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STUDIES IN ICHTHYOLOGY.

No. 12.*

By

GILBERT P. WHITLEY,
Ichthyologist, The Australian Museum.

(Figures 1-3.)

Family ORECTOLOBIDAE.
Genus *Orectolobus* Bonaparte, 1834.

Orectolobus wardi, sp. nov.

Mr. Melbourne Ward has recently presented to the Australian Museum a further fine collection of fishes and elasmobranchs, the latest donation being from the Northern Territory, where he was attached to H.M.A.S. "Moresby" during her survey cruise of 1938. Amongst the sharks he caught was a wobbegong which agrees excellently with Regan's figure¹ of a north Australian specimen which Regan called *Orectolobus tentaculatus* (Peters). However, Peters' type came from South Australia and his name applies to the Wobbegong of Adelaide which has rows of tubercles on the back, more diffuse coloration, and is otherwise quite different. Thus the northern Australian species requires a new name, and I select Mr. Ward's specimen as type of the species, which I have much pleasure in naming after him. Austr. Mus. regd. no. IA.7784.

Loc.—Cape Keith, Melville Island, Northern Territory of Australia.

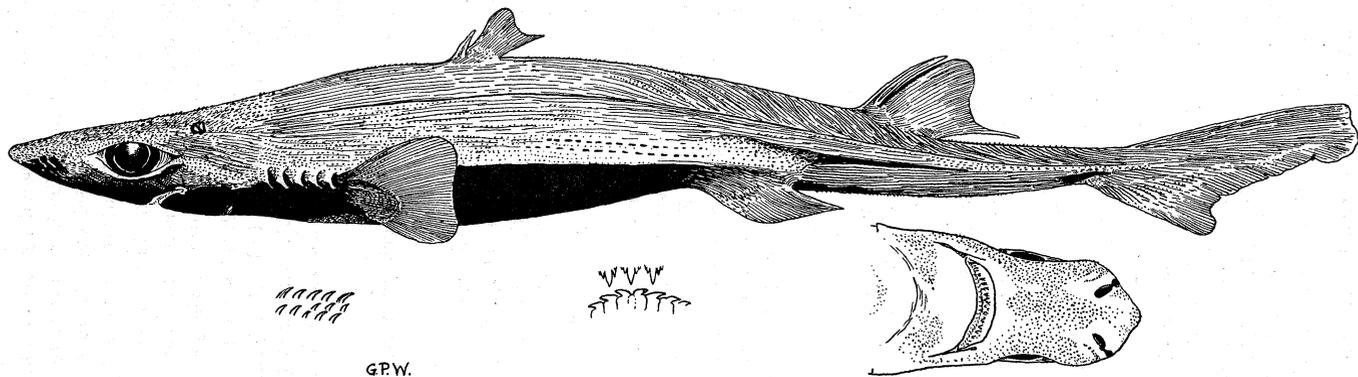
Family SQUALIDAE.
Subfamily ETMOPTERINAE Fowler, 1934.
Genus *Acanthidium* Lowe, 1839.

Acanthidium Lowe, Proc. Zool. Soc. Lond., vii, Oct., 1839, p. 91. Logotype,
A. pusillum Lowe, from Madeira, selected by Goode & Bean, Oceanic Ichthyology, 1895, p. 10.

A genus of small, dark-coloured, deep sea dogsharks with five gill-slits and spined dorsal fins. Lowe's genus has been united with *Spinax* Cloquet, 1816 (= *Etmopterus* Rafinesque, 1810) by some authors, but is easily distinguished by having the first dorsal fin much smaller than the second and the ventrals just before the level of the second dorsal. In *Squalus spinax* Linné, the genotype of *Etmopterus*, these fins are entirely different, as Willughby's figure, the type of Linné's species, shows.

* For No. 11, see RECORDS OF THE AUSTRALIAN MUSEUM, Vol. xx, No. 3, August, 1938, p. 195.

¹ Regan.—Proc. Zool. Soc. Lond., 1908, p. 357, pl. xii, fig. 2.



G.P.W.

Fig. 1.—*Acanthidium molleri* Whitley. Holotype female, 360 mm. long, from east of Sydney, New South Wales; 130 fathoms. Austr. Mus. Regd. No. IA.5816. Below (left to right): dermal denticles, teeth, ventral surface of head.

G.P.W., del.

The genotype of *Acanthidium*, selected by Goode and Bean, was *A. pusillum*, but as that species was earlier named *Centrina nigra* by Lowe² its name becomes *Acanthidium nigrum* (Lowe). Garman³ selected *A. calceus* as genotype, but Goode and Bean's selection is earlier and, fortunately, has been followed by most authors.

The various species of *Acanthidium* have been confused with those of *Etmopterus* or *Spinax* by authors, whilst some nominal species with a long, low first dorsal fin should be separated, like those of the genus *Deaniops*.

A new species of *Acanthidium* has recently come to light from deep water off New South Wales. Its closest allies appear to be *A. nigrum* (Lowe) from Madeira, and the following species of "*Etmopterus*": *A. hillianum* (Poey) from Cuba, *lucifer* (Jordan & Snyder) and *frontimaculatus* Pietschmann from Japan, and *brachyurus* (Smith) from the Philippines.

Acanthidium mollerii, sp. nov.

(Fig. 1.)

