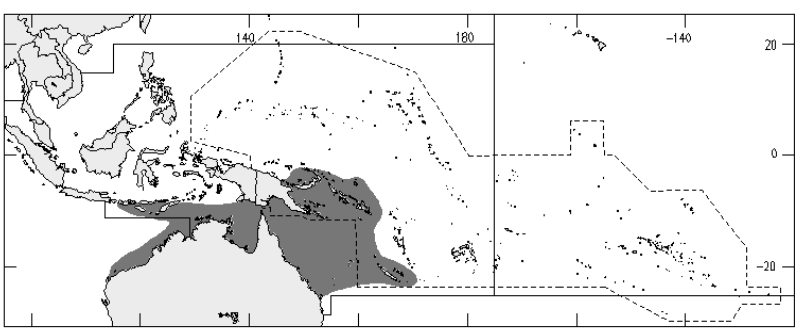


Diagnostic characters: Body relatively deep, its depth 2.3 to 2.5 times in standard length. Head length 0.8 to 0.9 times in body depth, 2.7 to 2.9 times in standard length, dorsal profile near eye nearly straight, or concave in large individuals; snout length about 1.8 to 2.2 times in head length, measured without the lip the snout is 0.9 to 1 times in cheek height, its dorsal profile concave, snout angle relative to upper jaw between 58° and 66°; interorbital space convex; posterior nostril an oblong longitudinal opening, closer to orbit than anterior nostril; eye removed from dorsal profile, its length 3.1 to 5.3 times in head length; cheek moderately high, its height 2.2 to 2.9 times in head length; lateral teeth in jaws conical; outer surface of maxilla with a longitudinal ridge. Dorsal fin with X spines and 9 soft rays, the fourth dorsal-fin spine usually the longest, its length 2.5 to 3.4 times in body depth; anal fin with III spines and 8 soft rays, the first soft ray usually the longest, its length almost equal to or slightly shorter than length of base of soft-rayed portion of anal fin and 1.3 to 1.8 times in length of entire anal-fin base; pectoral-fin rays 13; pelvic-fin membranes between rays closest to body with or without dense melanophores. Lateral-line scales 46 to 48; **cheek without scales; 5 ½ scale rows between lateral line and base of middle dorsal-fin spines**; 16 or 17 scale rows in transverse series between origin of anal fin and lateral line; usually 15 rows in lower series of scales around caudal peduncle; 5 to 8 scales in supratemporal patch; **inner surface of pectoral-fin base more than half covered with scales**; posterior angle of operculum fully scaly. **Colour:** body tan, brown, or yellow with scattered irregular dark blotches; **centres of scales on anterior upper sides with distinct black markings**; head brown or yellow with blue dots on cheeks and short blue stripes radiating in front and behind eye, sometimes a number of blue cross stripes between the eyes; fins pale or yellow, the vertical fins mottled.

Size: Maximum reported total length 56 cm; commonly between 30 and 40 cm.

Habitat, biology, and fisheries: Juveniles inhabit seagrass beds and mangrove swamps while adults are found mostly on coral reefs. Feeds mostly on crustaceans and fishes. Significantly more and smaller females than males have been confirmed in populations in Australia. Caught primarily by handlines. Mostly important as a sport fish and in handline fisheries in Australia. A good food fish. Marketed fresh.

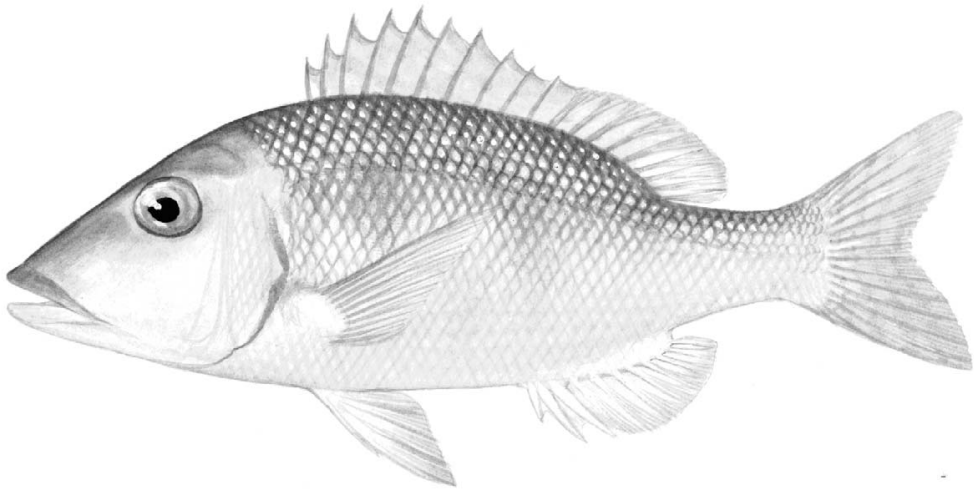
Distribution: Southern Indonesia, nortwestern and northeastern Australia, Papua New Guinea, and the Solomons.



