

Cromileptes Swainson, 1839

SERRAN Cromil

Cromileptes Swainson, 1839:201; type species, "*Cromileptes altivelis* Swns." (= *Serranus altivelis* Valenciennes, 1828) by subsequent designation of Bleeker, 1875:257.

Synonyms: *Serranichthys* Bleeker, 1855b:344; type species, *Serranus altivelis* Valenciennes by monotypy. *Chromileptes* (variant spelling).

Species: A single species known from western Pacific and Indian oceans.

Remarks: The monotypic genus *Cromileptes* is quite distinct from other grouper genera. The shape of the head (anteriorly depressed and posteriorly elevated) is unique among serranid fishes. No other Indo-West Pacific grouper has X dorsal-fin spines, and no grouper has such an elevated dorsal fin (with the posterior spines and 'anterior rays longest). The affinities of *Cromileptes* with other serranid genera are unclear.

Cromileptes altivelis (Valenciennes, 1828)

Fig. 113; Pl. VIB

SERRAN Cromil 1

Serranus altivelis Valenciennes in Cuv. and Val., 1828:324, pl. 35 (type locality: Java).

Synonyms: None.

FAO Names: En - Humpback grouper; Fr - M  rou bossu; Sp - Mero jorobado.

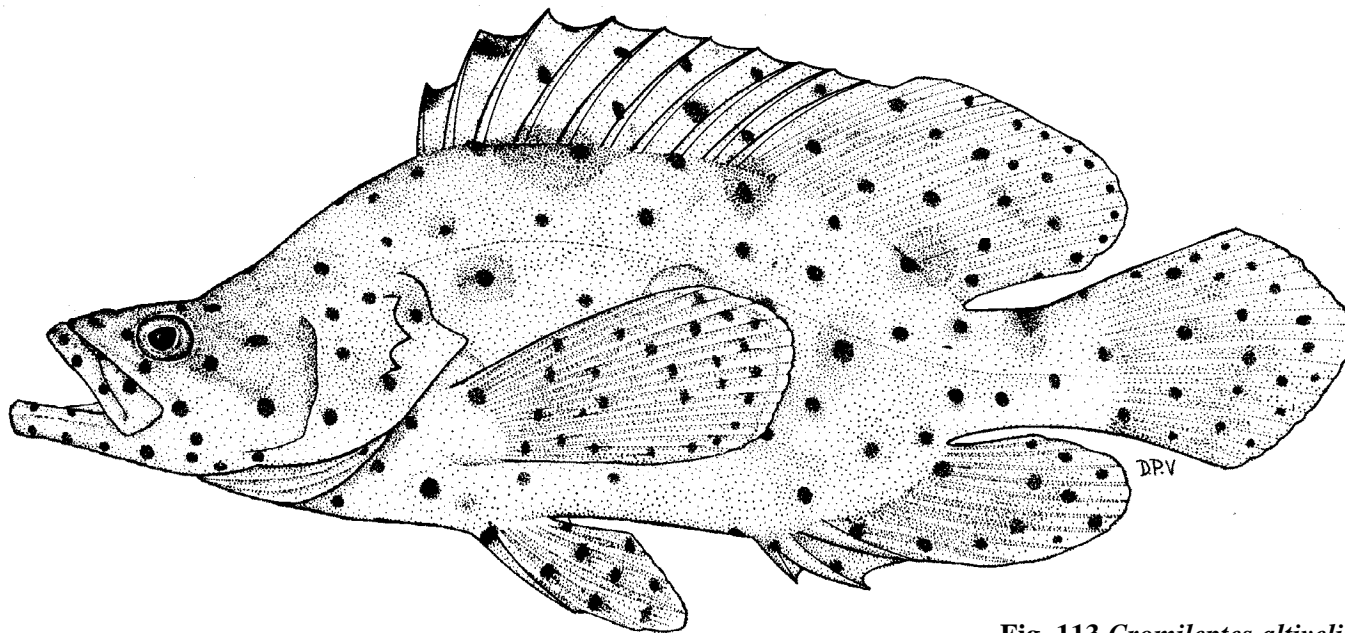


Fig. 113 *Cromileptes altivelis*
(about 300 mm standard length)

