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List of the Fishes of the Family Labridae in the Western Indian Ocean

WITH

New Records and Five New Species

By

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List of the Fishes of the Family Labridae in the Western Indian Ocean with New Records and Five New Species

(with Plates I & II)

By J. L. B. SMITH,

Research Professor and South African Council for Scientific and Industrial Research Fellow in Ichthyology, Rhodes University, Grahamstown.

FAMILY LABRIDAE

Labrid fishes are primarily shore dwelling in tropical seas, few penetrating to cooler waters. An interesting distributional picture in the case of these fishes is observed along the coast of East and South Africa, for not only does the shore line stretch across the equator, but the warm and powerful westward current of the Indian Ocean divides south of the equator, one branch flowing north, the other, the powerful Mozambique current, southwards. As a result Labrid (and other) fishes, which in most parts are confined to a fairly narrow equatorial belt, are here spread out over an abnormally extensive area, many indeed living in surprising latitudes, e.g. the young of **Thalassoma purpurem** Forskal, have been found at 34°S × 24°E.

The brilliant colours and shapely forms of Labrid fishes have everywhere attracted attention from the earliest times, so that even in an area until recently so poorly known as the Western Indian Ocean there have been extensive if sporadic collections and numerous records of these fishes. Many of the earlier workers identified their fishes after comparable forms from other oceans, and there are abundant inadequate sketchy descriptions of new species. In many cases these fishes fortunately retain at least some characteristic markings for a time after death and this has assisted in solving some of the problems, but there are several apparently valid species known only from an early description and not since found again. One of the striking characteristics of these fishes is the enormous range covered by most of them, even the smallest, and in the case of species defined almost solely by colour, it is astonishing to take a specimen in Southern African waters and to find it identical to the minutest detail of colour and marking with those found in areas as remote as Japan or Hawaii.

One of the problems of the Labrid fishes is that while in some cases species otherwise virtually identical in form and meristic characters are clearly defined as distinct by markings alone, there are species which exhibit a bewildering variety of hues and patterns. The characteristic monotypic **Epibulus** Cuvier, ranges from brilliant golden to virtually black, while within one patch of weed one may find specimens of **Duymaeria** Bleeker, so different in appearance that it is difficult to credit that they can be only colour variations.

Any new Labrid fish is an event. Five distinctive new species are described here, four illustrated in life colours, as are also certain other rare species whose true colours have not been known. Up to the present 162 species of Labrids had been recorded from the Western Indian Ocean, but critical analysis has reduced these to 107 apparently valid species. With the five now described as new there is thus a total of 112 species in 34 genera recognised here, making this one of the richest areas in these fishes, and by no means all present have yet been found. We have seen several under the water that we did not recognise and indeed cannot trace, they are probably unknown. There remain sixteen records of species whose identity cannot be established, some of these indeed appear to have been made without adequate investigation, if any at all.

Some interesting facts have emerged from this investigation. Despite all the work done in recent times in the Red Sea, no further specimens of **Labrichthys caudovittatus** Steindachner, 1898 (= **Suezia c.**), known from five specimens from Suez, have again been found. We have little doubt that the mysterious **Julis matthaei** Valenciennes, 1839 from Mauritius is identical with **Xiphocheilus gymnogenys** Gunther, 1876 from Zanzibar, now **Peaolopesia matthaei** (Val). Several hitherto little known forms, e.g. **Wetmorella** Fowler, 1928 have proved at least as abundant in this as in the type area, Pacific.

The cited synonymy is restricted to specific names which have been applied only to material from the Western Indian Ocean. In each case **synonyms are given in brackets.**

KEY TO THE GENERA OF THE WESTERN INDIAN OCEAN

(Genera which occur south of latitude 20°S in southeast Africa are marked with an asterisk)

A. L.1. single, continuous, smoothly curved.
  I. Head length much greater than body depth.
    X. Scales minute ..... * **Cheilio**
    Y. L.1. 46-48 ..... **Cheiliopsis**
  II. Head length not or little greater than body depth.
    X. L.1. fewer than 50 scales.
      a. 2 broad plate-like teeth in front of each jaw. 12-13 soft rays in dorsal ..... **Pseudodax**
      b. Front teeth not plate like. Less than 12 soft rays in dorsal.
        1. Preorbital deep, about twice eye, covers maxilla.
          x. Numerous small scales on deep cheek. Pectoral normal. **Choerodon**
          y. Only few scales below hind part of eye. Lower pectoral rays extended ..... * **Peaolopesia**
        2. Preorbital normal, not covering maxilla ..... * **Lepidaplois**
    Y. L.1. more than 50 scales. First 3 dorsal spines form crest ..... * **Anchichoerops**

B. L.1. single, continuous, abruptly bent below end of soft dorsal.
  I. 7-8 dorsal spines.
    X. Snout long and tubular ..... * **Gomphosus**
    Y. Snout normal ..... * **Thalassoma**
  II. 9 or more dorsal spines.
    X. Scales large, L.1. less than 35.
      a. Front teeth prominent.
        1. Preopercle margin smooth.
          x. 2 flat teeth project forward ..... * **Anampses**
          y. Front teeth conical.
            i. Lips thick, prominent, lower pendant as 2 lobes. 2 front canines almost horizontal ..... * **Hemigymnus**
            ii. Lips plicated, canines curved. Peduncle depth more than half body depth ..... * **Labrichthys**
            iii. Lips swollen, lower bilobed ..... **Fowlerella n. g.**
            iv. Lips normal.
              § Head naked or almost.
                † Upper outer canines bent well back ..... * **Macropharyngodon**
                †† Upper canines straight or barely curved.
                  * Headlength not greater than body depth. A canine in angle of mouth ..... * **Halichoeres**
                  ** Headlength exceeds body depth. No canine in angle of mouth ..... **Pseudojulis**
              ‡ Cheek and opercles scaly ..... **Suezia n. g.**
        2. Preopercle margin serrate.
          x. Dorsal and anal spines filamentous ..... * **Duymaeria**
          y. Dorsal and anal spines normal. 1st pelvic ray filamentous. * **Pteragogus**
      b. Front teeth feeble ..... * **Stethojulis**
    Y. Scales moderate to small, L.1. 45-85.
      a. 2 flat teeth project forward ..... **Pseudanampses**
      b. Teeth normal, caniniform.
        1. Head largely naked ..... * **Coris**
        2. Scales on cheek and opercle ..... * **Labroides**
    Z. Scales very small, L.1. 110-130 ..... * **Hologymnosus**

C. L.1. interrupted, hind part below on caudal peduncle.
  I. 8-10 dorsal spines.
    X. Scales large, L.1. 20-30.
      a. 1st 2 dorsal spines longer than 3rd.
        1. 1st 2 dorsal spines quite separate. Head naked or almost ..... * **Iniistius**
        2. 1st 2 dorsal spines connected with rest. Scales on cheek ..... * **Hemipteronotus**
      b. Front two dorsal spines not higher than rest.
        1. Front canines flare outwards. Cornea double ..... * **Pseudocheilinus**
        2. Front canines normal. Cornea single.
          x. Most of head naked. 12-14 dorsal soft rays ..... * **Novaculichthys**
          y. Head scaly except snout.

i. Mouth extensible as tube ..... * **Epibulus**
ii. Mouth normal.
§ Snout sharply conical. Few large scales cover cheek and opercles ..... * **Wetmorella**
‡ Snout normally rather blunt. Normally 2 series of scales on cheek and several on opercles.
† 9 dorsal spines ..... * **Cheilinus**
†† 10 dorsal spines ..... * **Thalliurus**
Y. Scales small, L.1. about 70 ..... * **Cymolutes**
II. 11-12 dorsal spines. Preopercle margin serrate ..... **Cirrhilabrus**

SPECIFIC SYNONYMS ARE GIVEN IN BRACKETS.

Genus **Cheilio** Lacepede, 1802.

Type and only species **Cheilio inermis** (Forskal), 1775, Indo Pacific to Natal. (**auratus** Lacepede, 1802. **bicolor** Bianconi, 1856. **cyanochloris** Valenciennes, 1839. **forskalii** Valenciennes, 1839. **fuscus** Lacepede, 1802. **fusiformis** Ruppell, 1835. **hassek,** Lacepede, 1802).

Genus **Cheiliopsis** Steindachner, 1863.

Type and only species **Cheiliopsis bivittatus** Steindachner, 1863, Mauritius.

Genus **Pseudodax** Bleeker, 1862.

Type and only species **Pseudodax moluccanus** (Cuvier), 1839. Indo Pacific to Mozambique.

Genus **Choerodon** Bleeker, 1847.

