

Geographic Distribution: Western Indian Ocean to the central Pacific, including east African coast from Kenya to about 15°S, most islands of the Indian Ocean, Viet Nam, Indonesia, Philippines, Taiwan, Okinawa, Papua New Guinea, northern Australia, and most islands of the west-central Pacific. *C. leopardus* is absent from the Red Sea and Persian Gulf (Fig. 90).

Habitat and Biology: Well-developed coral reefs in depths of 3 to 38 m. Morgans (1982) reported crustacean remains in the two specimens containing food that he examined. Like most small groupers, this is a secretive species, which is usually hiding in caves and crevices in the reef.

Size: Maximum total length 20 cm (larger sizes reported in the literature are unsubstantiated).

Interest to Fisheries: None.

Local Names: AUSTRALIA: Red-spotted rockcod; JAPAN: Minami-isohata; PALAU: Elewik; PHILIPPINES: Pugapo (Visayan).

Literature: Heemstra and Randall (1984, 1986); Myers (1989); Randall and Heemstra (1991).

Remarks: This is one of the smallest species of groupers known.

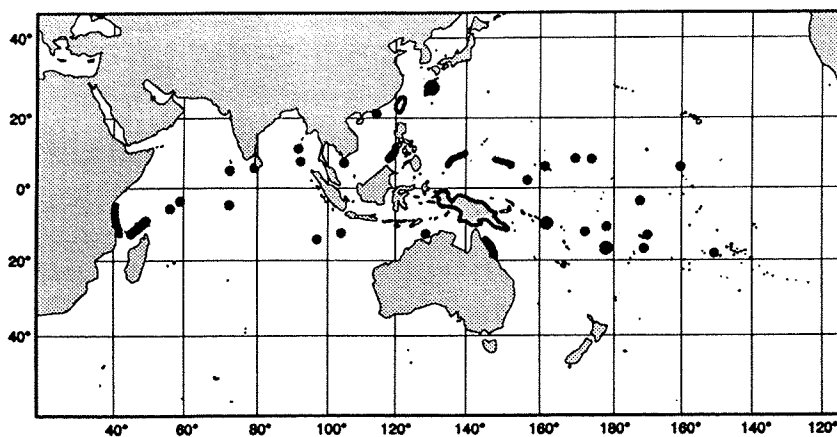


Fig. 90

Cephalopholis microprion (Bleeker, 1852)

Fig. 91; Pl. IIIF

SERRAN Cephal 21

Serranus microprion Bleeker, 1852b:552 (type localities: Ambon and Batavia).

Synonyms: None.

FAO Names: En - Freckled hind; Fr - Vielle tache de rousseur; Sp - Cherna pecosa.