Lethrinus lentjan (Lacepède, 1802) **(Plate XVIII, 133)**

Frequent synonyms / misidentifications: *Lethrinus opercularis* Valenciennes, 1830 / None.

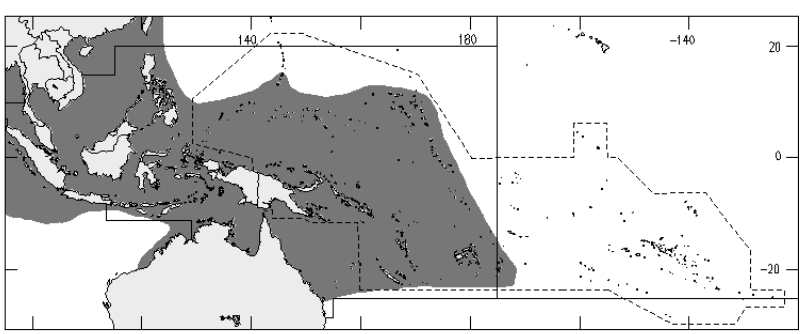
FAO names: En - Redspot emperor; **Fr** - Empereur lentilles; **Sp** - Emperador de lentejuelas.



Diagnostic characters: Body moderately deep, its depth 2.5 to 2.8 times in standard length. Head length 0.9 to 1 times in body depth, 2.6 to 3 times in standard length, dorsal profile near eye nearly straight; snout moderately short, its length about 1.9 to 2.4 times in head length, measured without the lip the snout is 0.8 to 1 times in cheek height, its dorsal profile nearly straight, snout angle relative to upper jaw between 60° and 70°; interorbital space convex; posterior nostril an oblong longitudinal opening, closer to orbit than anterior nostril; eye situated close to or far removed from dorsal profile, its length 3.3 to 4.8 times in head length; cheek not high, its height 2.4 to 3.1 times in head length; **lateral teeth in jaws rounded often with conical tips, or molars often with tubercles**; **outer surface of maxilla with a longitudinal ridge**. Dorsal fin with X spines and 9 soft rays, the fourth dorsal-fin spine usually the longest, its length 2.4 to 3.4 times in body depth; anal fin with III spines and 8 soft rays, the first soft ray usually the longest, its length almost equal to or shorter than length of base of soft-rayed portion of anal fin and 1 to 1.2 times in length of entire anal-fin base; pectoral-fin rays 13; pelvic-fin membranes between rays closest to body without dense melanophores. Lateral-line scales usually 46 or 47; **cheek without scales; 5 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; 4 to 9 scales in supratemporal patch; **inner surface of pectoral-fin base densely covered with scales, with a few scales, or naked**; posterior angle of operculum fully scaly. **Colour:** body greenish or grey, shading to white below, centres of scales on upper sides often white; posterior margin of opercle and sometimes base of pectoral fins red; pectoral fins white, yellow, or pinkish; pelvic and anal fins white to orange; dorsal fin white and orange mottled with a reddish margin; caudal fin mottled orange or reddish.

Size: Maximum size about 50 cm total length; commonly to around 30 cm.

Habitat, biology, and fisheries: Over sandy bottom in coastal areas, deep lagoons, and near coral reefs, to depths of about 50 m. Juveniles and small adults often in aggregations over seagrass beds, mangrove swamps and shallow sandy areas; adults are generally solitary and found in deeper waters. Feeds mostly on crustaceans and molluscs, but echinoderms, polychaetes, and fishes are also consumed. Caught primarily by handline, traps, trawls, beach seines, and gill nets. Marketed mostly fresh.

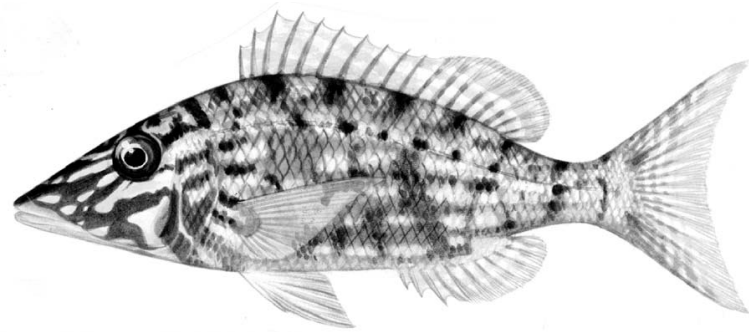


Distribution: Widespread Indo-West Pacfic, including Red Sea, Persian Gulf, East Africa to the Ryukus and Tonga.

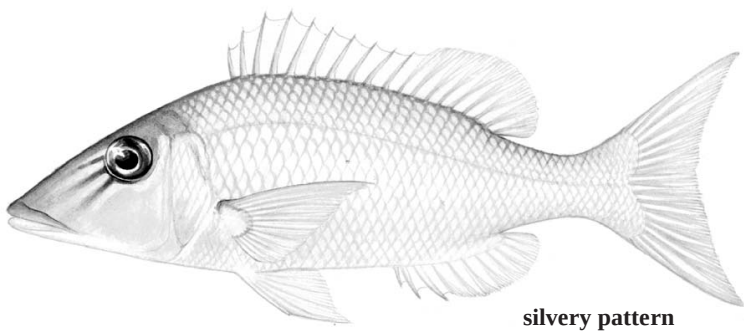
Lethrinus microdon Valenciennes, 1830 **(Plate XVIII, 134)**

Frequent synonyms / misidentifications: *Lethrinus elongatus* Valenciennes, 1830 / None.

