

**NEW RECORDS OF FISHES FROM THE SEAS AROUND INDIA.—
PART I**

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SINCE the monumental work of Day on 'The Fishes of India' completed in 1878 additions to our knowledge of the ichthyofauna of the seas around India have been comparatively of a desultory nature except for the contributions of Alcock on the deep sea fishes based on the collections of the *INVESTIGATOR*. Though most of the coastal fishes have been described by various authors, very little was known about the pelagic and bathypelagic fishes of the oceanic waters and of the reef and lagoon dwelling forms of the coral islands off the coast of India.

An extremely interesting region from the ecological as well as resources point of view is the Laccadive Archipelago (Fig. 28) which forms a part of the Indian Union. This consists of a group of coral islands off the west coast of India rising up from depths ranging from 1000 fathoms to 1500 fathoms and geographically linked with the Chagos and the Maldivé groups of islands. Investigations on the fish fauna of this area was initiated by the senior author about a decade ago resulting in a number of contributions on the subject (Balan 1958 ; Jones 1958, 1960a, 1960b, 1960c, 1962 ; Jones and Kumaran 1959, 1964 and 1965 MS.). Collections were made from the lagoons and reefs adjacent to various islands of the Laccadive Archipelago and also from the open sea around, and in the course of a study of the material thus collected a number of new records for the area were noticed which are dealt with in this paper. The collections available with us have not been completely worked out, but to avoid delay it is proposed to bring out in a series of articles information on the new records.

Occurrence of comparatively rare or little known fishes like *Schindieria*, *Poly-mixia* etc. adds interest to the fish fauna of the region indicating that systematically conducted collection and study of the fishes in this area will certainly be highly rewarding. Though this work was initiated long before the International Indian Ocean Expedition was contemplated, it is felt that records of fishes not known hitherto from the area will be helpful to workers engaged now in working out the extensive collections made during the Expedition.

It is particularly noteworthy that a number of species known from the east coast of Africa and the Indonesian region are now recorded from the Laccadive Sea. In view of the oceanic character of the waters around the islands species which constitute fisheries of commercial importance along the coastal waters of the mainland are significant by their absence.

In this account 27 species belonging to 9 families not previously obtained from the seas around India are recorded with brief descriptions based on the preserved material. The distribution given for the various species relate to the previous records,

Family: HOLOCENTRIDAE

1. **Holocentrus violaceus** Bleeker (Fig. 1)

Holocentrum violaceum Bleeker, 1853, *Nat. Tijds. Ned.-Ind.*, 5 : 335 ; Weber and de Beaufort, 1929, *Fishes Indo-Australian Archipelago*, 5 : 246.

Holocentrus violaceus Smith and Smith, 1963, *Fishes of Seychelles* : 9, Pl. 87, F.

D.XI, 14 ; A.IV, 9 ; P.ii, 12. LI.35-36 ; Ltr.3+1 + 8.

Head 2.7 in standard length, 3.3 in length with caudal. Depth of body 2.6 in standard length, 3.2 in length with caudal. Eye 3.2 in head, 0.7 in snout and

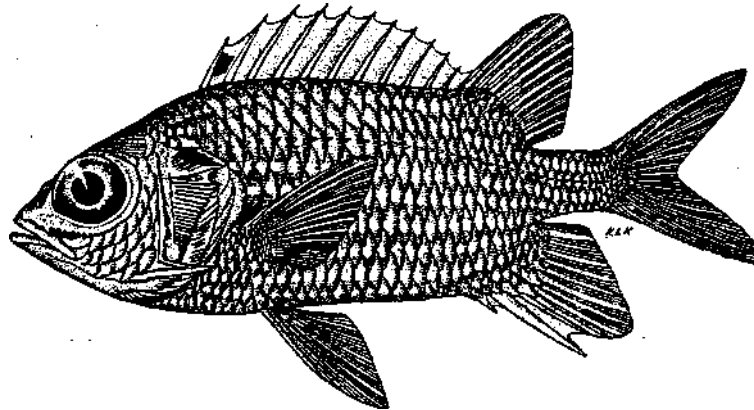


FIG. 1. *Holocentrus violaceus* Bleeker, 99 mm. in standard length.

0.6 in interorbital space. Preorbital with a large downwardly directed spine in front and some backwardly directed spines posterior to it. Two flat spines on superior part of operculum. Colour of preserved specimens brown above, lighter below with yellowish to pale longitudinal bands along scale rows. A black blotch on upper part of operculum. Spinous dorsal light brownish, membrane between first two spines slightly darker. Soft dorsal, caudal and anal pale yellowish.

Material: Kalpeni, 1 specimen, 99 mm.*

Distribution : Seychelles, Indonesia, Philippines, North Australia, Fiji, Samoa and Tahiti.

Family: SERRANIDAE

2. **Epinephelus melanostigma** Schultz (Fig. 2)

Serranus merra var. *stellans* (nee Bloch and Schneider) Fowler and Bean, 1930, *Bull. 100, U.S. Nat. Mus.*, 10 : 272, Fig. 17.

Epinephelus melanostigma Schultz, 1953, *Bull. 202, U.S. Nat. Mus.*, 1 : 348, Fig. 54.

* Unless otherwise stated length mentioned in this paper is standard length.

D.XI, 15 ; A.III, 8 ; P.ii, 17. LI.90-95 ; Ltr. 10-12 f 1 +28-34.

Head 2.4-2.5*, 3-3.1 in length with caudal. Depth of body 3.2-3.4*, 4-4.3 in length with caudal. Eye 4.9-5.2 in head, slightly shorter than snout and about 0.6 in interorbital space. Edges of preopercle finely serrated. Colour light brown

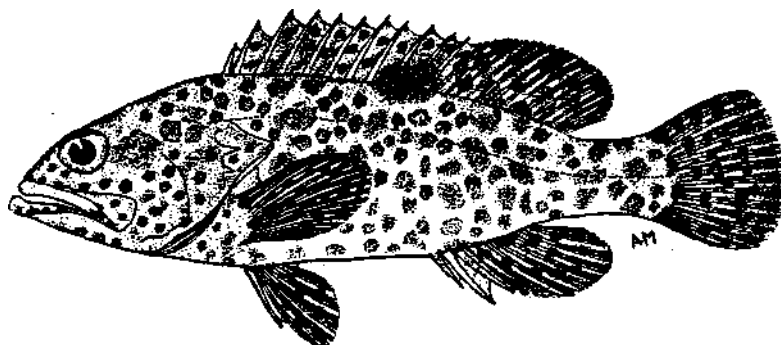


FIG. 2. *Epinephelus melanostigma* Schuttz, 136 mm.

with brown hexagonal spots on head and body separated by whitish interspaces. Spots on lower sides somewhat round. A large black blotch below bases of 8th to 11th dorsal spines extending on back and basal half of fin. Dorsal and caudal fins with brown hexagonal spots. Pectoral, ventral and anal with brown spots ; soft dorsal, soft anal, pectoral and caudal with narrow white margins.

Material: Ameni, 1 specimen, 140 mm. Minicoy, 4 specimens, 81 to 137 mm.

Distribution : Previously known only from the Philippines, Marshall and Marianas, Islands. Now recorded for the first time from the Indian Ocean.

Family: APOGONIDAE

3. *Apogon leptacanthus* Bleeker (Fig. 3)

Apogon leptacanthus Bleeker, 1856, *Nat. Tijds. Ned.-Ind.*, 12 : 204 ; Weber and de Beaufort, 1929, *Fishes Indo-Australian Archipelago*, 5 : 344 ; Smith, 1961, *Ichih. Bull.*, 11 : 385, Pl. 46, G.

D., VI, D₂. 19 ; A.II, 9 ; P.ii, 12, LI. 24-25 ; Ltr. 2 r 1 + 6.

Head 2.5-2.7, 3.3-3.5 in length with caudal. Depth of body 2.4-2.6, 3.2-3.4 in length with caudal. Eye 2.6-2.8 in head, 0.5-0.6 in snout and 0.6 in interorbital space. Angle of preopercle and lower margin finely denticulate. First dorsal spine less than eye diameter, second spine filamentous, its length exceeds length of head. Body uniformly rosy to yellowish with fine brownish spots on head. Fins transparent. First and second dorsal spines dusky to blackish. Base of first dorsal, second dorsal and anal with dark line continued along dorsal and ventral midline of caudal peduncle. Second dorsal usually with a pale dusky subbasal longitudinal stripe.

* The portions of head and depth of body given first in this and subsequent descriptions are in relation to standard length.

Material: Agathi, 5 specimens, 21 to 24 mm. Chetlat, 7 specimens, 22 to 24 mm. Minicoy, 12 specimens, 30 to 36 mm. This species is sometimes represented in fairly appreciable numbers in bait fish catches in Minicoy.

