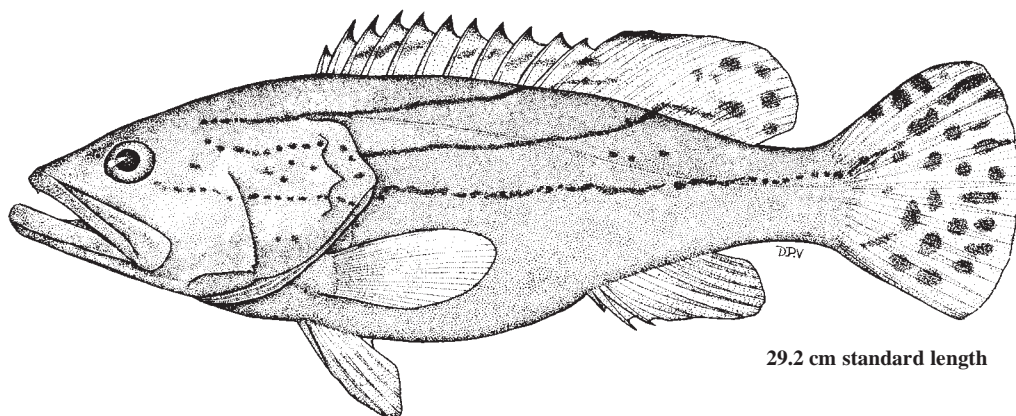


Epinephelus latifasciatus (Temminck and Schlegel, 1842)

(Plate IV, 26)

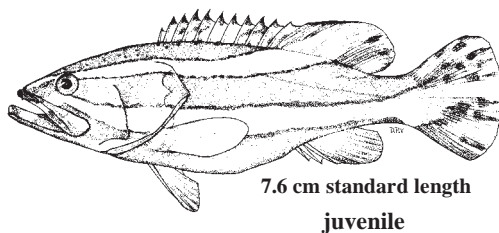
Frequent synonyms / misidentifications: *Epinephelus grammicus* (Day, 1867) / *Epinephelus epistictus* (non Temminck and Schlegel, 1842); *E. poecilonotus* (non Temminck and Schlegel, 1842).

FAO names: En - Striped grouper; Fr - M  rou    bandes; Sp - Mero abanderado.



29.2 cm standard length

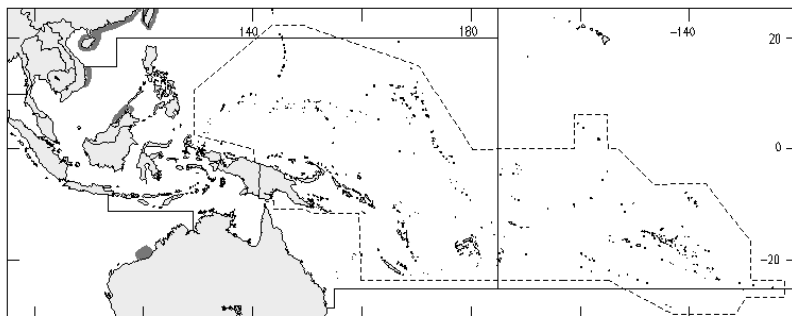
Diagnostic characters: Body depth 2.9 to 3.4 times in standard length (for specimens 13 to 62 cm standard length); head length 2.3 to 2.6 times in standard length. Interorbital area convex, the dorsal head profile convex; **preopercle angular, with 3 to 7 distinctly enlarged serrae at angle; upper edge of operculum distinctly convex;** maxilla reaches past vertical at rear edge of eye; midlateral part of lower jaw with 2 or 3 rows of teeth; nostrils subequal. First gill arch with 8 to 11 gill rakers on upper limb, 15 to 18 on lower limb. **Dorsal fin with XI spines and 12 to 14 soft rays**, the third or fourth spine longest, 2.9 to 3.9 times in head and not much shorter than longest soft rays, the interspinous membranes incised; anal fin with III spines and 8 soft rays; caudal fin truncate in large adults, the rear margin convex in juveniles; pectoral-fin rays 17 to 19, the fin length 1.8 to 2.2 times in head length; pelvic fins not reaching anus, 2.2 to 2.6 times in head length. Lateral body scales smooth; **lateral-line scales 56 to 65; lateral scale series 91 to 106.** **Colour:** juveniles lavender-grey or pale brownish, shading to whitish ventrally; 2 black-edged white longitudinal bands, the upper band from above eye to anterior dorsal-fin rays, and the lower band from below eye to lower caudal-fin rays; dorsal and caudal fins with black spots and streaks; white bands disappearing on adults, the dark edges breaking into dashes and spots; head and body of large adults uniformly grey.

7.6 cm standard length
juvenile

Size: Maximum total length 157 cm; maximum weight 58.6 kg.

Habitat, biology, and fisheries: The preferred habitat seems to be bottoms of low relief; adults are taken on coarse sand or rocky areas, while juveniles are found on silty-sand and mud bottom. Depths range from 20 to at least 230 m. Common in markets of the Persian Gulf, Hong Kong, Singapore, and Japan. Caught with hook-and-line, longlines, trawls, and traps.

Distribution: Indo-West Pacific region, including the Red Sea, Persian Gulf, Gulf of Oman, Pakistan, coast of India, Viet Nam, Hong Kong, China (Shanghai), Korea, southern Japan, Taiwan Province of China, and northwest Australia. The banded grouper seems to prefer continental localities, but it is not known from the east coast of Africa, islands of the Indian Ocean, Philippines, or New Guinea.

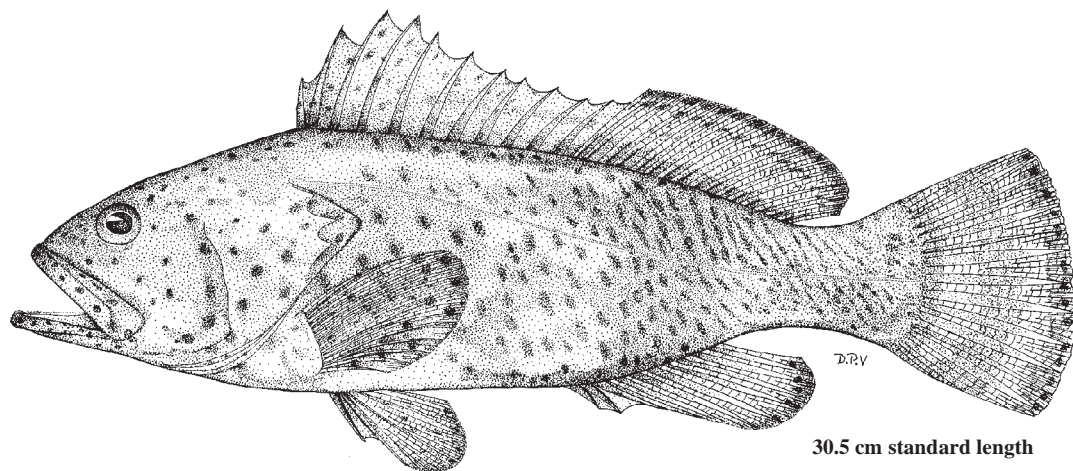


Epinephelus longispinis (Kner, 1864)

(Plate IV, 27)

Frequent synonyms / misidentifications: None / *Epinephelus gaimardi* (Valenciennes, 1830); *E. fario* (nomen dubium); *E. maculatus* (non Bloch, 1790).