FAO names: En - Smalltooth emperor; **Fr** - Empereur tidents; **Sp** - Emperador boquidulce.



mottled pattern

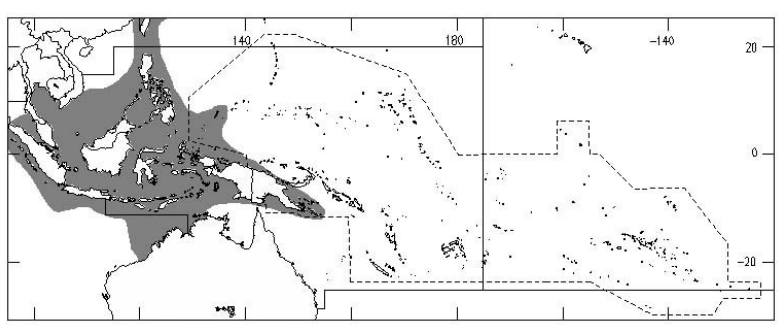


silvery pattern

Diagnostic characters: Body relatively elongate, its depth 2.9 to 3.4 times in standard length. **Head length 1 to 1.3 times in body depth**, 2.5 to 3.1 times in standard length, dorsal profile near eye nearly straight; **snout moderately long**, its length about 1.8 to 2.3 times in head length, **measured without the lip the snout is 0.7 to 0.8 times in cheek height**, its dorsal profile slightly concave, snout angle relative to upper jaw between 47° and 59°; **interorbital space convex to flat**; posterior nostril an oblong longitudinal opening, closer to orbit than anterior nostril; eye situated close to or far removed from dorsal profile, its length 3.4 to 5.7 times in head length; cheek not high, its height 2.7 to 3.4 times in head length; **lateral teeth in jaws conical**; outer surface of maxilla smooth. Dorsal fin with X spines and 9 soft rays, the third or fourth dorsal-fin spine the longest, its length 2.4 to 3 times in body depth; anal fin with III spines and 8 soft rays, the first soft ray usually the longest, its length almost equal to or shorter than length of base of soft-rayed portion of anal fin and 1.5 to 1.8 times in length of entire anal-fin base; pectoral-fin rays 13; pelvic-fin membranes between rays closest to body with or 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; usually 16 or 17 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 11 scales in supratemporal patch; **inner surface of pectoral-fin base without scales**; posterior angle of operculum fully scaly. **Colour:** body grey or brown with scattered irregular dark blotches on sides; sometimes 3 dark streaks radiating forward from eye; fins pale or orangish.

Size: Maximum total length about 70 cm; commonly between 30 and 50 cm.

Habitat, biology, and fisheries: Inhabits sandy areas near coral reefs to depths of about 80 m. Swims in small schools, sometimes together with *Lethrinus olivaceus*. Feeds primarily on fishes, crustaceans, cephalopods, and polychaetes during both night and day. Spawning in Palau occurs throughout most of the year, during the first 5 days of the lunar month, near the edge of reefs. Caught mostly with handlines, traps, gill nets, and trawls. An excellent food fish. Marketed mostly fresh.

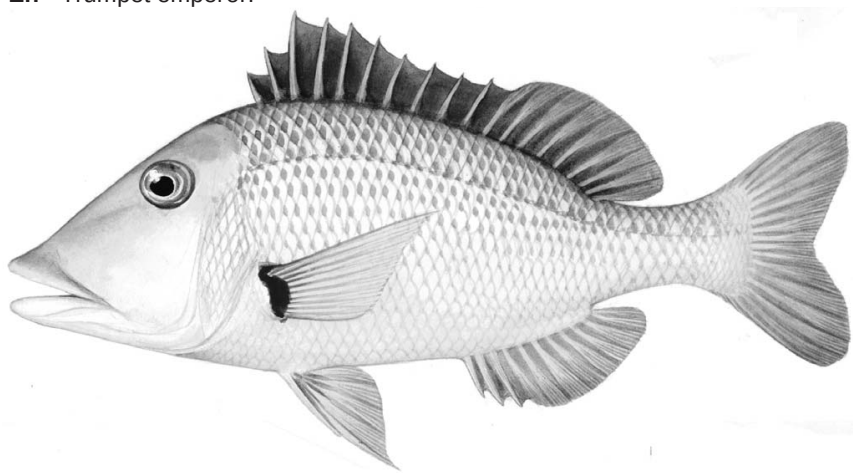


Distribution: Widespread Indo-West Pacific, including Red Sea, Persian Gulf, East Africa to Sri Lanka, to the Ryukyu Islands, western Australia, Palau, and Papua New Guinea.