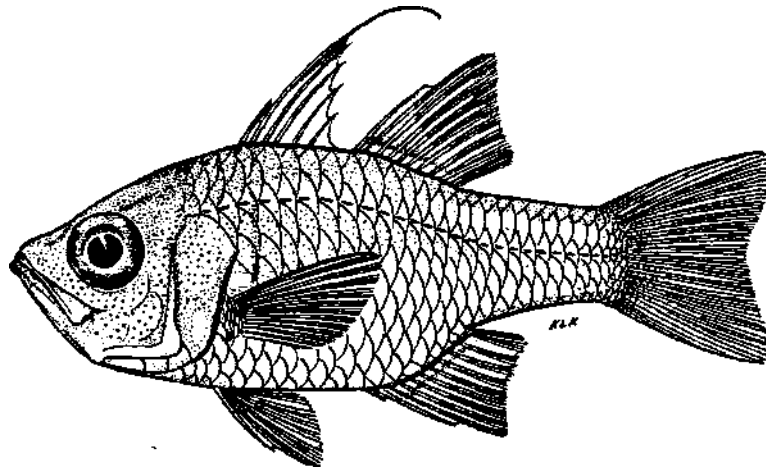


FIG. 3. *Apogon leptacanthus* Bleeker, 36 mm.

Distribution: East coast of Africa and neighbouring islands, Indonesia, Philippines and Marshall Islands.

4. *Apogonichthys ocellatus* (Weber) (Fig. 4)

Apogon ocellatus Weber, 1913, *Siboga-Exped.*, 57, *Fische*, 231; Weber and de Beaufort, 1929, *Fishes Indo-Australian Archipelago*, 5: 327.

Apogonichthys ocellatus Smith, 1961, *Ichth. Bull.*, 22: 391, PI. 47, J and PI. 48, B.

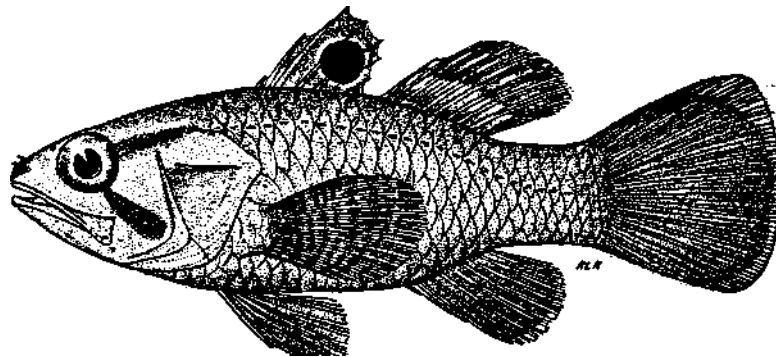


FIG. 4. *Apogonichthys ocellatus* (Weber), 23 mm.

Dx.VII, D₂.I, 9 ; A11, 8. P.ii, 13. L1.24 ; Ltr. 2+1+6.

Head 2.5, 3.2 in length with caudal. Depth of body 2.9, 3.7 in length with caudal. Eye 3.8 in head, 0.7 in snout and about 0.6 in interorbital space. None of the opercles serrated. A long membraneous flap at front of anterior nostril. Colour brown with a dark brown band from eye to angle of preopercle. A black light-edged ocellus on first dorsal. Second dorsal with three brownish longitudinal bands. Caudal brownish. Ventral, second dorsal and caudal with white edges.

Material: Agathi, 1 specimen, 23 mm.

Distribution : East coast of South Africa and adjacent islands, Indonesia, Philippines and Marshall Islands.

5. *Ostorhynchus apogonides* (Bleeker) (Fig. S)

Cheilodipterus apogonides Bleeker, 1856, *Acta Soc. Sci. Indo-Neerl.*, 1 : 37.

Apogon apogonides Weber and de Beaufort, 1929, *Fishes Indo-Australian Archipelago*, 5 : 324.

Ostorhynchus apogonides Smith, 1961, *Ichth. Bull.*, 22 : 402, Pi. 48, 1.

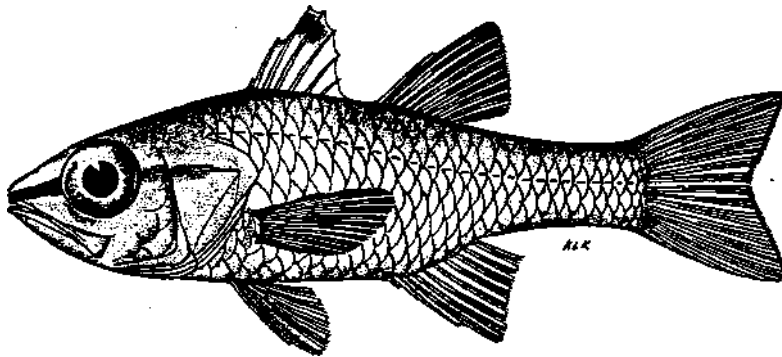


FIG. 5. *Ostorhynchus apogonides* (Bleeker), 40 mm.

Dj.VII, D₂. I, 9 ; A.11,8 ; P. ii,12. L1.2-26 ; Ltr. 25 + 1 + 6.

Head 2.4-2.6, 3-3.2 in length with caudal. Depth of body 3-3.2, 3.8-4 in length with caudal. Eye 3.1-3.3 in head, 0.7 in snout and 0.6-0.7 in interorbital space. Preoperculum finely serrated. Teeth in jaws little enlarged. Yellowish to brownish above, pale to whitish below with an ill-defined brown band from snout to eye and generally continued posterior to eye. First dorsal blackish brown above. Other fins pale yellowish, hind border of caudal dusky.

Material: Minicoy, 6 specimens, 39 to 43 mm.

Distribution ; East coast of Africa, Seychelles and Indonesia,

6. **Ostorhynchus moluccensis** (Valenciennes) (Fig. 6)

Apogon moluccensis Valenciennes, 1832, *Nouv. Arch. Mus. Hist. Nat. Paris*, 1 : 54 ;
Weber and de Beaufort, 1929, *Fishes Indo-Australian Archipelago*, 5 : 322.

D., VII, D₂.1,9 ; A.II, 8 ; P. ii,II-12. LI.25-26 ; Ltr.2+1 + 6.

Head 2.6-2.7, 3.3-3.4 in length with caudal. Depth of body 2.8-3, 3.6-3.9 in length with caudal. Eye 2.7-2.8 in head, 0.6 in snout and 0.6 in interorbital space.

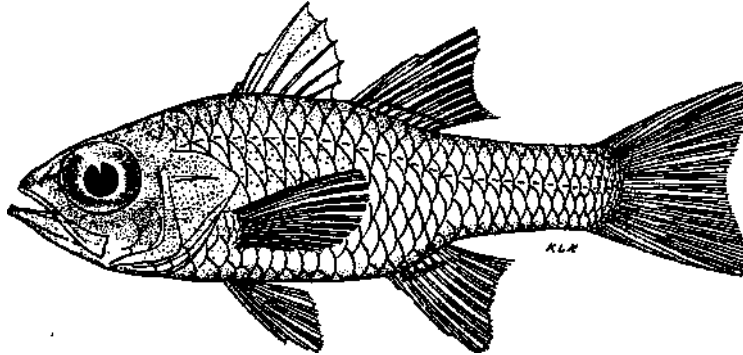


FIG. 6. *Ostorhynchus moluccensis* (Valenciennes), 42 mm.

Preopercular margin finely serrated. Head and upper sides light brownish, pale yellowish below. Head and anterior part of body with numerous dark brown spots. Fins yellowish, some specimens with an indistinct subbasal band for second dorsal and anal.

Material: Agathi, 1 specimen, 31 mm. Ameni, 10 specimens, 20 to 42 mm.

Distribution : Singapore, Indonesia, Philippines, Coast of China and Fiji.

7. **Ostorhynchus nubilus** (Garman) (Fig. 7)

Apogon nubilus Garman, 1903, *Bull. Mus. Comp. Zool*, 39 : 229, Pl.I, Fig. 1.

Ostorhynchus nubilus Smith, 1961, *Ichth. Bull.*, 22 : 398, Pl.50,L.

D., VII, D₂.I,9 ; A.II, 8 ; P.ii, 11. LI.23-24 ; Ltr. 2+1 + 6.

Head 2.6-2.7, 3.3-3.4 in length with caudal. Depth of body 2.4-2.5, 3-3.2 in length with caudal. Eye 2.5-2.7 in head, 0.5 in snout and 0.8 in interorbital space. Preopercle ridge smooth, margin finely serrated. Head and body brownish, lighter below, normally with 6-8 lighter cross-bars separated by wider dusky interspaces on sides. A dark mark from below eye to angle of preopercle, its width only slightly more below the eye than at the angle of preopercle. A diffuse dark blotch over upper part of caudal peduncle. Anterior part of first dorsal blackish, rest of fin dusky or lighter. Soft dorsal dusky, first few rays generally darker. Anal and caudal dusky to lighter. Pectoral and ventral transparent.