FAO names: En - Longspine grouper; Fr - Méroutongues épines; Sp - Mero espigón.

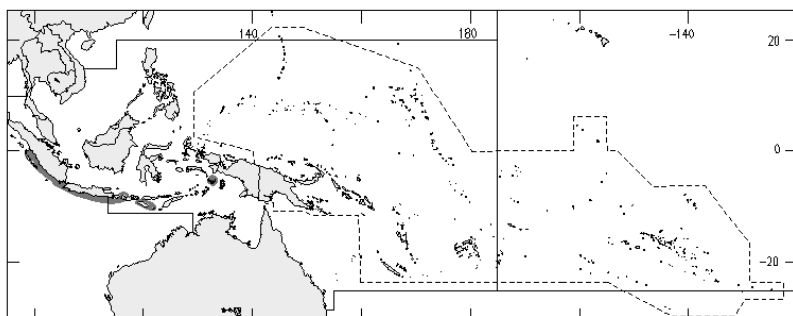


Diagnostic characters: Body depth 2.8 to 3.3 times in standard length (for specimens 13 to 35 cm standard length); head length 2.4 to 2.6 times in standard length. Interorbital area flat to slightly convex, the dorsal head profile convex; **preopercle corner with enlarged serrae and a shallow indentation just above the corner**; upper edge of operculum straight or slightly convex; maxilla reaches to or past vertical at rear edge of eye, the **ventral edge with a blunt hook-like process distally in fishes larger than 35 cm standard length**; midlateral part of lower jaw with 2 rows of teeth; posterior nostrils not much larger than anteriors. First gill arch with 8 to 11 gill rakers on upper limb, 15 to 17 on lower limb. Dorsal fin with XI spines and 16 or 17 soft rays, the **third or fourth spine longest, 2.1 to 2.6 times in head length and distinctly longer than longest dorsal-fin rays, the interspinous membranes slightly incised between anterior spines and not incised between posterior spines**; anal fin with III spines and 8 soft rays; caudal fin convex; pectoral-fin rays 17 to 19, the fin length 1.5 to 1.9 times in head length; pelvic fins not reaching anus, 1.8 to 2.2 times in head length. Lateral body scales rough, with numerous auxiliary scales; lateral-line scales 49 to 53; lateral scale series 98 to 121. **Colour:** head and body pale greyish brown, covered with small, dark reddish brown spots that are round and widely spaced on head and front half of body, but obliquely elongated, closer together and darker posteriorly; fins with similar dark brown spots; a row of dark spots along distal margin of soft dorsal and caudal fins. Juveniles with fewer dark spots on head and body, and 2 to 4 dark blotches on body at base of dorsal fin and extending onto fin; ventral part of head and body with irregular white spots; white blotch on upper part of operculum.

Size: Maximum total length at least 55 cm.

Habitat, biology, and fisheries: Usually found on coral reefs or rocky areas and occasionally on sandy bottom; depths of capture range from 1 to 70 m. Feeds mainly on crustaceans, especially crabs and stomatopods, and rarely on fish and squid. Caught with hook-and-line, spear, traps, and in trawls.

Distribution: Continental and insular localities in Indian Ocean from Kenya to South Africa and east to the Watubela Group of the eastern Banda Sea. Not known from the Red Sea or Persian Gulf.

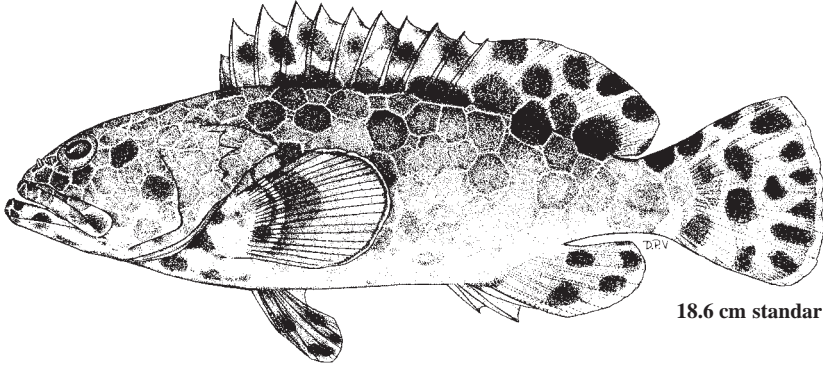


Epinephelus macrospilos (Bleeker, 1855)

(Plate IV, 28)

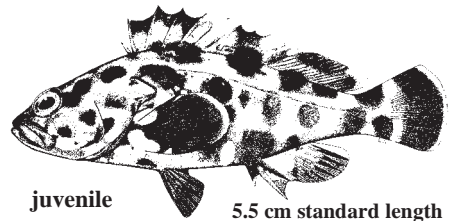
Frequent synonyms / misidentifications: None / *Epinephelus quoyanus* (non Valenciennes, 1830); *E. faveatus* (non Valenciennes, 1828); *E. corallicola* (non Valenciennes, 1828); *E. howlandi* (non Günther, 1873).

FAO names: En - Snubnose grouper; Fr - Mérou tapis; Sp - Mero alfombrado.



18.6 cm standard length

Diagnostic characters: Body depth 3.0 to 3.6 times in standard length; head length 2.3 to 2.6 times in standard length; caudal peduncle depth 3.2 to 3.7 times in head length. Interorbital area flat or slightly concave, the dorsal head profile of adults with a ventral bend at orbits; **preopercle rounded, with minute serrae mostly covered by skin and a shallow indentation just above the “corner”;** upper edge of operculum straight or slightly convex; maxilla reaches to or past vertical at rear edge of orbit, the ventral edge smoothly curved at distal expansion; lower jaw strongly projecting, the midlateral part with 2 to 4 rows of teeth; rear nostrils usually distinctly larger than anterior nostrils. First gill arch with 21 to 26 gill rakers, of which 7 to 9 on upper limb and 14 to 17 on lower limb. Pyloric caeca 25 to 27. **Dorsal fin with XI spines and 15 to 17 soft rays**, the third or fourth spines longest, 2.3 to 3.4 times in head length and shorter than longest dorsal-fin rays; anal fin with III spines and 8 soft rays, **the second and third spines subequal, 2.8 to 4.2 times in head length;** caudal fin rounded, **length of middle rays 1.5 to 2.0 times in head length;** pectoral-fin rays 17 to 20, the fin length 1.5 to 2 times in head length; **pelvic-fin length 1.8 to 2.5 times in head length. Lateral body scales smooth, except for area covered by pectoral fins; lateral-line scales 48 to 52; lateral scale series 86 to 103. Colour:** head and body pale greyish brown, with dark brown spots (centre of spots darker than the diffuse edges) that are large and well-separated in young, becoming relatively smaller, more numerous and closer together in adults; median and pelvic fins with similar dark spots; pectoral fins usually dusky with a few dark spots and white line along the edge; some specimens with faint oblique dark line across lower part of chest; median fins with narrow pale margin posteriorly; no dark spots on underside of lower jaw. Juveniles with prominent white blotches as shown in figure.