Lethrinus miniatus (Schneider, 1801) **(Plate XVIII, 135)**

Frequent synonyms / misidentifications: *Lethrinus chrysostomus* Richardson, 1848; *L. amamianus* Akazaki, 1962 / None.

FAO names: En - Trumpet emperor.

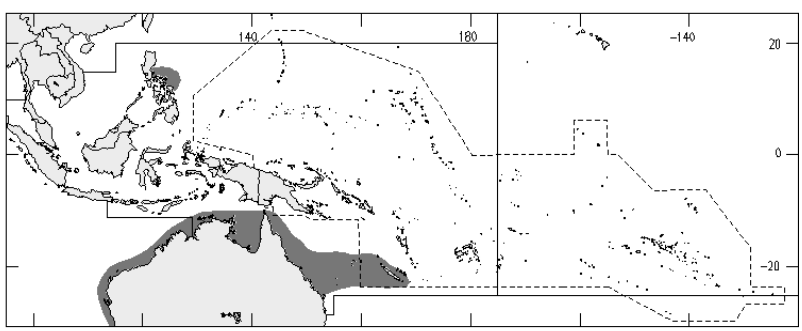


Diagnostic characters: Body moderately deep, its depth 2.4 to 2.8 times in standard length. Head length 0.9 to 1 times in body depth, 2.5 to 2.9 times in standard length, dorsal profile near eye slightly convex; snout moderately long, its length about 1.7 to 2.4 times in head length, **measured without the lip the snout is 0.9 to 1 times in cheek height**, its dorsal profile slightly concave, snout angle relative to upper jaw between 50° and 65°; interorbital space convex to flat; posterior nostril an oblong longitudinal opening, closer to orbit than anterior nostril; eye situated close to dorsal profile, its length 3.4 to 5.4 times in head length; cheek moderately high, its height 2.0 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 X spines and 9 soft rays, **the third dorsal-fin spine usually the longest**, its length 2.3 to 2.9 times in body depth; anal fin with III spines and 8 soft rays, the first or second soft ray usually the longest, its length almost equal to or slightly longer than length of base of soft-rayed portion of anal fin and 1.3 to 1.4 times in length of entire anal-fin base; pectoral-fin rays 13; pelvic-fin membranes between rays closest to body usually with 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 to 17 scale rows in transverse series between origin of anal fin and lateral line; usually 15 rows in lower series of scales around caudal peduncle; 2 to 7 scales in supratemporal patch; **inner surface of pectoral fins partially or densely covered with scales**; posterior angle of operculum fully scaly. **Colour:** body silvery, tan, or yellowish, base of scales often black, often a series of 8 or 9 dark bars; **base of pectoral fins red; sometimes a red streak originating on upper operculum, passing beneath eye and onto snout; 2 red spots often on upper rim of eye;** lips reddish; **fins pale or reddish, sometimes brilliant red on membranes near base of pelvic fins, and between spinous rays of dorsal and anal fin**.

Size: Maximum size reported to about 90 cm total length and about 9 kg.

Habitat, biology, and fisheries: Feeds in sand around coral reefs in daytime; at nightime feeds mostly over sandy sea floor near reefs; at depths between 5 and 30 m. Usually in small schools. Feeds mostly on crustaceans, echinoderms, molluscs, and fishes, with crabs and sea urchins predominating. Caught primarily by handline. One of the favourite food and sport fishes around the Great Barrier Reef. A major food fish in New Caledonia. Occasionally implicated in cases of fish poisioning (ciguatoxin).

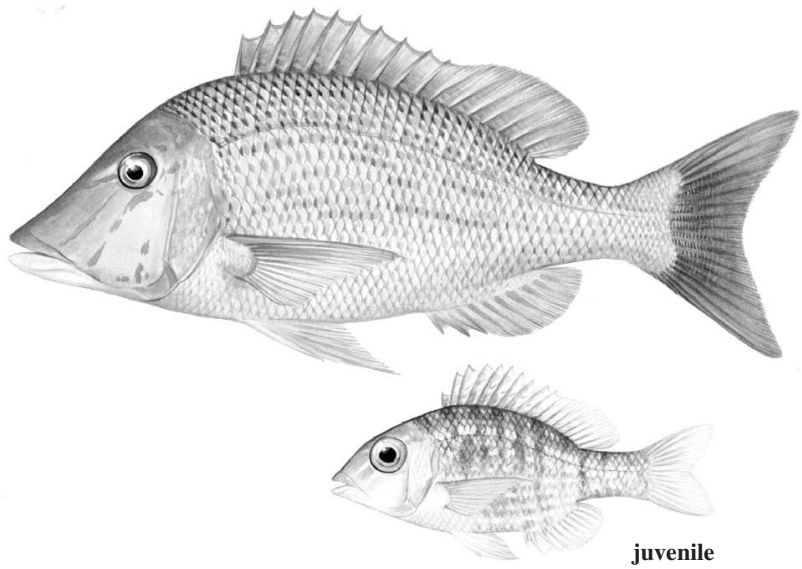
Distribution: The Ryukyu Islands, eastern Philippines, northern Australia, and New Caledonia.