Diagnostic Features: Body compressed, the depth less than head length, and contained 2.6 to 3.0 times in standard length (for fish 12 to 37 cm standard length); body width contained 2.4 to 2.6 times in the depth. Head length contained 2.5 to 2.8 times in standard length; dorsal head profile distinctly concave, rising steeply at the nape; preorbital very narrow, its depth contained about 5 times in eye diameter and 30 to 32 times in head length; preopercle finely serrate, the serrae at the angle slightly enlarged, the lower edge smooth; opercle with middle spine inconspicuous, the upper and lower spines rudimentary; posterior nostril a large, crescentic, vertical slit; maxilla extending to below rear half of eye; no step or knob on ventral edge of maxilla; supramaxilla well developed; jaws with bands of villiform teeth; no canines; palatines with teeth. Gill rakers short, 8 to 11 on upper limb, 13 to 17 on lower limb. Dorsal fin with X spines and 17 to 19 rays, the fin origin over opercle, the fin membranes not incised between the spines, the posterior spines longest and the soft-rays even longer; anal fin with III spines and 9 or 10 rays; pectoral fins rounded, with 17 or 18 rays; the middle rays longest; caudal fin rounded, with 8 branched rays and 8 procurrent rays in upper part and 7 branched rays and 8 procurrent rays in lower part. Scales on body smooth (the ctenii greatly reduced); lateral-line scales 54 to 62; lateral-scale series 106 to 122. Pyloric caeca 13. Supraneural bones slender, the second more than half length of first; no trisegmental pterygiophores in dorsal or anal fins; rear edge of first dorsal pterygiophore slightly excavated; epipleural ribs on vertebrae 1 to 8; cranium elongate, depressed anteriorly and elevated posteriorly; least interorbital width about 10% of cranium length; postorbital part of

cranium elongated, 60% or more of cranium length; supraoccipital crest not extending onto frontals. **Colour:** Pale greenish brown, with widely-spaced, round, black spots on head, body, and fins; some spots on body and base of median fins overlain by a large dusky blotch. Black spots on juveniles fewer than on adults and may be as large or larger than eye.

Geographical Distribution: Western Pacific from southern Japan to Palau, Guam, New Caledonia, and southern Queensland (Australia); in the eastern Indian Ocean from the Nicobars to Broome, Western Australia (Fig. 114). Reports of *Cromileptes* from the western Indian Ocean (Heemstra and Randall, 1984, 1986) are unsubstantiated, although one by Smith (1954) from Kenya seems valid. Records from the Hawaiian Islands are probably based on released aquarium fishes (Randall and Heemstra, 1991).

Habitat and Biology: *Cromileptes* occurs on well-developed coral reefs as well as in dead or silty reef areas. It is found in tide pools and is also caught at depths of 40 m. Artificial spawning was accomplished by Tang et al. (1979). Mature eggs were buoyant, 0.80 to 0.83 mm in diameter with a single oil droplet; the larvae died after 7 days. Growth of *Cromileptes* in captivity is very slow.

Size: Maximum 70 cm total length.

Interest to Fisheries: Juveniles are prized as aquarium fishes, and adults are one of the most expensive fishes in fish markets wherever it occurs. *C. altivelis* may have potential as a species for aquaculture. Caught with hook-and-line, spear, and in traps.

Local Names: AUSTRALIA: Barramundi cod; JAPAN: Sarasa-hata; PALAU: Melechtes; PHILIPPINES: Lapu-lapung Señorita (Tagalog), Miro-miro (Visayan); SINGAPORE: Polka-dot grouper, Kerapu tikus. In the aquarium trade, this species is often called "panther fish."

Literature: Schroeder (1980); Grant (1982); Tan et al. (1982); Heemstra and Randall (1984, 1986); Myers (1989); Randall and Heemstra (1991).