Material: Kavarathi, 1 specimen, 88 mm. Minicoy, 8 specimens 24 to 57 mm. Suheli, 1 specimen, 82 mm. Thinnakara, 6 specimens, 38 to 70 mm. Largest

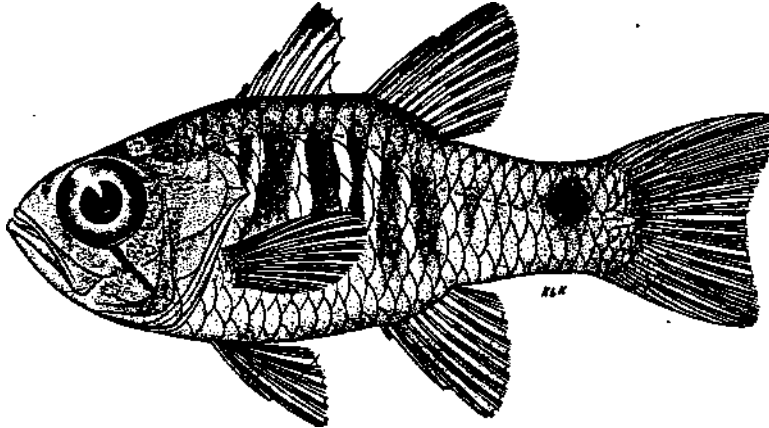


FIG. 7. *Ostorhynchus nubilus* (Garman), 70 mm.

specimen from Kavarathi measuring 112 mm. in total length is the largest ever recorded for this species.

Distribution: Red Sea, east coast of Africa, Indonesia, Philippines, Riu Kiu, Marshall, Marianas, Phoenix, Samoan and Fiji Islands.

8. ***Pristiapogon snyderi*** (Jordan and Evermann) (Fig. 8)

Apogon snyderi Jordan and Evermann, 1902, *Bull. U.S. Fish. Comm.*, 22 : 180.

Apogon frenatus Weber and de Beaufort, 1929, *Fishes Indo-Australian Archipelago*, 5 : 295 (in part) ; Jones, 1962, *Symposium on Scombroid Fishes*, Part II : 655, Fig. 17 (in part).

Pristiapogon snyderi Smith, 1961, *Ichth. Bull.*, 22 : 390, Pl. 49,B.

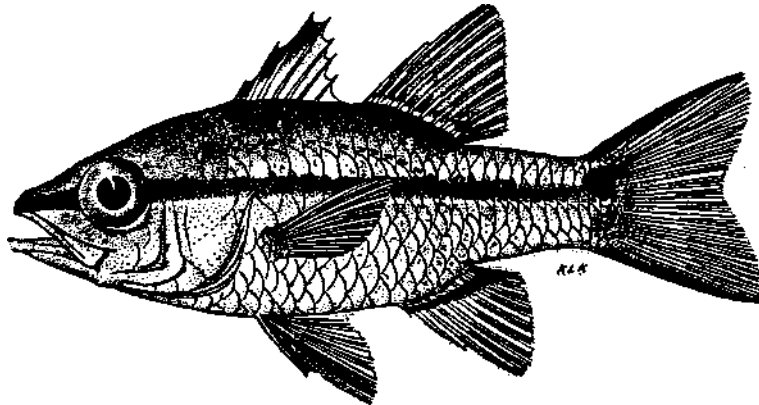


FIG. 8. *Pristiapogon snyderi* (Jordan and Evermann), 83 mm.

Dj.VH, D_e.I,9 ; A.II, 8 ; P.ii, 11. Ll.23-25 ; Ltr. 2+1+7.

Head 2.5-2.7, 3.2-3.5 in length with caudal. Depth of body 2.8-3, 3.5-3.7 in length with caudal. Eye 3-3.3 in head, 0.8 in snout and about 0.7 in interorbital space. Serrations on preopercle ridge stouter and longer than those on the preopercle margin. Suborbital with strong sharp spines. Pale brown, lighter below with a broad dusky brown lateral band of uniform width from tip of snout through eye, slightly curves down above pectoral and ending in a diffuse dark spot at caudal base just above lateral line. A brownish area on upper part of body from anterior to spinous dorsal to below base of second dorsal. Spinous dorsal dusky, upper portion of membrane between anterior 4 spines dark. Second dorsal and anal with dark subbasal bands. Upper and lower caudal edges narrowly dusky. Two outer rays of pelvic brownish, remainder of fin transparent. Pectoral transparent.

Note : The species of the genus *Pristiapogon* are not clearly delineated. Weber and de Beaufort synonymised *P. snyderi* with *P. fraenatus*. These occur together and due to their close resemblance they were given earlier as *fraenatus*. (Jones 1962 ; Jones and Kumaran 1959). However, on close examination they are found distinct from one another. In *P. snyderi* the lateral stripe is of almost uniform width, the spot at the caudal base is just above the lateral line even* though its lower border touches the lateral line, the body colour is generally darker and the body is deeper, whereas, in *P. fraenatus* the lateral stripe tapers in width posteriorly and ends on caudal peduncle or a little anteriorly, the spot at caudal base is partly on the lateral line and the body is generally lighter in colour. Of the eight species described under the genus so far, three species viz., *P. fraenatus*, *P. snyderi* and *P. taeniopterus* are now definitely known to occur in the western Indian Ocean.

Material: Ameni, 1 specimen, 83 mm. Minicoy, 3 specimens, 35 to 69 mm.

Distribution: Red Sea, east coast of South Africa and from the Philippines to Samoan, Marshall and Marianas Islands, Jonston Island and Tuamotu Islands.

9. *Pseudamia gelatinosa* Smith (Fig. 9)

Pseudamiapolystigma Smith, 1954, *Ann. Mag. Nat. Hist.*, (12)7 : 778, Pl. 23, D & E (*nee* Bleeker).

Pseudamia gelatinosa Smith, 1955, *Ann. Mag. Nat. Hist.*, (12)8 : 690, Pl.18, A.

D^{VI}, D₂.I, 8 ; A.II, 8 ; P.ii, 14. Ll. 41 ; Ltr. 3 +1 +14.

Head 2.6, 3.3 in length with caudal. Height 4.1, 5.3 in length with caudal. Eye 4 in head, equal to snout and 0.8 in interorbital space. Maxillary reaching to below hind border of eye. Anterior nostril with a large flap posteriorly. Two or three series of teeth in jaws, one long inwardly directed canine on each side near symphysis in upper jaw and a pair of recurved canines on either side in lower jaw, the anterior one being a little shorter than the other. Teeth on vomer, palatines and pterygoids. Operculum and nape scaled. Lateral line with 20 scales and ends below second dorsal. First dorsal spine shorter than second spine. Second dorsal and anal higher than first dorsal. Colour of preserved specimen yellowish

with small dark spots on head, scales of body with small dark spots forming somewhat longitudinal lines on upper and lower sides and larger spots irregularly arranged. A dark blotch at caudal peduncle near base of upper caudal rays. Spinous dorsal slightly dusky. Second dorsal, anal and caudal with dark specks. A diffuse dark blotch midway on upper side of caudal. Pectoral and ventral yellowish.

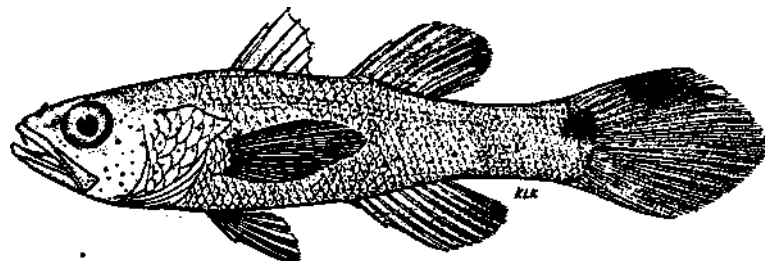


FIG. 9. *Pseudamia gelatinosa* Smith, 43 mm.

Note: Smith [*Ann. Mag. Nat. Hist.*, 1955, (12)8 : 690-91] has drawn attention to the probability of the species being identical with *P. amblyuropterus* Bleeker on the basis of similarities in colouration and distinguishes *P. polystigma* and *P. gelatinosa* mainly on account of the difference in gill raker counts (2+1 + 8 for *polystigma* and 1 + 1 + 6 for *gelatinosa*) and the slight difference in colouration. The specimen from Minicoy has a gill raker count of 1 + 1 + 6 and agrees in all essential features with the material from the east coast of Africa.

Material: Minicoy, 1 specimen, 43 mm.

Distribution: Bazaruto northwards to Malindi and Seychelles in the Western Indian Ocean.

10. *Rhabdamia cypselurus* Weber (Fig. 10)

Rhabdamia cypselurus Weber, 1909, *Notes Leyden Mus.*, 31 : 167 ; Weber and de Beaufort, 1929, *Fishes Indo-Australian Archipelago*, 5 : 358, Fig. 86 ; Smith, 1961, *Ichth. Bull.*, 21 : 376, Pl. 46, C.

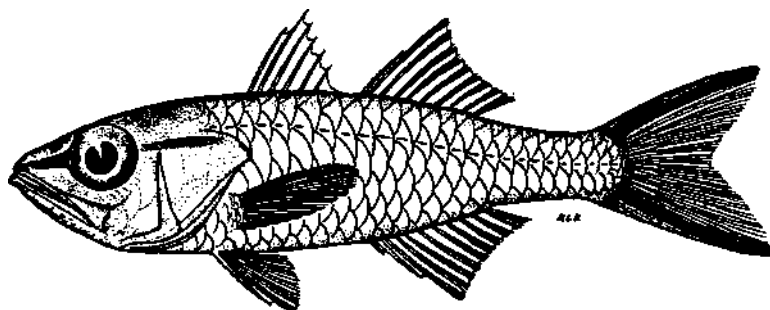


FIG. 10. *Rhabdamia cypselurus* Weber, 35 mm.

