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STUDIES IN ICHTHYOLOGY.
No. 8. *

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(Figures 1–3.)

Family **SCYLIORHINIDÆ.**

Genus **Aulohalaelurus** (Fowler, 1934).

Orthotype.—*Catulus labiosus* Waite.

Nasal valves separated from each other and from the mouth. No cirrus. Upper labial fold long; lower labial fold extending along lower jaw nearly to symphysis. First dorsal fin situated behind the level of the ventrals. Anal fin opposite the second dorsal; length of base of anal more than its distance from the caudal. No enlarged denticles above caudal fin and no dorsal tubercles. Body with scattered dark spots and a few light ones; cross-bands obscure.

Aulohalaelurus labiosus (Waite).

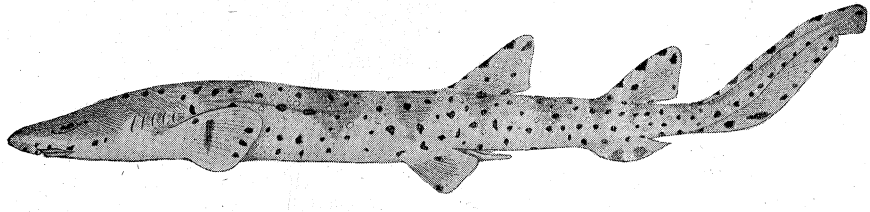

Figure 1.

Aulohalaelurus labiosus (Waite). Holotype. G. P. Whitley del.

Catulus labiosus Waite, Rec. Austr. Mus., vi, 2, Sept. 15, 1905, p. 57, fig. 23. Fremantle, Western Australia. Holotype in Western Australian Museum.

Scyliorhinus maculatus Regan, Ann. Mag. Nat. Hist., (8) i, 1908, p. 462. Ref. to Waite only, as Günther's record is probably based on an *Atelomycterus*. Not *Squalus maculatus* Bloch and Schneider 1801, preocc. by Bonaterre, 1788.

Scyliorhinus maculatum McCulloch, Zool. Res. Endeavour, i, 1911, p. 6.

Scyliorhinus labiosus McCulloch, Austr. Mus. Mem., v, 1929, p. 8. W.A. rec. only.

Mr. L. Glauert, Curator of the Western Australian Museum, kindly permitted me to draw the accompanying figure of the unique holotype of this species when I was in Perth during holidays. As Waite illustrated only the mouth-parts, not the

* For No. 7, see Records of The Australian Museum, vol. xix, No. 1, 1933, p. 60.

whole shark, authors have apparently confused this species with another, perhaps *Atelomycterus marmoratus*, an Australian specimen of which I have previously illustrated[1]. I have been unable to identify the briefly characterized *Squalus cuvier*[2], which seems again distinct. *Aulohalaelurus labiosus* is thus authentically known only from south-western Australia, as the Queensland record of "*Scyllium maculatum*" from "Bramble Bay" evidently applies to some other Scyliorhinid shark.[3]

Family **OPHICHTHYIDÆ.**

Malvoliophis, gen. nov.

Orthotype, *Bascanichthys hemizona* Ogilby[4]= *Malvoliophis pinguis* (Günther).

Head conical; body elongate, somewhat compressed. Spaced acute teeth occur uniserially on jaws and vomer; the anterior canines of upper jaw lie outside mouth. Nostrils in the form of a perforated cone or tapering tube, not bifid. Dorsal fin commencing over head; anal behind vent, which is in anterior half of fish. Tip of tail free of fins. Pectorals well developed, much longer than snout, and longer than broad. Lateral line curving over opercular region.

Head spotted; body with twenty or more bands, often asymmetrically disposed, which do not extend over the belly.

Generic definition drawn up from New South Wales specimens in the Australian Museum from the following localities:—Newcastle; Rose Bay and Sow and Pigs Reef, Port Jackson; Lady Robinson's Beach and La Perouse, Botany Bay; Bannister Point near Milton; and Bermagui. The species has been recorded from Lord Howe Island by Waite, and Ogilby's name is evidently a synonym of *Ophichthys pinguis* Günther[5] from the Solomons.

This eel cannot be retained in *Bascanichthys*[6] as that American genus has atrophied pectoral fins, bifid nostrils, and other differentiating characters.