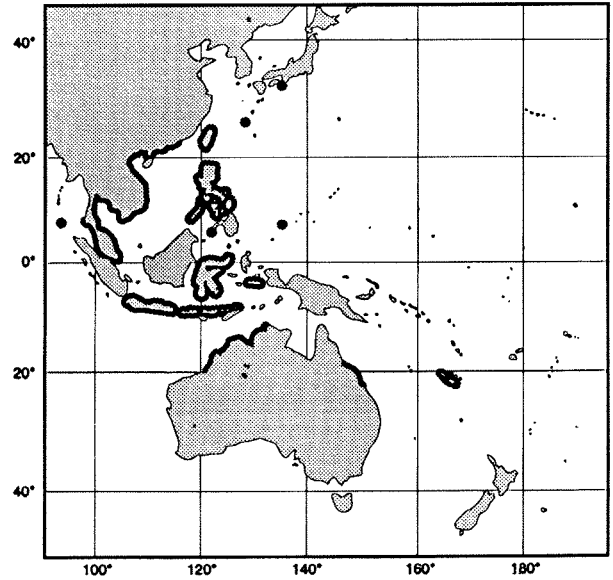


Fig. 114

Dermatolepis Gill, 1862

SERRAN Dermat

Dermatolepis Gill, 1862a:54; type species, *Dermatolepis punctatus* Gill, 1862 (= *D. dermatolepis*) by original designation.

Synonyms: *Lioperca* Gill, 1863:236; type species, *Serranus inermis* Valenciennes, 1828 by monotypy.

Diagnostic Features: Body deep and markedly compressed, the greatest depth usually more than head length (occasionally equals head length) and contained 2.1 to 2.5 times in standard length, the body width contained 2.4 to 3.4 times in the depth. Head length contained 2.5 to 2.8 times in standard length; dorsal head profile steep, almost straight; the interorbital area slightly convex; preorbital depth contained 8 to 11 times in head length; preopercle subangular, finely serrate, the serrae covered by skin and the lower edge smooth; opercular spines inconspicuous, the lower rudimentary; upper edge of operculum convex; ventral edge of subopercle and interopercle smooth; anterior part of interopercle extended ventrally as a broad fleshy flap; no bony knob or step on posterior end of maxilla; supramaxilla well developed; posterior nostrils 2 or 3 times larger than anterior nostrils; canines at front of jaws rudimentary or absent; teeth present on palatines. Dorsal fin with XI spines and 18 to 20 rays, the fin origin in front of a vertical at pectoral-fin base, the fin membranes not or only slightly incised between the spines; anal fin with III spines and 9 or 10 rays; pectoral fins rounded, the middle rays longest, distinctly longer than pelvic fins; caudal fin rounded in juveniles, truncate to distinctly concave in adults, with 8 branched rays and 8 procurrent rays in upper part and 7 branched rays and 7 procurrent rays in lower part. All scales on the body and head are smooth (ctenii rudimentary or absent). Supraneural bones 2, the second one at least half the length of the first; no trisegmental pterygiophores; rear edge of first dorsal pterygiophore not excavated; epipleural ribs on vertebrae 1 to 10; cranium compressed, the least interorbital width less than width of vomer; median supraoccipital crest well developed; frontoparietal crests convergent anteriorly: parasphenoid straight.

Habitat and Biology: Species of *Dermatolepis* are secretive coral-reef fishes reported from depths of 10 to 213 m. They are relatively rare and almost nothing is known of their biology.

Geographical Distribution: One species in the eastern Pacific, one in the western Atlantic, and one in the western Indian Ocean. This particular pattern of species distribution is not known for any other genus of fishes.

Interest to Fisheries: Taken incidentally with other species; caught with hook-and-line, spear, and in traps. Because of their rarity, the species of *Dermatolepis* are of little commercial importance.

Species: The genus comprises three species: *Dermatolepis inermis* of the western Atlantic and Caribbean Sea, *D. dermatolepis* of the eastern Pacific, and *D. striolata* in the western Indian Ocean.

Remarks: *Dermatolepis* was regarded as a subgenus of *Epinephelus* by C.L. Smith (1971), Johnson (1983) and Johnson and Keener (1984). According to Smith-Vaniz et al. (1988), the scales of *Alphestes* and *Dermatolepis* are distinct from all other groupers, *Dermatolepis* differs from *Alphestes* in lacking the strong antrorse spine on the preopercle, in head shape (eye diameter about half of snout length, versus greater than or subequal to snout), and in having larvae with a smooth neurocranium (dorsal part of neurocranium extremely rugose in *Alphestes*). The interrelationships of the species of *Dermatolepis* are not apparent.

Dermatolepis dermatolepis (Boulenger, 1895)

Fig. 115; Pl. VID

SERRAN Dermat 3

Epinephelus dermatolepis Boulenger, 1895:256 (replacement name for *Dermatolepis punctatus* Gill, 1862, preoccupied in *Epinephelus* by *Holocentrus punctatus* Bloch, 1790; type locality of *D. punctatus*: Cape San Lucas, Baja California).