Type **Labrus macrodontus** Lacepede, 1802 (= **Choerodon anchorago** (Bloch), 1791). Few species, mainly Pacific.

1. **Choerodon robustus** (Gunther), 1866. Zanzibar. We now record this species from Seychelles. **Choerops dodecacanthus** Bleeker & Pollen, 1874 from Madagascar, is clearly this species, the colours (Fishes Madag. 1874, pl 3) probably from a faded specimen.

Genus **Peaolopesia** Smith, 1949.

Type **Xiphocheilus gymnogenys** Gunther, 1866, Zanzibar. Despite Valenciennes' brief original description, (the only one) I have little doubt from the features given that the mysterious **Julis matthaei** Valenciennes, 1839 from Reunion is this fish. We have several specimens. Colours of Zanzibar specimens, both as shown by Gunther (Fish.Zanz.1866, pl XII), and as seen in our own, differ from those of a Mozambique fish (Smith, Sea Fish. S.A. 1949, Pl 101, fig. 776a). The lighter coloured Zanzibar fishes probably live in sand, the Mozambique specimen was taken on a line from coral.

1. **Peaolopesia matthaei** (Valenciennes), 1839. Reunion, Zanzibar, Mozambique to 26°S.

Genus **Lepidaplois** Gill, 1862.

Type **Labrus axillaris** Bennett, 1831, numerous species, Indo Pacific. **Valid species** in the Western Indian Ocean :

1. **albomaculatus n. sp.** Mauritius. (See below).
2. **aldabrensis** Smith, 1955. (See below).
3. **anthioides** Bennett, 1830. (**bicolor** Lienard, 1843 — Sauvage 1891). East Indies, Mauritius, East Africa to 21°S.
4. **axillaris** Bennett, 1831. Tropical Indo Pacific to Natal.
5. **diana** Lacepede, 1802. (**spilotes** Guichenot, 1863). Indo Pacific to Natal.
6. **hirsutus** Lacepede, 1802. (**croceus** Lesson, 1828. **bilunulatus** Lacepede, 1802. **maldat** Valenciennes, 1839. **macrourus** Lac, 1802. **nigromaculatus** Gilchrist & Thompson, 1908. **pictus** G & T, 1909. **rubrolineatus** Lac, 1802. **spilonotus** Bennett, 1835). Indo Pacific to Natal.
7. **leucostictus** Bennett, 1831. Mauritius.
8. **luteopunctatus n. sp.** Mozambique. (See below).
9. **opercularis** Guichenot, 1847. (**sanguineus** Jordan & Evermann, 1903). Mauritius, Madagascar, Hawaii, Comores.
10. **perditio** Quoy & Gaimard, 1835. (**atrolumbus** Valenciennes, 1839). Indo Pacific, Mozambique.
11. **trilineatus** Fowler, 1935. Western Indian Ocean to Natal.

Lepidaplois albomaculatus n. sp.

Type a painting No. 163 by Nicholas Pike, Mauritius, about 1870, in possession of the American Museum of Natural History, New York, with whose permission it is reproduced here. The specimen itself is apparently lost, exact length unknown. A brief description is as follows : D XII 8. A III 11. L.1. about 30-32. Snout rather pointed. Curved canines at front of jaws, a strong canine in angle. Dorsal spines subequal from second, or slightly increasing, membranes deeply incised, soft rays little longer. Front rays of anal longer than dorsal rays. Pectoral short. Caudal short, subtruncate.

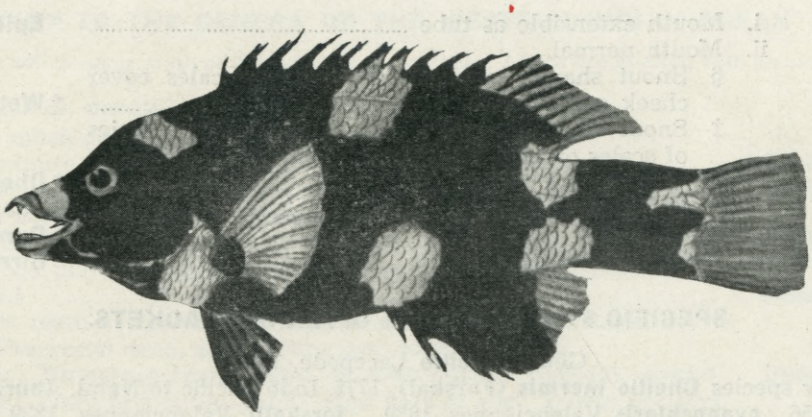

Fig. 1. **Lepidaplois albomaculatus n. sp.** Type. After Pike.

In percent of standard length : Total length 118; depth 32; head 30; eye 4.8; snout 13; postorbital 17; dorsal base 50; anal base 25; pectoral 20; pelvic 17; 1st dorsal spine 4.7; 2nd 7; 12th 8; 3rd dorsal ray 10; 1st anal spine 5; 3rd 12; 3rd anal ray 16; depth peduncle 15.

Colour : Head and body black, with large white areas. Snout white, a white area on nape and one on chest, one below mid spinous dorsal, one below, above anal origin, a pair between ends of soft dorsal and anal, two irregular areas at end of peduncle. Spinous dorsal and front half of soft fin black, hind part yellow. Caudal and hind part of anal yellow, front $\frac{3}{4}$ of anal black. Pelvics black. Pectoral yellow with rounded black spot over base.

A handsome and strikingly marked species which could never be mistaken, undoubtedly distinct from all others.

On the painting is a note (by Bliss?): "This appears to be without doubt a new species and might be called 'albomaculatus' but not having the specimen I cannot describe it.—RB." Gudger (Bull.Am.Mus.Nat. Hist. 1929, LVIII, 517) gives an Index to Pike's paintings stating "No. 163. **Cossyphus (albomaculatus?)**. Vol. V. p. 34."

Bliss was fortunate to have Pike's material and paintings not long after they arrived, but did not use these to very great advantage. In his paper (Trans.Roy.Soc.Art.Sci.Maur. 1883, XIII, p 45-63) he does not mention the above species, but it seems fitting that the name he suggested should be used. It is curious that this species does not appear to have been seen again.

Lepidaplois luteopunctatus n. sp.

(Plate I, A)

D XII 10. A III 11. P 16. L.l. 31, continuous, tr. 4/11, 7 series on cheek, predorsal about 16 to above eye, about 35 in all to before nostrils.

In percent of standard length : total length 126; depth 35; head 36; eye 6.5; interorbital 12; snout 14; postorbital 18; preorbital depth 8; dorsal base 50; anal base 24; pectoral 24; pelvic 16; 1st dorsal spine 6; 3rd 8; last dorsal spine 10; 8th dorsal ray 15; 1st anal spine 5.5; 3rd 9.5; 3rd anal ray 14; depth peduncle 14.

Body well compressed, profile from dorsal origin more or less uniformly convex on nape, almost straight from occiput to snout, which is somewhat pointed, the thickened upper lip prominent. Interorbital convex, almost twice eye. Nostrils small, close together, close before front of eye, much nearer eye than snout tip, the anterior a low tube, the posterior slightly larger, with crenulate margin, midway between anterior and front of eye. Naked portion of head covered by a dense reticulated system of minute pores. A number of pores in naked area just above eye, also in naked area around behind and below eye. Preopercle margin finely serrate to angle which is slightly emarginate, lower limb also serrate but covered by thick skin. Gill-rakers short and stout. Mouth fairly large, horizontal, jaws subequal, maxilla extends to below nostrils, completely hidden beneath preorbital. Lips thick, the upper expanded upwards, the lower with large flap on each side not continuous across front of mouth. Four canines in front of each jaw, those in upper more widely spaced, outer pair in upper jaw flaring out and back. A single series of close set molariform teeth along the side of each jaw, forming a cutting edge, with a band of small granular teeth within, extending forward behind canines in each jaw. A short stout canine in angle of mouth.

Dorsal originates over hind margin of head, 1st spine shortest, the 2nd abruptly longer, thereafter gradually increase to the last. The soft rays slightly longer than last spines, increase to the 8th, edge of fin rounded. Anal inserted below base of 9th dorsal spine, 2nd spine stouter than 3rd, which is longest. Soft rays slightly longer than spines, subequal to the 8th, thereafter shorter. Pectoral broadly rounded, scarcely reaches above vent, fleshy flap above axil. Pelvics reach half way to anal. The caudal only gently convex.

Scales cycloid, fairly large, lateral line tubes with a short superior branch. Soft dorsal and anal naked with very low basal sheath. Predorsal scales cover whole of nape and occiput and most of interorbital, extending forward to just before nostrils where they become small and embedded, the side of the inter-

orbital above eye naked, also front of snout, preorbital and chin naked. All the opercles scaly but preopercle flange naked. The cheek scaly except narrow subtriangular area below eye extending into preorbital. Scales behind mouth, down to throat, extend forward to half way along below mouth, mostly deeply embedded. Chest fully scaled, base of pectoral naked.