Family **MURAENIDÆ.**

Notorabula, gen. nov.

Orthotype, *Muraena callorhyncha* Günther[7] = *Notorabula callorhyncha.*

Head $3\frac{3}{4}$ in trunk. Teeth acute; anterior teeth biserial. Eye small. Posterior nostrils not tubular. Coloration not spotted; snout ornamented with brown bands. Dorsal fin commencing behind gill-opening.

Ogilby[8] placed Günther's species in the genus *Rabula* without comment, but it cannot remain in that genus because of the characters noted above. *Rabula* was

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[1] Whitley.—Rec. Austr. Mus., xviii, 1932, p. 322, pl. xxxviii, fig. 1: Port Darwin.
[2] Peron and Lesueur.—Journ. Acad. Sci. Philad., ii, Nov., 1822, p. 351: N.W. New Holland.
[3] Ogilby.—Mem. Qld. Mus., iii, 1915, p. 131 and v., 1916, pp. 77 and 93; McCulloch and Whitley, *ibid.*, viii, 1928, p. 128, as *Halaelurus labiosus.*
[4] Ogilby.—Proc. Linn. Soc. New South Wales, xxii, 2, October, 25, 1897, p. 248: Port Jackson.
[5] Günther.—Ann. Mag. Nat. Hist., (4) x, Dec. 1, 1872, p. 425; Cruise Curaçoa (Brenchley), 1873, p. 43, pl. xxxv. Solomon Is.
[6] Jordan and Davis.—Rept. U.S. Fish. Comm., viii, 1888 (1892), pp. 613 and 621. Orthotype, *Caecula bascanium* Jordan, 1884, from Florida.
[7] Günther.—Cat. Fish. Brit. Mus., viii, 1870, p. 122: Fremantle, Western Australia.
[8] Ogilby.—Proc. Roy. Soc. Qld., xx, Jan. 1907, p. 11.

introduced by Jordan and Davis[9] for species with the dorsal fin inserted behind the head, the genotype being *Muraena aquae-dulcis* Cope, 1872, from Rio Grande, Costa Rica, which was only provisionally identified by Jordan and Davis from their material. The American eel evidently has the dorsal much more posteriorly situated than the Australian and differs also in proportions, dentition, and coloration.

Family **CARANGIDÆ.**

Genus **Olistus** Cuvier, 1829.

? *Atropus* Bosc, Nouv. Dict. Hist. Nat., ed. 2, iii, Sept. 1816, p. 64. *Id.* Cloquet, Dict. Sci. Nat. (Levrault), iii, "1816" = Jan. 1817, Supplément, p. 82. *Id.* Schinz, Das Thierreich (Cuvier), 1822, p. 521. Haplotype, *Brama atropus* Bloch and Schneider, 1801 = *Atropus ciliaris* Cloquet, 1817, from Tranquebar. Name preoccupied by *Atropos* Oken, 1815, Lepidoptera.

Olistus Cuvier, Règne Anim., ed. 2, ii, April 1829, p. 209. *Genus caelebs.* Logotype, *Olistus malabaricus* Cuvier and Valenciennes, 1833.

Olisthus Agassiz, Nomencl. Zool., 1846, Index Univ., p. 257. Emend. pro *Olistus.*

In the ichthyological portion of the first edition of his *Règne Animal*, published in December 1816 (though the title-page is dated 1817), Cuvier gave many vernacular generic names which were not latinized until later authors or editors provided valid scientific names for them. Usually, Oken has been regarded as having given Latin equivalents for them in the *Isis*, 1817, but Mr. T. Iredale, who has seen Oken's work, informs me that his names are all *nomina nuda*, some being still retained in a vernacular form.[10] Apparently Cuvier's manuscripts had been available to his colleagues, as many of his genera were established by the authors of articles on fishes in the French Dictionaries of Natural History before the *Règne Animal* appeared. The following list of the relevant literature of the period may assist in tracing the first valid use of Cuvier's names. I am unable to consult some of the works of Blainville, Geoffroy de St. Hilaire, Procé, and Desmarest, in which further latinizations may occur.