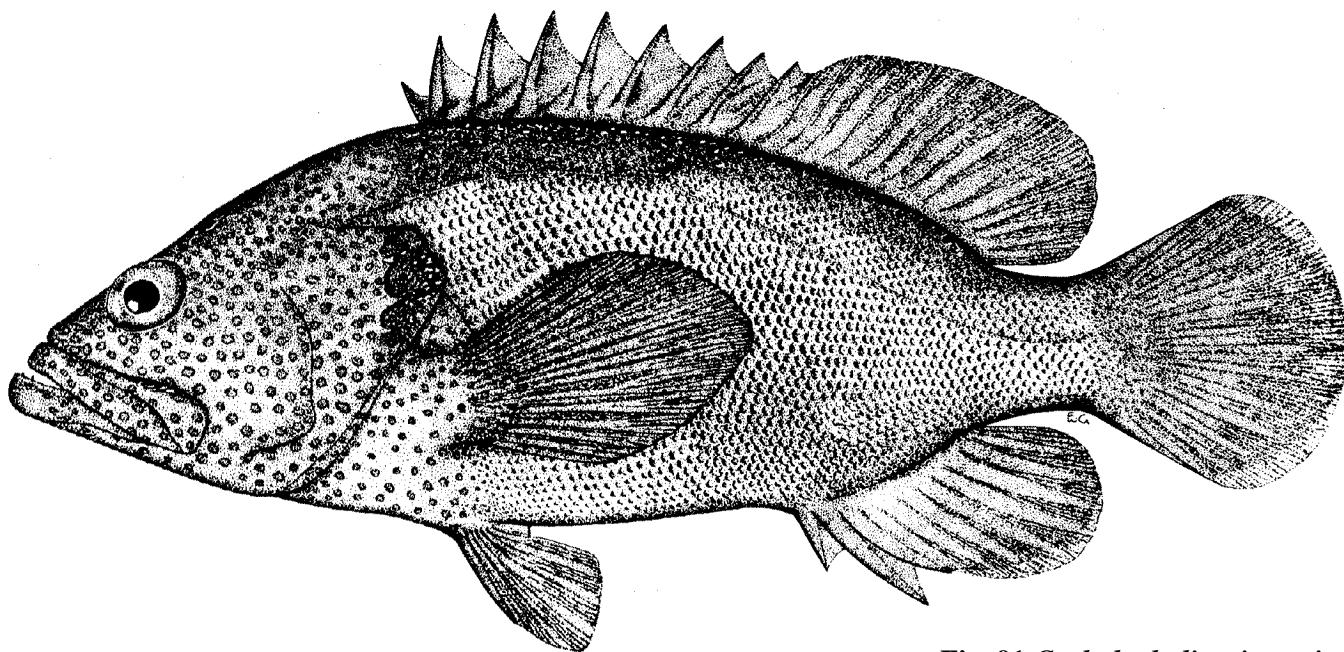


Fig. 91 *Cephalopholis microprion*
(124 mm standard length)

Diagnostic Features: Body depth contained 2.5 to 2.8 times in standard length (for fish 9 to 19 cm standard length). Head length contained 2.3 to 2.5 times in standard length; interorbital area flat or slightly concave; preopercle rounded, finely serrate, the lower edge fleshy; subopercle and interopercle smooth or finely serrate; upper edge of operculum very convex; maxilla naked, extending past eye. Gill rakers 7 to 9 on

upper limb, 14 to 17 on lower limb. Dorsal fin with IX spines and 14 to 16 rays; anal fin with III spines and 8 rays; pectoral-fin rays 14 to 16; pectoral fins usually reaching past vertical at anus, their length contained 1.4 to 1.6 times in head length; pelvic-fin length contained 1.9 to 2.1 times in head length; caudal fin well rounded. Body scales ctenoid, without auxiliary scales; lateral-line scales 45 to 51; lateral-scale series 84 to 98. **Colour:** Dark brown, the proximal part of each scale darker than the posterior part; some fish with indistinct dark bars on body; head (including jaws) and anterior part of body with numerous small dark-edged blue ocelli; some fish also have blue ocelli on the fins; soft dorsal, anal, and caudal fins usually with a greyish blue margin (narrow or absent at tips of central caudal rays).

Geographic Distribution: Tropical eastern Indian Ocean and western Pacific: Andaman Sea, Gulf of Thailand, Indonesia, Philippines, Papua New Guinea, Great Barrier Reef, Solomon Islands, and New Caledonia (Fig. 92).

Habitat and Biology: *C. microprion* is a shallow-water species usually found on silty reefs.

Size: Maximum total length about 24 cm.

Interest to Fisheries: Because of its small size, this species is of minor importance to fisheries. Caught with hook-and-line and probably in traps.

Local Names:

Literature: Randall and Heemstra (1991).

Remarks: Following Boulenger's (1895) influential work *C. microprion* was usually considered a synonym of *C. pachycentron* (*C. boenak*). Randall (1987) recognized *C. microprion* as a valid species, and distinguished it from *C. boenak*.

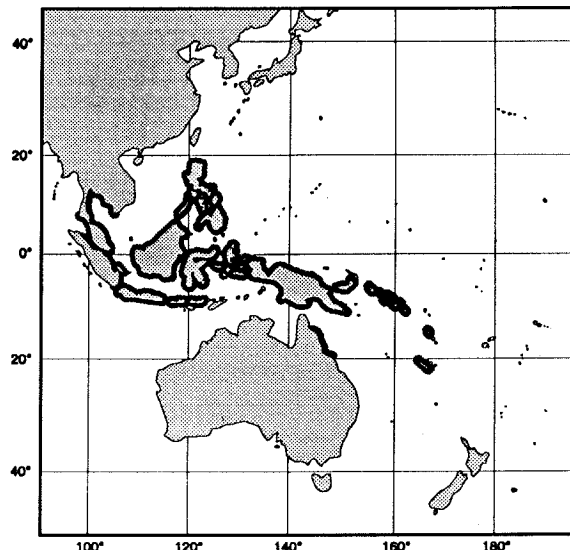


Fig. 92

Cephalopholis miniata (Forsskål, 1775)

Fig. 93; Pl. IVA,B

SERRAN Cephal 1

Perca miniata Forsskål, 1775:41 (type localities: Jeddah and Hudaydah, Red Sea).