Colour: Chiefly salmon red, as shown in Plate I. As preserved; more or less uniform light yellow, with small dark spots in series as shown in the illustration but these have faded steadily with time.

Described from the type and only known specimen, 270 mm. in length, taken on a line in about 10 fathoms off Delagoa Bay, now in this Department. Related to **Lepidaplois trilineatus** Fowler, 1937 this species is distinguished from all others mainly by the colouration as well as other minor features.

Lepidaplois aldabrensis Smith, 1955.

(Plate I, B)

Smith, Ann. & Mag.Nat.Hist., 1955, (12), VIII, 932, Pl XXIV, A.

Known only from the type, 90 mm. in length, from Aldabra, seen also at Astove island. Not previously illustrated in live colours.

Lepidaplois opercularis (Guichenot), 1847.

A colour painting by Pike (colour photograph kindly furnished by the American Museum of Natural History, New York) made at Mauritius about 1870 and labelled **"Cossyphus opercularis** Guich." leaves no doubt that **sanguineus** J & E, 1903 from Hawaii is the same fish. Examination of a Comores specimen, (kindly sent by Mr. P. Fourmanoir) confirms this.

Genus **Anchichoerops** Barnard, 1927.

Type and only species **Choerops natalensis** Gilchrist & Thompson, 1908. Known only from Natal.

1. **Anchichoerops natalensis** (Gilchrist & Thompson), 1908. Natal only.

Genus **Gomphosus** Lacepede, 1802.

Type **Gomphosus caeruleus** Lacepede, 1802. Few species, Indo-Pacific.

1. **caeruleus** Lacepede, 1802. East Indies to Natal.
2. **tricolor** Quoy & Gaimard, 1824. Pacific, East Indies, Ceylon, Mauritius.
3. **varius** Lacepede, 1802. (**fuscus** Val., 1839. **melanotus** Bleeker, 1855). Indo Pacific to Natal.

Genus **Thalassoma** Swainson, 1839.

Type **Scarus purpureus** Forskal, 1775. Numerous species, circumtropical.

1. **amblycephalus** Bleeker, 1856. Indo Pacific to southeast Africa.
2. **commersoni** Valenciennes, 1839. (**bicolor** Gunther, 1862). South and East Africa and Mauritius.
3. **fuscus** Lacepede, 1802. (**aeruginosus** Val., 1839. **bicatenatus** Bennett, 1831. **formosus** Val., 1839. **semicaeruleus** Val., 1839. **trilobata** Lac., 1802. **vittatus non** Val., 1839). Indo Pacific to southeast Africa.
4. **hardwicke** Bennett, 1830. (**dorsalis** Q & G, 1835. **semifasciatus** Val., 1839). Indo Pacific to Natal.
5. **hebraicum** Lacepede, 1802. (**cingulata** Q & G, 1835. **genivittata** Val., 1839. **lamarrii** Val., 1839). Indian Ocean to southeast Africa. (32°S).
6. **lunare** Linn, 1758. (**gallus** Forsk., 1775. **lutescens** Solander-Bennett, 1832 (1839). **meniscus** Val., 1839. **trimaculatus** Rupp., 1835. **viridis non** Val., 1839). Indo Pacific to southeast Africa (32°S).
7. **melanochir** Bleeker, 1857. Indo Pacific to Mozambique.
8. **purpureum** Forskal, 1775. (**ruppellii** Klunz, 1871). Indo Pacific to southeast Africa. (34°S).
9. **quinquevittatus** Lay & Bennett, 1839. (**guntheri** Bleeker, 1862). Indo Pacific, Red Sea, now recorded from South Africa to 32°S.
10. **schwanefeldi** Bleeker, 1853. Indo Pacific to southeast Africa, possibly **juvenile** of **hebraicum** Lacepede, 1802.
11. **semicaeruleus** Ruppell, 1835. Red Sea, East Africa, Natal.
12. **umbrostigma** Ruppell, 1835. (**souleyetii** Val., 1839). Indo Pacific to Natal.

Genus **Anampses** Quoy & Gaimard, 1824.

Type **Anampses cuvieri** Q & G, 1824. Few species, Indo Pacific.

1. **amboinensis** Bleeker, 1857. (**lunulatus** Sauvage, 1875). East Indies, Mauritius, Zanzibar.
2. **caeruleopunctatus** Ruppell, 1828. Indo Pacific to Natal.
3. **cuvieri** Quoy & Gaimard, 1824. Western Pacific, East Indies, Mauritius.
4. **diadematus** Ruppell, 1835. (**taeniatus** Sauvage, 1891). Indo Pacific to Natal.
5. **meleagrides** Cuvier, 1839. East Indies to Mozambique.
6. **twistii** Bleeker, 1856. Pacific, East Indies, Mauritius, Aldabra, now recorded from Pemba and Mozambique to 14°S.

Genus **Hemigymnus** Gunther, 1861.

Type **Labrus fasciatus** Bloch, 1792. 2 species. Indo Pacific.

1. **fasciatus** Bloch, 1792. (**bilateralis** von Bonde, 1934. **fuliginosus** Lac., 1802. **sexfasciatus** Ruppell, 1835). Indo Pacific to Mozambique.
2. **melapterus** Bloch, 1791. (**melanopterus** Bleeker, 1860). Indo Pacific to Mozambique.

Genus **Labrichthys** Bleeker, 1854.

Type and only known species **Labrichthys cyanotaenia** Bleeker, 1854. Previously recorded from Zanzibar, East Indies to central tropical Pacific, also from Aldabra (Smith, 1955), now reported from Malindi

(3°S) to Bazaruto (21°S) in East Africa, rare. The young have short pelvics, and from snout below eye to caudal base a light stripe, sometimes another below, both lost with growth, while the pelvics become greatly elongated. The mysterious **Cossyphus unilineatus** Guichenot (Guer.-Menev.Rev.Zool. 1847, 284) is probably the young of this species.

Fowlerella new genus

Type and only known species **Labroides bicolor** Fowler and Bean, 1928. As defined in Key to genera (above), similar to **Labroides** Bleeker, 1851, distinguished by the much larger scales, 28 in L.1.

Fowlerella bicolor (Fowler), 1928. Philippines, Java, Aldabra, now reported from East Africa to 6°S, seen underwater.

Genus **Macropharyngodon** Bleeker, 1861.

Until recently this genus was regarded as confined to the Pacific, three species having been generally accepted, viz, **geoffroy** Quoy & Gaimard, 1824 (the type); **meleagris** Cuvier, 1839; and **pardalis** Kner, 1867 (= **nigromaculatus** Gunther, 1871). None of these have hitherto been reported from the Western Indian Ocean, but **meleagris** Cuvier is now recorded from Delagoa Bay and two more species from the Western Indian Ocean, distinguished by characteristic patterns and colours, are described here. It may therefore be accepted that the genus occurs throughout the mid tropical area of the Indian Ocean as well, to at least 26°S on the coast of Africa. The species appear to be everywhere rare.

Macropharyngodon meleagris (Cuvier), 1839.

A preserved specimen 73 mm. in length from Delagoa Bay was found in the collection of the Museum at Lourenco Marques, most of the markings faded, but sufficient remain to indicate this as **meleagris** Cuvier. This species has not previously been found in the Western Indian Ocean, having been recorded from the Eastern Indian Ocean to Hawaii.

Macropharyngodon bipartitus n. sp.

(Plate II, B)

D XI 11. A III 10. P 2, 10, upper rays short, first two simple. 27-28 series of scales, L.1. 28 tubular, Tr 2/10, (predorsal 2?).

Body elongate, fairly compressed, maximum depth at shoulder. Dorsal profile from nape strongly convex, snout pointed, front teeth prominent, exsert. Interorbital convex, with slight depression in front. Nostrils close together, slightly before top of eye, much nearer eye than snout tip. Several prominent pores on each side of interorbital, circumorbital pores prominent, a series round preopercle. Preorbital depth equals eye. Preopercle margin smooth.

In percent of standard length; total length 128; depth 35; head 28; eye 6.2; interorbital 7; snout 9.5; postorbital 15; preorbital depth 6.2; dorsal base 55; anal base 35; pectoral 20; pelvic 20; depth peduncle 15; 1st dorsal spine 4.5; 6th 7.5; 9th 8; 4th dorsal ray 13; 1st anal spine 3; 3rd 7; 5th anal ray 12.5; depth peduncle 14.