Synonyms: *Dermatolepis punctatus* Gill, 1862a:54. *Epinephelus dermatolepis*.

FAO Names: En - Leather bass; Fr - Mérou cuir; Sp - Mero coriaceo.

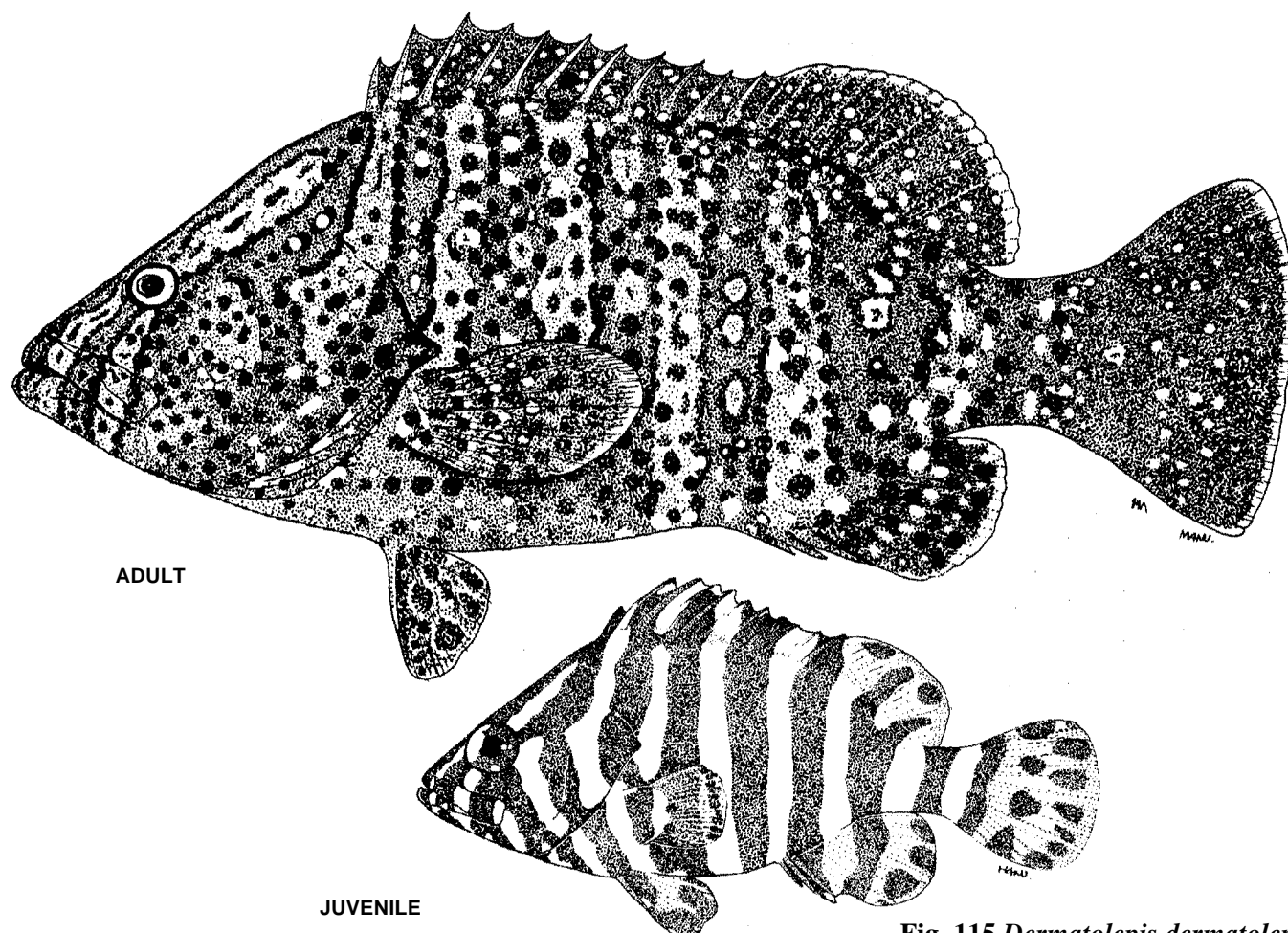


Fig. 115 *Dermatolepis dermatolepis*
(adult, juvenile)