Lethrinus nebulosus (Forsskål, 1775) **(Plate XVIII, 136)**

Frequent synonyms / misidentifications: *Lethrinus choerorynchus* Schneider, 1801; *L. fraenatus* Valenciennes, 1830 / None.

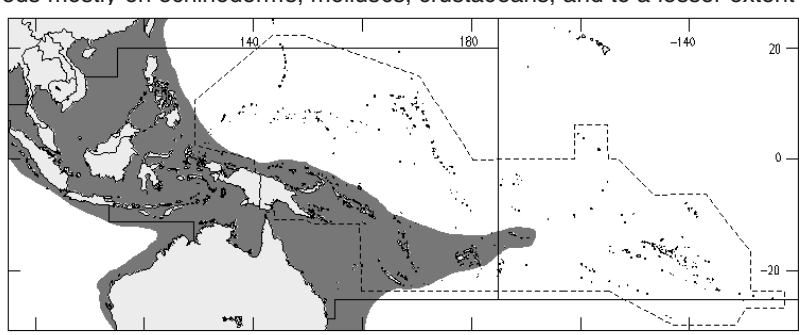
FAO names: En - Spangled emperor; **Fr** - Empereur moris; **Sp** - Emperador relámpago.



Diagnostic characters: Body moderately deep, its depth 2.5 to 2.9 times in standard length. Head length 0.9 to 1 times in body depth, 2.6 to 3.1 times in standard length, dorsal profile near eye nearly straight, or in large individuals, distinctly concave; snout moderately long, its length about 1.8 to 2.4 times in head length, measured without the lip the snout is 0.8 to 1 times in cheek height, its dorsal profile nearly straight or concave, snout angle relative to upper jaw between 50° and 68°; interorbital space usually convex; posterior nostril an oblong longitudinal opening, closer to orbit than anterior nostril or, about halfway between orbit and anterior nostril; eye not close to dorsal profile except in small individuals, its length 3.6 to 5.9 times in head length; cheek moderately high, its height 2.4 to 3 times in head length; lateral teeth in jaws rounded with points or molars that often have tubercles; outer surface of maxilla smooth or with a longitudinal ridge. Dorsal fin with X spines and 9 soft rays, the fourth or fifth dorsal-fin spine usually the longest, its length 2.7 to 3.6 times in body depth; anal fin with III spines and 8 soft rays, the first soft ray usually the longest, its length almost equal to or slightly shorter than length of base of soft-rayed portion of anal fin and 1.3 to 1.6 times in length of entire anal-fin base; pectoral-fin rays 13; **pelvic-fin membranes between rays closest to body usually with dense melanophores**. Lateral-line scales 46 to 48; **cheek without scales; 5 ½ scale rows between lateral line and base of middle dorsal-fin spines**; 16 or 17 scale rows in transverse series between origin of anal fin and lateral line; usually 15 rows in lower series of scales around caudal peduncle; 5 to 9 scales in supratemporal patch; **inner surface of pectoral-fin base densely covered with scales**; posterior angle of operculum fully scaly. **Colour:** body yellowish or bronze, lighter below, centres of many scales with a white or light blue spot, sometimes irregular dark indistinct bars on sides and a square black blotch above pectoral fins bordering below lateral line; 3 blue streaks or series of blue spots radiating forward and ventrally from eye; fins whitish or yellowish, pelvic fins dusky, edge of dorsal fin reddish.

Size: Maximum total length about 80 cm; commonly between 20 and 50 cm.

Habitat, biology, and fisheries: On nearshore and offshore coral reefs, coralline lagoons, seagrass beds, mangrove swamps, and coastal sand and rock areas, to depths of 75 m. Adults alone or in small schools; juveniles form large schools. Feeds mostly on echinoderms, molluscs, crustaceans, and to a lesser extent on polychaetes and fishes. Taken by handline, traps, trawls, seines, and gill nets. Marketed mostly fresh. Very important commercial and sport fish in some countries.