D^{VI}, D₂.I, 9 ; A.II.9 ; P.ii.11. Ll.24-25 ; Ltr.2 f 1 t 6.

Head 2.6-2.9, 3.2-3.5 in length with caudal. Depth of body 3.7-3.9, 4.6-4.9 in length with caudal. Eye 3.2-3.4 in head, 0.8 in snout and 0.7-0.8 in interorbital space. Preopercle ridge and preopercle margin smooth. Colour uniform yellowish with a dark band from snout through eye to upper part of opercle. Some specimens with brownish line at base of anal on body. Fins transparent, except caudal lobes which have intramarginal dark stripes.

Material: Minicoy, 23 specimens, 26 to 35 mm. This species is occasionally captured in appreciable numbers in bait nets in Minicoy.

Distribution : Coasts of South Africa, Aldabra, Seychelles, Indonesia, Philippines and Bikini Atoll.

Family : CAESIODIDAE

11. *Caesio pisang* Bleeker (Fig. 11)

Caesio pisang Bleeker, 1853, *Nat. Tijds. Ned.-Ind.*, 4 : 113 ; Weber and de Beaufort, 1936, *Fishes Indo-Australian Archipelago*, 7 : 302.

Pterocaesio pisang Smith and Smith, 1963, *Fishes of Seychelles* : 29, Pl. 94, F.

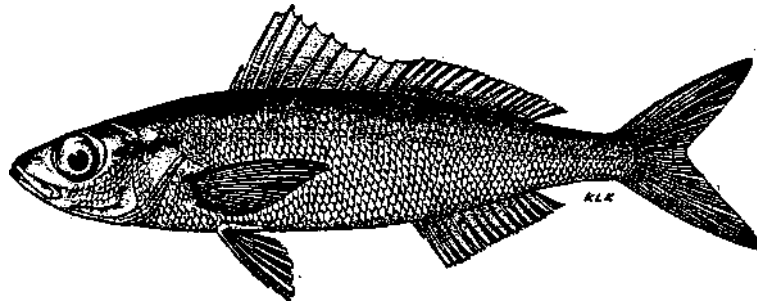


FIG. 11. *Caesio pisang* Bleeker, 84 mm.

D.X, 14-15 ; A.III, 12 ; P.ii, 18-19. Ll.67-74 ; Ltr. 6 11 + 15.

Head 3.2-3.5, 4-4.4 in length with caudal. Depth of body 4-4.5, 4.9-5.5 in length with caudal. Eye 3.3-3.6 in head, 0.9 in snout and equal to or slightly less than interorbital space. Colour dark brown above, paler to whitish below. Dorsal pale with brownish tinge, other fins yellowish. Caudal with black tips to each lobe.

Material: Kavarathi, 2 specimens, 84 and 112 mm. Minicoy, 7 specimens, 47 to 92 mm.

Distribution : East coast of Africa, Indonesia, Formosa, Philippines, Japan and Caroline Islands.

12. *Caesio xanthonotus* Bleeker (Fig. 12)

Caesio xanthonotus Bleeker, 1853, *Nat. Tijds. Ned.-Ind.*, 4 : 466 ; Weber and de Beaufort, 1936, *Fishes Indo-Australian Archipelago*, 7 : 301 ; Smith and Smith, 1963, *Fishes of Seychelles* : 29, Pl. 95, F.

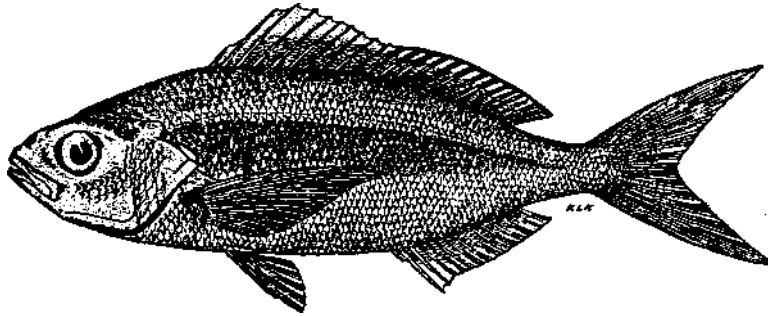


FIG. 12. *Caesio xanthonotus* Bleeker, 144 mm.

D.X, 15 ; A.III, 12 ; P.ii, 18. Ll.60-63 ; Ltr.6+1+17.

Head 3.1-3.2, 4.4-4.1 in length with caudal. Depth of body 3-3.1, 3.9-4.1 in length with caudal. Eye 3.7-4.0 in head, slightly longer than snout and about 1.2 in interorbital space. Temporal band of scales 3 scales wide, 10 scales long interrupted by narrow scaleless interspace at middorsal line. Colour light yellowish brown above, lower sides pale white with a broad dark band below lateral line from head to base of caudal. Axil of pectoral brown, upper edge of pectoral base dark. Dorsal pale yellowish, dusky distally. Other fins yellowish.

Material: Minicoy, 5 specimens, 40 to 59 mm. 2 specimens, 144 and 181 mm.

Distribution: Seychelles, Indonesia, Philippines, Indo-China, Solomon Islands, Marshall and Marianas Islands.

13. *Gymnocaesio argenteus* (Bloch) (Fig. 13)

Bodianus argenteus Bloch, 1790, *Naturg. Ausland Fische*, 4 : 57, Pl.231, Fig. 2.

Gymnocaesio gymnopterus Bleeker, 1856, *Nat. Tijds. Ned.-Ind.*, 10 : 372 ; Weber and de Beaufort, 1936, *Fishes Indo-Australian Archipelago*, 7 : 316, Fig. 67 ; Smith and Smith, 1963, *Fishes of Seychelles* : 29, PL 94,A.

D.X, 14-15 ; A.III, 12 ; P.ii, 18-19 ; Ll.76-82 . Ltr.7+1 + 13.

Head 3.6-3.9, 4.3-4.6 in length with caudal. Depth of body 5.1-5.5, 6.2-6.6 in length with caudal. Eye 3.3-3.5 in head, 0.9 in snout and 0.8-0.9 in interorbital space. Premaxillary with two processes on each side in addition to the median one. First dorsal spine minute, third longest, slightly longer than postorbital length of head. First anal spine minute. Colour greyish brown above, silvery white below. Dorsal and caudal pale white with brownish tinge, other fins whitish. Axil of pectoral blackish.

Note: It is most likely that *Caesio gymnopterus* Bleeker, 1856 is a synonym of the present species as it is presumed that he failed to notice the minute first dorsal spine. Moreover, in his figure (*Atlas Ichth.*, Vol. 7, PL 310, Fig. 5, 1873-76) only two anal spines could be distinguished. Even though Weber and de Beaufort

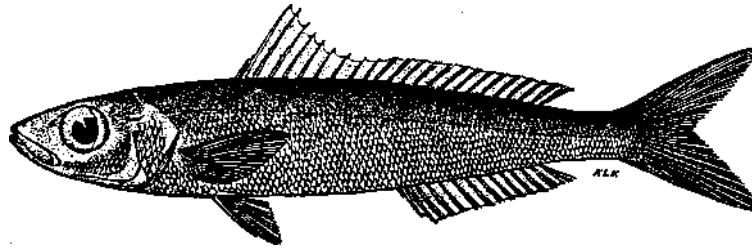


FIG. 13. *Gymnocaesio argenteus* (Bloch), 76 mm.

(1936) mentions in the description of the genus *Gymnocaesio* that the first anal spine is minute, in the figure (Fig. 67), it actually exceeds 3/4th of the second anal spine.

Material: Minicoy, 23 specimens, 49 to 76 mm. One of the common species of tuna bait fishes in Minicoy.

Distribution: East coast of Africa, Aldabra, Seychelles, Indonesia, Philippines and China.

Family : POMACENTRIDAE

14. *Abudefduf cingulum* (Klunzinger) (Fig. 14)

Glyphidodon cingulum Klunzinger, 1871, *Verh. Zool. bot. Ges. Wien.*, 21 : 526.

Abudefduf cingulum Smith, 1960, *Ichth. Bull.*, 19 : 334, PL 31, C and PL 30, H, H'.