Diagnostic Features: Body depth usually greater than head length, depth contained 2.1 to 2.5 times in standard length (for fish 14 to 44 cm standard length). Eye diameter much less than snout length, eye diameter contained 5.2 to 8.0 times in head length. Gill rakers (total) 21 to 24. Dorsal fin with XI spines and 18 to 20 rays; anal fin with III spines and 9 rays; pectoral fins with 19 or 20 rays; pectoral fins short, their length 18 to 26% of standard length; caudal fin rounded. Scales smooth, mostly covered by skin; lateral-line scales 62 to 67; lateral-scale series difficult to count. **Colour:** Adults with ground colour grey or brownish, irregular white spots and blotches on the dark bars and small dark spots on the pale interspaces; large adults with yellow margin on the posterior parts of the median fins. Juveniles white with several black bars on body and extending into dorsal and anal fins: head with similar black bands: paired fins and distal parts of median fins with black spots.

Geographical Distribution: Eastern Pacific: Southern California to Ecuador, Revillagigedo and Galapagos Islands, Cocos Island, Clipperton Island (Fig. 116).

Habitat and Biology: Coral reefs and rocky bottoms in depths of 21 to at least 40 m. The leather bass is a diurnal predator that feeds on small benthic fishes and occasionally on crustaceans. It often uses browsing herbivorous fishes as a moving blind in order to feed on the cryptic fauna disturbed by these browsers, and it will also follow foraging moray eels to catch the fishes frightened from their hiding places in the reef when the eel enters crevices in search of prey. Small juveniles have been seen hiding among the long spines of the dark-coloured sea urchin, *Centrostephanus coronatus* (Verrill), for which their prominent dark-barred colour pattern is well suited.

Size: Attains a length of about 1 m total length (Thomson et al., 1979).

Interest to Fisheries: Probably of some local importance as a food fish, but *D. dermatolepis* is not abundant enough to be of commercial significance.

Local Names:

Literature: C.L. Smith (1971); Montgomery (1975); Thomson et al. (1979).

Remarks: This species differs from its Atlantic congener (*D. inermis*) in having shorter pectoral and pelvic fins (pectoral-fin length 18 to 26% of standard length, versus 29 to 35% of standard length; pelvic-fin length 13 to 20% of standard length, versus 20 to 23% of standard length) and in its colour pattern (juveniles with black bars and bands on a white background, versus juveniles black with white spots). The configuration of the median fins and the colour patterns of adults are also different in these two species.

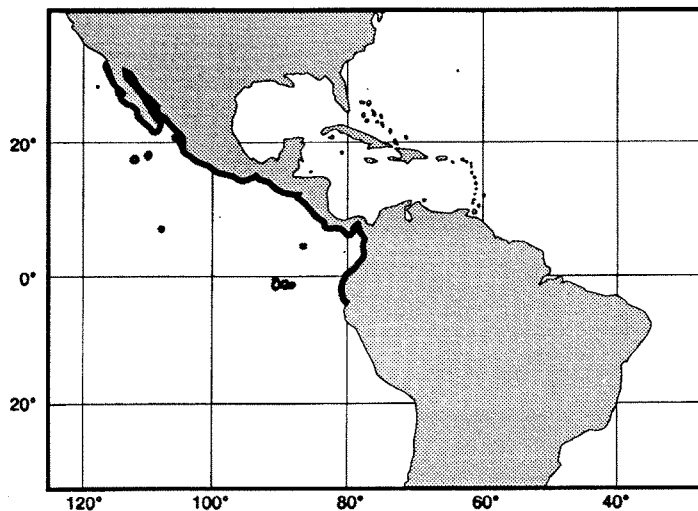


Fig. 116

Dermatolepis inermis (Valenciennes, 1833)

Fig. 117; Pl. VIE

SERRAN Dermat 1

Serranus inermis Valenciennes in Cuv. and Val., 1833:436 (type locality: Antilles).

Synonyms: *Dermatolepis zanclus* Evermann and Kendall, 1898:129, pl. 8, fig. 9 (type locality: Key West, Florida). *Dermatolepis marmoratus* Osburn and Mowbray, 1915:1 (type locality: Key West, Florida). *Epinephelus inermis*.

FAO Names: En - Marbled grouper; Fr - Mérrou marbré; Sp - Mero marmol.

