

**Diagnostic Features :** Body moderately deep. Snout relatively pointed; preopercular notch and knob weak; vomerine tooth patch V-shaped or crescentic with a medial posterior extension. Dorsal fin with 10 (rarely 11) spines and 13 or 14 soft rays; anal fin pointed in specimens larger than about 7 cm, with 3 spines and 8 (rarely 7) soft rays; pectoral fins long, reaching level of anus, with 17 (rarely 16 or 18) rays; caudal fin moderately forked. Scale rows on back rising obliquely above lateral line. Colour: back and upper sides pink to red; lower sides and belly pinkish with a silver sheen; sides with very fine undulating yellow lines; fins mostly reddish or pale yellow; posterior margin of caudal fin sometimes deep red or dusky; young specimens (under about 25 cm) with a blackish spot on upper side below anterior dorsal soft rays.

**Geographical Distribution :** Tropical western Atlantic Ocean as far north as Bermuda and North Carolina and south to central eastern Brazil. Most abundant around the Antilles and the Bahamas.

**Habitat and Biology :** Common near the edge of the continental and island shelves at depths between 90 and 140 m; also found in deeper waters (below 200 m); usually ascending to shallower water at night. Feeds mainly on fishes, shrimps, crabs, gastropods, cephalopods, tunicates and some pelagic items including urochordates. Spawning occurs over most of the year in lower latitudes, but is seasonal (spring and summer) toward the northern and southern limits of the distribution.

**Size :** Maximum total length about 80 cm; common to 45 cm. Matures at 24 to 40 cm.

**Interest to Fisheries :** A good quality eating fish. The most commonly caught snapper off drop-offs and ledges over insular shelf breaks in the Caribbean. Caught mainly with simple and multiple handlines, also with deepwater traps. Marketed mostly fresh.

**Local Names :** CUBA: Pargo de lo alto; PUERTO RICO: Chillo.

**Literature :** Jordan & Evermann (1896); Rivas (1966); Anderson (1967); Fischer (ed.) (1978).

**Remarks :** This species is sometimes implicated in cases of ciguatera fish poisoning.



**Macolor** Bleeker, 1860

LUT Mac

**Genus :** Macolor Bleeker, 1860:25. Type-species Macolor typus Bleeker, 1867 (= Macolor niger [Forsskål, 1775]), by original designation.

**Synonyms :** Genus Promblyx Gill, 1862.

**Diagnostic Features :** Medium-sized snappers with an oblong, relatively deep body. Mouth relatively large, protractile a row of pointed, conical teeth in jaws, enlarged anteriorly, and inner bands of villiform teeth on sides of upper jaw and at front of lower jaw; vomerine tooth patch broadly V-shaped, without a median posterior extension; gill rakers very numerous, about 60 to 80 on lower limb of first gill arch; a deep notch on lower edge of preopercle. Dorsal fin continuous, not notched at junction of spinous and soft portions, with 10 spines and 13 or 14 soft rays; anal fin with 3 spines and 10 or 11 soft rays; pectoral fins relatively elongate, about equal to head length in adults; dorsal and anal fins scaled; caudal fin emarginate. Colour: adults mainly blackish except lighter on belly, sometimes with undulating dark lines on head; juveniles with a strongly contrasted pattern of mainly black dorsally and white ventrally, with white spots in black region of back and a black band through the eye.

**Biology, Habitat and Distribution :** Macolor species are conspicuous inhabitants of coral reef areas, the adults occurring both solitary and in groups. Juveniles are often seen in the vicinity of crinoids (feather stars). The depth range is generally between about 5 and 40 m, but specimens have been reported to 90 m. The diet includes mainly fishes and crustaceans.

**Geographical Distribution :** Widely distributed in the tropical Indo-Pacific Ocean from Samoa to East Africa, and from the Ryukyu Islands southward to Australia.

**Interest to Fisheries :** *Macolor* species are frequently seen in markets, but seldom in large quantities. The flesh is of good quality and generally marketed fresh.