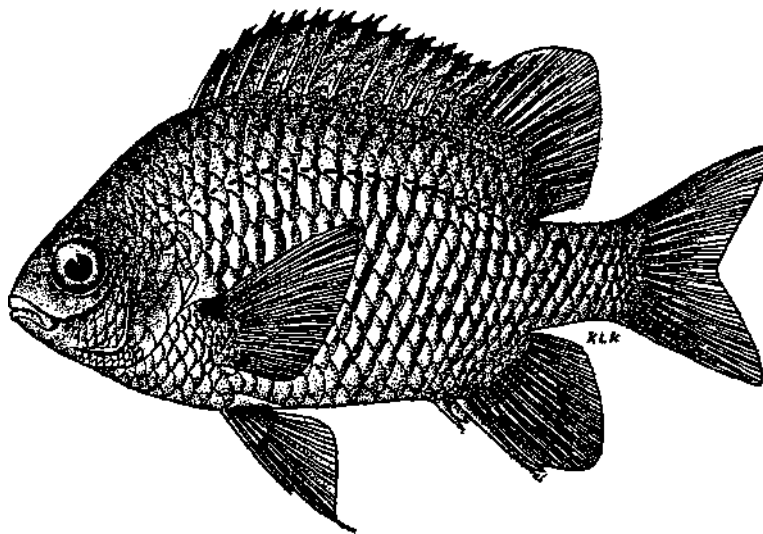


FIG. 14. *Abudefduf cingulum* (Klunzinger), 56 mm.

D.XII, 15-16; A.II, 13 ; P.ii, 17. LI. 19-20+8 ; Ltr.3+1+9.

Head 2.9-3.2, 4-4.2 in length with caudal. Depth of body 1.9-2.1, 2.5-2.7 in length with caudal. Eye 3.2-3.4 in head, equal to or longer than snout and equal to interorbital space. Colour brownish, lower sides lighter. Dorsal and anal dark, soft dorsal pale posteriorly. Caudal lobes dark, lighter towards extremity. Pectoral light with a dark blotch at axil. Young with a black spot at the base of last two rays of dorsal.

Material: Ameni, 1 specimen, 26 mm. Minicoy, 17 specimens, 38 to 60 mm.

Distribution : Hitherto known only from east coast of Africa and Seychelles.

15. **Abudefduf dickii** (Lienard) (Fig. 15)

Glyphisodon dickii Lienard, 1839, *Soc. Hist. Nat. Maurice, Dix Rap* : 35.

Abudefduf dickii de Beaufort, 1940, *Fishes Indo-Australian Archipelago*, 8 : 442.

Abudefduf dickii Smith, 1960, *Ichth. Bull.*, 19 : 335, Pl. 26, B & C.

D.XII, 17 ; A.II, 14 ; P.ii, 16. LI. 20 + 8 ; Ltr. 3 + 1 + 8-9.

Head 3, 3.7 in length with caudal. Depth of body 1.9, 2.4 in length with caudal. Eye slightly more than 3 in head, more than snout and interorbital space. Colour brown with a broad crescent shaped black band from median rays of soft

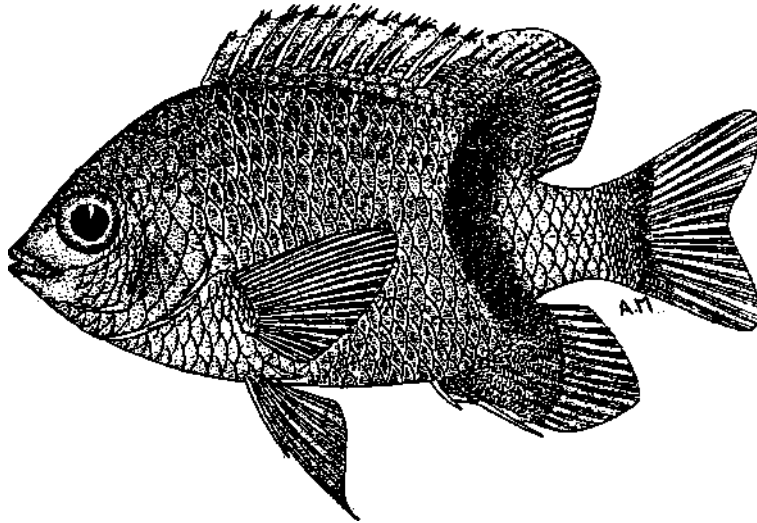


FIG. 15. *Abudefduf dickii* (Lienard), 41 mm.

dorsal to posterior rays of anal. Caudal peduncle, caudal and posterior parts of soft dorsal and anal creamy white. Spinous dorsal light brown with dark edge. Anal blackish anteriorly.

Material: Minicoy, 1 specimen, 41 mm.

Distribution: East coast of Africa, Madagascar, Mauritius, Aldabra, Seychelles, Indonesia, Philippines, Solomon Islands, Society Islands and Samoa.

16. **Amphiprion chrysogaster** Cuvier and Valenciennes (Fig. 16)

Amphiprion chrysogaster Cuvier and Valenciennes, 1830, *Hist. Nat. Poissons*, 5 : 400 ; Smith, 1960, *Ichth. Bull.*, 19 : 320, Pl. 30, J.

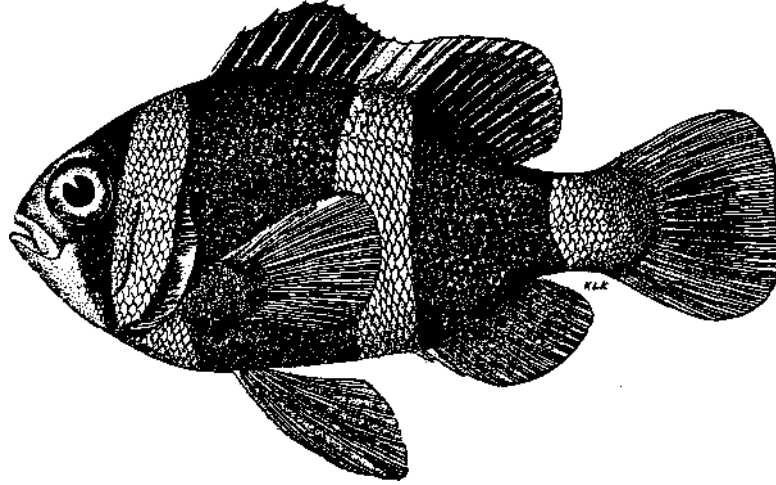


Fig. 16. *Amphiprion chrysogaster* Cuvier and Valenciennes, 38 mm.

D.X, 16 ; A.II, 13 ; P.ii, 17. LI. 44 ; Ltr.6+1 + 19.

Head 3.2,4 in length with caudal. Depth of body 2.1,2.7 in length with caudal. Eye 2.8 in head, 0.6 in snout and about equal to interorbital space. Colour dark brown with three yellowish cross bars, the first from nape obliquely downwards to opercle, the second from 9th dorsal spine and second or third dorsal ray to just before anal fin and the third across caudal peduncle. Dorsal dark brown except the last two spines, the first two rays and distal part of posterior rays which are yellowish white. Anal brownish basally, lighter distally. Caudal pale yellowish or white with dusky brown area in the middle of the fin. Ventral yellowish brown. Pectoral pale yellow, dark basally.

Material: Minicoy, 1 specimen, 38 mm.

Distribution : Mauritius, Philippines, Riu Kiu, Marshall and Marianas Islands.

17. **Chromis chrysurus** (Bliss) (Fig. 17)

Heliastes chrysurus Bliss, 1883, *Trans. Roy. Soc. Maur.*, 13 : 56.

Chromis chrysurus Smith, 1960, *Ichth. Bull.*, 19 : 323.

D.XIII, 13 ; A.II, 13 ; P.ii, 16. Ll.18+9 ; Ltr.3 + 1 + 11.

Head 3.2, 4.3 in length with caudal. Height 1.8, 2.5 in length with caudal. Eye 2.8 in head, 0.7 in snout and equal to interorbital space. Colour uniform bluish brown above, lighter below. Scales of body with dark margin. The scale above

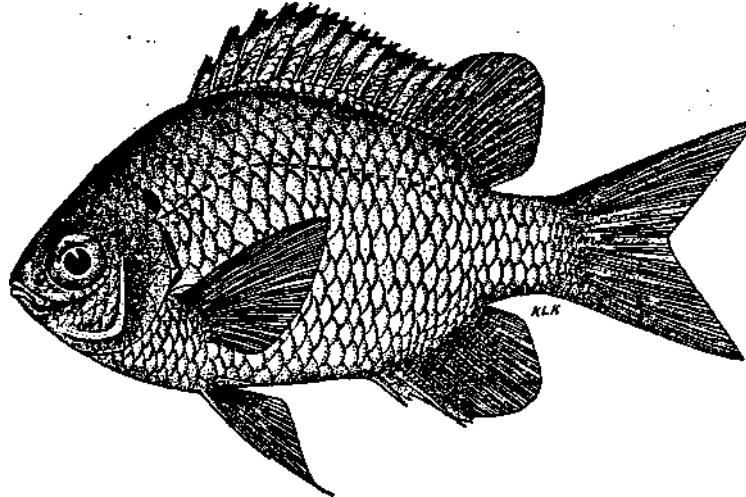


FIG. 17. *Chromis chrysurus* (Bliss), 67 mm.

the origin of lateral line blackish. A black transverse bar at the posterior border of operculum. Spinous dorsal light brown, edged darker. Soft dorsal brownish, pale distally. Anal brownish, tips of posterior rays pale. Pectoral pale yellow with a black spot at base of upper rays.

Material: Minicoy, 1 specimen, 67 mm.