A deep-sea shark with five gill-slits, no anal fin, each dorsal fin preceded by a prominent spine, and with glandular areas (probably luminous organs) on the lower parts of the body. General facies of the genotype of *Acanthidium* as figured in Lowe's *Fishes of Madeira*, Sept., 1843, p. 37, pl. vi, but distinguished by its much longer snout, more oblique nostrils, and various minor characters, as described below.

Head acute, somewhat flattened, about $\frac{1}{4}$ of the total length and nearly twice the depth of the body. Width of head across gills subequal to preoral length. A chain of pores on each side of fontanelle. Eye very large. Spiracles large. Nostrils large, oblique. Some crescentic creases across chin. Mouth transverse, not notably arched, and with long oblique lateral folds. Teeth of upper jaw in several series, pentacuspoid, each tooth with a long central cusp and two small acute cusps on each side of it. Lower jaw teeth in a single row, unicuspid, their sides touching and their points deflected laterally.

Five small curved gill-openings, the last at the pectoral origin.

Body elongate, finely tapering posteriorly. The back is rounded but the ventral surface is somewhat flattened. Lateral line present. The ventral surface of head and body is covered with a blackish area, probably luminescent, which sends longitudinal branches of glandular skin along the sides between the ventral fins and the second dorsal and also on the lower parts of the caudal root. A series of black spots along the median line of the back and two or three more on the sides below the lateral line are discernible against the general dark brown ground-colour of the shark. The skin is densely invested with hook-like dermal denticles arranged in many longitudinal rows.

Dorsal fins preceded by prominent spines with shallow lateral grooves. Spine of first dorsal equidistant from nostril and second dorsal. Length of base of first dorsal fin (without the spine) about one-tenth dorsal interspace. Second dorsal fin much larger than first; both the fins thin and fragile. No anal fin. Pectorals small, their lower rays produced into a slight, blunt lobe. Ventral fins low, united around vent; their origins are nearer the pectorals than the caudal. Caudal fin shorter than head, with a notch below its terminal part.

² Lowe.—Proc. Zool. Soc. Lond., 1833 (April, 1834), p. 144. Madeira.

³ Garman.—Bull. Mus. Comp. Zool. Harvard, xlvii, 1906, p. 202.

Described and figured from the holotype of the new species, the larger of two females (360 mm. or 14½ inches) from the same locality.

Austr. Mus. Regd. Nos. IA.5816 (holotype) and 5817 (paratype).

Loc.—About thirty miles eastward of Sydney, New South Wales; trawled in 130 fathoms depth in June, 1933, by Captain K. Moller, in whose honour the species is named. The trawlers very rarely fish in this great depth, and on that occasion three other species of fishes were secured: *Undecimus hendecacanthus* (McCulloch), *Centriscoops obliquus* Waite, and *Owstonia maccullochi* Whitley; these were new records for this State and were recorded in the supplement to the third edition of McCulloch's Fishes of New South Wales in 1934. The sharks, however, were set aside until now for determination.

Family CALLORYNCHIDAE.

Genus *Callorynchus* Meuschen, 1781.

Callorynchus millii Bory.

? *Squalus rhinophanes* Péron, Voy. Terres Austr., i, 1807, p. 337. Virtual nude name. Adventure Bay, Tasmania.

Callorynchus millii Bory de St. Vincent, Dict. Class. Hist. Nat., iii, Dec., 1823, p. 62, pl. cxiii, fig. 1. Western Australia [? error for Tasmania—G.P.W.].

Callorhynchus tasmanius Richardson, Proc. Zool. Soc. Lond., viii, Aug., 1840, p. 29. Murderer's Bay, "Tasmania" [should be New Zealand], Jan. 16, 1770 (Solander); also Port Arthur, Tasmania.

Callorhynchus australis Owen, Descr. Cat. Comp. Anat. Mus. Roy. Coll. Surgeons, ed. 2, i, 1852, p. 51. Type-loc. hereby designated Tasmania. Not *Chimaera australis* Shaw, 1804, another species of *Callorynchus*.

? *Callorhynchus peronii* Duméril, Hist. Nat. Poiss., i, 2, 1865, p. 694. Terres australes (Péron) and South America.

Callorhynchus dasycaudatus Colenso, Trans. N. Zeal. Inst., xi, May, 1879, p. 298, pl. xvii. Poverty Bay, New Zealand.

The Elephant Shark of Australia and New Zealand has received several names, as the above synonymy shows. The species may now be added to the New South Wales list as four specimens were noticed by Mrs. Tom Iredale in a Manly fish-shop and were purchased for the Australian Museum. All were males and are registered Nos. IA.7508-7511. The exact locality was not known, but they were freshly caught, in March, 1938, probably not very far away from Sydney. I have seen old paintings of this species, purporting to be from New South Wales, in the Watling and Raper drawings, made in the 18th century and now in the British Museum and the Mitchell Library, Sydney, but hesitated to record the species from New South Wales without actual specimens. Apparently it is either a very occasional visitor or else was here in the days of the early settlers and has since become practically extinct in this State. It is common at times in Tasmania and New Zealand, and is also known from Victoria and South Australia, but Mr. Ludwig Glauert, of the Museum at Perth, tells me he has not seen any Western Australian specimens. Bashford Dean has figured two kinds of *Callorynchus* eggs from Australia, but I am uncertain as to whether we have more than one species of Elephant Shark in our waters.

Family GALAXIIDAE.