**Key to the species of *Macolor* :**

- 1a. Soft dorsal fin rays usually 14 (last ray divided at base); soft anal fin rays usually 11 (last ray divided at base); gill rakers on lower limb of first arch 60 to 70; juveniles without broad, black horizontal band from eye to rear edge of opercle, and with short pelvic fins (shorter than head length) ..... ***M. niger***
- 1b. Soft dorsal fin rays usually 13 (last ray divided at base); soft anal fin rays usually 10 (last ray divided at base); gill rakers on lower limb of first arch 70 to 80; juveniles with a broad, black horizontal band from eye to rear edge of opercle, and with extremely elongate pelvic fins (much longer than head length) ..... ***M. macularis***

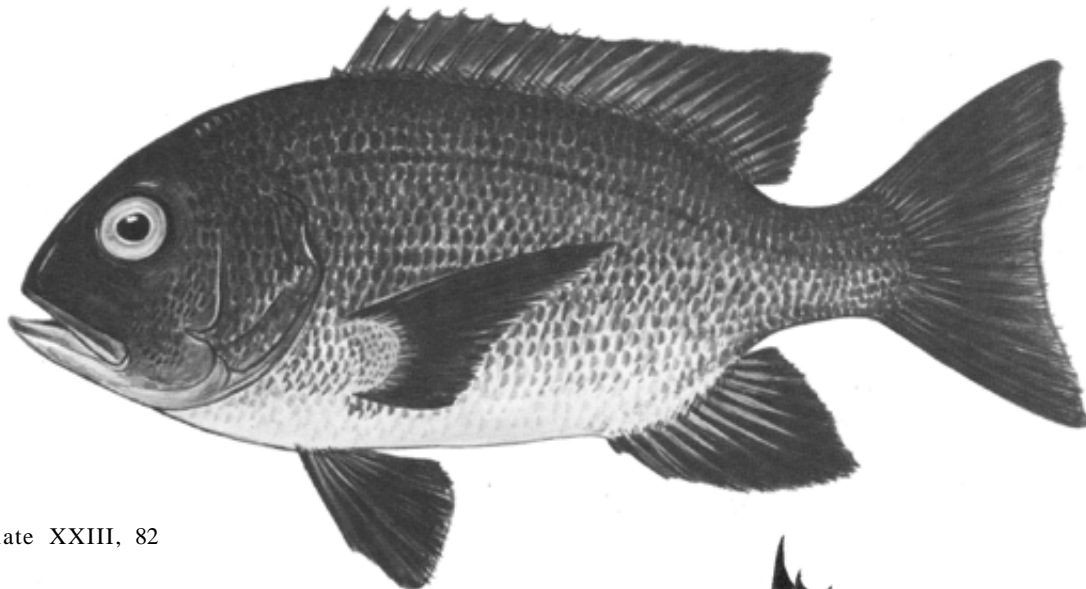
***Macolor macularis*** Fowler, 1931

LUT Mac 2

*Macolor macularis* Fowler, 1931, *Bull.U.S.Nat.Mus.*, 100, Vol. II:181 (Philippine Islands).

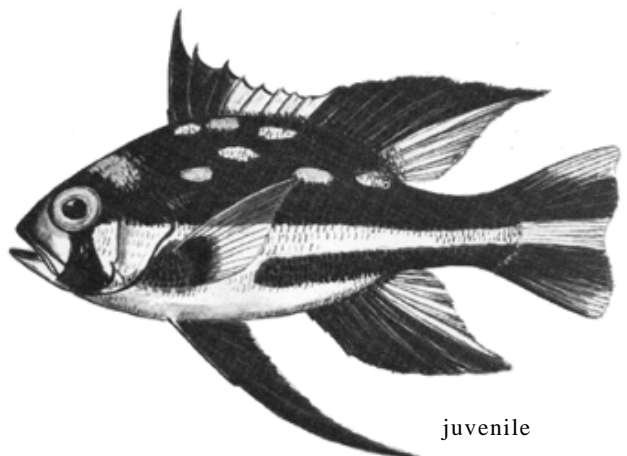
**Synonyms :** None.