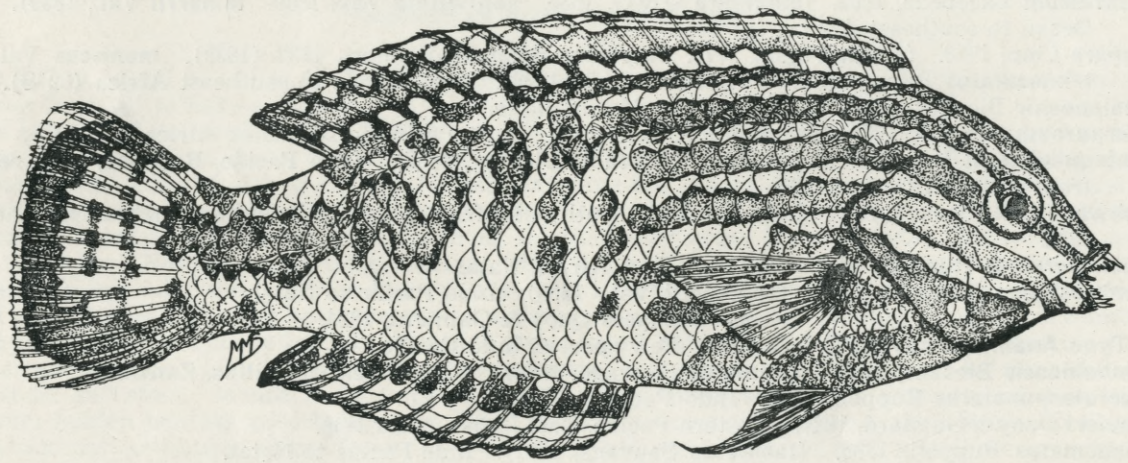

Fig. 2. **Macropharyngodon bipartitus n. sp.** Type. 101 mm.

Mouth small, terminal, protruding, upper lip recurved. Maxilla reaches one-third to eye, completely concealed beneath preorbital. A strong canine in angle of jaw. In upper jaw a single series of 7 small close set stout sub-conical teeth, increasing anteriorly, in front of these a stout backwardly hooked canine. In front of jaw 2 large protruding canines, immediately behind which are 2 closely adjacent small incisiform teeth, and behind and lateral to these are on each side 2 much smaller blunt sub-conical teeth. In lower jaw on side a single series of 12 short stout conical teeth. In lower jaw on side a single series of 12 short stout conical teeth, increasing anteriorly, the anterior pointing somewhat forwards. In front of the jaw are 4 stout canines, the inner pair pointing forwards, the lateral pair somewhat recurved, behind these on each side 3 blunt sub-conical teeth in a row.

Dorsal inserted over front part of opercle, 1st spine shortest, increase to the 3-4th, thereafter subequal, the last always longest. Soft rays slightly longer than spines, subequal. Anal inserted below front of soft dorsal, 1st spine shortest, 3rd longest. Soft rays higher than the spines, increase to the 5-6th, thereafter subequal or diminish slightly. Pectoral pointed, reaches above level of anal origin. Pelvic pointed, reaches to vent. Caudal slightly convex as expanded.

Scales cycloid, large, with numerous radiating striae. Lateral line continuous, bent below end of soft dorsal, the anterior tubules with 2 branches above, and mostly one below, the hinder scales with one branch above and below, last tubular scale on caudal base. Scales before pelvics and pectorals on chest considerably smaller. A large area on front of chest near isthmus naked, also small area in front of pelvics. The head naked. Nape also naked, but 2 scales from the side and just before dorsal origin. No scales on dorsal or anal. Basal scales of caudal low. No scales on pectoral or pelvic.

Colour: Alive, brilliant, variegated, as shown in Plate II. As preserved: Light slate, with 5-6 dark curved bands, equal to interspaces, from head over front part of body. The chest including pelvic base dark. Hinder half of body mainly light, with irregular dark blotches which coalesce to form an irregular wide bar along the peduncle. The dorsal basally light between each spine and ray, median part of dorsal dark, distal portion lighter, with dark lines in front and rounded light areas behind. Anal basally dark, with a round light mark between each ray, distal half light with 2-3 thin dark lines. Centre portion and narrow hind margin of caudal light, a wide curved dark area over most of hinder part and lobes, 2 vertical series of smallish black blotches across light part of fin. Pelvics light green, pectorals light.

Described from the type, 101 mm. total length, from Pinda, Mozambique, now in this Department. Taken among coral at about a fathom below low tide level. Distinct from **M. geoffroy** Q & G, 1824 and from **meleagris** Cuvier, 1829 in the colouration as well as in having only 10 dorsal rays. Its closest relative is **M. pardalis** (Kner), 1867 from Fiji and Samoa, but the distinctive colour pattern, 10 dorsal rays and fewer gillrakers establish the present form as distinct.

Macropharyngodon varialvus n. sp.

(Plate II, A)

D XI 11. A III 11. P 12, upper ray short, first 2 rays simple. L.1. 27-28, continuous, bent behind, tr 2-3/9. No median predorsal scales. 6+1+9 gillrakers, short points.

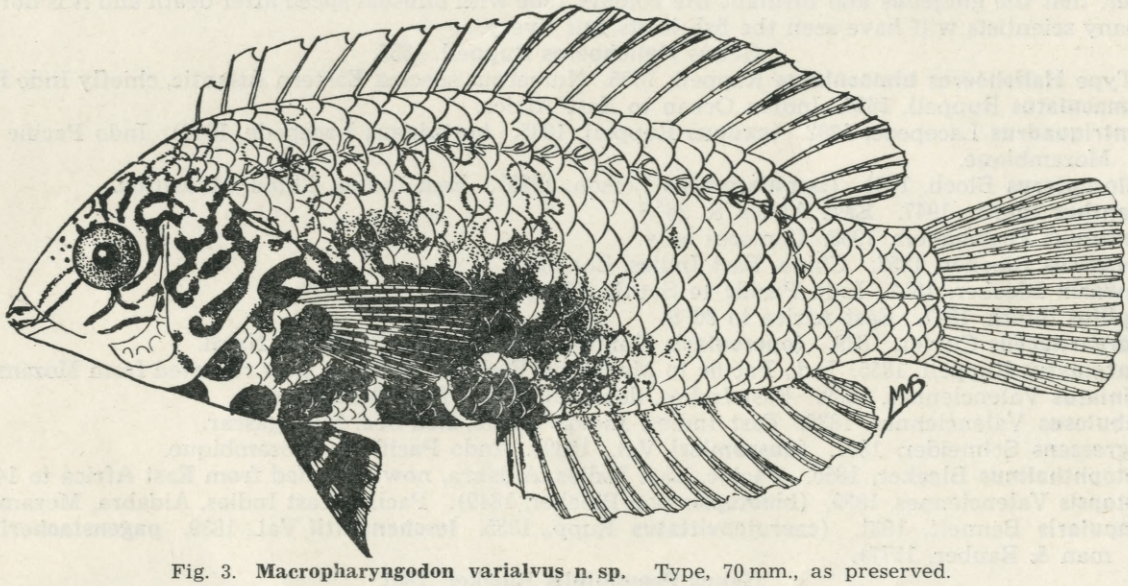

Fig. 3. **Macropharyngodon varialvus n. sp.** Type, 70 mm., as preserved.

In percent of standard length; total length 120-122; depth 37-39; head 32-34; eye 7-9; interorbital 8; snout 8-8.4; postorbital 18; 1st dorsal spine 8; 7th 9.5; 9th 10-11; 5th dorsal ray 14; 1st anal spine 4-5; 2nd 6.5; 3rd 8; 3rd anal ray 13; pectoral 20-21; pelvic 19-20; depth peduncle 12.

Body highly compressed, elongate oval, dorsal profile of head strongly convex, snout rather blunt. Preopercle margin smooth, covered by skin. Several pores on sides of interorbital, around eye and along preopercle margin. Nostrils small, close together, close before middle of eye, the anterior tubular, posterior with flap, above anterior, and about midway between anterior and the front margin of eye.

Mouth small, the lips project forward beyond profile, maxilla extends to below nostrils, not to eye, entirely covered by preorbital. In upper jaw in front a pair of large canines projecting forwards, on each side a smaller recurved canine, behind this a smaller blunt canine. On the side of the jaw a single series of small blunt subconical teeth which increase in size forwards. In the lower jaw 4 moderate canines, the median pair project forwards, those on the sides recurved. On the side of the jaw a single series of pointed

teeth, increasing anteriorly, those in front obliquely antrorse. Behind front canines are in each jaw 2-3 incisiform teeth. 1-2 moderate canines in angle of mouth. Dorsal inserted over front of opercle, 1st spine shortest, increase posteriorly, the last longest, membrane little incised, soft rays higher than spines, subequal, edge of fin greatly convex. Anal inserted below base of 1st dorsal ray, 1st spine short, 2nd abruptly longer, 3rd little longer, soft rays longer than spines, edge of fin gently convex. Pectoral short, not to anal. Pelvic not to anal, 1st ray somewhat extended. Caudal subtruncate.