Synonyms: *Pomacentrus burdi* Lacepède, 1802:511 (on *Perca miniata* Forsskål). *Serranus cyanostigmatoïdes* Bleeker, 1849:31 (type locality: Jakarta, Indonesia). ?*Serranus perguttatus* De Vis, 1884b:445 (type locality: Vanuatu). *Cephalopholis maculatus* Seale and Bean, 1907:235, fig. 5 (type locality: Zamboanga, Mindanao, Philippines). *Cephalopholis formosanus* Tanaka, 1911:24, pl. 7, fig. 22 (type locality: Taihoku, Taiwan). *Cephalopholis boninius* Jordan and Thompson, 1914:248, pl. 29, fig. 7 (type locality: Bonin Islands).

FAO Names: En - Coral hind (formerly: Vermilion seabass); Fr - Vielle de corail (formerly: Vielle étoilée); Sp - Cherna estrellada.

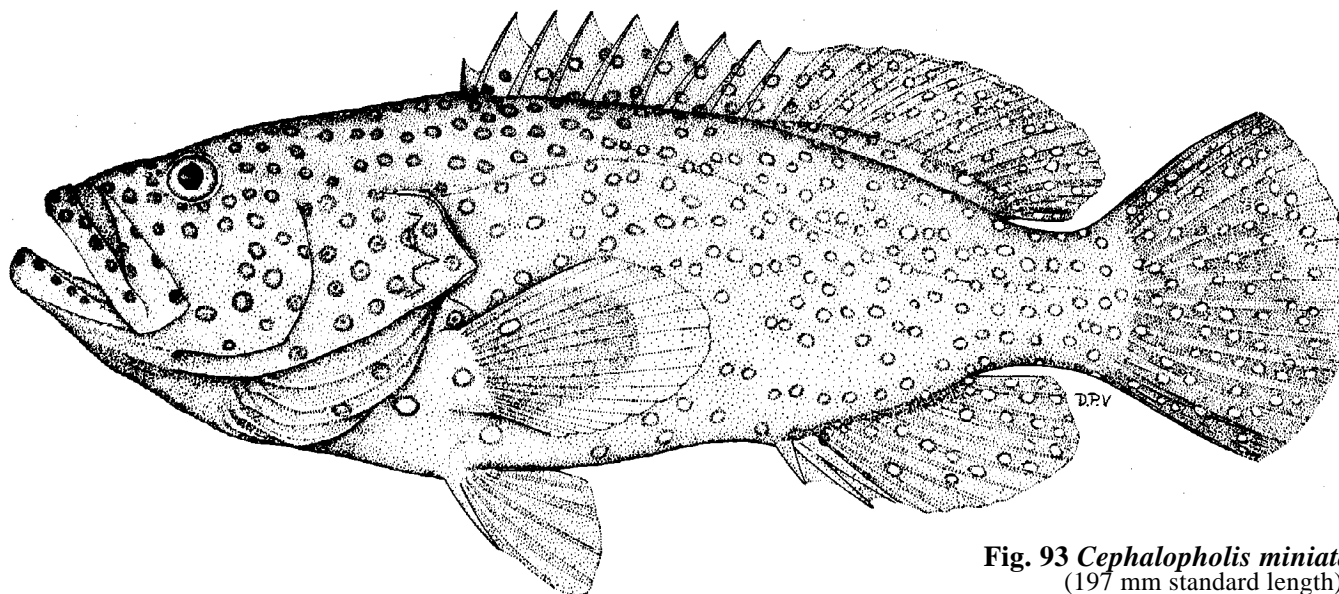


Fig. 93 *Cephalopholis miniata*
(197 mm standard length)