Distribution: Mauritius. This little known species has not been obtained from any other locality since Bliss described it in 1883 based on material collected from Mauritius.

18. *Chromis nigrurus* Smith (Fig. 18)

Chromis ternatensis Smith, 1955, *Mem. Mas. Dr. Ah. Castro*, 3 : 17, Fig. 19 (*nee* Bleeker); Smith, 1955, *Ann. Mag. Nat. Hist.*, (12) 8 : 888 (*nee* Bleeker).

Chromis nigrurus Smith, 1960, *Ichth. Bull.*, 19 : 325, Pl. 29, I.

D.XII, 10-11 ; A.II, 11 ; P.ii, 15-16, Ll.15-16+9-10; Ltr.2+1+8.

Head 3.1-3.3, 4.4-4.7 in length with caudal. Depth of body 2.4-2.6, 3.4-3.7 in length with caudal. Eye 2.6-2.9 in head, 0.5-0.6 in snout and equal to or slightly more than convex interorbital space. Caudal lobes filamentous. Colour brownish violet, pale below. Spinous dorsal olive with dusky edges. Anterior rays of soft

dorsal and anal brownish to olive, posterior rays lighter. Upper and lower lobes of caudal dark olive, median rays yellowish white. Pectoral and ventral pale.

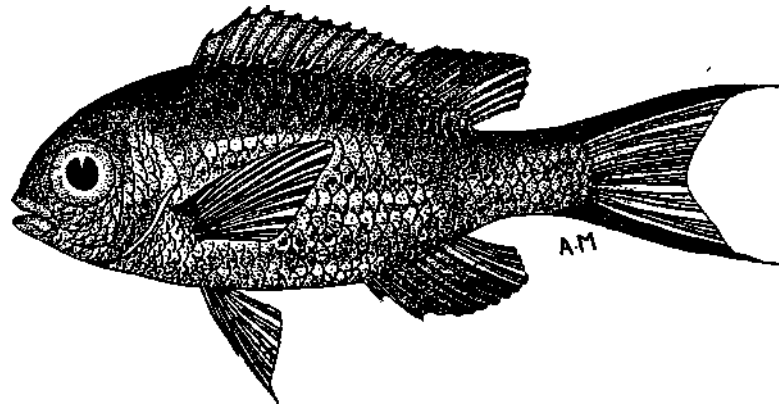


FIG. 18. *Chromis nigrurus* Smith, 34 mm.

Material: Minicoy, 5 specimens, 27 to 34 mm.

Distribution : Inhaca Island northwards to Seychelles in the Western Indian Ocean and its presence in Minicoy is noteworthy.

19. *Chromis opercularis* (Gunther) (Fig. 19)

Heliastes opercularis Gunther, 1866, *Fishes of Zanzibar* : 84, Pl.11, Fig. 2.

Chromis opercularis Smith, 1960, *Ichth. Bull*, 19 : 325, Pl. 26, K. & Pl.32, G.

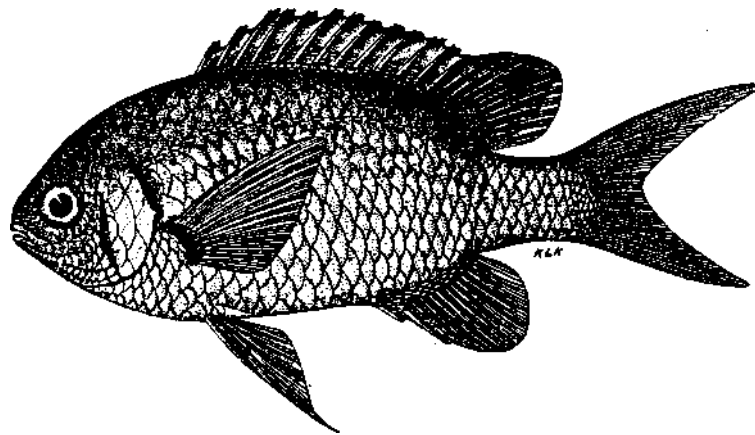


FIG. 19. *Chromis opercularis* (Gunther), 92 mm.

D.XIII, 11 ; A.II, 11 ; P.ii, 16. LI. 18+9; Ltr.2+1+9.

Head 3.3-3.6, 4.2-4.8 in length with caudal. Depth of body 2.2-2.3, 3-3.2 in length with caudal. Eye 3.2 in head, 0.6-0.7 in blunt snout and 1.2 in interorbital space. Posterior border of preopercle somewhat concave. Colour chocolate brown. A dark vertical band along hind preopercle edge and another along upper part of gill opening. Dorsal and anal light brown, posterior rays narrowly whitish. Membranes between ventral rays dark. Pectoral lighter, axil dark.

Material: Minicoy, 2 specimens, 92 and 100 mm.

Distribution : East coast of South Africa, Madagascar, Aldabra and Seychelles.

20. *Pomacentrus albicaudatus* Baschieri-Salvadori (Fig. 20)

Pomacentrus albicaudatus Baschieri-Salvadori, 1955, *Riv. Biol. Colon.*, 15:64, Pl.4, Fig. 4 ; Smith, 1960, *Ichth. Bull.*, 19 : 345, Pl.32, M.

D.XIII, 15 ; A.II, 14-15 ; P.ii, 14-15. LI.18-19+8; Ltr.2+1+8.

Head 3-3.3, 3.8-4.3 in length with caudal. Depth of body 2-2.2, 2.6-2.8 in length with caudal. Eye 3-3.2 in head. Snout less than eye diameter and equal to interorbital space. Colour uniform dark brown with a black spot at origin of lateral line. A black light-edged ocellus between 7th and 11th dorsal rays in small specimens, absent in adults. Dorsal and anal brown, pectoral lighter. Caudal white.

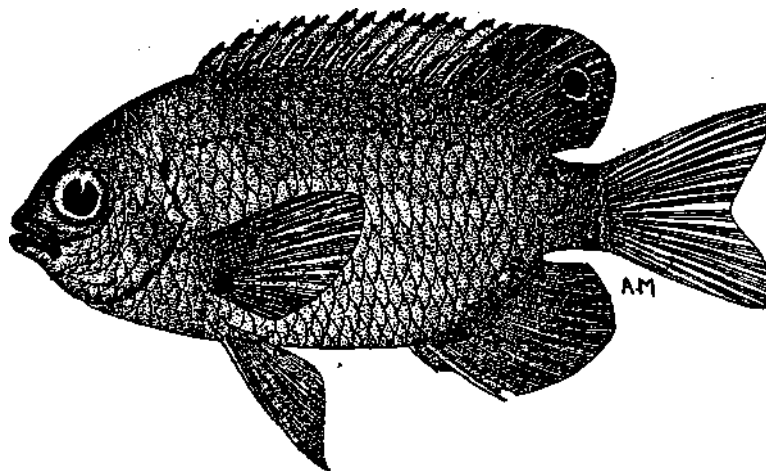


FIG. 20. *Pomacentrus albicaudatus* Baschieri-Salvadori, 42 mm.

Material: Agathi, 1 specimen, 55 mm. Ameni, 1 specimen, 40 mm. Bithra, 1 specimen, 50 mm. Minicoy, 2 specimens, 40 and 42 mm.

Distribution : Previously known only from the Red Sea and will probably be found along the east coast of Africa. Its occurrence in Laccadive Islands is of interest as it has not been collected from any intermediate area so far.

21. **Pomacentrus pavo** (Bloch) (Fig. 21)

Chaetodon pavo Bloch, 1787, *Naturg. Ausland Fische*, 3 : 60, Pl. 198.

Pomacentrus pavo de Beaufort, 1940, *Fishes Indo-Australian Archipelago*, 8 : 385 ;
Smith, 1960, *Ichth. Bull*, 19 : 344, Pl. 29,G & Pl.27 G.

D.XIII, 13-14; A.II, 13 ; P.ii, 14-15. Ll.16-18+9-10. Ltr.2+1+9.

Head 3.3-3.7, 4.5-5.0 in length with caudal. Depth of body 2.3-2.6, 3.3-3.7 in length with caudal. Eye 2.8-3.3 in length of head, 0.6-0.7 in snout and about

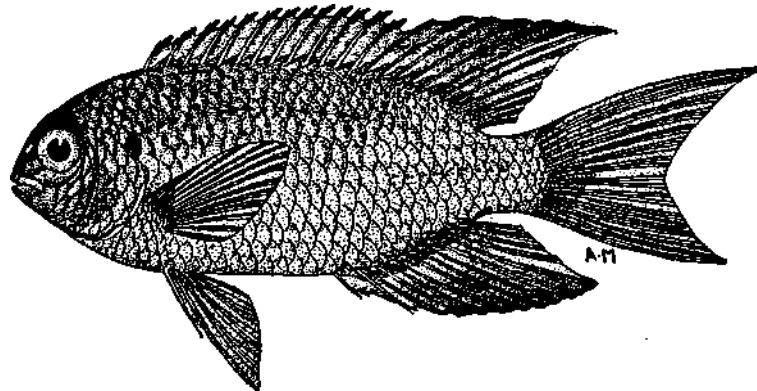


FIG. 21. *Pomacentrus pavo* (Bloch), 63 mm.

equal to interorbital space. A deep notch between preorbital and suborbital. Suborbital strongly serrated. Preopercle serrated. Colour brownish to yellowish, lighter below. A bluish grey band from snout to upper border of eye and another below from upper lip to eye. A bluish black blotch superiorly on hind border of opercle. Sometimes a few dark spots posterior to eye. Dorsal and anal brownish with broad dark margin, posterior rays of dorsal and anal lighten Caudal pale yellowish.