Scales cycloid, with about 20 radiating striae. Lateral line continuous, bent below end of soft dorsal. The anterior tubes with 1-2 branches above and one below. Whole body scaly except a small area immediately before pelvic base and front of chest. Scales on chest smaller than body scales. The nape scaly on the sides, midportion naked, the head entirely naked. No scales on any fin, scales on caudal mostly small and crowded, low on base.

Colour live, exceedingly brilliant, as shown in Plate II. As preserved: in formalin all colours and marks on the body fade rapidly except only those on chest and belly, which become more conspicuous, the area basally dusky, with 8-9 large black blotches. Along the ventral surface these show a characteristic and almost constant pattern: On the front of the isthmus is a central triangular blotch, behind this a wider blotch of 2 subcircular areas joined medially, over the ventral base a variable sub-rectangular area with rounded sides, a large blotch over mid belly and one each side of vent and anal origin. Pelvics black, with two narrow light cross-bars. Always a rounded black area on part of base of pectoral. Fins otherwise all light. (Shown in Text fig. 3).

Described from 8 specimens, 42-70 mm. in length, from between 6-14°S in East Africa and at Aldabra, taken in coral pools at low tide mark and below, the type 70 mm. in length from Pinda, Mozambique, in this Department.

This species in some respects resembles **Leptojulis pardalis** Kner (Sitz.Akad.Wiss.Wien. 1867, LVI, 728, pl 3, fig. 2) from Fiji, later recorded from Samoa and Philippines, described anew as **Platyglossus nigromaculatus** by Gunther (Pro.Zool.Soc.Lond. 1871, 666, Pl 65.B), a rare form which apparently falls in **Macropharyngodon** Bleeker.

My specimens, from over a wide range of the Western Indian Ocean, show a characteristic and distinctive colour pattern, both alive and dead, which while with some resemblance to that of **pardalis** Kner, is nevertheless sufficiently definitive to warrant its present retention as distinct. It may be noted, however, that the gorgeous and brilliant life colours fade with unusual speed after death and it is not likely that many scientists will have seen the fish in its full livery.

Genus **Halichoeres** Ruppell, 1835.

Type **Halichoeres bimaculatus** Ruppell, 1835. Numerous species, Eastern Atlantic, chiefly Indo Pacific.

1. **bimaculatus** Ruppell, 1835. Indian Ocean to East Africa.
2. **centriquadrus** Lacepede, 1802. (**eximus** Ruppell, 1835. **hortulanus** Lacepede, 1802). Indo Pacific to Mozambique.
3. **chloropterus** Bloch, 1791. (**semidecoratus** Lesson, 1828). East Indies, China, Mauritius.
4. **dianthus** Smith, 1947. East Africa to 26°S.
5. **ianthinus** Fourmanoir, 1953. Comores only.
6. **javanicus** Bleeker, 1857. China, East Indies, Zanzibar.
7. **kawarin** Bleeker, 1852. Indo Pacific to South Africa (32°S).
8. **lapillus** Smith, 1947. East Africa to 26°S.
9. **margaritaceus** Cuvier, 1839. (**opercularis** Gunther, 1862). Indo Pacific to Natal.
10. **marginatus** Ruppell, 1835. Indo Pacific to Mauritius, Red Sea, Aldabra, now reported from Mozambique.
11. **miniatus** Valenciennes, 1839. East Indies, doubtful record from Madagascar.
12. **nebulosus** Valenciennes, 1839. East Indies, Indian Ocean, Red Sea, Madagascar.
13. **nigrescens** Schneider, 1801. (**dussumieri** Val., 1839). Indo Pacific to Mozambique.
14. **notophthalmus** Bleeker, 1856. Pacific, East Indies, Aldabra, now recorded from East Africa to 14°S.
15. **notopsis** Valenciennes, 1839. (**binotopsis** non Bleeker, 1849). Pacific, East Indies, Aldabra, Mozambique.
16. **scapularis** Bennett, 1831. (**caeruleovittatus** Rupp., 1835. **leschenaultii** Val., 1839. **pagenstacheri** Kossman & Rauber, 1877).

Genus **Pseudojulis** Bleeker, 1861.

Type **Julis girardi** Bleeker, 1858. Two rare small species, Indo Pacific.

1. **argyreogaster** Gunther, 1866. Zanzibar.
2. We have several small specimens from East Africa that may prove to fall in this genus. **P. trifasciatus** Weber, 1913 is probably a juvenile **Stethojulis** Gunther, 1862.

Suezia new genus.

Type **Labrichthys caudovittatus** Steindachner, 1898. Related to **Pseudolabrus** Bleeker, 1862, (type **Labrus rubiginosus** Schlegel, 1845 from Japan), the species known only from the Pacific, mainly Japan to Australia, none hitherto found in the Indian Ocean. Gunther's treatment of Bleeker's work is sometimes surprising, in this case he quite arbitrarily named **Pseudolabrus** Bleeker, 1862 as a synonym of **Labrichthys** Bleeker, 1854. Despite the fact that its peculiar characters show the latter genus to be unquestionably distinct from all others, most later workers have accepted this ruling of Gunther. It is, however, clearly invalid, while the validity of **Pseudolabrus** Bleeker, can scarcely be questioned. It is characterised by:— Large

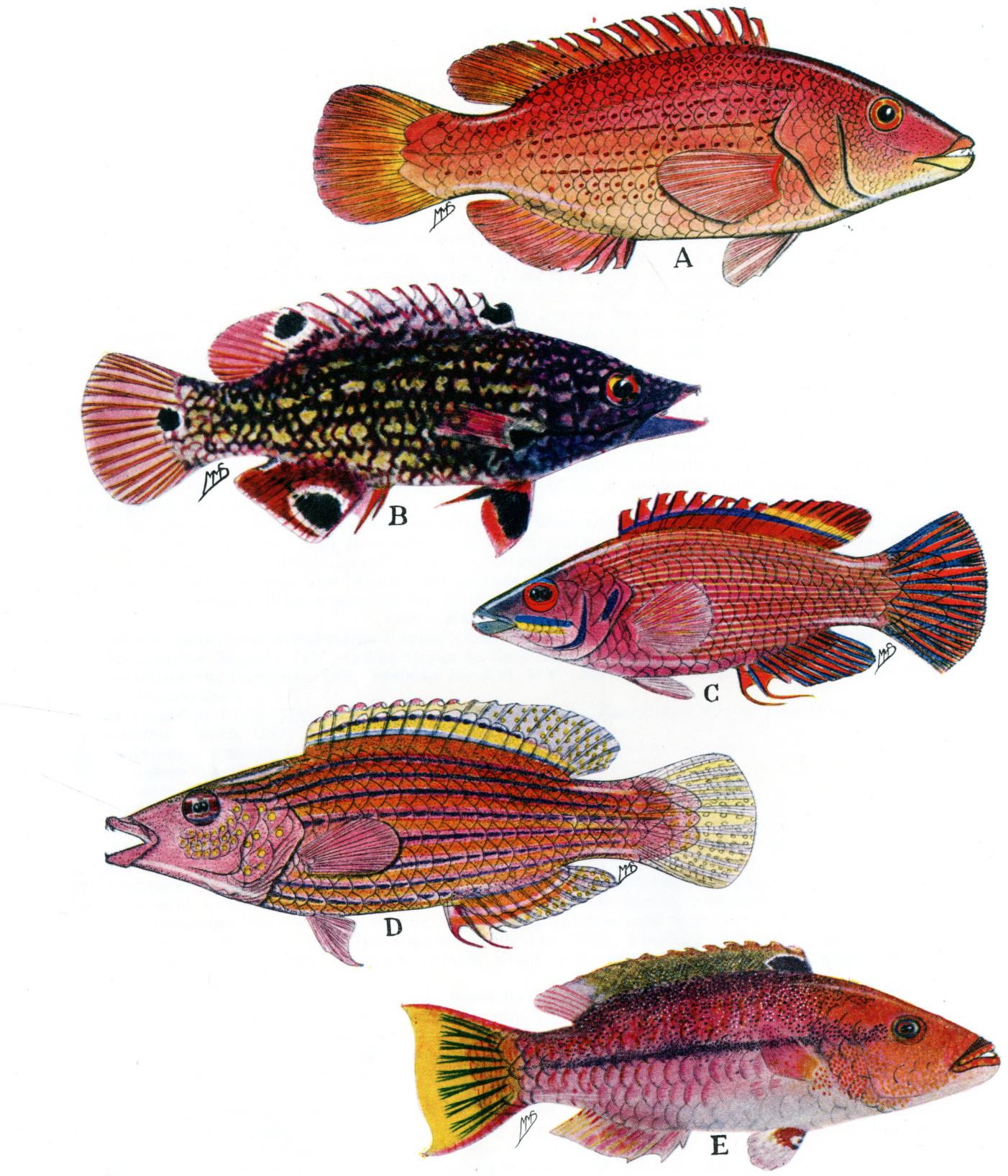

PLATE I

A. *Lepidaplois luteopunctatus n. sp.* Type. 270mm. B. *Lepidaplois aldabrensis* Smith. Type. 90mm. C. *Pseudocheilinus evanidus* Jordan & Evermann. 62mm. D. *Pseudocheilinus margaretae* Smith. Type. 95mm. E. *Cheilinus arenatus* Valenciennes. 185mm.