Genus *Galaxias* Cuvier, 1816.*Galaxias ornatus* Castelnau.*Galaxias ornatus* Castelnau, Proc. Zool. Acclim. Soc. Vict., ii, May 10, 1873, p. 153. Cardinia Creek, Victoria.*Galaxias pusillus* Mack, Mem. Nat. Mus. Melb., ix, Nov. 1936, p. 101, fig. 2. Cardinia Creek, Victoria.

Mack's species is evidently the young stage of Castelnau's, from the same locality; the few discrepancies in their descriptions may be accounted for by changes during growth.

Galaxias bongbong Macleay.*Galaxias bongbong* Macleay, Proc. Linn. Soc. N. S. Wales, vi, 2, Sept. 12, 1881, p. 233. Moss Vale and Bong Bong, New South Wales.

Three fine specimens (Regd. Nos. IA.7904-7906) from a creek near Bombala, New South Wales, are the first of their species in the Australian Museum. The types are in the Macleay Museum, University of Sydney.

Family MYCTOPHIDAE.

Mystibranchus, gen. nov.*Phanerobranchus* Cocco, Giorn. Gab. Messina (5) viii, 1846, p. 63. Orthotype, *P. krohnii* Cocco.*Id.* Jordan, Gen. Fish, iv, 1920, p. 574, and Classif. Fish., 1923, p. 155.Preoccupied by *Phanerobranchus* Leuckart, Isis, 1821, Litt. Anz., p. 260, a genus of Amphibia.This curious fish requires a new generic name, Cocco's being preoccupied. The type-species now becomes *Mystibranchus krohnii* (Cocco).

Family SYNGNATHIDAE.

Genus *Phycodurus* Gill, 1895.*Phycodurus glauerti*, sp. nov.Similar in general characters to the type of the genus, *P. eques* Gunther,⁴ from Port Lincoln, South Australia, but readily distinguished by its longer snout, the length of which is five times that of the eye-diameter, and does not bear leaf-like processes; the nuchal spines arise farther back on the head and their crests are joined to them, not partly separated like a cockscomb. The long dorsal spines bear broad, swollen, serrated crests, similar to those in Waite and Hale's figure.⁵ There is no pair of spines between the largest pair on the back and the origin of the dorsal fin, and the small mediolateral spines cease below the dorsal.

D.36, its base comparatively longer than in the genotype. Rings 19 + 43.

Colour reddish-brown generally, with the leafy processes and the dorsal base blackish-brown. A few dark brown marks radiating from eye. No white transverse bands.

Loc.—Rottneest Island, Western Australia.⁴ Gunther.—Proc. Zool. Soc. Lond., 1865, p. 327, pl. xv.⁵ Waite and Hale.—Rec. S. Austr. Mus., i, 1921, p. 315, fig. 52.

Described from the holotype, a dried specimen less than ten inches in total length. Austr. Mus. Regd. No. IA.7596.

Named in honour of Mr. Ludwig Glauert, the well-known Western Australian naturalist.

Family BELONIDAE.

Genus *Stenocaulus* Ogilby, 1908.

Stenocaulus perornatus Whitley.

(Fig. 2.)

Stenocaulus perornatus Whitley, Rec. Austr. Mus., xx, 1938, p. 233. Upper Sepik R., New Guinea.

D.ii, 15; A.ii, 18; P.i, 10; V.i, 5; C.13. L. lat. circa 144.

Head (206 mm.) 2.4, depth (55) 8.4 in standard length (495). Distance from eye to tip of snout (135 mm.) 1.5, Eye (18) 11.4, Interorbital (16) 12.8, and pectoral (40) 5.1 in head.

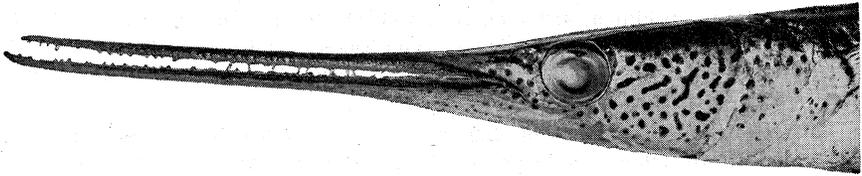


Fig. 2.—*Stenocaulus perornatus* Whitley. Holotype, 495 mm. in standard length, from the Upper Sepik River, New Guinea. Austr. Mus. Regd. No. IA.7287. G. C. Clutton, photo.

Opercula scaly. Jaws long and beak-like. Canines erect and with smaller upright teeth around about them. Lower jaw the longer, with a produced tip.

No gill-rakers. Form elongate, compressed, the height of the body being about twice its breadth. Head and body very scaly, about 118 predorsal scales.

Lateral line running low, dipping down over posterior anal rays, not keel like; branches extend to the pectorals.

Caudal peduncle elliptical in cross-section, not depressed or keeled. Dorsal and anal short, with blunt lobes. Origin of dorsal slightly behind that of anal, over second divided anal ray.

Ventrals small, origin midway between preopercular margin and root of tail. Pectorals pointed. Caudal fin emarginate, lobes bluntly rounded.

In formalin, colour yellowish. The head with conspicuous large dark brown spots, sometimes coalescing. Upper parts of body dark brown, as is also a diffuse median stripe. Sides of body with small dark brown spots, more or less arranged in longitudinal rows. Fins dusky, especially caudal margin. Pectoral axil dark. Eye bluish. A blue spot at upper angle of preoperculum.