Diagnostic Features: Body depth contained 2.6 to 3.0 times in standard length (for fish 10 to 30 cm standard length). Head length contained 2.4 to 2.6 times in standard length; interorbital area flat to slightly convex; preopercle rounded, finely serrate, the lower edge fleshy; upper edge of operculum very convex; maxilla scaly, reaching to or beyond vertical at rear edge of eye. Gill rakers 7 to 9 on upper limb, 14 to 16 on lower limb. Dorsal fin with IX spines and 14 to 16 rays, the membranes distinctly indented between the spines; anal fin with III spines and 9 (rarely 8) rays, the fin margin rounded in adults; pectoral-fin rays 17 or 18, pectoral-fin length contained 1.4 to 1.75 times in head length; pelvic fins usually not reaching anus, their length contained 1.9 to 2.3 times in head length; caudal fin well rounded. Midlateral-body scales ctenoid; no auxiliary scales; lateral-line scales 47 to 56; lateral-scale series 94 to 114. **Colour:** Orange-red to reddish brown, covered with small (usually dark-edged) pale blue-grey spots; pectoral fins orange-yellow distally; soft dorsal, caudal, and anal fins often with a narrow blue margin and blackish submarginal line; pelvic fins orange-red, the distal edge dark bluish grey. Juveniles more yellowish, with faint pale blue spots, fewer than in adults.

Geographic Distribution: Tropical Indo-Pacific and Red Sea (but not the Persian Gulf or French Polynesia), from the African coast (south to Durban, South Africa) to the Line Islands in the central Pacific, including most islands in the Indian and west-central Pacific oceans, southern Japan, Taiwan, Philippines, Indonesia, northern Australia, Papua New Guinea, New Caledonia, and the islands of Micronesia (Fig. 94). One specimen, presumably an immigrant from the Red Sea, was reported from the Gulf of Genoa in the Mediterranean Sea (Torchio in Hureau and Monod, 1978:359).

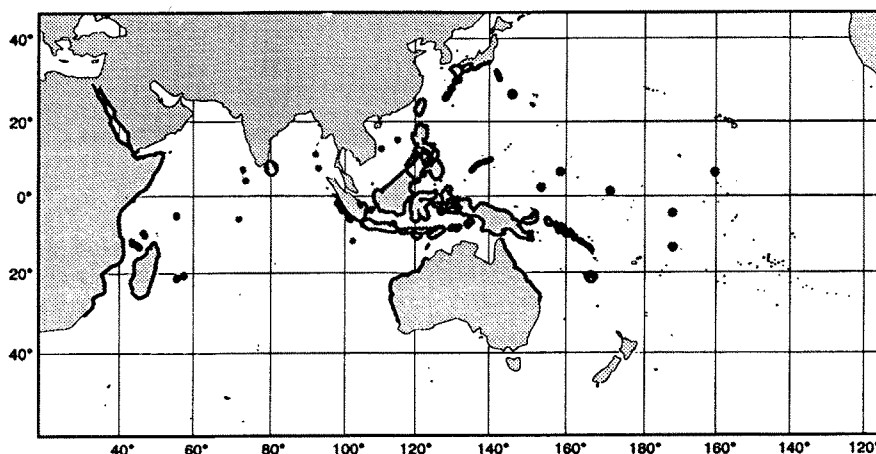


Fig. 94

Habitat and Biology: *C. miniata* is usually found on well-developed exposed coral reefs in clear water at depths of 2 to 150 m. Shpigel and Fishelson (1989) found that it feeds mainly during the early morning (07.00 to 09.00 h) and midafternoon (14.00 to 16.00 h). Most of the prey (86%) were fishes that school just above the reef (predominantly *Pseudanthias squamipinnis*), and most of these were caught by a quick rush ("ambush attack") from the bottom. The remaining 14% of the food comprised crustaceans. *C. miniata* forms harem groups comprising a dominant male and 2 to 12 females. These groups occupy territories of up to 475 m², subdivided into secondary territories, which are defended by a single female (Shpigel and Fishelson, 1991). Morgans (1982) reported sexual maturity (females?) at 25 cm standard length, and fishes as the only food item in the 6 specimens with stomach contents that he examined.

Size: Maximum total length about 40 cm.

Interest to Fisheries: Although rather small, *C. miniata* is a common species that is of considerable economic importance to local fisheries. It is caught with hook-and-line, spear, and in traps.

Local Names: AUSTRALIA: Blue-spotted rockcod, Coral cod, Coral trout; JAPAN: Yukatahata; MADAGASCAR: Alovo; PALAU: Rumekei; PHILIPPINES: Lapu-lapung señora (Tagalog); SEYCHELLES: Vermillion seabass, Coral rockcod, Vielle anana, Vielle rouge; SINGAPORE: Kerapu bar.

Literature: Heemstra and Randall (1984, 1986); Myers (1989); Randall and Heemstra (1991).