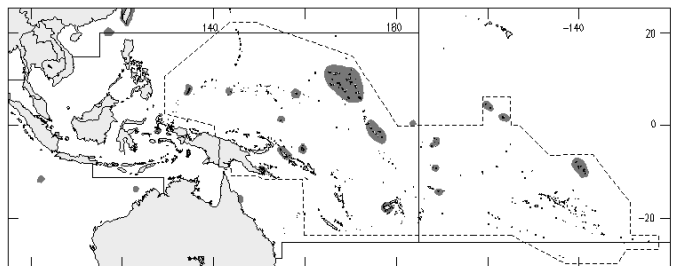
juvenile

5.5 cm standard length

Size: Maximum total length at least 51 cm.

Habitat, biology, and fisheries: Coral reefs to depths of at least 44 m. Feeds on crustaceans (mainly crabs), fishes, octopus, and squid. Common in some areas and important in artisanal fisheries. Caught with hook-and-line, spear, and traps.

Distribution: Indo-Pacific region from Africa (Kenya to South Africa) to Central Pacific, including Cocos-Keeling, Indonesia, Okinawa, Western Australia (Scott Reef), Great Barrier Reef, Marquesas, and most western Pacific islands (both on and off the Pacific Plate). Not known from Red Sea, Persian Gulf, Asian continent, or Hawaii.

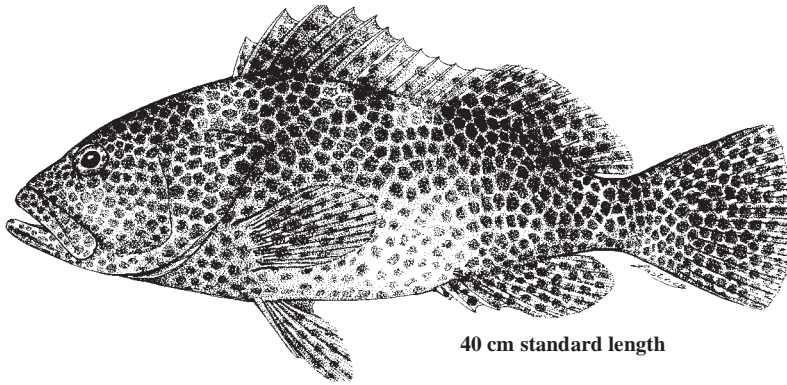


Epinephelus maculatus (Bloch, 1790)

(Plate IV, 29)

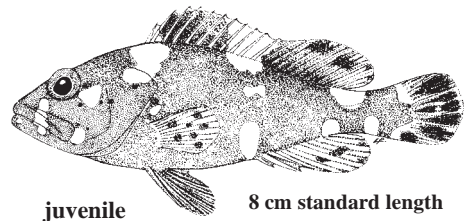
Frequent synonyms / misidentifications: *Epinephelus medurensis* (Günther, 1873) / *Epinephelus macrospilus* (non Bleeker, 1855).

FAO names: En - Highfin grouper; Fr - Mérout haute voile; Sp - Mero aleta alta.



40 cm standard length

Diagnostic characters: Body depth 2.8 to 3.1 times in standard length; head length 2.4 to 2.6 times in standard length. Interorbital area flat to slightly convex, the dorsal head profile convex; **preopercle with a shallow indentation just above the enlarged serrae at the corner; upper edge of operculum straight or slightly convex;** maxilla reaches to or past vertical at rear edge of eye, the **ventral edge with a blunt hook-like process distally in fishes larger than 35 cm standard length;** midlateral part of lower jaw with 2 rows of teeth; nostrils subequal. First gill arch with 8 to 10 gill rakers on upper limb, 15 to 17 on lower limb. Pyloric caeca 30 to 45. Dorsal fin with XI spines and 15 to 17 soft rays, the **third or fourth spine longest, 2.1 to 2.6 times in head length and distinctly longer than dorsal-fin rays, the interspinous membranes slightly incised between anterior spines and not incised posteriorly;** anal fin with III spines and 8 soft rays, **the third spine longest, 3.3 to 4.1 times in head length and not longer than caudal peduncle depth;** caudal fin convex or rounded; pectoral-fin rays 17 to 19, the **fin length 1.5 to 1.9 times in head length;** pelvic fins reaching to or near anus, 1.7 to 2.0 times in head length. Lateral body scales distinctly rough, with numerous auxiliary scales; lateral-line scales 49 to 52; lateral scale series 102 to 120. **Colour:** head, body, and fins of adults pale brown, covered with small, round to hexagonal, close-set, dark brown spots, extending onto ventral parts of body and head; 2 large diffuse dusky areas on dorsal part of body and dorsal fin, the largest, extending over dorsal fin from second to fifth spines, the second dark blotch from tenth spine to second soft ray, the dorsal fin pale between these dark blotches, but with small dark spots. One resting colour phase is broadly mottled with large dark and pale areas; in the pale areas, the usual dark brown spots are mostly whitish, with small dark brown centres. Small juveniles (5 to 10 cm) yellowish brown, with well-separated small black spots (mainly on head and fins) and prominent, white blotches and spots, the largest on middle of dorsal fin.



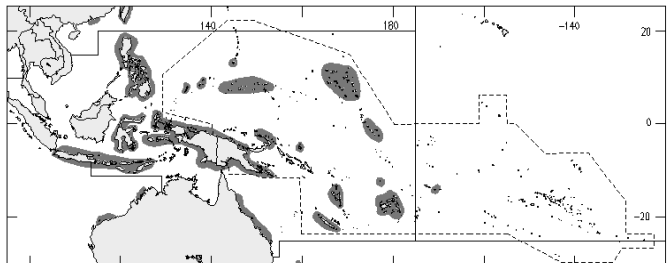
juvenile

8 cm standard length

Size: Maximum total length at least 57 cm.

Habitat, biology, and fisheries: Coral reefs at depths of 2 to 100 m. Prey comprises mainly small fishes, crabs, and octopuses. Not common, but of some interest in artisanal fisheries. Caught with hook-and-line, spear, and traps.

Distribution: Eastern Indian Ocean and Western Pacific from Cocos-Keeling Islands, Indonesia, Hong Kong, Ryukyu Islands, Ogasawara Islands, Philippines, New Guinea, Great Barrier Reef, Lord Howe Island, New Caledonia, New Ireland, Fiji, Samoa, Palau, Caroline Islands, Marshall Islands, and Gilbert Islands.