Described and figured from the holotype, a specimen 495 mm. in standard length or about 21½ inches overall. Austr. Mus. Regd. No. IA.7287.

Loc.—Upper Sepik River, New Guinea; collected by Flight-Lieutenant Stuart Campbell.

Family MELANOTAENIIDAE.

Genus *Rhombosoma* Regan, 1914.*Rhombosoma affinis* (Weber).

Rhombatractus affinis Weber, Nova Guinea, v, 2, 1909, p. 234, pl. xi, fig. 5. Sentani Lake and Wagani R., New Guinea.

This species is a northern one, distinct from *novae guineae* or *goldiei*.

Seven specimens (IA.7296-7301 and 7321) 42 mm. to 87 mm. in standard length, from the Bulolo Goldfields, New Guinea (Dr. Carl Günther). Collector's Nos. 10 and 91.

Rhombosoma sepikensis Herre (Field Mus. Nat. Hist. Zool. Ser., xviii, 12, 1935, p. 400 *et ibid.*, 1936, p. 445, fig. 47) appears to be a synonym of *affinis*.

Family STROMATEIDAE.

Genus *Cubiceps* Lowe, 1843.*Cubiceps baxteri* McCulloch.

Cubiceps baxteri McCulloch, Rec. Austr. Mus., xiv, Feb. 28, 1923, p. 15, pl. i, fig. 4. Lord Howe Island. Holotype in Australian Museum.

A fine large specimen, 420 mm. in standard length, from Shellharbour, New South Wales, July, 1938 (Mr. Latta), constitutes a new record for Australia. Austr. Mus. Regd. No. IA.7585. It was found stranded on the ocean beach, alive, on July 11th, 1938.

Only two other specimens of this rare fish are known, both smaller and both from Lord Howe Island, collected by R. E. Baxter (Austr. Mus. Nos. IA.686, holotype, and IA.1393).

Several species of fishes, crustaceans, and molluscs, known from Lord Howe Island are found again on the Australian coastline at Shellharbour or in South Queensland, but not in between. Possibly these are borne on currents with pelagic organisms.

Family APOGONIDAE.

Genus *Glossamia* Gill, 1863.*Glossamia gillii* (Steindachner).

Apogonichthys gillii Steindachner, Sitzb. Akad. Wiss. Wien, lv, 1867, p. 11, pl. i, fig. 1. Fitzroy River, Rockhampton, Queensland.

Apogonichthys adpersus Castelnau, Proc. Linn. Soc. N. S. Wales, ii, 3, May, 1878, p. 226. Rockhampton, Queensland.

Apogonichthys roseobrunneus Macleay, Proc. Linn. Soc. N. S. Wales, v, 3, 1881, p. 348. "From River in Northern Queensland."

The holotype of *Apogonichthys roseobrunneus* Macleay, labelled "Northern River" in the Macleay Museum, University of Sydney, is actually *Glossamia gillii*. Probably *Apogonichthys adpersus* Castelnau, from Rockhampton, is another synonym.

Family CORYPHAENIDAE.

Genus *Coryphaena* Linné, 1758.

Coryphaena Linné, Syst. Nat., ed. 10, Jan. 1, 1758, p. 261. Logotype, *C. hippurus* Linné, selected by Jordan and Gilbert, Bull. U.S. Nat. Mus., iii, 16, 1882, p. 454.

Variants: *Coriphaena*, *Coryphaea*, *Coryphena*, etc., of authors.

- Caranxomorus* Lacépède, Hist. Nat. Poiss., iii, 1802, p. 82. Logotype, *C. pelagius* Lacépède = *Scomber pelagicus* Linné, selected by Jordan and Evermann, Bull. U.S. Nat. Mus., xlvii, 1896, p. 952.
- Lepimphus* Rafinesque, Caratt. n. gen., 1810, p. 33. Logotype, *L. hippuroides* Rafinesque, according to Jordan, Gen. Fish., 1917, p. 79.
- Lampugus* Cuvier and Valenciennes, Hist. Nat. Poiss., ix, 1833, p. 317. Logotype, *Lampugus pelagicus* Cuv. & Val. = *Scomber pelagicus* Linné, selected by Jordan and Evermann, Bull. U.S. Nat. Mus., xlvii, 1896, p. 952.
- Fares* Alph. G., Dict. pittoresque H.N., iii, livr. 181, 1835, p. 164. Haplotype, *F. caerulescens* G. from the Red Sea. Equivalent to "Caranxomore" Lacép. *Id.* Alph. G., Nouv. Dict. class H.N., ed. 2, xii, July, 1845, p. 345.
- Carangomorus* Agassiz, Nomencl. Zool., 1846, Index Univ., p. 65. Emendation for *Caranxomorus* Lacépède. Type, by present designation, *Caranxomorus pelagicus* Lacépède.
- Lepimphus* Agassiz, Nomencl. Zool., 1846, Index Univ. p. 205. Error for *Lepimphus* Rafinesque 1815. Type, by present designation, *Lepimphus hippuroides* Rafinesque.
- Sarda* Gronow, Cat. Fish. coll. Gronow. Brit. Mus. (ed. Gray), 1854, p. 119. Logotype, *S. immaculata* Gron., selected by Jordan, Gen. Fish., ii, 1919, p. 259. Pre-occupied by *Sarda* Cuv. 1829, another genus of fishes.
- Ectenias* Jordan and Thompson, Mem. Carneg. Mus., vi, 4, Sept., 1914, p. 241. Orthotype, *E. brunneus* J. & T., *loc. cit.*, pl. xxvii, fig. 3, from Misaki, Japan.