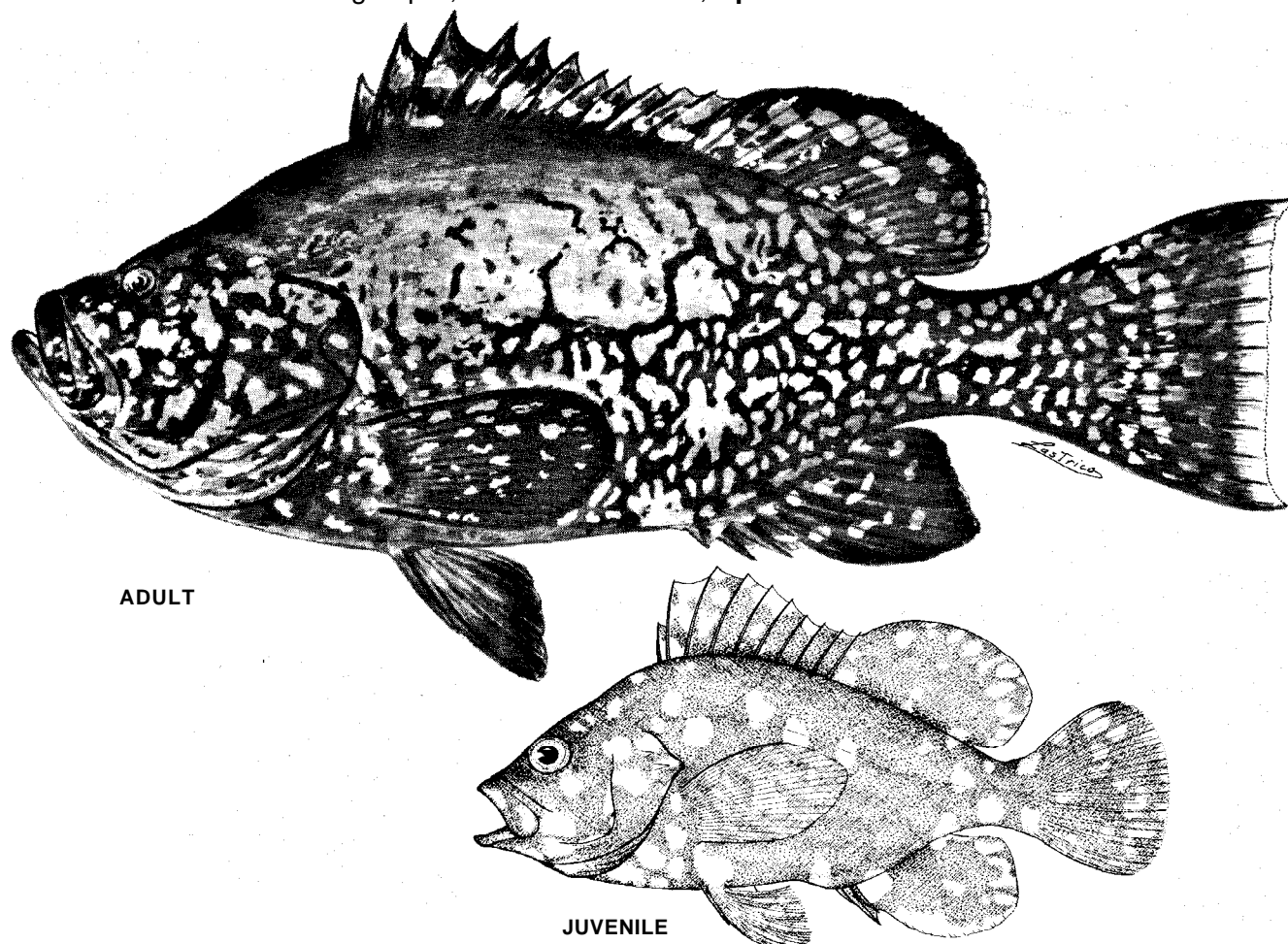


Fig. 117 *Dematolepis inermis*
(adult, juvenile about 250 mm total length)

Diagnostic Features: Body deep and compressed, the greatest depth distinctly more than head length, contained 2.2 to 2.5 times in standard length (for fish 15 to 34 cm standard length); body width contained 2.2 to 2.9 in the depth. Head length contained 2.5 to 2.8 times in standard length; preopercle finely serrate, the serrae at angle slightly enlarged. Gill rakers 19 to 22 (total). Dorsal fin with XI spines and 18 to 20 rays, the membranes only slightly incised between the spines and the third or fourth spine longest; anal fin with III spines and 8 to 10 rays, the rear margin falcate in large adults; pectoral-fin length 29 to 35% of standard length, pectoral-fin rays 18 or 19; caudal fin rounded in juveniles, truncate or concave in adults. Scales smooth, deeply embedded. **Colour:** Adults mottled greyish brown with white speckles and small black spots that tend to be arranged in rings; juveniles black or dark brown covered with irregular white spots and blotches.