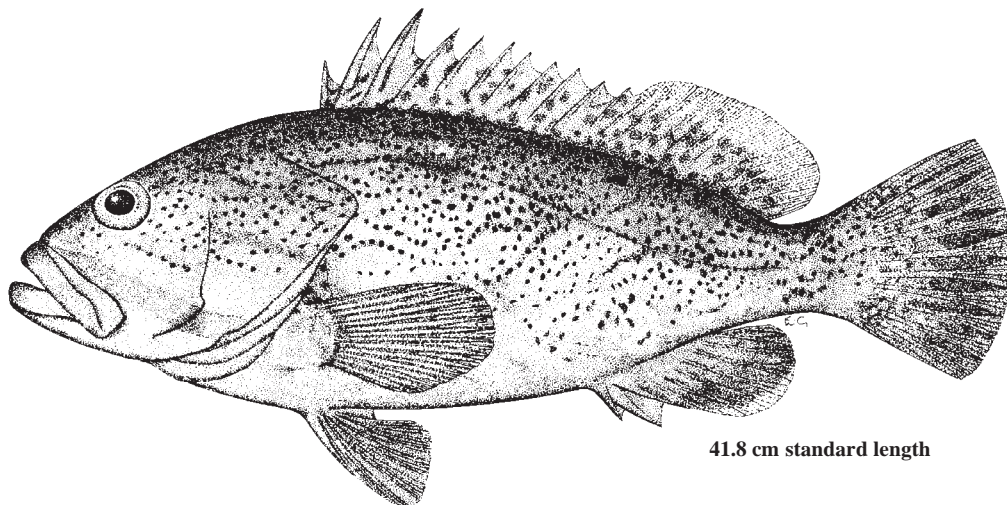


Epinephelus magniscuttis Postel, Fourmanoir, and Guézé, 1963

(Plate IV, 30)

Frequent synonyms / misidentifications: *Epinephelus pseudomorrhua* Postel, Fourmanoir, and Guézé, 1963 / *Epinephelus epistictus* (non Temminck and Schlegel, 1842); *E. poecilonotus* (non Temminck and Schlegel, 1842).

FAO names: En - Spotted grouper; Fr - Mérou grandes écailles; Sp - Mero bacalao.

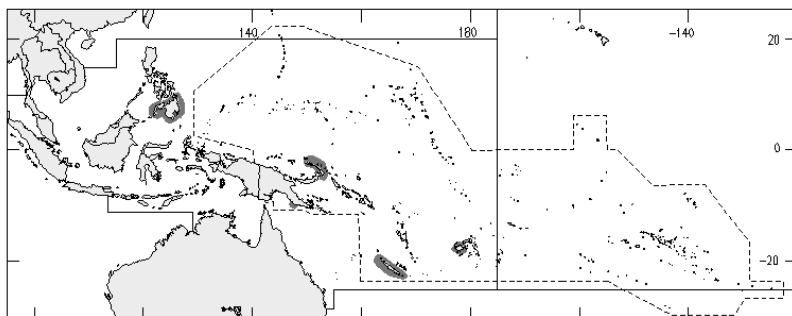


Diagnostic characters: Body depth 2.7 to 3.2 times in standard length; head length 2.2 to 2.4 times in standard length. Interorbital area flat to convex, the dorsal head profile almost straight; **preopercle angular, with 2 to 4 distinctly enlarged serrae at angle; upper edge of operculum slightly convex;** maxilla reaches to below rear half of eye, the ventral edge with a low step at the distal expansion; midlateral part of lower jaw with 2 rows of teeth, the inner teeth larger than outer ones; posterior nostrils not much larger than anteriors. First gill arch with 8 or 9 gill rakers on upper limb, 16 or 17 on lower limb. Pyloric caeca 7. **Dorsal fin with XI spines and 14 or 15 soft rays, the third or fourth spines longest, 2.5 to 3.0 times in head length and longer than longest dorsal-fin rays,** the interspinous membranes deeply incised; anal fin with III spines and 8 soft rays; caudal fin rounded; pectoral-fin rays 17 to 19, the fin length 1.7 to 2.0 times in head length; pelvic fins not reaching anus, 2.1 to 2.3 times in head length. Lateral body scales distinctly rough and without auxiliary scales; lateral-line scales 55 to 62; lateral scale series 103 to 122. **Colour: generally pale brown, with small dark brown (or greyish green) spots unevenly scattered on dorsolateral parts of head (posterior to eyes) and body, dorsal fin, and caudal fin; no spots on body below level of pectoral fins or on anal and paired fins.** Juveniles are said to have 6 or 7 dark lines running horizontally along the body and these disappear with age.

Size: Maximum total length 150 cm; maximum weight about 50 kg.

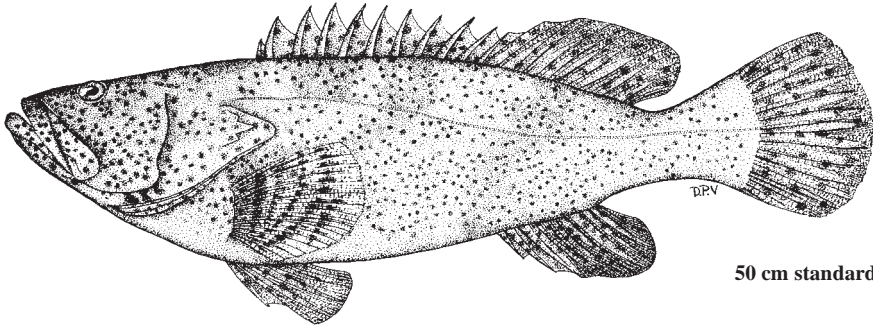
Habitat, biology, and fisheries: Deep water (128 to 300 m) in the vicinity of coral reefs. Biology unknown. An excellent food fish but apparently rare in the western Pacific region. Probably of some importance in artisanal fisheries.

Distribution: Indo-West Pacific from South Africa, Mozambique, Réunion, Mauritius, New Caledonia, Philippines, New Guinea, New Ireland, and Fiji.

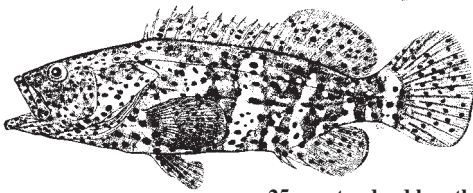


Epinephelus malabaricus (Bloch and Schneider, 1801)

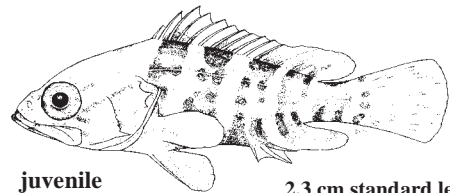
(Plate IV, 31)

Frequent synonyms / misidentifications: None / *Epinephelus tauvina* (non Forsskål, 1775).**FAO names:** En - Malabar grouper; Fr - M rou malabare; Sp - Mero malab rico.