**FAO Names :** En - Midnight snapper; Fr - Vivaneau minuit; Sp - Pargo medianoche.



See Plate XXIII, 82

**Diagnostic Features :** Body relatively deep. Head profile markedly convex; preorbital bone broader than eye diameter; mouth large, the maxilla extending to below anterior half of eye; a deep notch on lower edge of preopercle; a row of conical teeth in jaws, enlarged anteriorly and inner bands of villiform teeth on sides of upper jaw and front of lower jaw; vomerine tooth patch broadly V-shaped; gill rakers on lower limb of first arch (including rudiments about: 70 to 80. Dorsal fin with 10 spines and 13 soft rays; anal fin with 3 spines and 10 soft rays; posterior lobes of dorsal and anal fins distinctly pointed; pectoral fins long, reaching level of anus, with 17 or 18 rays; caudal fin emarginate;



juvenile

See Plate XXIII, 82a

juveniles (less than about 20 cm standard length) with greatly elongate pelvic fins. Scales moderate-sized, about 50 to 56 in lateral line. Scale rows on back parallel to lateral line. Colour: adults uniformly blackish with a yellow iris; juveniles under 20 cm total length black on upper sides (usually with 6 to 10 small white spots) and white below, a black bar through eye and a broad, black horizontal band from eye to rear edge of opercle, pale pectoral fins (except base) and a black stripe from pectoral region to lower caudal lobe; larger juveniles with about 6 to 10 white spots on back.

**Geographical Distribution :** Tropical western Pacific Ocean from the Ryukyu Islands southward to Australia and Melanesia. Possibly more widespread, but confused in the literature with M. niger.

**Habitat and Biology :** Inhabits coral reefs and is usually seen solitarily. Occurs at depths between about 5 and 50 m. Feeds largely on fishes and crustaceans.

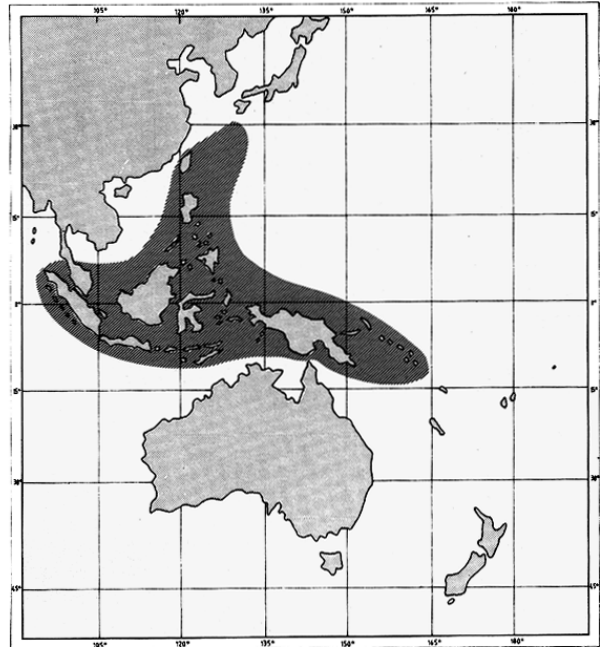
**Size :** Probably similar to M. niger (maximum total length about 60 cm).

**Interest to Fisheries :** Frequently seen in markets, mainly fresh. Caught with handlines, gill nets, traps, and also speared by divers.