Geographical Distribution: Western Atlantic from North Carolina to Rio de Janeiro, including the Gulf of Mexico and Caribbean (Fig. 118).

Habitat and Biology: A rare, secretive species; virtually nothing is known of the biology. Depth records range from 21 to 213 m.

Size: Maximum total length about 90 cm; maximum weight over 10 kg.

Interest to Fisheries: Because of its rarity, *D. inermis* is of little commercial importance.

Local Names: CUBA: Cherna jaspeada; VENEZUELA: Mero tigre, Viuda.

Literature: Cervigón (1966); Smith (1971); Johnson and Keener (1984); Dennis and Bright (1988).

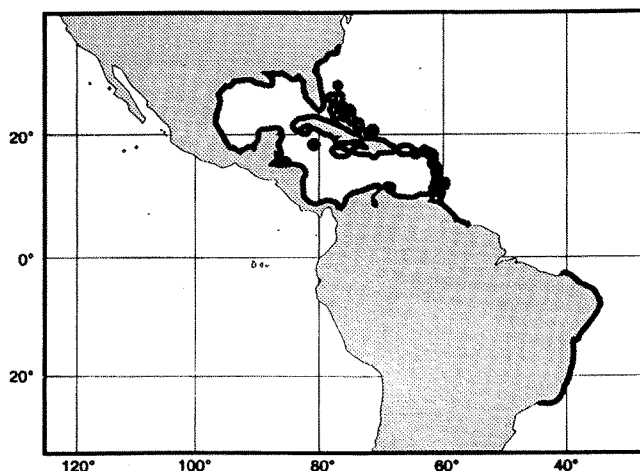


Fig. 118

Dermatolepis striolata (Playfair, 1867)

Fig. 119; Pl. VIF

SERRAN Dermat 2

Serranus striolatus Playfair in Playfair and Günther, 1867:11, pl. 3, fig. 2 (type locality: Zanzibar).

Synonyms: *Serranus gibbosus* Boulenger, 1887:654 (type locality: Muscat, Oman). *Dermatolepis aldabrensis* Smith, 1955:311, pl. 3, fig. B (type locality: Aldabra).

FAO Names: **En** - Smooth grouper; **Fr** - Mérou lisse; **Sp** - Mero liso.