50 cm standard length



25 cm standard length



juvenile

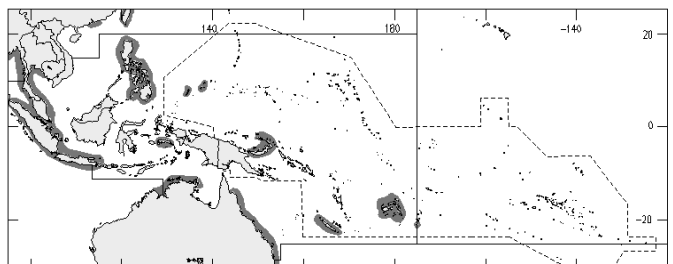
2.3 cm standard length

Diagnostic characters: Body elongate, its depth 3.0 to 3.7 times in standard length; body width 1.4 to 1.9 times in body depth; head length 2.3 to 2.6 times in standard length; interorbital width 4.5 to 6.5 times in head length, and 2.1 to 3.2 times in upper jaw length; preopercle with enlarged serrae at the angle; upper edge of operculum almost straight; maxilla extends past vertical at rear edge of orbit; upper jaw length 17 to 22% of standard length; snout length 1.7 to 2.0 times in upper jaw length; midlateral part of lower jaw with 2 to 5 rows of teeth; large adults with rear nostrils slightly larger than anterior nostrils. First gill arch with 23 to 27 gill rakers, of which 8 to 11 on upper limb and 14 to 18 on lower limb; rudiments difficult to distinguish from small bony platelets on gill arch. Pyloric caeca numerous (more than 80 branches). Dorsal fin with XI spines and 14 to 16 soft rays, the third to fifth spines usually slightly longer than posterior spines, 3.1 to 4.0 times in head length and distinctly shorter than longest soft rays; anal fin with III spines and 8 soft rays, the third spine usually longest; caudal fin rounded; pectoral-fin rays 18 to 20, the fin length 1.7 to 2.2 times in head length; and pelvic fins 2.1 to 2.6 times in head length. **Lateral body scales rough, with auxiliary scales; lateral-line scales 54 to 64;** anterior lateral-line tubes of large adults with 2 to 4 branches; lateral scale series 101 to 117. **Colour:** head and body brownish, covered with small, well-separated, blackish brown spots which extend onto chest, lower jaw and gular area, and roof of mouth; head and body also with scattered white spots and blotches; 5 irregular, oblique, dark brown bars (more or less interrupted by pale spots) often visible on body; fins with scattered small black spots.

Size: Maximum size uncertain because of confusion with other species of large groupers; attains at least 115 cm total length and a weight of 25 kg.

Habitat, biology, and fisheries: Coral and rocky reefs, tidepools, estuaries, mangrove swamps, and sandy/mud bottom from shore to a depth of 150 m. Feeds on fishes, crustaceans, and octopuses. One of the most common groupers in markets of the Indo-West Pacific region, and widely used in the aquaculture industry. Caught with trawls, longlines, traps, spear, and hook-and-line.

Distribution: Indo-Pacific area from Red Sea and South Africa to Japan, Australia, Palau, Yap, and Fiji. Occurs in continental and insular localities: Indonesia, Singapore, Philippines, Taiwan Province of China, China, Papua New Guinea, New Ireland, Caroline Islands, New Caledonia, and Tonga. In Australia, it ranges from the Northern Territory to New South Wales. Recently found in eastern Mediterranean.

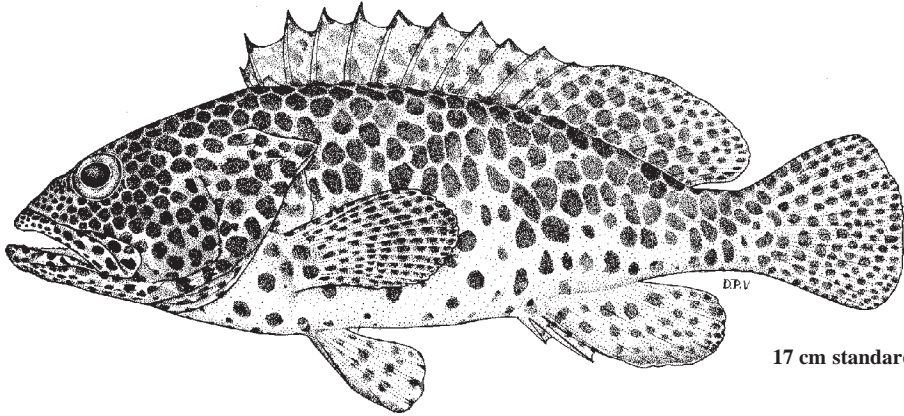


Epinephelus merra Bloch, 1793

(Plate IV, 32)

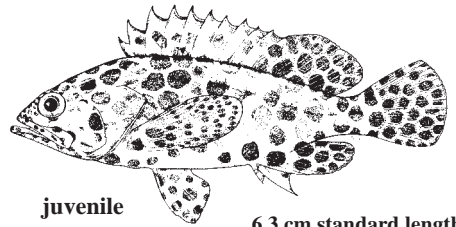
Frequent synonyms / misidentifications: None / *Epinephelus macrospilos* (non Bleeker, 1855); *E. hexagonatus* (non Forster, 1801); *E. melanostigma* non Schultz, 1953; *E. spilotoceps* non Schultz, 1953; *E. faveatus* (non Valenciennes, 1828); *E. quoyanus* (non Valenciennes, 1830).

FAO names: En - Honeycomb grouper; Fr - M erou g ateau de cire; Sp - Mero panal.



17 cm standard length

Diagnostic characters: Body depth 2.8 to 3.3 times in standard length; head length 2.3 to 2.6 times in standard length; caudal peduncle depth 3.2 to 4.1 times in head length. Preopercle rounded or subangular, the serrae at angle enlarged; upper edge of operculum almost straight; maxilla reaches past eye; midlateral part of lower jaw with 2 to 4 rows of teeth, the inner teeth about twice length of outer ones; nostrils subequal or rear nostrils larger. First gill arch with 6 to 9 gill rakers on upper limb, 14 to 17 on lower limb. Pyloric caeca 8.



juvenile

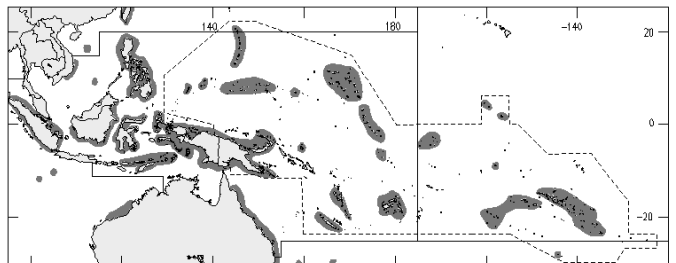
6.3 cm standard length

Dorsal fin with XI spines and 15 to 17 soft rays, the third to last spines subequal, the longest 2.4 to 3.2 times in head length; anal fin with III spines and 8 soft rays, second and third spines subequal, 2.1 to 3.0 times in head length and longer than depth of peduncle; caudal fin rounded; pectoral-fin rays 16 to 18, the fin length 1.5 to 1.8 times in head length; pelvic fins 1.8 to 2.2 times in head length. Lateral body scales rough, with auxiliary scales; lateral-line scales 48 to 54; lateral scale series 98 to 114. **Colour:** head, body, and fins pale, covered with close-set, dark brown or reddish brown spots, the interspaces forming an irregular pale reticulum; spots on ventral part of body paler, more widely spaced and diffuse; some midlateral spots often joined to form horizontal bands; 5 irregular dark bars may be displayed by differential darkening of some body spots, but black dorsal blotches never present; dark spots on median fins become smaller distally; pectoral fins covered with distinct small black spots, largely confined to the rays (the best diagnostic colour character for *Epinephelus merra*); tips of interspinous dorsal-fin membranes white or pale yellow, with a small submarginal black spot.