**Local Names :-**

**Literature :** Masuda et al., (1984, as M. niger).

**Remarks :** Fowler (1931) described Macolor macularis from a series of 26 specimens, 35-615 mm total length collected in the Philippines. He distinguished it from M. niger on the basis of colour pattern (mainly dark compared to the black and white contrasting colours of M. niger). He apparently did not realize that the adult stage of M. niger was also primarily dark. On the basis of Fowler's meristic characters (primarily those pertaining to dorsal and anal fin-ray counts and gill raker counts) it appears that his material included both M. niger and M. macularis. Unfortunately, separate counts and measurements were not given for the holotype (U.S. National Museum reg. no. 89996). According to Dr V.C. Springer (pers. comm.) the holotype has been missing for several years. Therefore it is impossible to assess the taxonomic status of M. macularis. Adult specimens have not been examined in detail, but juveniles of M. macularis are clearly separable from M. niger on the basis of colour pattern (see colour illustrations) and the meristic features given in the key to Macolor species. Counts for the neotype are as follows: dorsal fin spines 10, soft rays 13; anal fin spines 3, soft rays 10; pectoral fin rays 17; gill rakers on lower limb of first arch 71. The pelvic fins are greatly elongated (39% of standard length).



In addition to the holotype, several juveniles specimens of M. macularis from the East Indian collection of P. Bleeker were examined at the Rijkmuseum van Natuurlijke Historie (Leiden) These are contained in a mixed lot with M. niger, including the probable holotype of Macolor typus Bleeker (RMNH reg. no. 27708). The holotype of Diacope macolor (Museum d'Histoire Naturelle, Paris; reg. no. 8172) was also examined. The holotypes of both D. macolor and M. typus were identified as M. niger. The Forsskål type of Sciaena niger was not examined, but the author has seen specimens from Saudi Arabia Red Sea), the type locality professor Bruno Condé (l'Université de la Ville de Nancy, France), and Dr W.E. Burgess (T.F.H. Publications, New Jersey, USA), first brought the existence of this species to my attention. It will be described in more detail in a forthcoming review of Macolor now in progress by Amaoka and Hishimoto.

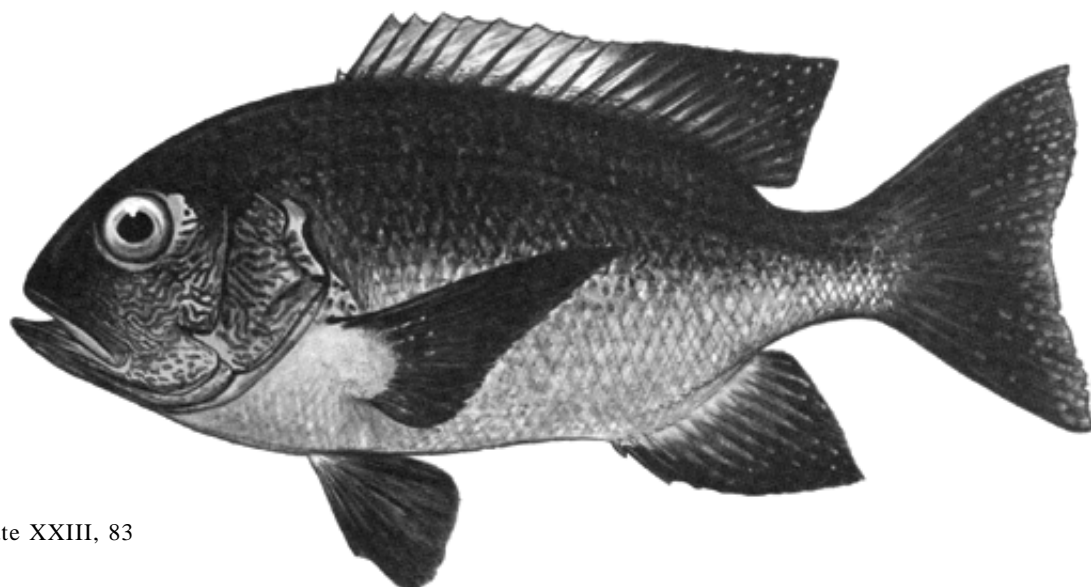
**Macolor niger** (Forsskål, 1775)

LUT Mac 1

Sciaena nigra Forsskål, 1775, Descrip.Animal.:xi, 47 (Djedda, Red Sea).