Coryphaena hippurus Linné, subsp. *dampieri*, nov.

- "Dolphin" Dampier, Voy. New Holland, i, 1701, pl. ii, fig. 7. Western Australia.
- Coryphaena hippurus* Linné, Syst. Nat., ed. 10, 1758, p. 446. *Ex* Osbeck, and Artedi. "Hab. in Pelago" = The Grass Sea, 24° 15' N. lat., according to Osbeck, Voy. Chin. E. Indies (trans. Forster), ii, 1771, p. 117.
- Coryphaena punctatula* Ramsay, Ann. Rept. Austr. Mus., 1876 (1877), p. 6. Botany Bay. Error for *Coryphaena punctulata* Günther.
- Coryphaena punctulata* Macleay, Proc. Linn. Soc. N. S. Wales, v, May 20, 1881, p. 552; Cat. Austr. Fish., i, 1881, p. 187.
Not *Lampugus punctulatus* Cuv. & Val., Hist. Nat. Poiss., ix, 1833, p. 327, from America.
- Coryphaena hippurus* Ogilby, Cat. Fish. N. S. Wales, 1886, p. 28. Botany Bay; 22 inches.
Id. Waite, Mem. N.S.W. Nat. Club., i, 1904, p. 43.
Id. Stead, Fish. Austr., 1906, pp. 173 and 264, pl. v; Ed. Fish N. S. Wales, 1908, p. 101. Sydney Markets; rare.
Id. McCulloch, Austr. Zool., ii, 2, 1921, p. 54.
Id., McCulloch, Austr. Mus. Mem., v, 1929, p. 194.
Id. Hale, 47th Ann. Rept. Mus. S. Austr., 1931, p. 10. Port Wakefield—new record for South Australia.
Id. Powell, Rec. Auck. Inst. Mus., ii, 3, 1933, p. 155. Cape Brett—new record for New Zealand.

The above are references to literature on Australian *Coryphaena*: no attempt has been made to quote the enormous literature on extralimital specimens.

A convenient-sized specimen is described hereunder:

D. circa 59. A. 23. P. 22. V.i/5. C. 16.

Dimensions in millimetres: head, 140; eye, 24; interorbital, 51; snout, 50; upper jaw, 66; postorbital, 68; pectoral, 102; ventral fins, 120 and 125; depth of caudal peduncle, 35.

The standard length is approximately 700 mm. and total length 870, or about 720 to end of middle caudal rays.

General habit as in Stead's plate v (*loc. cit.*).

Form elongate, compressed tapering.

Upper profile of head rising as an even arc to dorsal fin. Eye low.

Nostrils one-third distance between eye and snout.

Mouth extending to below anterior half of eye. Lower jaw longer. Small spaced upright teeth form an outer row on jaws, and there are some smaller ones forming broad toothed areas anteriorly. Other teeth on roof of mouth.

Body covered with subelliptical cycloid scales, irregularly imbricate in the rather tough integument. Each scale with several pronounced concentric ridges. Scales become lanceolate along the back and near anal base, but do not extend over the fins, except on the caudal, the lobes of which they invest. Some scales on cheeks and operculum. Rest of head naked. Lateral line forming an angular peak over pectoral, then running straight along middle of sides to middle caudal rays. The vent is a little in advance of the anal fin.

Dorsal elevated anteriorly, its lobe equal to head minus snout. The anterior rays very close together, middle ones approximate, and the last seven or eight widespaced. It originates at level of eye and terminates opposite end of anal. Anal originates in anterior half of fish and has an anterior lobe.

Pectoral short, falciform. Ventrals pointed, fitting into a groove along belly, and each united to the midline by membrane. Caudal very deeply forked. Colour in life probably variable. Colour in alcohol, dark bluish to greyish. A few small scattered dark grey spots on lower parts of sides. Some yellow on belly and on ventral bases and edge of anal. Caudal yellowish with smoky edges.

Described from a specimen, type of new subspecies *dampieri*, about 700 mm. in standard length or 34½ inches overall.

Austr. Mus. Regd. No. IA.7561.

Loc., Lord Howe Island, 1937. Coll. E. le G. Troughton.

New record for Lord Howe Island.

This is the *Coryphaena hippurus* of Australian authors, not strictly that of Linné, whose type came from the Sargasso Sea. His species has an extensive extralimital synonymy, but no local name concerns the Australian form, which has been recorded from South Australia and New South Wales.

The Dolphin is probably common in schools off our coasts, but is rarely caught nowadays so that there are few Australian records. I have seen several old paintings of dolphins made by travellers to Australia in the early days of sailing ships, but their specimens probably came from the Atlantic Ocean.

The Rev. J. Done wrote in a letter of 1926 from Mabuiag Island, Torres Strait, that the colours of a four-foot specimen were:

"Emerald green eyes, black pupils. Dark bluish in colour on back and top sides, white elsewhere with a little yellow on belly near swimming [ventral] fins and small dark blue spots on the white parts."