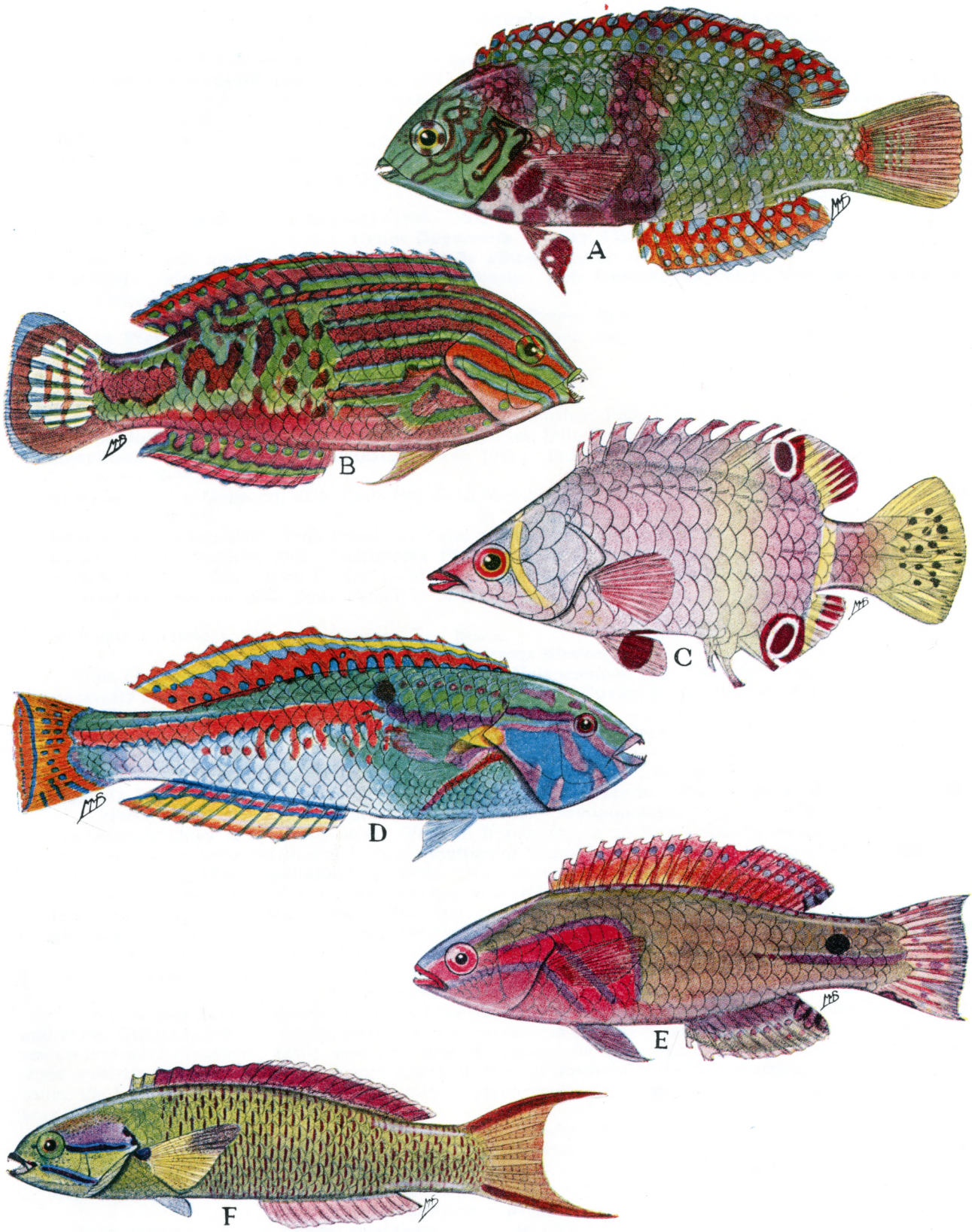

PLATE II

A. *Macropharyngodon varialvus n. sp.* Type. 101mm. B. *Macropharyngodon bipartitus n. sp.* Type. 70mm. C. *Wetmorella philippina* Fowler. 75mm. D. *Halichoeres bimaculatus* Ruppell. 190mm. E. *Cirrhilabrus exquisitus n. sp.* Type. 83mm. F. *Thalassoma melanochir* Bleeker. 110mm.

scales, the lateral line continuous, slightly bent posteriorly. The head scaly except preopercle flange, snout and chin, the cheek scales small. The dorsal of 9 spines and 10-12 rays, the anal of 3 spines. Pectoral and pelvic short. Teeth in one series, those in front normal canines, a strong canine in angle.

Labrichthys caudovittatus Steindachner, 1898 was described from 5 specimens, 10.5 - 11 cm. length, from Suez, 1896 and has not been again recorded. Steindachner stated D 8/12, A 3/10, whereas the figure shows D IX 11 and A III 9, and certainly does not fall with **Labrichthys** Bleeker, it is closely related to **Pseudolabrus** Bleeker, from which it differs in the more elongate body, in having only 3 series of scales on the cheeks, while the outer lower canines flare outwards. The genus now proposed is partly an expression of geographical separation, for in the Pacific this species might have been accepted as falling into **Pseudolabrus** Bleeker.

1. **Suezia caudovittatus** (Steindachner), 1898. Red Sea.

Genus **Duymaeria** Bleeker, 1856.

Type and only known species **Ctenolabrus flagellifera** Valenciennes, 1839.

1. **flagellifera** Valenciennes, 1839. (**enneacanthus** Bleeker, 1856. **filamentosus** Peters, 1855. **caeruleomaculata** Gunther, 1862). East Africa to Philippines.

Genus **Pteragogus** Peters, 1855.

Type **Pteragogus opercularis** Peters, 1855. East Africa only, two species, exhibit marked sexual dimorphism.

1. **opercularis** Peters, 1855. Red Sea, East Africa to 26°S.
2. **taeniops** Peters, 1855. East Africa to 26°S.

Genus **Stethojulis** Gunther, 1862.

Type **Julis strigiventer** Bennett, 1832. Few species, Indo Pacific.

1. **albovittata** Bonnaterre, 1788. (**balteatus** Q & G, 1824). Indo Pacific to Mozambique, now recorded from north Natal (28°S).
2. **axillaris** Quoy & Gaimard, 1824. Indo Pacific to Mozambique. Now recorded from Natal and further south (32°S).
3. **interrupta** Bleeker, 1851. Indo Pacific to Natal and further south (32°S).
4. **phekadopleura** Bleeker, 1849. (**kallosoma** Bleeker, 1862). Indo Pacific to Natal.
5. **renardi** Bleeker, 1851. Indo Pacific to Mozambique, now recorded from Natal and further south (30°S).
6. **strigiventer** Bennett, 1832. Indo Pacific to Mozambique, now recorded from Natal and further south (32°S).
7. **trilineata** Schneider, 1801. East Indies, Red Sea.

Genus **Pseudanampses** Bleeker, 1862.

Type here designated as **Anampses geographicus** Valenciennes, 1839. This genus not in Jordan's genera, not generally recognised, clearly distinguished from **Anampses** Cuvier, by smaller scales and shape of lower incisors. Two species, Indo Pacific.

1. **geographicus** Valenciennes, 1839. (**lineolatus** Bennett, 1831). Western Pacific, East Indies, Mauritius.

Genus **Coris** Lacepede, 1802.

Type **Coris aygula** Lacepede, 1802 (= **angulata** Lac.). Few species, Indo Pacific.