Size: Maximum total length 32 cm.

Habitat, biology, and fisheries: A coral-reef species typically found around patch reefs in depths less than 20 m, but occasionally seen at 50 m. Feeds on fishes, crustaceans, and cephalopods. Females mature at 14 cm standard length and sexual transition occurs at 18 to 21 cm. Important to artisanal fisheries because of its abundance in shallow water. Caught with handlines, fish traps, and spear.

Distribution: Indo-Pacific region from South Africa to French Polynesia. Primarily an insular species; not known from the Red Sea or Persian Gulf. Occurs at most tropical islands in the Indian Ocean and western Central Pacific, both on and off the Pacific Plate, and ranges from Japan to northwestern Australia, Queensland, Lord Howe Island, and eastwards to the Tuamotu Archipelago.

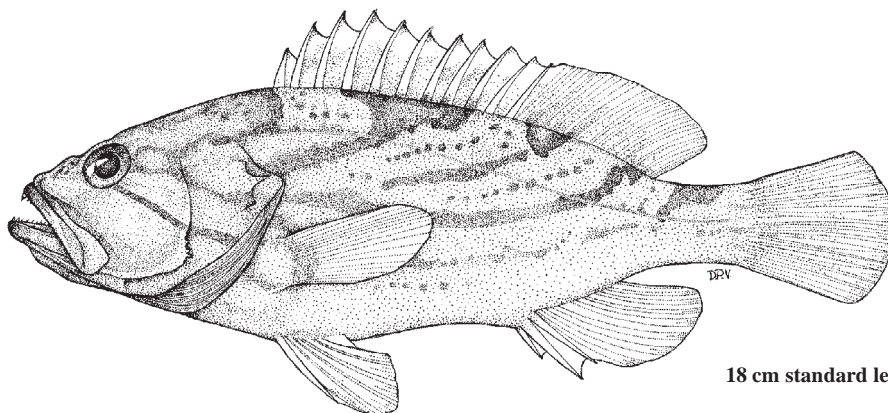


Epinephelus morrhua (Valenciennes, 1833)

(Plate V, 33)

Frequent synonyms / misidentifications: *Epinephelus cometae* Tanaka, 1927 / *Epinephelus poecilnotus* (non Temminck and Schlegel, 1842); *E. radiatus* (non Day, 1867); *E. tuamotuensis* non Fourmanoir, 1971.

FAO names: En - Comet grouper; Fr - Mérou comète; Sp - Mero cometa.



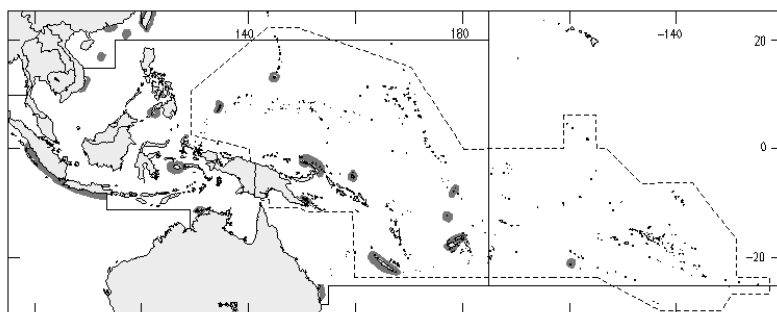
18 cm standard length

Diagnostic characters: Body depth 2.8 to 3.1 times in standard length; head length 2.3 to 2.5 times in standard length. **Preopercle with a shallow indentation just above enlarged serrae at the corner;** upper edge of operculum almost straight; maxilla reaches to or past vertical at rear edge of eye; midlateral part of lower jaw with 2 rows of teeth. **Adults with rear nostrils 2 or 3 times larger than anterior nostrils.** First gill arch with 8 to 10 gill rakers on upper limb, 15 to 18 on lower limb; longest gill rakers shorter than longest gill filaments. **Dorsal fin with XI spines and 14 or 15 soft rays, third or fourth spines longest, 2.6 to 3.3 times in head and about equal to longest dorsal-fin rays;** anal fin with III spines and 7 or 8 soft rays, second and third spines subequal; caudal fin convex; pectoral-fin rays 17 or 18, the fin length 1.8 to 2.2 times in head length; pelvic fins not reaching anus, 2.0 to 2.7 times in head length. Lateral body scales rough, some specimens with a few auxiliary scales; lateral-line scales 55 to 64; **lateral scale series 108 to 125.** **Colour:** head and body buff, with dark brown bands as follows: a bifurcate band begins behind eye, the upper branch joining a dark brown saddle blotch on nape, the lower branch running to lower opercular spine and continuing on body as a midlateral band that bifurcates above pectoral fin, the upper branch running to a dark blotch at base of third to seventh dorsal-fin rays, the lower branch curving up to base of last 4 dorsal-fin rays; another dark band from upper edge of operculum to base of fifth to ninth dorsal-fin spines; dark band from lower edge of eye to pectoral-fin base, thence as a broken band along lower part of body, curving up to dorsal part of peduncle; dark band from maxillary groove to rear end of interopercle. Small dark brown spots often present in pale areas between bands and usually arranged in series paralleling the bands; fins generally unmarked; pectoral fins hyaline yellow.

Size: Maximum total length 73 cm; maximum weight 5 kg.

Habitat, biology, and fisheries: A common deep-reef species usually found in depths of 80 to 370 m. Sexual transition probably occurs at about 40 to 45 cm standard length. Caught with hand-line, long-line, gill net, and trawls.

Distribution: Red Sea and western Indian Ocean to Central Pacific, including Andaman Sea, Indonesia, Viet Nam, Philippines, Hong Kong, southern Japan, Ogasawara Islands, Mariana Islands, Palau, Guam, Papua New Guinea, Australia (Northern Territory to southern Queensland), New Ireland, New Caledonia, Rotuma, Fiji, and Cook Islands.