Sept. 1816 onwards. Bosc and others, Nouv. Dict. Hist. Nat.
Oct. 1816 onwards. Cloquet, Dict. Sci. Nat. (ed. Levrault).
Dec. 1816. Cuvier, Règne Animal, ed. 1, vol. ii.
1820. Goldfuss, Handb. Zool.
1822. Schinz, Das Thierreich (Cuvier), ii.
May 1822 onwards. Bory, Dict. Classique Hist. Nat.
June 1822. Fleming, Philosophy of Zoology.
1824–1825. Quoy and Gaimard, Voy. autour Monde. . . Uranie et Physicienne.
1826. Risso, Hist. Nat. Europe Méridionale, iii.
Oct. 1828 onwards. Cuvier and Valenciennes, Hist. Nat. Poiss.
April 1829. Cuvier, Règne Animal, ed. 2, ii.
1832. Voigt, Das Thierreich (Cuvier) ii and later editions.

[9] Jordan and Davis.—Rept. U.S. Com. Fish., 1888 (1892), p. 589.

[10] Gill.—Proc. U.S. Nat. Mus., xxvi, 1903, pp. 965–967, discusses Oken's names and his list of them confirms Mr. Iredale's opinion.

Olistus hedlandensis, sp. nov.

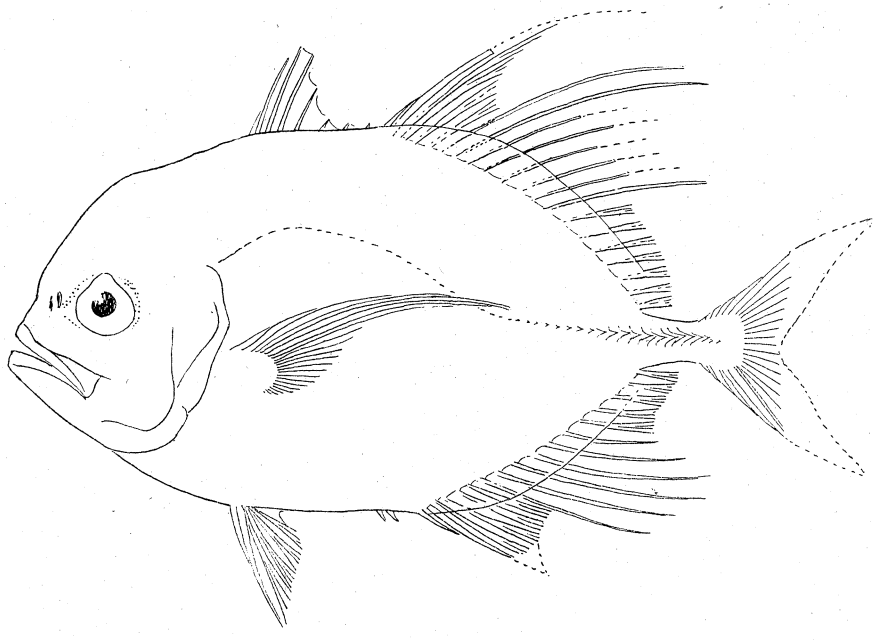

Figure 2.

Olistus hedlandensis, sp. nov. Holotype. A. R. McCulloch del.

D.viii/20; A.ii/i, 16; about 17 scutes on l.lat.

Orbit (13mm.) subequal to snout (14) and about two-thirds postorbital portion of head (21·5). Head (48) 3·3, seventh dorsal ray (60) 2·6, depth of body (86) 1·8 in standard length (160).

Form deep, upper profile gibbous above the eyes. Adipose eyelids well developed. Thirteen gill-rakers, up to 8 mm. long, on lower limb of first branchial arch. Maxillary reaching to below middle of eye. A series of fine teeth on jaws, vomer, and palatines.

Depth of body greater than basal length of soft dorsal or anal fins. Straight portion of lateral line shorter than curved portion. Breast naked.

General colour now faded but still with a blackish blotch on operculum and a fuscous anterior area on the snout. Ventrals blackish and received into a groove on the ventral surface. Neither the groove nor the ventral fins are as long as they are in true *atropus*.

Described and figured from the holotype of the species, a specimen 160 mm. in standard length, or about 8 inches in total length. Austr. Mus. regd. No. I. 12957.

Loc.—Port Hedland, north-western Australia; presented by the Fisheries Department of Western Australia in 1913.

This is apparently the species called *Caranx armatus* by Australian authors, but this is not the *Sciaena armata* which Forskaal [11] described as having the tail dark, apices of dorsal and anal fins black, lateral line straight, etc.