1. **angulata** Lacepede, 1802. (**aygula** Lac., 1802. **cingulum** Lacepede, 1802. **coris** Valenciennes, 1839. **gibbifrons** Q & G, 1835. **ruppellii** Bennett, 1831. **semipunctatus** Ruppell, 1835).
2. **caudimacula** Quoy & Gaimard, 1834. Western Indian Ocean to Natal and further south (32°S). We have a complete series which shows **multicolor** Ruppell, 1835 to be the young of **caudimacula.**
3. **cuvieri** Bennett, 1831. (**stellatus** Val., 1839). Mauritius, Seychelles.
4. **formosa** Bennett, 1830. (See below). Ceylon, Seychelles, East Africa to Mozambique.
5. **frerei** Gunther, 1866. (See below). Zanzibar, now recorded from East Africa to 25°S.
6. **gaimard** Quoy & Gaimard, 1824. (See below). Indo Pacific to East Africa. **grenovii** Bennett, 1839, strikingly different in markings, has been found to be the juvenile of **gaimard.**
7. **variegata** Ruppell, 1835. Red Sea, East Indies.

Coris gaimard Quoy & Gaimard, 1824.

Most authors have confused and united the three species **gaimard** Q & G, 1834; **formosa** Bennett, 1834; and **frerei** Gunther, 1866. In recent years we have examined numerous specimens and concluded that these are clearly distinct species, easily separable and identifiable by the markings. The caudal of **gaimard** is short, subtruncate and almost uniformly coloured, that of **formosa** is larger, rounded, with three colour zones, the hind part colourless. **C. frerei** Gunther, which grows to a large size, always has numerous crossbars.

Genus **Labroides** Bleeker, 1851.

Type **Labroides paradiseus** Bleeker, 1851 (= **dimidiatus** Valenciennes, 1839). Few species, Indo Pacific.

1. **dimidiatus** Valenciennes, 1839. (**latovittatus** Ruppell, 1835). Indo Pacific to South Africa.
2. **quadrilineatus** Ruppell, 1835. (**taeniatus** Val., 1839). Red Sea, Aden.

Genus **Hologymnosus** Lacepede, 1802.

Type and only species **Labrus semidiscus** Lacepede, 1802.

1. **Hologymnosus semidiscus** (Lacepede), 1802. (**annulata** Lacepede, 1802. **doliatus** Valenciennes, 1839. **fasciatus** Lacepede, 1802. **rosea** Q & G, 1835. **semipartitus** Bleeker, 1875). Indo Pacific to Natal.

Genus **Iniistius** Gill, 1862.

Type and only species **Xyrichthys pavo** Valenciennes, 1839.

1. **Iniistius pavo** (Valenciennes), 1839. (**pavoninus** Valenciennes, 1839. **tetrazona** Bleeker, 1858. **immaculata non** Val., 1839, Sauvage). Indo Pacific to Natal.

Genus **Hemipteronotus** Lacepede, 1802.

Type **Hemipteronotus quinquemaculatus** Lacepede, 1802. Few species, Indo Pacific.

1. **aneitensis** (Gunther), 1862. East Indies, Mauritius, Zanzibar.
2. **melanopus** (Bleeker), 1857. (**spilonotus** Bleeker, 1857). Pacific and Comores.
3. **pentadactylus** Linn, 1758. (**immaculatus** Val., 1839. **punctulatus** Val., 1839. **bimaculata** Rupp., 1828. **tassellatus** Val., 1839. **temporalis** Regan, 1905). Indo Pacific to Natal.

Genus **Pseudocheilinus** Bleeker, 1861.

Type **Cheilinus hexataenia** Bleeker, 1857. Few species, Indo Pacific to Mozambique.

1. **evanidus** Jordan & Evermann, 1903. (See below).
2. **hexataenia** Bleeker, 1857. (**echiis** Guichenot, 1869). Indo Pacific to Natal.
3. **margaretae** Smith, 1955. (See below).

Pseudocheilinus evanidus Jordan & Evermann, 1903.

(Plate I, C)

Pseudocheilinus evanidus Jordan & Evermann, Bull.U.S.Fish.Comm. 1903, 192. (Hawaii). **ibid,** Fishes Hawaii, 1905, XXIII, 317, pl 43. Regan, Trans.Linn.Soc.Lond. 1907, XII, 231 (Seychelles, record only).

One of the rarest of Labrids and unquestionably valid, previously known only from few specimens, the holotype from Hawaii, 1901 others from Seychelles, 1905. We found this at Pemba 1952, also at Aldabra 1954, in full agreement with the original description and figure. Not previously illustrated in colour, a beautiful small creature. Brief data are: D IX 10. A III 9. L.ls. 16/8. 24 series of scales, 2/7 transverse. 2+1+7 short gillrakers.

Pseudocheilinus margaretae Smith, 1955.

(Plate I, D)

Known only from the type, 95 mm. in length from Aldabra. Not previously illustrated in live colours.

Genus **Novaculichthys** Bleeker, 1861.

Type **Labrus taeniourus** Lacepede, 1802. Indo Pacific. Few species, all live in weeds.

1. **bifer** (Lay & Bennett), 1839. East Indies to Natal. Probably the young of **taeniourus** Lacepede.
2. **macrolepidotus** (Bloch), 1791. Indo Pacific to Natal.
3. **taeniourus** (Lacepede), 1802. (**vanicolensis** Q & G, 1834. **altipinnis** Ruppell, 1835).

Genus **Epibulus** Cuvier, 1814.

Type and only known species **Epibulus insidiator** (Pallas), 1770. Indo Pacific to south Mozambique. The young, (**striatus** Day, 1876) have numerous dark-edged narrow light crossbars.

Genus **Wetmorella** Fowler, 1928.

Type **Wetmorella philippina** Fowler, 1928, based on five specimens from the Philippines taken in 1909. Both genus and species were placed by later workers in **Cheilinus** Lacepede; Weber & de Beaufort, 1940 regarded the species as the young of **Cheilinus fasciatus** (Bloch). This fish remained otherwise unknown until I discovered it again in Mozambique in 1951, recording this (Ann. & Mag.Nat.Hist., 1952 (12), V, 1024). It was plain that this was no **Cheilinus,** but a valid genus, more closely related to **Epibulus** Cuvier, than to **Cheilinus.** In subsequent expeditions we gradually amassed a considerable collection, all clearly one species. It was only at Aldabra in 1954 that a different form was obtained. Meanwhile Schultz & Marshall 1954, published an account based partly on Fowler's specimens, showing the validity of the genus, and describing three new species and one new subspecies, based mainly on variation in markings. My specimens, 40-75 mm. in length, whatever the width of the peduncular bar, all had in life a light zone across the body before the dorsal ocellus. There are all gradations from plain dusky to almost completely spotted caudal, also we observe small dark spots on one with spotted caudal. **W. philippina bifasciata** S. & M, cannot be maintained and **W. ocellata** S & M, must be regarded with some doubt. The paratype of **ocellata** shown on Pl 12 of Schultz & Marshall, 1954 has markings very like a young **Epibulus** Cuvier. In the Western Indian Ocean we record:

1. **philippina** Fowler, 1928. Philippines, East Africa, Aldabra, Red Sea. (Plate II, C). We now record this also from Seychelles, and Mozambique to 14°S.
2. **albofasciata** Schultz and Marshall, 1954. Marshall Island, Pacific, (one specimen, 36 mm.). Aldabra (one specimen, 48 mm.). This latter agrees with the type except that the bar encircles the peduncle, there is no white blotch before the dorsal ocellus and the whole caudal is dusky.

Genus **Cheilinus** Lacepede, 1802.

Type **Cheilinus trilobatus** Lacepede, 1802. About a dozen species, one very large, Indo Pacific.

1. **arenatus** (Valenciennes), 1839 (Plate I, E). (**notophthalmus** Bleeker, 1853). Philippines, East Indies, Mauritius. Now recorded for the first time from East Africa, Kenya, Mozambique to 15°S. Bleeker's illustration (At.Ich., 1862, Pl 28, fig. 1) was clearly made after an old specimen.
2. **bimaculatus** (Valenciennes), 1839. (**ceramensis** Bleeker, 1862. **mossambicus** Gunther, 1862). Red Sea, Indo Pacific to south Mozambique.