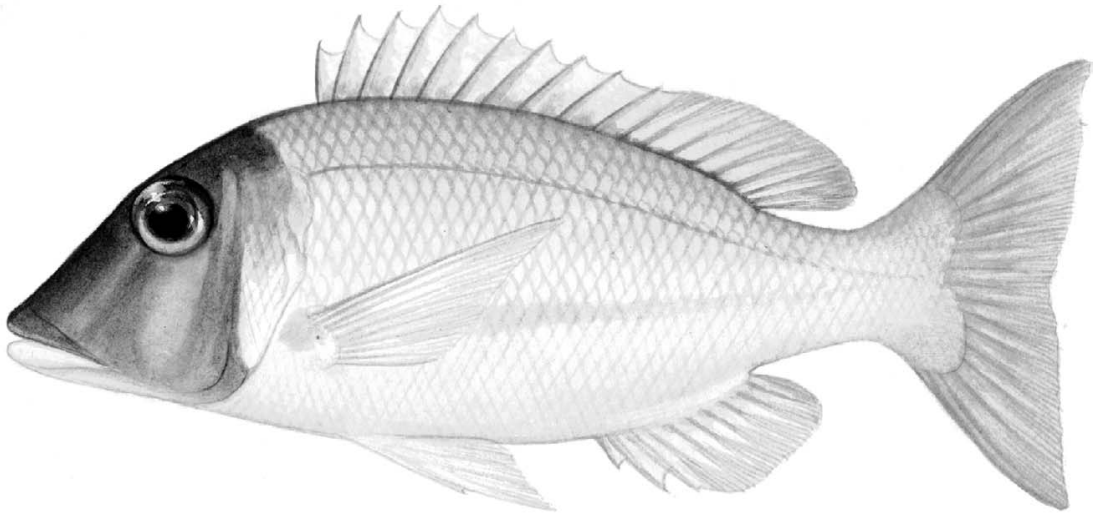


Distribution: Widespread Indo-West Pacific including Red Sea and Persian Gulf, East Africa to southern Japan and Samoa.

Lethrinus obsoletus (Forsskål, 1775) **(Plate XVIII, 137)**

Frequent synonyms / misidentifications: *Sciaena ramak* (Forsskål, 1775) / None.

FAO names: En - Orangestriped emperor; **Fr** - Empereur bandes oranges; **Sp** - Emperador de bandes.

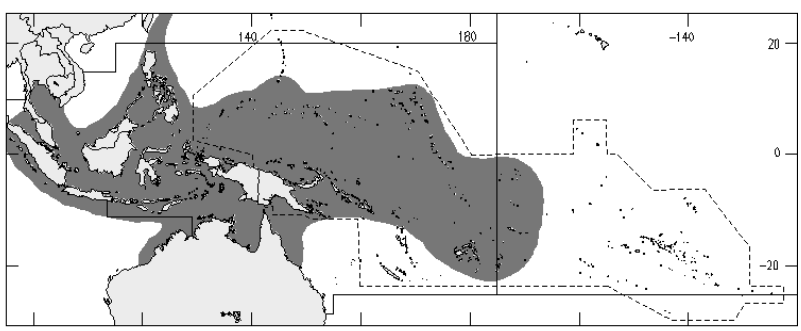


Diagnostic characters: Body moderately deep, its depth 2.6 to 2.9 times in standard length. Head length 1 to 1.1 times in body depth, 2.6 to 2.9 times in standard length, dorsal profile near eye nearly straight or slightly convex; snout length about 1.8 to 2.3 times in head length, measured without the lip the snout is 0.8 to 0.9 times in cheek height, its dorsal profile slightly concave, snout angle relative to upper jaw between 50° and 60°; interorbital space convex; posterior nostril a longitudinal oblong opening, closer to orbit than anterior nostril; eye situated close to or not close to dorsal profile, its length 3.5 to 5 times in head length; cheek height 2.5 to 3.2 times in head length; lateral teeth in jaws conical or rounded; outer surface of maxilla with a distinct knob. Dorsal fin with X spines and 9 soft rays, the fourth or fifth dorsal-fin spine the longest, its length 2.5 to 3.4 times in body depth; anal fin with III spines and 8 soft rays, the first soft ray usually the longest, its length almost equal to or slightly longer or shorter than length of base of soft-rayed portion of anal fin and 1.2 to 1.5 times in length of entire anal-fin base; pectoral-fin rays 13; pelvic-fin membranes between rays closest to body without dense melanophores. Lateral-line scales 45 to 48; **cheek without scales; 5 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; usually 4 to 9 scales in supratemporal patch; **inner surface of pectoral-fin base densely covered with scales**; posterior angle of operculum fully scaly. **Colour:** body light tan to brown, lighter below; centres of scales often lighter than background colour; an orange-yellow stripe on lower side at level of pectoral-fin base, with 2 additional more faint orange-yellow stripes above and 1 below this stripe; head often with several broad indistinct vertical and diagonal light and dark bands; sometimes white spots below eye; posterior edge of operculum dark brown; fins whitish or tan, sometimes mottled.

Size: Maximum total length reported as 60 cm; commonly between 20 and 30 cm.

Habitat, biology, and fisheries: Inhabits seagrass beds, and sand and rubble areas of lagoons and reefs to depths of about 30 m. Feeds mostly on crustaceans, molluscs, and echinoderms. Caught mostly by traps and shore seines, occasionally by gill nets, handlines, and trawls. Marketed mostly fresh.