Material: Ameni, 8 specimens, 41 to 54 mm. Bithra, 8 specimens, 42 to 50 mm. Kavarathi, 1 specimen, 63 mm. Minicoy, 14 specimens 37 to 60 mm.

Distribution : Red Sea, east coast of Africa, Aldabra, Madagascar, Comores and a number of places from Indonesia to the Philippines, Caroline, Marshall, Marianas, Solomon, Tuamotu, and Marquesas Islands.

Family : LABRIDAE

22. **Anampses amboinensis** Bleeker (Fig. 22)

Anampses amboinensis Bleeker, 1857, *Acta Soc. Sci. Indo-Neerl.* 2, *Achtste Bijdr. vischfauna Amboina* : 80 ; de Beaufort, 1940, *Fishes Indo-Australian Archipelago*, 8 : 103 ; Smith, 1957, *Ichth. Bull.*, 7 : 103,

D.IX, 12 ; A.III, 12 ; P.ii, 11. LI. 27-28 ; Ltr. 3+1 + 10.

Head 3.1, 3.8 in length with caudal. Depth of body 3.2, 3.9 in length with caudal. Snout about 3 in head. Eye 2.4 in snout, 1.8 in convex interorbital space. Two large compressed incisive anteriorly in each jaw. Dark brown in colour with dark indistinct stripes on snout, preopercle, interopercle and opercle. Scales of

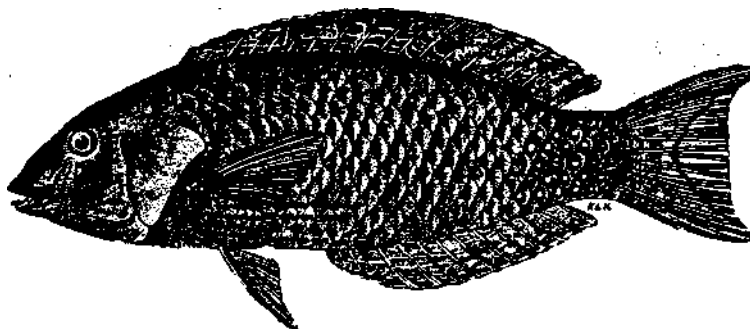


FIG. 22. *Anampses amboinensis* Bleeker, 138 mm.

body posterior to pectoral with dark vertical stripes and 5 longitudinal bands below pectoral upto above origin of anal formed by dark stripes or spots on scales. Dorsal and anal with three or four rows of light longitudinal streaks bordered with dark and with a black submarginal and a white terminal band. Caudal brown with some black ocelli basally and lighter distally, the two colours sharply defined by a black narrow curved band the ends of which reach the tip of the produced rays. Rays of pectoral brown.

Material: Kadamat, 1 specimen, 138 mm.

Distribution : Indonesia, Philippines, Zanzibar and Mauritius.

23. *Halichoeres argus* (Bloch and Schneider) (Fig. 23)

Labrus argus Bloch and Schneider, 1801, *Syst. Ichth.* : 263.

Halichoeres argus de Beaufort, 1940, *Fishes Indo-Australian Archipelago*, 8 : 230, Fig. 34, A.

D.IX, 12 ; A.III, 12 ; P. ii, 12. LI. 28 ; Ltr. 2+1+9.

Head 3.1, 3.7 in length with caudal. Depth of body 3, 3.6 in length with caudal. Snout about 3.2 in head. Eye 1.7 in snout, 1.2 in slightly convex interorbital space. A pair of canines anteriorly in each jaw. Background colour of preserved specimen light pinkish. A dark band from upper lip to eye and another from chin to below eye, bifurcating, one branch vertically behind the eye and the other downwards over preopercle and opercle. A dark bar on the upper part of opercle and a large dark blotch below this. Scales above lateral line with a dark centre excepting one scale each below 5th and 8th dorsal spines, 4th and 9th dorsal rays and posterior to the base of last dorsal ray. Body below the lateral line appears reticulated. Dorsal dark brown with three rows of light ocelli. Anal brown with a row of light spots basally, a median longitudinal light band and a

row of small light ocelli distally. Caudal yellowish, distal portion dark. Ventral hyaline, membrane between first and second rays dark.

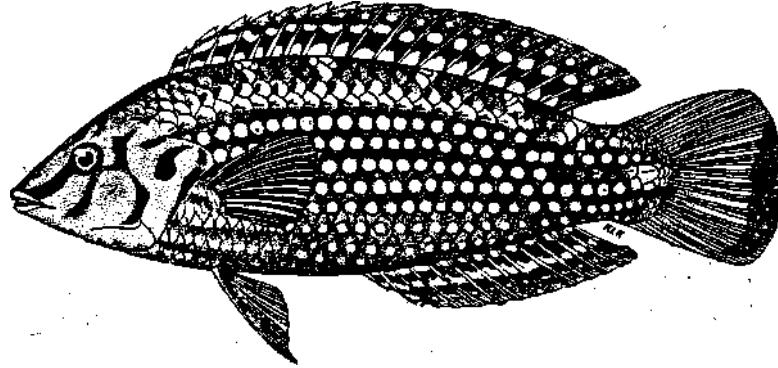


FIG. 23. *Halichoeres argus* (Bloch and Schneider), 77 mm.

Material: Kadamat, 1 specimen, 77 mm.

Distribution: Indonesia to the Philippines, Indo-China, China, North Australia, New Hebrides and Fiji. Herein recorded for the first time west of Sumatra.

24. *Stethojulis phekadopleura* (Bleeker) (Fig. 24)

Julis (Halichoeres) phekadopleura Bleeker, 1849, *Verh. Bat. Gen.*, 22, *Bijdr. Ichth. Bali*: 8.

Stethojulis phekadopleura de Beaufort, 1940, *Fishes Indo-Australian Archipelago*, 8 : 164; Smith, 1957, *Ichth. Bull.*, 7 : 107.

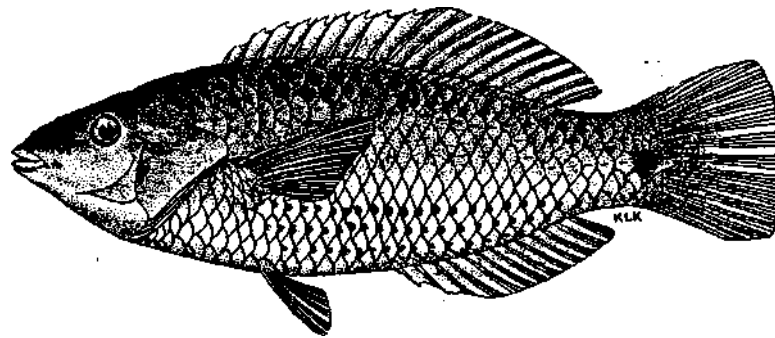


FIG. 24. *Stethojulis phekadopleura* (Bleeker), 96 mm.

D.IX, 11 ; A.III, 11 ; P.ii, 11. L1.27-28; Ltr. 2+1+9.

Head 3-3.3, 3.6-3.8 in length with caudal. Depth of body 3-3.4, 3.6-3.9 in length with caudal. Snout about 2.8 in head. Eye 1.8-2.1 in snout, 1.2-1.4 in slightly convex interorbital space. A canine at corner of mouth. Reddish brown above, creamy white below, the two colours well defined. Often a narrow line

below eye. Upper sides of head and body with light brown spots. Three rows of scales from below pectoral to above end of anal with brown spots. Usually a large brown spot at end of lateral line. Fins hyaline.

Material: Androth, 3 specimens, 48 to 49 mm. Agathi, 2 specimens, 53 and 60 mm. Kadamat, 1 specimen, 75 mm. Kavarathi, 8 specimens, 81 to 99 mm. Minicoy, 18 specimens, 40-89 mm. Pitti, 1 specimen, 47 mm.

Distribution: Coast of Natal, Indonesia, Philippines, Japan, Caroline Islands, Solomon Islands, New Hebrides, Fiji and Samoan Islands.

Family: SIGANIDAE

25. *Siganus rostratus* (Cuvier and Valenciennes) (Fig. 25)

Amphacanthus rostratus Cuvier and Valenciennes, 1835, *Hist. Nat. Poissons*, 10 : 116.

Siganus rostratus de Beaufort, 1951, *Fishes Indo-Australian Archipelago*, 9 : 102 ; Smith and Smith, 1963, *Fishes of Seychelles* : 45, P1.35.C.

D.XIII, 10 ; A.VII, 9 ; P.ii, 16.