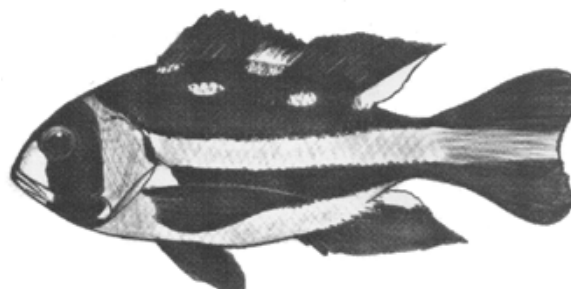
**Synonyms :** (From Fowler, 1931) Diacope macolor Lesson (1827); Macolor typus Bleeker (1867); ? Macolor macularis Fowler (1931).

**FAO Names :** En- Black and white snapper; Fr - Vivaneau plate; Sp - Pargo blanco y negro.



See Plate XXIII, 83

**Diagnostic Features :** Body relatively deep. Head profile markedly convex; preorbital bone broader than eye diameter; mouth large, the maxilla extending to below anterior half of eye; a deep notch on lower edge of preopercle; a row of conical teeth in jaws, enlarged anteriorly and inner bands of villiform teeth on sides of upper jaw and front of lower jaw; vomerine tooth patch broadly V-shaped; gill rakers on lower limb of first arch (including rudiments about 60 to 70. Dorsal fin with 10 spines and 14 soft rays; anal fin with 3 spines and 11 soft rays; posterior lobes of dorsal and anal fins distinctly pointed; pectoral fins long, reaching level of anus, with 17 or 18 rays; caudal fin emarginate. Scales moderate-sized, about 50 to 56 in lateral line. Scale rows on back parallel to lateral line. Colour: adults uniformly blackish with a yellow iris; juveniles under 20 cm total length black on upper sides and white below, with a black bar through eye, black pectoral fins and a black stripe from pectoral region to lower caudal lobe; larger juveniles with 3 to 6 white spots on back.



juvenile

See Plate XXIII, 83a

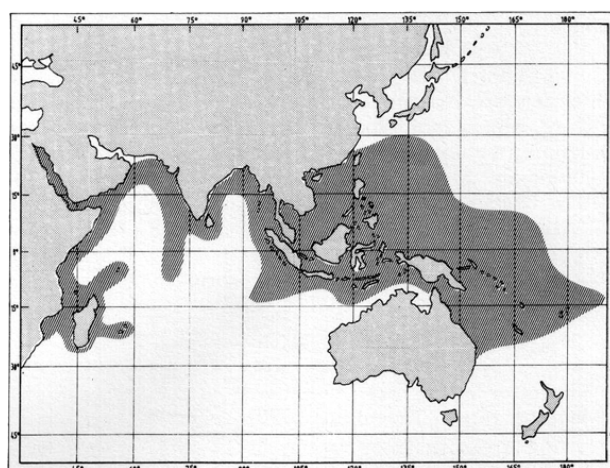
**Geographical Distribution :** Widely distributed in the tropical Indo-Pacific Ocean from Samoa to East Africa, and from the Ryukyu Islands southward to Australia.

**Habitat and Biology :** Inhabits coral reefs and is usually seen solitarily. Occurs at depths between about 5 and 90 m. Feeds largely on fishes and crustaceans.

**Size :** Maximum total length about 60 cm; common to 35 cm.

**Interest to Fisheries :** Frequently seen in markets, mainly fresh. Caught with handlines, gill nets, traps, and also speared by divers.

**Local Names :** JAPAN: Nadaratarumi; NEW CALEDONIA: Perche blanche et noire; PALAU: Ngkalalk; SAMOA: Matala'oa; SOUTH AFRICA: Black beauty, Swartnooi; THE PHILIPPINES: Kanu, Mayamaya.



**Literature :** Fowler (1931); Kyushin *et al.* (1977); Fischer & Bianchi (eds) (1984); Masuda *et al.* (1984).