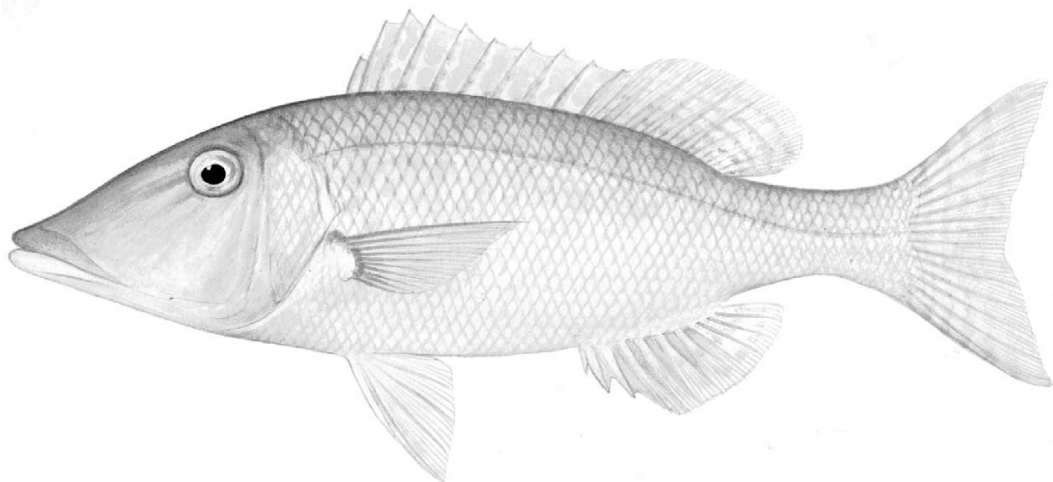
Distribution: Widespread Indo-West Pacific including the Red Sea, East Africa to the Ryukyu Islands, Tonga, and Samoa.



Lethrinus olivaceus Valenciennes, 1830 **(Plate XIX, 138)**

Frequent synonyms / misidentifications: None / *Lethrinus elongatus* non Valenciennes, 1830; *L. miniatus* (non Schneider, 1801).

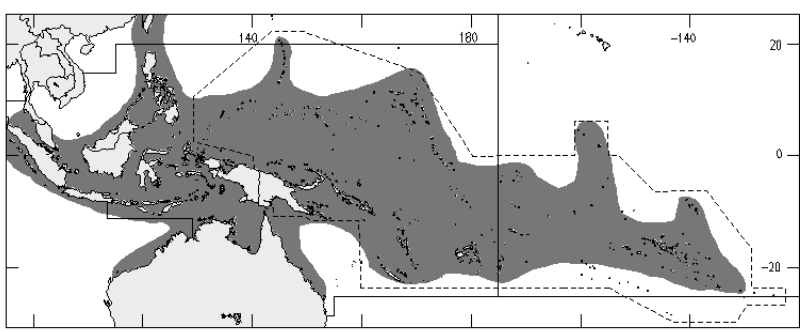
FAO names: En - Longface emperor; **Fr** - Empereur guele longue; **Sp** - Emperador trompudo.



Diagnostic characters: Body moderately slender, its depth 2.9 to 3.4 times in standard length. Head length 1.1 to 1.3 times in body depth, 2.4 to 2.9 times in standard length, dorsal profile near eye nearly straight or with small bump; **snout length** about 1.7 to 2.2 times in head length, **measured without the lip the snout is 0.6 to 0.8 times in cheek height**, its dorsal profile slightly concave, snout angle relative to upper jaw between 40° and 50°; interorbital space convex to flat; posterior nostril a longitudinal oblong opening, closer to orbit than anterior nostril; eye situated close to or not close to dorsal profile, its length 3.4 to 6.2 times in head length; cheek height 3 to 3.8 times in head length; lateral teeth in jaws conical; outer surface of maxilla smooth. Dorsal fin with X spines and 9 soft rays, the third or fourth dorsal-fin spine the longest, its length 2.4 to 2.8 times in body depth; anal fin with III spines and 8 soft rays, the first soft ray usually the longest, its length almost equal to or slightly shorter than length of base of soft-rayed portion of anal fin and 1.3 to 1.7 times in length of entire anal-fin base; pectoral-fin rays 13; pelvic-fin membranes between rays closest to body with dense melanophores. Lateral-line scales 46 to 48; **cheek without scales; 5 ½ scale rows between lateral line and base of middle dorsal-fin spines**; usually 16 or 17 scale rows in transverse series between origin of anal fin and lateral line; 15 rows in lower series of scales around caudal peduncle; 6 to 9 scales in supratemporal patch; **inner surface of pectoral-fin base without scales**; posterior angle of operculum fully scaly. **Colour:** body grey, lighter ventrally, often with scattered irregular dark blotches; snout with wavy dark streaks, upper jaw, especially near corner of mouth sometimes edged behind with red.

Size: Maximum total length 100 cm; commonly to 70 cm.

Habitat, biology, and fisheries: Inhabits sandy coastal areas, lagoons, and reef slopes, occurring to depths of 185 m; juveniles found in shallow sandy areas. Often occurs in large schools. Feeds mostly on fishes, crustaceans, and cephalopods. Caught mostly with handline and traps, occasionally by trawls and gill nets. Large individuals often ciguatoxic in New Caledonia and possibly elsewhere in Oceania. Very important in Palau where they are reportedly overfished. In both Palau and Tahiti this species is actively fished in locations and times known to have large spawning aggregations.