Another Queensland specimen (Qld. Mus. No. I.4502) was mentioned by Mr. H. A. Longmann *in lit.*, April, 1930. It came from Mooloolabah, South Queens-

land; total length 37 inches, presented by Mr. George Hissted. Thus the species can now be listed from Queensland, too.

A 5 lb. specimen was caught 9 miles off Manly, New South Wales, in March, 1927, and I have seen the species landed at Maroubra Beach, near Sydney.

Hale has recorded *Coryphaena* from South Australia, and Dampier's old figure is recognizable as a Western Australian example. The range is thus practically circum-Australian and Lord Howe Island, probably linking up with forms from Oceania.

Family LOBOTIDAE.

Genus *Datnioides* Bleeker, 1853.

Datnioides campbelli, sp. nov.

Br. 6. D.xi.1, 13; A.iii, 10; P.i.18; V.i.5; C.15.

L. lat. 42 to hypural joint. L. tr. 6/1/20.

Agrees in general characters with *Datnioides quadrifasciatus* (Sevastianov), as described by Weber and de Beaufort (Fish. Indo-Austr. Archip., vii, 1936, p. 462, fig. 92) but differs in having less oblique profile, rounded caudal fin, and larger scales, etc. Teeth all villiform in jaws; none on palate.

Intermaxillary pedicels long but not reaching half-way over eye. Eleven club-like gillrakers on lower half of first branchial arch.

Body deep, compressed, covered with large adherent scales which extend on to the fins (except the ventrals).

Dorsal and anal spines very strong and heteracanth; the soft fins rounded. Fourth dorsal and second anal spine the longest in their respective fins, but shorter than the longest rays. Caudal rounded, not excavate. Ventral fins not nearly reaching vent. In formalin, colour dark brownish forming diffuse irregular bands, four or five in number, across the light brownish body.

Fins dark brown, almost black, except pectorals, which are pale yellowish.

Described from the holotype, a specimen about 320 mm. in standard length or 16 inches overall. Austr. Mus. Regd. No. IA.7288.

Loc.—Upper Sepik River, New Guinea. Collected by Flight-Lieutenant Stuart Campbell, in honour of whom this fine perch-like fish is named. In association with it were presented specimens of *Arius*, *Lambertichthys*, *Oxyeleotris*, *Toxotes*, *Acanthopercu*, and *Stenocaulus*.

Family PEMIPHERIDAE.

Genus *Liopempheris* Ogilby, 1913.

Liopempheris affinis McCulloch.

Liopempheris affinis McCulloch, Zool. Res. Endeavour i, Dec. 22, 1911, p. 45, pl. vii, fig. 1. Port Jackson, N. S. Wales. Type (No. B7332) in Austr. Mus., Sydney.

A small damaged specimen of this species was found by Mr. Melbourne Ward on Caloundra beach.

New record for Queensland.

Family SARDIDAE.

Genus *Neothunnus* Kishinouye, 1923.

Neothunnus macropterus (Temminck and Schlegel).

Thynnus macropterus Temminck & Schlegel, Fauna Japonica, Pisces 1844, p. 98, pl. li. South-western Japan.

Neothunnus macropterus Whitley, Rec. Austr. Mus., xx, 1937, p. 13 (references).
Id. Stead, Austr. Nat. x, 4, 1938, p. 124.

Quite recently, this species has been caught in northern New South Wales, Queensland, and at Lord Howe Island. The first specimen recorded from Australia was caught off Bermagui, New South Wales, in 1936, so that its range is now extended, and it is evident that the species is common at times off the eastern Australian coastline.

The following is a list of species of fishes which have been added to the New South Wales list in the last few years, with a few new records:

- Callorhynchus millii* Bory. The Elephant Shark.
Alopias greyi Whitley. Green Thresher Shark.
Acanthidium molleri, sp. nov. Moller's Dogshark.
Scalanago lateralis Whitley. Eel.
Stromateus maculatus Forster.
Narooma benefica Whitley. Deep-sea fish.
Stomias affinis Gunther. Deep-sea fish.
Argyropelecus amabilis (Ogilby). Hatchet Fish. IA.8024. C.S.I.R. Station 104/38. N.200, N. S. Wales.
Collettia perspicillata (Ogilby). Lantern Fish. IA.8023. C.S.I.R. Station 104/38. N.200, N. S. Wales.
Saccopharynx schmidti Bertin. Gulper.
Cubiceps baxteri McCulloch.
Taractes miltonis Whitley. Allied to Ray's Bream.
Pteraclis velifer australiae Whitley. Wing Fish.
Cybiosarda elegans Whitley. Watson's Mackerel.
Neothunnus macropterus (Temminck & Schlegel). Yellow-fin Tuna.
Scarus pyrrhostethus (Richardson). Parrot Fish.
Enigmapercis reducta Whitley.
Centropogon marmoratus Gunther.
Ellogobius abascantus Whitley. Goby.
Stephanolepis melanocephalus (Bleeker). Mr. Melbourne Ward has collected this Leatherjacket at Nambucca Heads, Sept., 1937.
Strophurichthys inermis Fraser-Brunner. Boxfish.
Crenalticus meleagris (Cuv. & Val.).

I have also several more species to record at a later date, including a Melanotaeniid, several different gobies, and some juvenile Surgeon fishes. The Whale Shark (*Rhincodon typus* Smith) has also been reported from New South Wales.

Family CORIDAE.