3. **calophthalmus** Gunther, 1866. Zanzibar.
4. **diagrammus** (Lacepede), 1802. (**commersonii** Bennett, 1831. **coccineus** Ruppell, 1828. **radiatus** non Linn, 1758). Indo Pacific to south Mozambique and Natal.
5. **fasciatus** (Bloch), 1791. (**quinquecinctus** Ruppell, 1835). Indo Pacific to Mozambique. Bleeker's figure (At.Ich. 1862, 1, Pl 26, fig. 2) was clearly made after a faded specimen.
6. **lunulatus** (Forskal), 1775. Red Sea, Aden, Seychelles, Mauritius.
7. **mentalis** Ruppell, 1828. (**orientalis** Gunther, 1862). Philippines, East Indies, Red Sea.
8. **oxycephalus** Bleeker, 1853. Indo Pacific to Mozambique.
9. **rhodochrous** Gunther, 1866. (**hexagonatus** Gunther, 1876). Zanzibar, Red Sea.
10. **trilobatus** Lacepede, 1802. (**fasciatopunctatus** Steindachner, 1863. **lunifer** Nichols, 1923. **sinuosus** Q & G, 1824). Indo Pacific to Natal.
11. **undulatus** Ruppell, 1835. Indo Pacific to Mozambique, the largest of all Labrid fishes, attains over 200 lbs.

Genus **Thalliurus** Swainson, 1839.

Type and only species **Thalliurus chlorurus** (Bloch), 1791. (**punctatus** Bennett, 1830. **punctulatus** Val, 1839). Indo Pacific to Natal.

Genus **Cymolutes** Gunther, 1861.

Type and only known species **Xyrichthys lecluse** Quoy & Gaimard, 1824.

1. **Cymolutes lecluse** (Quoy & Gaimard), 1824. (**praetextatus** Q & G, 1834). Indo Pacific to Natal.

Genus **Cirrhilabrus** Schlegel, 1845.

Atypic, designated by Bleeker, type **Cirrhilabrus temmincki** Bleeker, 1852. Brilliant small fishes, characterised by having 11 dorsal spines, interrupted lateral line, serrated preopercle margin and outward flaring front canines. This genus previously known only from the central tropical Pacific, with at most four species there, the discovery of another so far distant and widespread in the Western Indian Ocean is noteworthy.

Cirrhilabrus exquisitus n. sp.

(Plate II, E)

D XI 8-9. A III 9. P 15, first upper ray small, upper 3 simple. 23-24 series of scales, transverse 1/6. L. line 17-18/6-9. 4-5 predorsal. Gillrakers 6-7+1+9, short points.

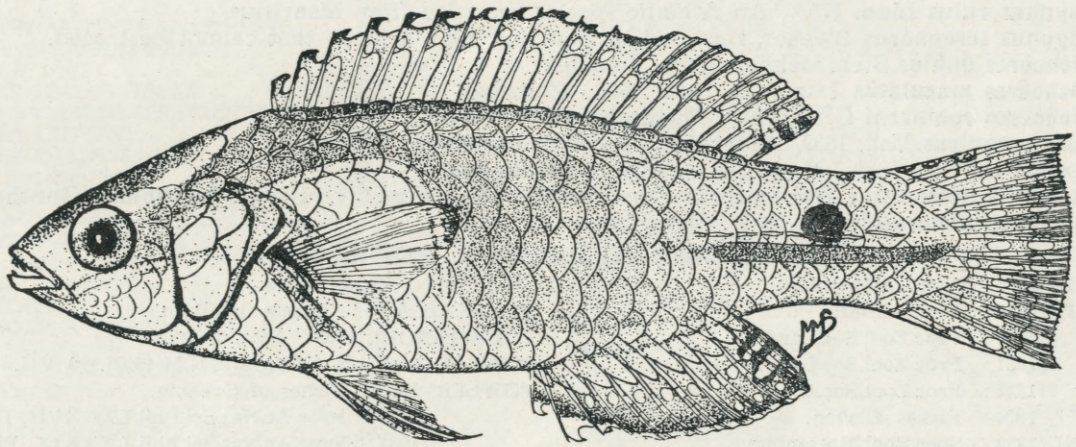

Fig 4. **Cirrhilabrus exquisitus n. sp.** Type 83 mm.

In percent of standard length : Total length 120; depth 28-31; head 28-31; eye 7-8; interorbital 8-10; snout 7-7.5; postorbital 17; dorsal base 50-55; anal base 24-25; 1st dorsal spine 3-5; 3rd 8-11; 6th 10-11; 9th 12-13; 11th 11-12; 1st dorsal ray 13-15; 1st anal spine 5-6; 2nd 8-9; 3rd 9-10; 1st anal ray 11-12; 5th 14-15; pectoral 22-24; pelvic 18-20; depth peduncle 14-15.

Body compressed, more or less fusiform, interorbital convex with slight longitudinal groove in front, and several pores on each side. Circumorbital pores distinct. Anterior nostril high up, before eye, nearer eye than snout, posterior a large open pore above front of eye. Hind margin of preopercle finely serrate, lower margin entire.

Mouth small, maxilla reaches halfway to eye, jaws subequal in young, lower slightly prominent with age. In upper jaw a single close set series of 13-15 small conical teeth on side of jaw, in front 6 canines, the inner pair vertical, the median tooth on each side slightly flaring outwards, the outer on each side largest and flaring out and back. Behind the canines a single series of fine villiform teeth. In lower jaw, on side a single series of about 20 close-set small conical teeth, in front of jaw a wideset pair of short stout canines, between and behind which a single series of fine villiform teeth. Tongue rounded, free.

Dorsal inserted over hind margin of head, the 1st spine shortest, remainder increase to the 6th, the 6-9th either subequal, or increase slightly to the 9th, the 10th and 11th subequal to 9th or slightly shorter,

soft rays slightly higher than the spines, edge of fin barely convex. Anal inserted below last dorsal spine, 1st spine shortest, 2nd - 3rd subequal, soft rays higher, increase to the 5-6th, edge of fin gently rounded. Caudal feebly convex, the lobes slightly produced with age. Pectoral rounded, pelvics pointed, neither reaches anal origin.

Scales large, cycloid, 14-17 prominent radiating striae, predorsal scales to above hind margin of eye. 3 large scales on opercle, 2 large scales below preopercle. 2 series along cheek, preopercle flange naked, a single series down behind eye. Top of head, interorbital, snout and chin naked. Single series of large vertically elongate scales along bases of dorsal and anal, reach well up fins. Pectoral base naked.

Colour: live; brilliant, as shown in Plate II, E. As preserved; more or less uniform yellowish, the black peduncular spot prominent, also plain are the bar along the peduncle and the marks on hind part of soft dorsal and anal, other colour zones feebly indicated.

Described from 20 specimens, 23-83 mm. in length, mainly from Pinda, Mozambique (14°10′S x 40°41′E), one from Zanzibar, all from coral at low tide mark, also one taken from the stomach of a fish at Nosy-bé, Madagascar, by Mr. P. Fourmanoir, Fisheries Officer. The Type, B.P. 293, 83 mm. in length, from Pinda, in this Department. This species is clearly differentiated from the other known species by the colouration and the prominent black peduncular spot. This is an especially beautiful small fish, the colouring exquisite.

DOUBTFUL OR UNKNOWN SPECIES RECORDED FROM THE WESTERN INDIAN OCEAN.

1. **Anampses rubroviridis** Lienard, 1843. Mauritius. (Sauvage, 1891).
2. **Anampses viridis** Valenciennes, 1839. Mauritius. Possibly **A. diadematus** Ruppell, 1835.
3. **Anampsodax lienardi** Bleeker & Pollen, 1874. Mauritius. Possibly **Pseudanampses geographicus** Val, 1839.
4. **Cheilinus taeniatus** Lacepede. Recorded by Wuitner, 1935 from Mauritius. Name cannot be traced.
5. **Cheilinus venosus** Valenciennes, 1839. Red Sea, Suez.
6. **Coris erythropterus** Valenciennes, 1839. Mauritius. Possibly **Thalassoma hardwicke** Bennett, 1831.
7. **Cossyphus maxillosus** Val. Recorded by Guichenot, 1863 from Reunion, name cannot be traced.
8. **Cossyphus octomaculatus** Lienard, 1843. Mauritius. (Sauvage, 1891). Probably **Lepidaplois axillaris** Bennett, 1831.
9. **Cossyphus rufus** Linn, 1758. An Atlantic species recorded from Mauritius.
10. **Cossyphus terophorus** Bleeker, recorded by Sauvage, 1891, a name that cannot be traced.
11. **Halichoeres dubius** Steindachner, 1864. Zanzibar.
12. **Halichoeres maculatus** Jatzow & Lenz, 1898. Zanzibar.
13. **Halichoeres robinsoni** Gilchrist & Thompson, 1914. Natal.
14. **Odax borbonicus** Val., 1839. Mauritius. Possibly **Pseudodax** Bleeker.
15. **Odax pullus** Val., 1839. Mauritius. Possibly **Pseudodax.**
16. **Pseudojulis trifasciatus** Weber, 1913. Comores, Aldabra. Possibly juvenile **Stethojulis** Gunther.
17. **Thalassoma abhortani** Val., 1839. Mauritius.

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