Remarks: *C. miniata* is compared with *C. hemistiktos* under that species account.

Cephalopholis nigri (Günther, 1859)

Fig. 95

SERRAN Cephal 6

Serranus nigri Günther, 1859:112 (type locality: mouth of the Niger River).

Synonyms: *Serranus lineo-ocellatus* Guichenot in Duméril, 1861:244 (type locality: Gabon, Gorée).
Petrometopon nigri.

FAO Names: En - Niger hind; Fr - Mèrou du Niger; Sp - Cherna del Niger.

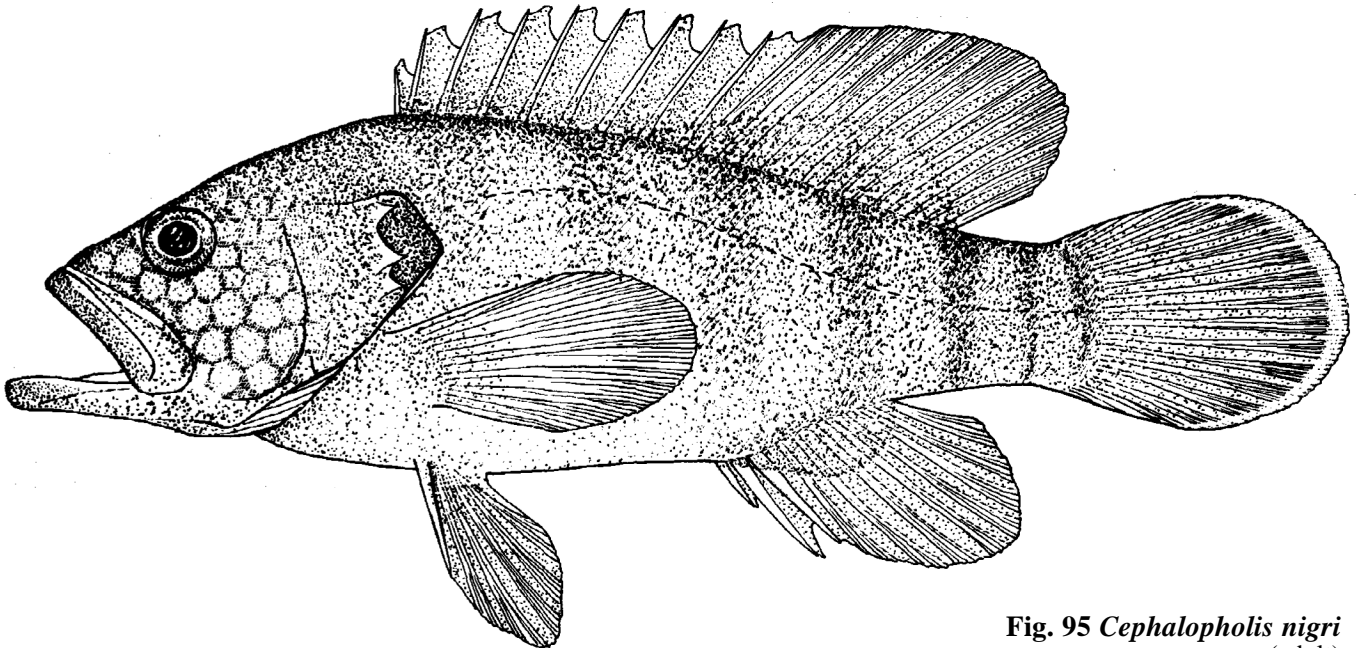


Fig. 95 *Cephalopholis nigri*
(adult)

Diagnostic Features: Body depth distinctly less than head length, the depth contained 2.8 to 3.0 times in standard length (for fish 11 to 15 cm standard length). Head length contained 2.5 to 2.6 times in standard length; eye diameter greater than interorbital width, eye diameter contained 4.6 to 5.5 times in head length; interorbital area flat; preopercle rounded, finely serrate, the lower edge fleshy; subopercle and interopercle smooth; upper edge of pperculum convex; maxilla scaly, reaching well past eye. Gill rakers 8 to 10 on upper limb, 14 to 17 on lower limb; 5 or 6 rudiments on each limb. Dorsal fin with IX spines and 14 or 15 rays, the membranes distinctly indented between the spines; anal fin with III spines and 8 rays; pectoral-fin rays 17 or 18; pectoral-fin length contained 1.4 to 1.7 times in head length; pelvic fins reach anus, their length contained 1.6 to 1.9 times in head length; caudal fin rounded. Lateral-body scales ctenoid, without auxiliary scales; lateral-line scales 45 to 50; lateral-scale series 73 to 80. **Colour:** Dark brownish, with 3 or 4 indistinct dark bars on body (extending onto dorsal fin) and 2 more on caudal peduncle; belly reddish; sides of head with close-set reddish spots forming a reticulated pattern of dark lines; pelvic and anal fins dusky, with small pale (silvery?) spots; tips of interspinous dorsal-fin membranes black. A 13 cm (total length) juvenile from the Canary Islands has red spots all over the head and body.