"*PlatyGLOSSUS margaritaceus* Macleay."

(Fig. 3.)

PlatyGLOSSUS margaritaceus Macleay, Proc. Linn. Soc. N. S. Wales, viii, July 17, 1883, p. 274. Hood Bay, New Guinea. Holotype in Macleay Museum, University of Sydney. Not *Julis margaritaceus* Cuvier and Valenciennes, Hist. Nat. Poiss., xiii, 1839, p. 484, from Vanikoro, Santa Cruz Islands.

Halichoeres macleayi Jordan and Seale, Bull. U.S. Bur. Fisheries, xxv, 1905 (Dec. 15, 1906), p. 303. New name for *PlatyGLOSSUS margaritaceus* Macleay, non Cuv. & Val. Hood Bay, New Guinea. *Id.* Fowler, Mem. Bern. P. Bishop Mus., x, 1928, p. 342.

Mr. K. E. W. Salter, B.Sc., Curator of the Macleay Museum, University of Sydney, allowed me to examine the unique holotype of this species in the late Sir William Macleay's collection, where it is labelled "*PlatyGLOSSUS margaritaceus*, Cuv. & Val., Port Moresby. F.537. No. 940".

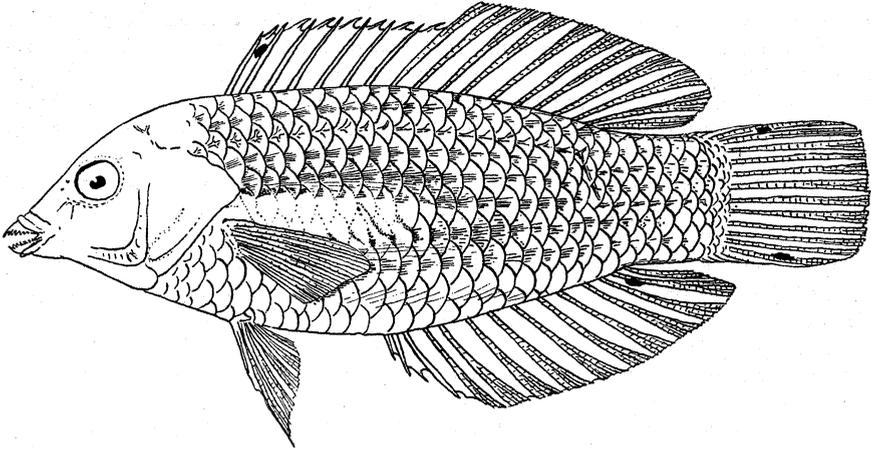


Fig. 3.—*PlatyGLOSSUS margaritaceus* Macleay. Holotype, 95 mm. long, from Hood Bay, Papua. Macleay Mus. Regd. No. F.537, No. 940, University of Sydney. G.P.W., del.

Though it is labelled "Port Moresby", I have no doubt that this specimen is Macleay's type, which was described from Hood Bay, not very far away from Port Moresby. There is no other specimen like it in either the Macleay Museum or the Australian Museum. It is 95 mm. in total length.

Macleay's description is brief, and is the only published information available about this species:

"D.7/11; A.2/11. L.lat. 25.

"Of compressed form. The height of the body rather more than one-fourth of the total length; snout pointed, teeth prominent. Eyes small; tail truncate. Colour (in spirits) yellowish, darker on the top of the head, with a broad pearly stripe more or less edged with black, extending from the operculum to, or nearly to, the tail, there seems to have been also a large oval pearly spot on the operculum. The fins are yellow, with a small black spot on the first dorsal spine, the last anal ray, and on the middle of the uppermost and lowest caudal rays. Hood Bay."

A more detailed description is now offered, as follows:

D.vii/11; A.iii/11; P.12; V.i/5; C.12 et lat. brev. Sc. 25. L.lat. 20 + 2 + 6. L.tr. 2/1/7 on body to 3/1/3 on caudal peduncle.

Head (26 mm.) 2.8 in standard length (73) and subequal to depth of body (27). Eye (5) 5.2, interorbital (6) 4.3, snout (6.5) 4 in head. Depth of caudal peduncle (14) subequal to longest dorsal ray (14.5).

General habit as shown in the figure. Head compressed, pointed, naked. A few mucus tubes around eyes and on preopercular flange, others on nape. Nostrils inconspicuous, before eye. Seven curved acute teeth on either side of each jaw and antrorse canines posteriorly in upper jaw. The anterior teeth are canine-like but are not flared forwards.

Body deep, compressed, covered with large imbricate cycloid scales which are strongly reticulated. Those on the breast are not enlarged. Ventral axillary scale small. Predorsal scales are now missing; there may have been a few originally. No scaly sheaths to dorsal and anal fins. Lateral line consisting of scales with branched tubes, the line following the curve of the back to below the posterior dorsal rays where it bends steeply to continue along middle of caudal peduncle.

Seven pungent dorsal spines; the first two parallel and not notably separated from the others. Spinous dorsal membranes flagged. Dorsal and anal fins expansive, the anal originating below the last dorsal spine and terminating behind the end of the dorsal base level. Pectorals small. First ventral ray long. Caudal truncate.

The colours have faded but the patterns mentioned by Macleay can still be traced after about sixty years' preservation in alcohol, and the pearly area on the sides is very well marked. There is also a pearly patch on the gill-cover.