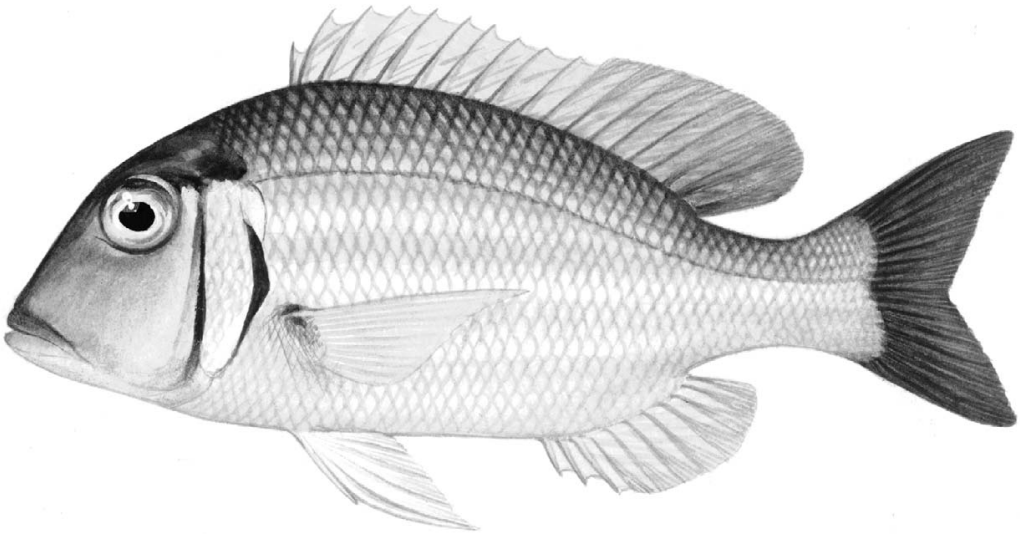


Distribution: Widespread Indo-West Pacific, including the Red Sea, East Africa to the Ryukyu Islands, to Samoa and Polynesia.

Lethrinus ornatus Valenciennes, 1830 **(Plate XIX, 139)**

Frequent synonyms / misidentifications: None / None.

FAO names: En - Ornate emperor; **Fr** - Empereur orn; **Sp** - Emperador ornado.

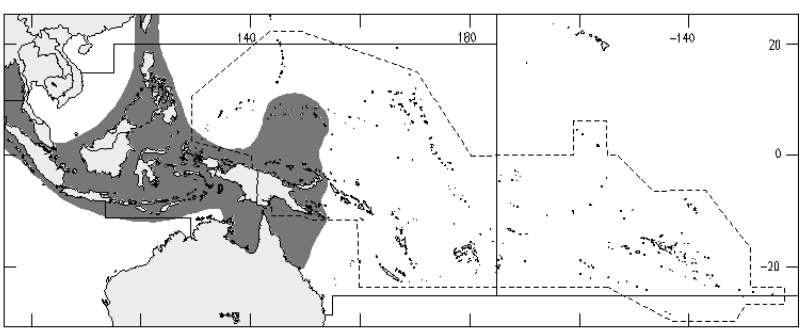


Diagnostic characters: Body relatively deep, its depth 2.3 to 2.6 times in standard length. Head length 0.8 to 0.9 times in body depth, 2.7 to 3 times in standard length, dorsal profile near eye convex; snout length about 2 to 2.5 times in head length, measured without the lip the snout is 0.9 to 1.1 times in cheek height, its dorsal profile nearly straight or slightly concave, **snout angle relative to upper jaw between 65° and 75°**; interorbital space convex; posterior nostril a longitudinal oblong opening, closer to orbit than anterior nostril; eye situated close to dorsal profile, its length 3.3 to 4.1 times in head length; cheek height 2.2 to 2.8 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 X spines and 9 soft rays, the fourth or fifth dorsal-fin spine the longest, its length 2.7 to 3.3 times in body depth; anal fin with III spines and 8 soft rays, the first soft ray usually the longest, its length longer than length of base of soft-rayed portion of anal fin and 1.1 to 1.5 times in length of entire anal-fin base; pectoral-fin rays 13; pelvic-fin membranes between rays closest to body without dense melanophores. Lateral-line scales usually 46 or 47; **cheek without scales; 5 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; 13 to 15 rows in lower series of scales around caudal peduncle; usually 3 to 8 scales in supratemporal patch; **inner surface of pectoral-fin base densely covered with scales**; posterior angle of operculum fully scaly. **Colour:** body dusky whitish, lighter below, with 5 or 6 orange stripes; **posterior edge of opercle and preopercle bright red** (the former more conspicuous); head brown or tan, sometimes a red spot on lower front edge of eye; pectoral fins orangish; pelvic and anal fins, and most of dorsal fin whitish; edge of dorsal and caudal fins reddish.

Size: Maximum total length 40 cm.

Habitat, biology, and fisheries: Inhabits sandy and soft bottom inshore bays, seagrass beds, lagoons, and areas adjacent to reefs. Feeds on crustaceans, molluscs, echinoderms, polychaetes, and small fishes. Caught by trap, handline, shore seine, trawl, and handline. Minor importance in fisheries where it occurs.

Distribution: East Indian Ocean and West Pacific, from Sri Lanka to the Ryukyu Islands, Papua New Guinea, and northeastern Australia.



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