Geographical Distribution: Tropical eastern Atlantic from Senegal to Lobito, Angola, also Canary Islands (Tenerife) (Fig. 96).

Habitat and Biology: Mud, sand, and rock bottoms from shore to depths of probably around 50 m. Occasionally found in estuaries.

Size: Maximum total length 30 cm.

Interest to Fisheries: Too small to be of commercial importance.

Local Names: SENEGAL: Kelle, Lajoojh, Khonke.

Literature: Fowler (1936); Gras (1960); Bianchi (1986); Bellemans et al. (1988); Schneider (1990); Heemstra (1991).

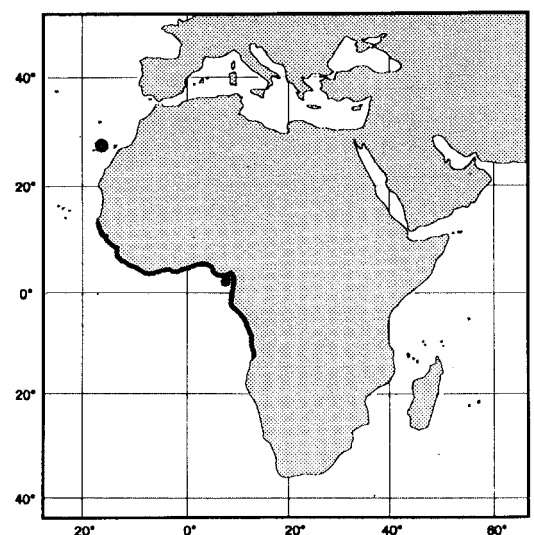


Fig.96

Cephalopholis oligosticta Randall and Ben-Tuvia, 1983

Fig. 97; Pl. IVC

SERRAN Cephal 16

Cephalopholis oligosticta Randall and Ben-Tuvia, 1983:386, pl. 1, fig. D (type locality: Red Sea, Sudan, Port Sudan).

Synonyms: None.

FAO Names: En - Vermilion hind (formerly: Roughcheek hind); Fr - Vielle de la Mer Rouge; Sp - Cherna del Mar Rojo.