Head 4-4.3, 5-5.4 in length with caudal. Depth of body 2.4-2.7, 3.1-3.5 in length with caudal. Eye 3.4-3.7 in head, 1.3-1.5 in snout and 1.1-1.3 in inter-orbital space. Caudal deeply forked, lobes pointed. Colour highly variable, usually brown, paler below, sides of body generally with small pale spots. A

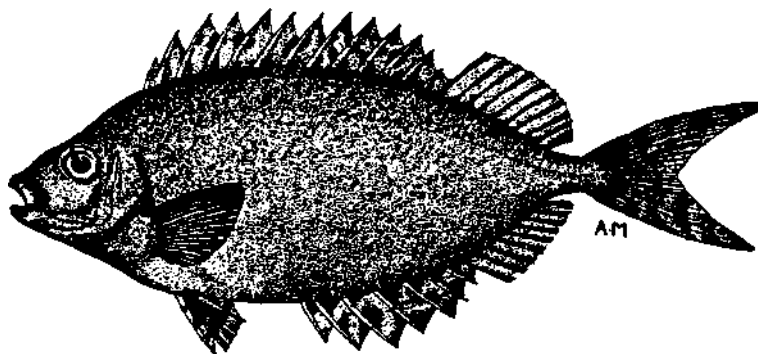


FIG. 25. *Siganus rostratus* (Cuvier and Valenciennes), 172 mm.

brownish streak along hind border of opercle. Membrane of spinous dorsal and anal with diffused dusky blotches, soft dorsal and anal pale, rays with brownish streaks. Caudal brownish, lobes with 5-6 dark brown transverse bars. 2 or 3 dark bands across ventrals.

Material: Agathi, 4 specimens, 58 to 118 mm. Bithra, 1 specimen, 58 mm. Chetlat, 2 specimens, 151 and 172 mm. Kavarathi, 3 specimens, 51 to 133 mm. Minicoy, 3 specimens, 83 to 86 mm. Suheli, 1 specimen, 199 mm.

Distribution : Red Sea Mozambique, Zanzibar, Madagascar, Seychelles, Philippines, Solomon, Marshall, Marianas, Gilbert, Carolines and Society Islands,

Family : LAGOCEPHALIDAE

26. **Lagocephalus lagocephalus** (Linnaeus) (Fig. 26)

Tetrodon lagocephalus Linnaeus, 1758, *Syst. Nat.*, ed. 10 : 332.

Lagocephalus lagocephalus Smith, 1949, *Fishes of Southern Africa* : 417, PL94, Fig. 1193.

D.i, 13 ; A.i, 12 ; P.i, 13.

Head 3.3, 3.8 in length with caudal. Height 4.1, 4.8 in length with caudal. Eye 4.5 in head, 1.8 in snout and 1.8 in interorbital space. Body naked above and

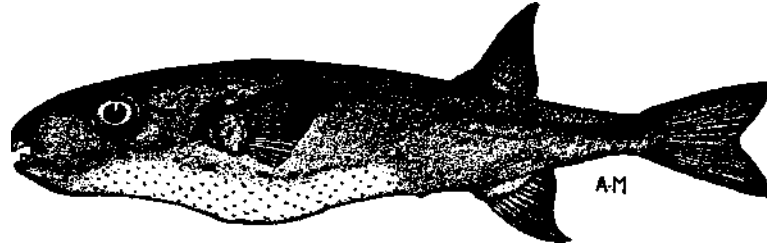


FIG. 26. *Lagocephalus lagocephalus* (Linnaeus), 214 mm.

on sides, lower sides from below snout upto vent with strong spines. Dorsal and anal falcate. Pectoral 1.8 in head, longest dorsal and anal ray 2 and 2.2 in head. Bluish black above, dull white on lower sides. Fins dark except 4 lower rays of pectoral which are white.

Material: Agathi, 1 specimen, 214 mm.

Distribution: Though widespread in the Atlantic and Mediterranean, rarely caught along the east coast of South Africa and Mauritius. The present record is the easternmost record of occurrence of this species in the Indian Ocean.

Family: TETRAODONTIDAE

27; **Tetraodon meleagris** (Lacepede) (Fig. 27)

Tetraodon meleagris Lacépède, 1799, *Hist. Nat. Poissons*, 1 : 476 and 505.

Arothron meleagris Smith and Smith, 1963, *Fishes of Seychelles*: 61, Pl.55, 1.

D.i, 11-12; A.i, 11-12 ; P.ii, 15-16.

Head 3-3.2, 3.8-4 in length with caudal. Eye 5.6-6.1 in head, 2.4-2.7 in snout and 3.4-3.6 in somewhat convex interorbital space. Colour dark brown with small

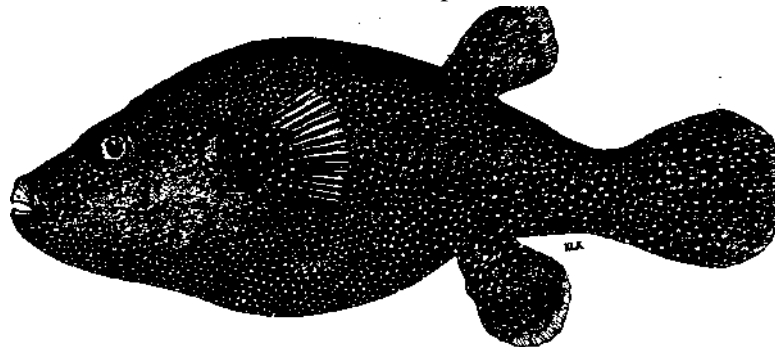


FIG. 27. *Tetraodon meleagris* (Lacépède), 195 mm,

white spots smaller than interspaces all over head, body, vertical fins and basal half of pectoral. Margin of fins light brownish.

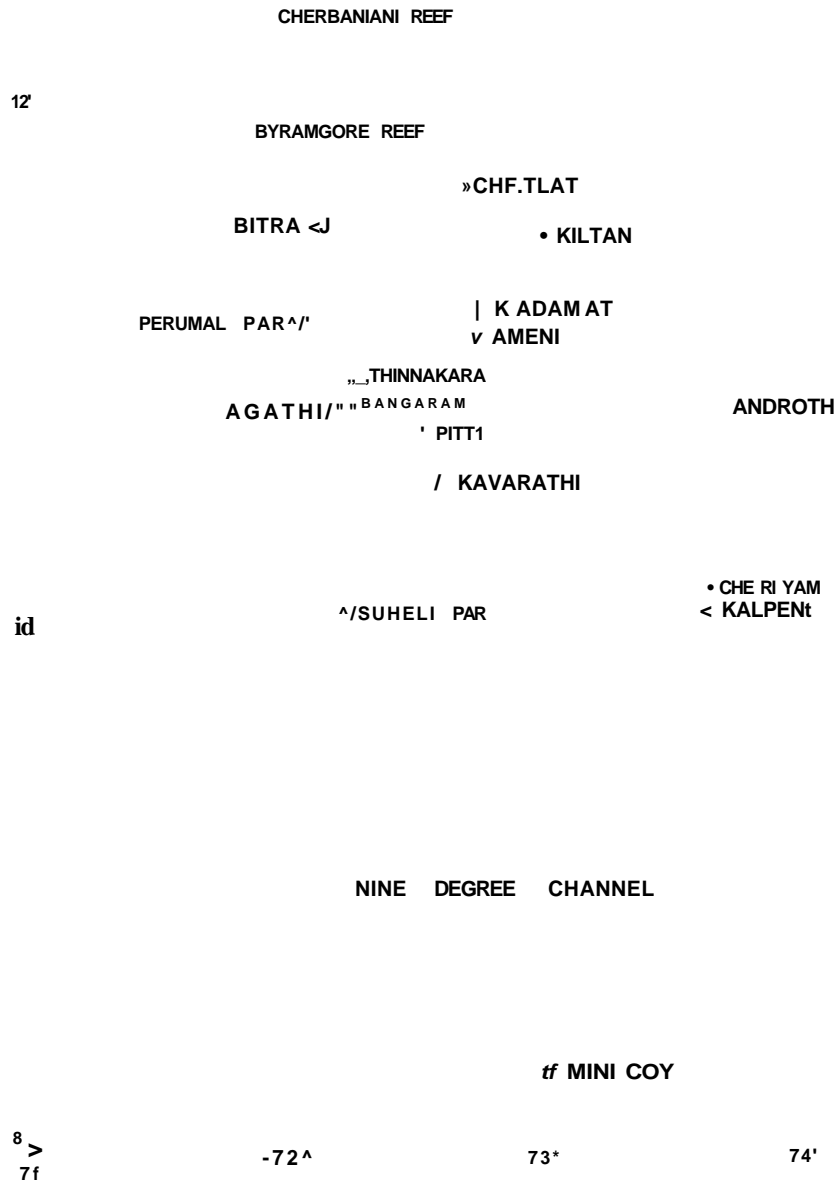


FIG. 28, Laccadive Archipelago.

Material: Kavarithi, 1 specimen, 195 mm. Minicoy, 1 specimen, 179 mm.

Distribution: Aldabra, Seychelles, Indonesia, Philippines, Gilbert, Marshall, - Marquesas, Hawaiian and Tuamotu Islands.

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