Described and figured from the holotype of the species, a specimen 95 mm. ($3\frac{3}{4}$ ins.) in total length. Macleay Museum, Regd. No. F.537, No. 940. University of Sydney.

Loc.—"Port Moresby" = Hood Bay, Papua.

Dr. L. F. de Beaufort has suggested (*in lit.*) that *PlatyGLOSSUS margaritaceus* Macleay may represent a new genus. As he proposes to deal with its generic status in a paper concerning an allied Philippine fish, I make no nomenclatural changes at this stage. This species, like most of Macleay's, seems to be quite valid, and does not agree with any in numerous works I have consulted.

It bears some superficial resemblance to *Julis vanikorensis* Quoy and Gaimard (Voy. Astrolabe, Zool. iii, 1835, p. 704, pl. xx, fig. 1, from the Santa Cruz Islands), which was said to have two rays before the seven dorsal spines, but the Vanikoro fish differs in form and coloration and is evidently not conspecific with Macleay's; indeed, Fowler lists *Julis vanikorensis* as a synonym of *Novaculichthys taeniourus* (Lacépède).

Family RHYACICHTHYIDAE.

Genus *Rhyacichthys* Boulenger, 1901.

Rhyacichthys aspro (Cuv. and Val.).

Platyptera aspro Cuvier & Valenciennes, Hist. Nat. Poiss., xii, March, 1837, p. 321, pl. ccclx. Bantam. *Ex* Kuhl & Van Hasselt, MS.

One specimen of this curious torrent-loving fish has been sent by Rev. J. B. Poncelet, S.M., from Morou, twelve miles inland from Buin, Bougainville Island, Solomons; 14th July, 1937. Native name: Lumiago. Austr. Mus. Regd. No. IA.7307. The species has not hitherto been recorded from this part of Oceania and was not represented in the Australian Museum collections.

Family ELEOTRIDAE.

Genus *Mogurnda* Gill, 1863.

Mogurnda aurifodinae Whitley.

Mogurnda aurifodinae Whitley, Rec. Austr. Mus., xx, 1938, p. 233. Bulolo gold-fields, New Guinea.

A species from northern New Guinea which is separable from its congeners by its fin-formulae and coloration, the top of the head having a few well-marked dark spots.

D.viii/15 (last divided); A.14; P.15 (dex.) or 14 (sin.); V.i/5; C.13 et lat. brev. About 40 scales between axil and hypural joint. L.tr. 14. About 16 predorsal scales and 12 between dorsal and anal rays. Nine short spaced gillrakers on lower limb of first branchial arch.

Head (27 mm.) 3.3, depth (17.5) 5.1 in standard length (90). Eye (5) 5.4, interorbital (10.5) 2.5, snout (5) 5.4, depth of caudal peduncle (11.5) 2.3, pectoral (18) equal to longest dorsal ray (18) and 1.5 in head.

General characters as defined for the genus by McCulloch and Ogilby (Rec. Austr. Mus., xii, 1919, p. 279), and the typical species *mogurnda*, but the mucous system is inconspicuous, and the number of fin-rays is higher than that of any of a long series of Australian specimens.

General colour, in alcohol, light brownish with seven or eight very diffuse and inconspicuous darker areas across the body, the most posterior of which forms a precaudal blotch. Some of the scales on the top of the head have a central brown spot. Two oblique dark brown bars reach backwards and downwards from the bluish eye to the operculum. A dark brown blotch on upper half of pectoral base. Belly yellowish. Membranes of dorsal fins infuscated, as are also, to a less extent, those of the other fins, the pectorals being lightest.

Described from the holotype of the species, a specimen 90 mm. in standard length or 4 $\frac{3}{8}$ inches overall. Australian Museum Regd. No. IA.7322. Collector's No. 92. A paratype is IA.7323; coll. No. 93.

Loc.—Bulolo Goldfields, New Guinea; Dr. Carl Günther.

Family SCORPAENIDAE.

Genus *Centropogon* Günther, 1860.

Centropogon marmoratus Günther.

Centropogon marmoratus Günther, Ann. Mag. Nat. Hist., xi, Feb. 1, 1863, p. 136. Moreton Bay, Queensland.

This Queensland species extends into New South Wales, although McCulloch did not include it in his Check-List, so that it may now be added to the fauna of this State. Messrs. A. R. McCulloch and E. Le G. Troughton collected a fine three-inch specimen at the Tweed River Heads, New South Wales, in 1912. Austr. Mus. Regd. No. I.12644.

New record for New South Wales.

Family ALEUTERIDAE.

Nelusetta, gen. nov.

Nelus Whitley, Austr. Zoologist, vi, 2, Jan. 14, 1930, p. 179. Orthotype, *Monacanthus vittatus* Richardson, 1846. Preoccupied by *Nelus* Sharp, Zool. Record, xlix, 1912 (1913), Index, p. 12, a genus of Insecta = *Nenus* Navás 1912.

A part of the invaluable Nomenclator Animalium, published in Berlin in 1935, lists *Nelus* as a genus of insects. The name is earlier than mine for a fish, so I propose another new name, *Nelusetta*, with *Monacanthus vittatus* as orthotype. Australian species may now be known as:

Nelusetta vittata (Richardson, 1846).

Nelusetta ayraud (Quoy and Gaimard, 1824).

Nelusetta degeni (Regan, 1903).

Nelusetta hypargyrea (Cope, 1873).