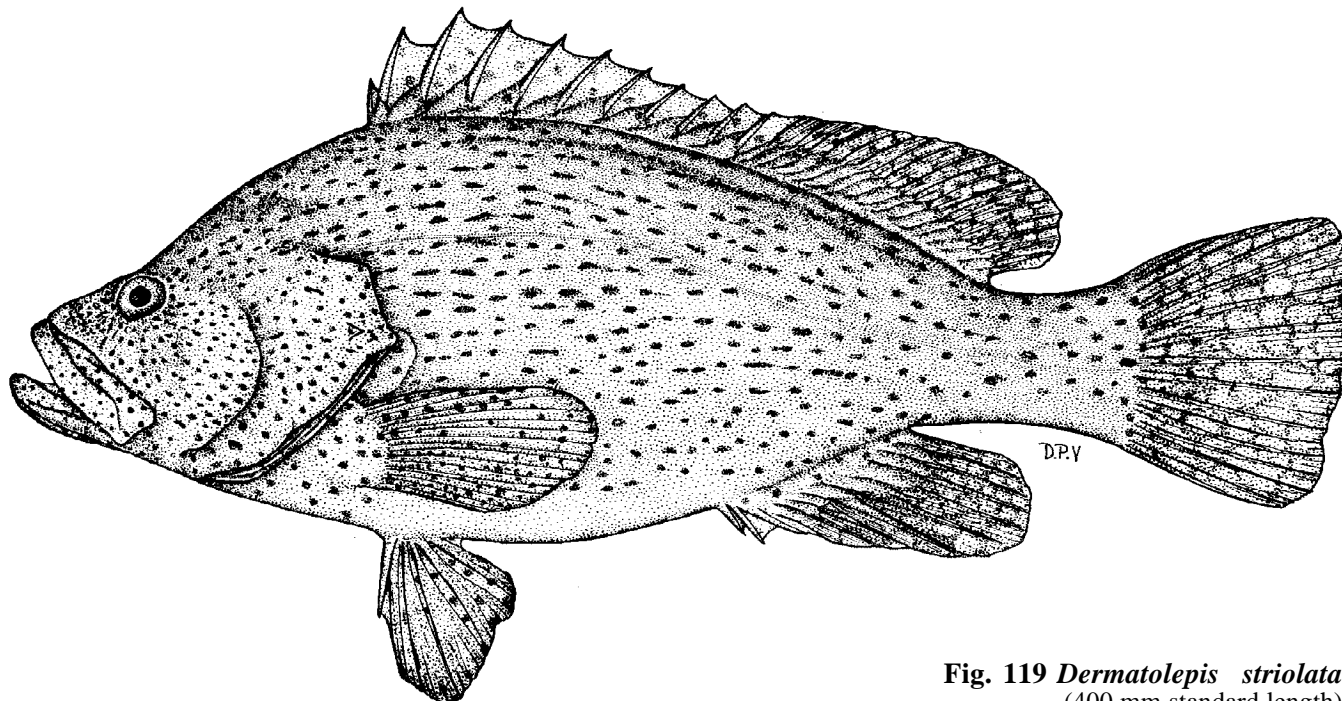


Fig. 119 *Dermatolepis striolata*
(400 mm standard length)

Diagnostic Features: Body depth greater than head length, depth contained 2.4 to 2.6 times in standard length (for fish 27 to 40 cm standard length). Eye diameter much less than snout length, contained 7.2 to 8.1 times in head length; preopercle serrate, but the serrae are covered by skin; opercular spines not apparent. Gill rakers 5 to 7 on upper limb and 13 to 16 on lower limb, total 18 to 22. Dorsal fin with XI spines and 18 or 19 rays, the fin origin over the opercle and the membranes not incised between the spines; anal fin with III spines and 9 or 10 rays; pectoral fins with 17 to 19 rays, pectoral-fin length 23 to 27% of standard length; caudal fin rounded or truncate with rounded corners. Scales smooth and mostly covered by skin; lateral-line scales 69 to 71; lateral-scale series difficult to count, 118 to 124. **Colour:** Yellowish to reddish brown, paler ventrally; adults with small, round, dark spots all over head, body and fins; juveniles with numerous small dark brown spots on head, body (where they are often horizontally elongate, even forming short lines) and fins (where they are less distinct); median fins also with pale spots; head and body also with more or less distinct, irregular, pale blotches of various sizes.

Geographical Distribution: Western Indian Ocean: Gulf of Oman and south coast of Arabian Peninsula, Aldabra, Comoros, Madagascar, and coast of Africa from Kenya to South Africa (Durban) (Fig. 120).

Habitat and Biology: It is a rare species seen on shallow coral reefs to depths of 15 m. Morgans (1982) reports shoaling behaviour in small groups (8 or fewer individuals). The stomach contents of 5 specimens were examined by Morgans; 3 were empty and 2 contained fish remains.

Size: Attains at least 85 cm total length and 10.5 kg.

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

Local Names: MADAGASCAR: Alovo.

Literature: Heemstra and Randall (1984, 1986); Randall and Heemstra (1991); see also references above.

Remarks: *D. striolata* differs from *D. inermis* in its shorter pectoral fins (29 to 35% of standard length for *D. inermis*) and its colour pattern. *D. dermatolepis* differs in having fewer lateral-line scales (62 to 67) and in colour pattern.

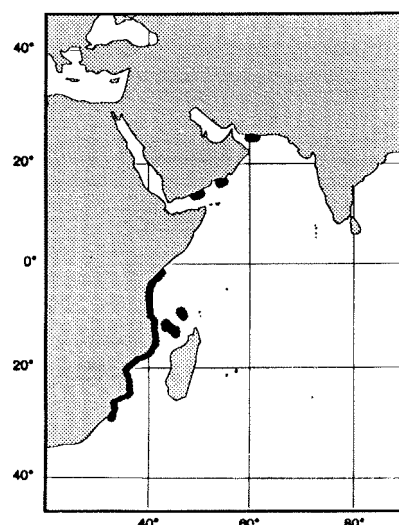


Fig. 120