[11] Forskaal.—Descr. Anim., 1775, p. 53: Non-binomial; Red Sea.

Indian and Australian specimens labelled as *Caranx armatus* in the Australian Museum have not the produced fin-rays of the type of *Olistus hedlandensis*, but the Fremantle specimen, recorded by Waite and preserved in the Western Australian Museum, has these features. McCulloch noted (MS.) that two specimens named *Caranx armatus* are in the Macleay Museum, University of Sydney, from Cape York, Queensland, and agree with the Port Hedland specimen; of these he wrote: "They have rounded deep bodies, the length from the tip of the upper jaw to the end of the middle caudal rays being 182 mm., while the depth before the second dorsal is 93 mm. in one specimen; the other is almost the same size. They are clearly the same species, but one has nearly all the dorsal and anal rays greatly produced, whereas only the 1st and 6th to 9th dorsal rays are produced in the other, the anal has the usual angular projection but none of the rays are filamentous as in the other specimen. . . . A small specimen in the Macleay Museum from Endeavour River, Queensland, was labelled as *armatus*, but it differs from that species in having a much smaller eye. It is evidently *Caranx chrysophrys*, though it is deeper than shown in either Cuv. and Val.'s or Ogilby's figures. D. ?/i, 20; A.ii/i, 16. Eye much shorter than both snout and postorbital part of head."

Range.—North Queensland, North and Western Australia.

Family **LETHRINIDÆ.**

Genus **Pentapodus** Quoy and Gaimard, 1824.

Pentapodus milii (Bory de Saint Vincent).

Cantharus milii Bory de Saint Vincent, Dict. Classique d'Hist. Nat., iii, 1823, p. 160, pl. xc, fig. 3. Shark's Bay, W. Australia.

Pentapodus vitta Fowler, Bull. U.S. Nat. Mus., 100, xii, 1933, p. 71 (references and synonymy).

Life-colours.—Back dull greyish with two bright blue stripes above lateral line. A blue stripe pointing upward and backward arises from the hind margin of the eye. A blue band commences on the snout and passes along the body to the root of the caudal, where it encloses a dark spot and returns along the middle of the side to the snout, forming the boundary of a broad brown lateral band. Below this, the sides are yellow to silvery with oblique faint pearly spots running upwards and backwards along the scale rows. Dorsal fins greyish, tipped with yellow, and with an inframarginal milky band. Caudal entirely yellow, other fins hyaline. Eye yellowish, with a continuation of the brown and milky blue lateral bands passing through it. D. x/8; A. ii/8; L. lat. *circa* 48.

Described from a live specimen, netted at Geraldton, Western Australia, in August 1933. The earliest name for this species is that given by Bory de Saint Vincent about a year before *Pentapodus vitta* Quoy and Gaimard was published.

The *Cantharus dubia* of Bory is apparently another species of *Pentapodus*, of which *Mesoprion emeryi* Richardson may be a synonym; it is apparently not *Pentapodus peronii* nor *porosus* Cuv. and Val. Further collecting in the little known waters of north-western Australia would be desirable to bring to light more specimens of these puzzling species.

Family **BOTHIDÆ.**

Genus **Pseudorhombus** Bleeker, 1862.

Pseudorhombus guttulatus Macleay.

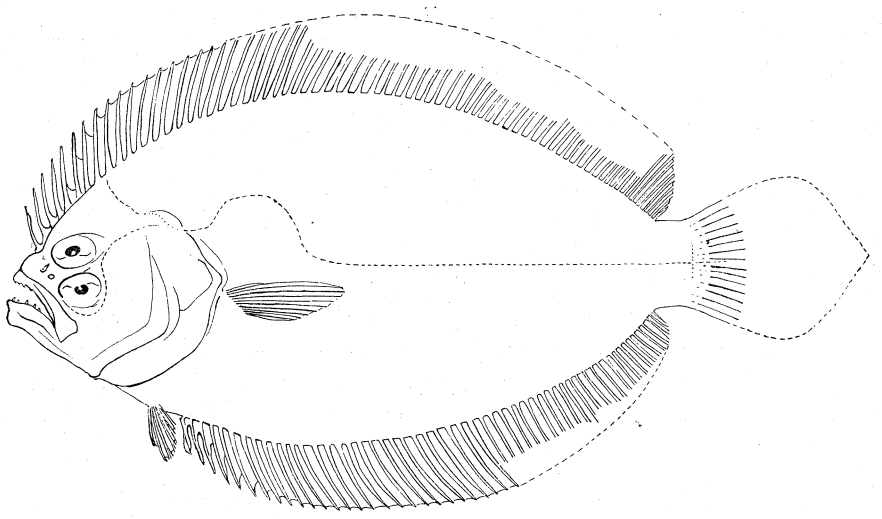

Figure 3.