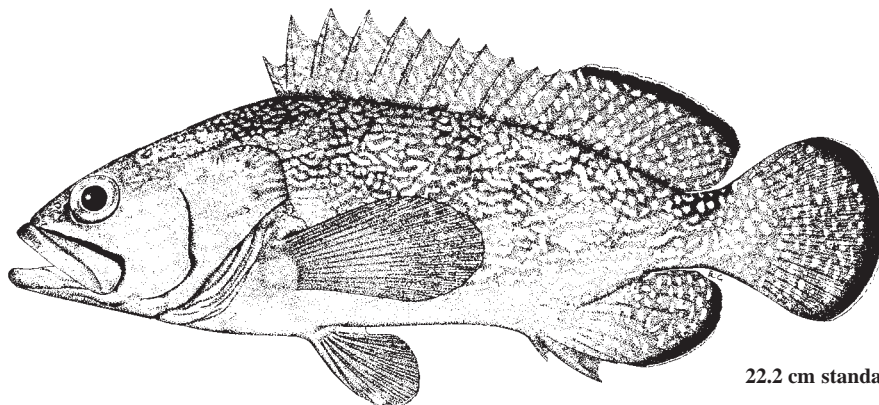


Epinephelus ongus (Bloch, 1790)

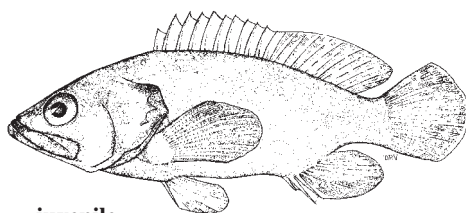
(Plate V, 34)

Frequent synonyms / misidentifications: *Epinephelus slacksmithi* Whitley, 1959 / *Epinephelus summana* (non Forsskål, 1775); *E. caeruleopunctatus* (non Bloch, 1790).

FAO names: En - Whitestreaked grouper; Fr - Mèrou à flocons; Sp - Mero nubifero.



22.2 cm standard length



juvenile

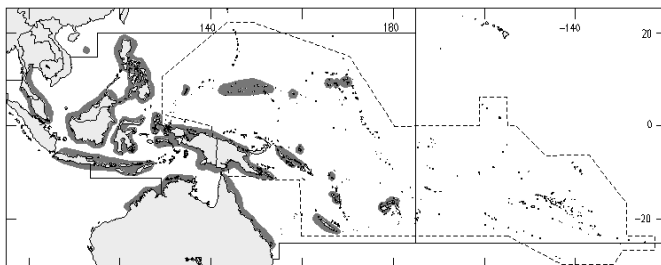
11.2 cm standard length

Diagnostic characters: Body depth 2.7 to 3.2 times in standard length; head length 2.3 to 2.5 times in standard length. Dorsal head profile slightly convex; interorbital area flat; **preopercle rounded, the serrae small and mostly covered by skin; upper edge of operculum strongly convex, the rear edge almost vertical, the upper spine extending posterior to lower spine;** maxilla reaches to or slightly past vertical at rear edge of eye; small, embedded scales on maxilla; teeth small, 2 to 4 rows at midlateral part of lower jaw; canines at front of jaws small or absent. **Rear nostril diameter about twice that of anterior nostril.** First gill arch with 8 to 10 gill rakers on upper limb, 15 to 18 on lower limb (including 6 to 8 rudiments on each limb). Dorsal fin with XI spines and 14 to 16 soft rays, the third or fourth spine longest, 2.6 to 3.4 times in head length, the interspinous membranes incised; anal fin with III spines and 8 soft rays; caudal fin rounded; **pectoral fins large and fleshy, with 15 to 17 rays, the fin length 1.4 to 1.7 in head length;** pelvic fins end well short of anus, their length 2.0 to 2.3 times in head length. Lateral body scales rough, with auxiliary scales; **lateral-line scales 48 to 53; lateral scale series 95 to 109.** **Colour:** body brown, with numerous small white spots which, in specimens larger than 10 cm standard length, are horizontally elongate and, in adults, tend to form wavy white lines; several round or irregular pale blotches (eye-sized or larger) usually superimposed over small white spots; head brown, with numerous small white spots dorsally behind eyes; black maxillary streak usually hidden by maxilla; median fins with small white spots and streaks, the posterior margin blackish with a white edge; paired fins greyish brown. Juveniles of about 6 cm standard length are brown, covered with small, dark-edged white spots which are round, except on front part of dorsal fin where they are elongated; white spots on paired fins become fewer and fainter with growth, and are absent in adults.

Size: Maximum total length about 32 cm.

Habitat, biology, and fisheries: Occurs in shallow water on coral reefs and rocky substrata, primarily on inner coastal and lagoon reefs, even in brackish water, where it frequents ledges and caves at depths of 5 to 25 m. Although this cryptic species is not very common, it is of some interest to fisheries in Japan (and probably elsewhere). Caught with hook-and-line, spear, and traps.

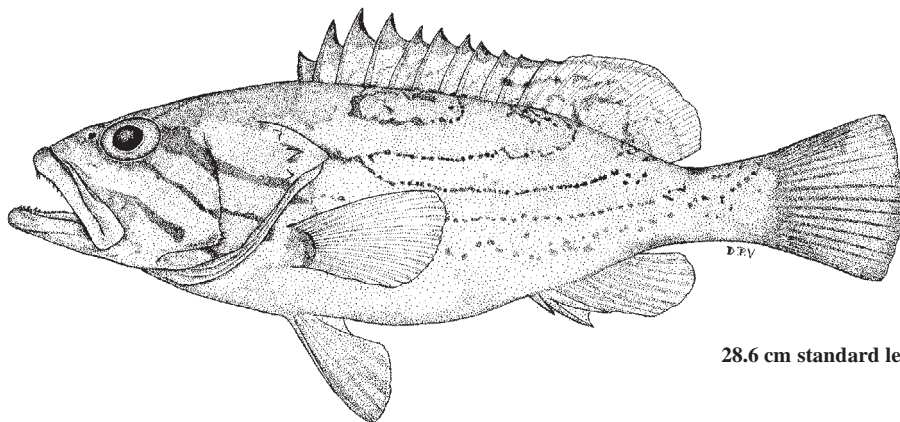
Distribution: Indo-Pacific region, from Africa to the Ryukyu and Marshall islands and south to Fiji, New Caledonia, and northern Australia.



Epinephelus poecilonotus (Temminck and Schlegel, 1842)

Frequent synonyms / misidentifications: None / *Epinephelus morrhua* (non Valenciennes, 1833); *E. epistictus* (non Temminck and Schlegel, 1842); *E. magniscuttis* non Postel, Fourmanoir, and Guézé, 1963; *E. radiatus* (non Day, 1867); *E. tuamotuensis* non Fourmanoir, 1971.

FAO names: En - Dotdash grouper; Fr - Mérou morse; Sp - Mero punto y línea.



28.6 cm standard length

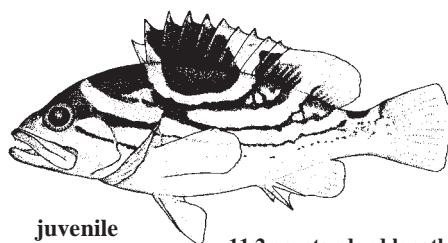
Diagnostic characters: Body depth less than head length, 2.6 to 3.1 times in standard length. Preopercle angle with 2 to 5 enlarged serrae; upper edge of operculum slightly convex; adults with a step on ventral edge of maxilla; midside of lower jaw with 2 rows of teeth. First gill arch with 8 to 10 gill rakers on upper limb, 15 to 18 on lower limb; longest raker about equal to longest gill filaments. Pyloric caeca 8 or 9. Dorsal fin with XI spines and 14 or 15 soft rays, the third or fourth spines longest, 2.6 to 3.1 times in head length and subequal to longest dorsal-fin ray, the interspinous membranes deeply incised; anal fin with III spines and 8 soft rays; caudal fin convex; pectoral fins not fleshy, with 17 to 19 rays, the fin length 1.7 to 2.1 and pelvic fins 2.0 to 2.6 times in head length. Lateral body scales rough, with auxiliary scales on adults; lateral-line scales 54 to 63; lateral scale series 110 to 121.