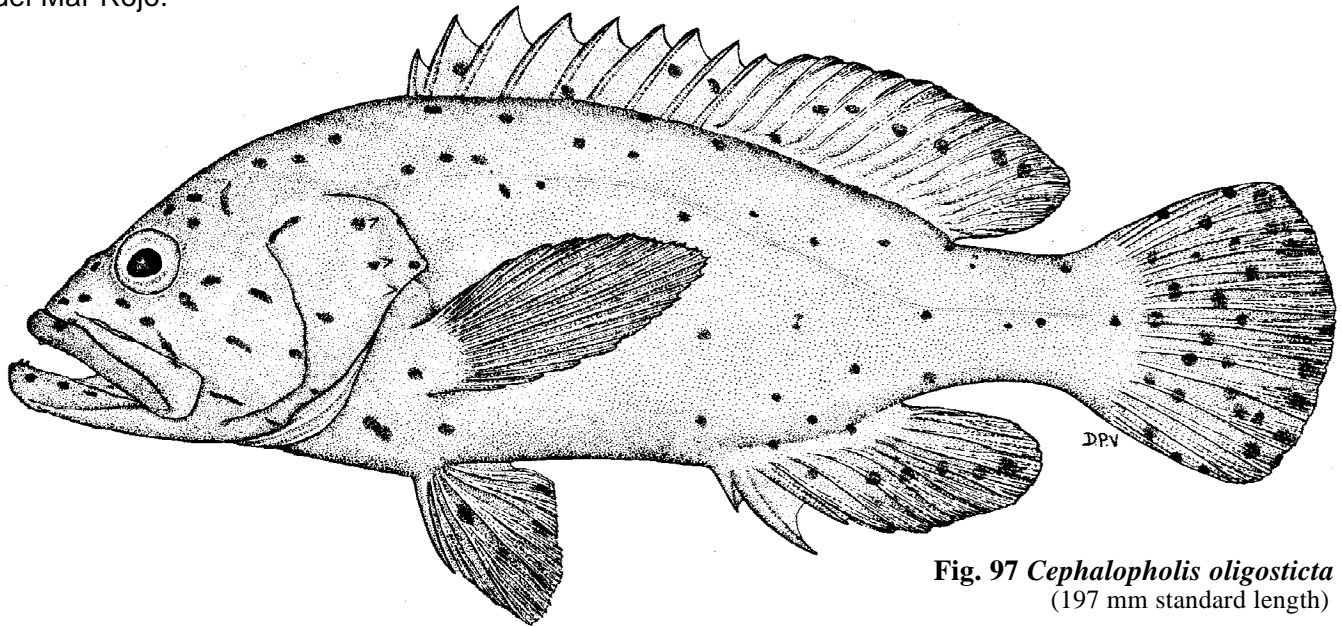


Fig. 97 *Cephalopholis oligosticta*
(197 mm standard length)

Diagnostic Features: Body depth less than head length, depth contained 2.6 to 3.0 times in standard length (for fish 16 to 22 cm standard length). Head length contained 2.4 to 2.6 times in standard length; interorbital area slightly convex, the width equal to orbit diameter on a fish of 19 cm standard length; preopercle rounded, finely serrate posteriorly, the lower edge more coarsely serrate; subopercle and interopercle also completely serrate; maxilla with a few scales, reaching well past eye. Gill rakers 7 or 8 on upper limb, 14 or 15 on lower limb. Dorsal fin with IX spines and 14 or 15 rays; anal fin with III spines and 9 rays; pectoral-fin rays 16 to 18; pectoral-fin length contained 1.4 to 1.6 times in head length; pelvic fins reach about to anus, their length contained 1.6 to 2.0 in head length; caudal fin rounded. Lateral-body scales ctenoid, without auxiliary scales; lateral-line scales 58 to 71; lateral-scale series 103 to 123. **Colour:** Orange-red, with widely scattered, small pale blue spots on head, body, and fins; soft dorsal, anal, and caudal fins usually with a narrow pale blue margin.

Geographical Distribution: Known only from the Red Sea, from Eilat in the Gulf of Aqaba to the Farasan Islands off the southern end of Saudi Arabia (Fig. 98).

Habitat and Biology: *C. oligosticta* seems to prefer a dead reef habitat with silty bottom in depths of 20 to 50 m. Randall and Ben-Tuvia (1983) reported ripe females of 17 and 19 cm standard length and a mature male of 22 cm standard length.

Size: Maximum total length at least 30 cm.

Interest to Fisheries: Probably none (because of its rarity and small size), except possibly as an aquarium novelty.

Local Names:

Literature: Heemstra and Randall (1984), Randall and Heemstra (1991).

Remarks: This species is probably most closely related to *C. miniata*, which has more numerous blue spots, fewer lateral-line scales (47 to 56), ventral margin of preopercle smooth and covered by skin, and usually shorter pelvic fins (1.9 to 2.3 times in head length). Both species may be found at the same locality in the Red Sea (e.g., Eilat), but they occur in different habitats.

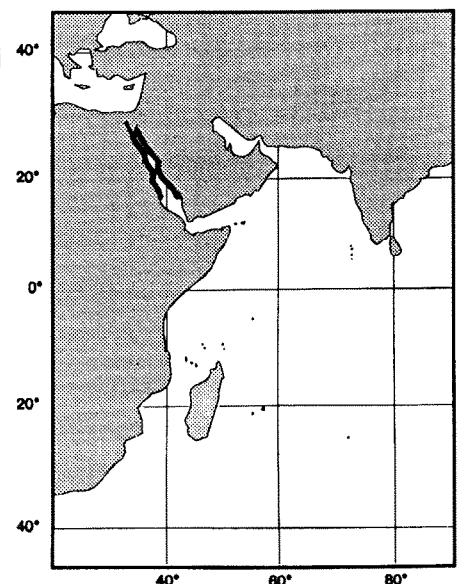


Fig. 98