Colour: small juveniles (5 to 12 cm standard length) pale yellowish grey, with oval black blotch on body between bases of third to ninth dorsal-fin spines and extending to edge of fin between first and seventh spines; a semicircular pale band passes ventrally round the oval black blotch and isolates it from a dark brown band that begins broadly on nape and bifurcates just behind operculum, the upper branch curving dorsally and expanding over basal half of dorsal fin between ninth spine and fourth soft ray, the lower branch also curving dorsally and expanding at base of last 4 dorsal-fin rays. Second curved brown band, parallel to the one above, runs from interorbital area and eye to a black saddle-spot on caudal peduncle. Third (and narrowest) dark brown band runs from lower edge of eye to subopercle, thence as a series of dark dots along ventral part of body to caudal fin. Fins pale yellow, except where dark markings occur on dorsal fin. On specimens of 20 to 30 cm, the oval black blotch at base of dorsal-fin spines and the dark brown bands on body break into series of black spots; faint dark band from dark maxillary streak to corner of preopercle. On specimens 40 to 50 cm, most dark spots on body are faint or have disappeared and the dark bands on head are fading too; the fins are yellowish brown, the triangular interspinous dorsal fin margins abruptly orange-yellow or brownish yellow; soft dorsal, anal, and caudal fins blackish distally with a bluish white edge.

Size: Maximum total length at least 63 cm; maximum weight at least 4 kg.

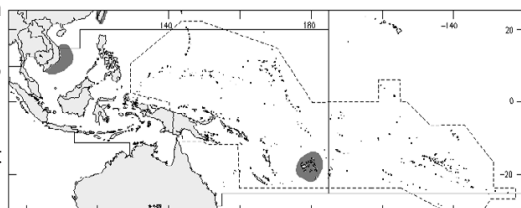
Habitat, biology, and fisheries: Occurs in depths of 45 to 375 m. Females are mature at 35 cm standard length. Caught with hook-and-line, vertical longline, and trawls.

Distribution: Indo-West Pacific: South Africa to Viet Nam, Japan, Korea, and Fiji.



juvenile

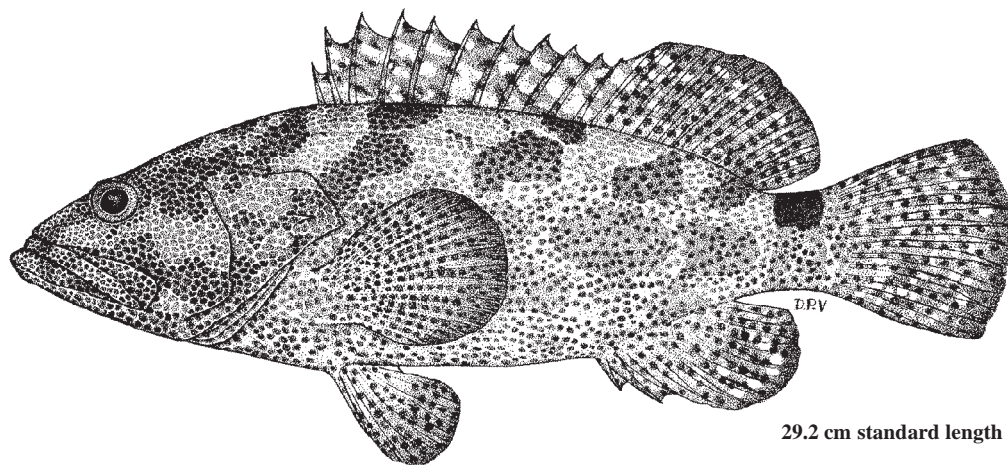
11.2 cm standard length



Epinephelus polyphekadion (Bleeker, 1849)

Frequent synonyms / misidentifications: *Epinephelus microdon* Bleeker, 1856; *E. dispar* var. B (Playfair, 1867) / *Epinephelus fuscoguttatus* (non Forsskål, 1775).

FAO names: En - Camouflage grouper; Fr - Merou camouflage; Sp - Mero disfrazado.



Diagnostic characters: Body depth 2.7 to 3.1 times in standard length. **Interorbital area flat, the dorsal head profile evenly convex; preopercle rounded, finely serrate; upper edge of operculum distinctly convex;** maxilla reaches to or beyond vertical at rear edge of eye; midlateral part of lower jaw with 2 or 3 rows of teeth; fixed canines at front of jaws inconspicuous. **Rear nostril diameter about twice diameter of front nostrils. First gill arch with 24 to 27 gill rakers, of which 8 to 10 on upper limb and 15 to 17 on lower limb. Dorsal fin with XI spines and 14 or 15 soft rays, third or fourth spines longest, 2.7 to 3.3 times in head and distinctly shorter than longest dorsal-fin ray; anal fin with III spines and 8 soft rays; caudal fin rounded; pectoral-fin rays 16 to 18, the fin length 1.7 to 2.1 times, pelvic fins 1.9 to 2.4 times in head length. Lateral body scales rough, with auxiliary scales. Lateral-line scales 47 to 52; lateral scale series 95 to 113. Colour: head, body, and fins pale brown, covered with small dark brown spots; head and body with irregular dark blotches (more distinct on live specimens) superimposed over the dark spots; prominent black saddle blotch on caudal peduncle; dark spots extend all over head, including lower jaw, lips, branchiostegal membranes, gular area, and inside of mouth; numerous small white spots on fins (more distinct on live fish) and a few on head and body. Juveniles with a pair of blackish spots on each side of snout and a black spot at margin of second and third interspinous dorsal membranes.**

Size: Maximum total length at least 75 cm; maximum weight at least 4 kg.

Habitat, biology, and fisheries: Coral reefs; most abundant at islands, particularly atolls. Feeds mainly on crustaceans (primarily portunid crabs, but also some scyllarid and panularid lobsters) and fishes; molluscs are less important food items. Females mature at 38 cm standard length, and sex change occurs at about 42 cm standard length. Important in artisanal fisheries, but occasionally implicated in cases of ciguatera. Now uncommon at localities with heavy spearfishing. Currently popular in the aquaculture industry of Singapore, where it is known as "marble grouper". Caught with hook-and-line, spear, and traps.

Distribution: Tropical Indo-West Pacific region from Red Sea and Mozambique to French Polynesia. In the western Pacific it ranges from southern Japan to Taiwan Province of China, Indonesia, southern Queensland, and Lord Howe Island and eastwards to the Tuamotus. Reported from most islands of the western Central Pacific.