Pseudorhombus guttulatus Macleay. Holotype. G. P. Whitley, del.

Pseudorhombus guttulatus Macleay, Proc. Linn. Soc. N. S. Wales, viii, 2, July 17, 1883, p. 276. Hood Bay, New Guinea. Type in Australian Museum.

Pseudorhombus guttulatus was briefly described, without illustration, by Macleay, as follows :—

> " D.75. A.63.
>
> The height of the body is nearly half the total length. The dorsal fin commences in front of the eyes, which are large, almost in the same plane, and separated by a narrow ridge. Teeth acute, sloping backwards. Colour (in spirits), uniform grey, fins lighter, the whole covered with minute brown dots. Length, 4 inches.
>
> Hood Bay."

To fulfil the requirements of modern ichthyologists, it seems desirable to redescribe and figure Macleay's type specimen with a view to determining the status of his species. Counts of fin-rays and scales and most measurements have been made under a Zeiss binocular microscope, which reveals 72 dorsal and 57 anal rays, not 75 and 63 as given by Macleay, who had no such mechanical aid.

D.72; A.57; P. *dex. et sin.* 12; V. *dex. et sin.* 6; C.16. L.lat. 24 on curve + 54 on straight portion = 78 on left (ocular) side and 31 + 53 = 84 on right (blind) side. Gill-rakers 9 on lower part of first branchial arch of left side.

Head (24 mm.) 3·4, depth of body (43) 1·9 in standard length (82). Snout (5·5) slightly longer than eyes (5), half the length of upper jaw (10) which is equal to depth of caudal peduncle (10) and 2·4 in head; mandible (7) 3·4 in head.

General form lenticular; head (behind the eyes) and body scaly. Interorbital a raised ridge, its axis oblique. Profile notched before upper eye. Maxillary reaching to below middle of eyes, its dilated portion scaly. Jaws with spaced, pointed, backwardly directed teeth, which are fewer and larger in the lower jaw, but the mouth has been mutilated so their number cannot be given and the anterior teeth are missing. Anterior nostril with a cutaneous flap; posterior nostril a deep ovate orifice. A line joining the origin of the dorsal fin to the posterior nostril on the blind side, when produced, passes over the anterior part of the maxillary. The gill-rakers of the first branchial arch are like antlers, about 1·5 mm. long, and about three times as long as broad, but tapering and with four processes superiorly.

Between seventy and eighty scales in a longitudinal series from upper angle of gill-opening to root of tail. There are 81 pores on the lateral line on the blind side between the operculum and the hypural. Scales ctenoid on the left side and cycloid on the right. Nuchal branch of lateral line ascending to between the eighth and ninth dorsal rays on the left side and between ninth and tenth on blind side.

Dorsal fin originating just above posterior nostril on blind side, its anterior rays not produced. Preanal spine short and beneath the skin. The fins have been somewhat damaged, but the hindmost dorsal and anal rays are apparently branched. Ventrals symmetrical; right pectoral slightly shorter than left.

The colour, after long preservation, is uniform brown with some dark speckles on the dorsal and anal fins. No ocelli are visible and Macleay only mentioned "minute brown dots."

Described and figured from the unique holotype, a specimen 82 mm. in standard length or about four inches overall.

Loc.—Hood Bay, south-eastern Papua. Presented by the Committee of Management, Macleay Museum, University of Sydney, to the Australian Museum in 1907. Registered No. I.9180.

Pseudorhombus guttulatus is apparently a valid species, for, although it approaches some species, such as *polyspilos*, the extent of the maxillary, proportion of depth to length, and other characters serve to distinguish it.

Mr. J. R. Norman has very kindly sent me proofs of the *Pseudorhombus* portion of his monograph but *guttulatus* cannot be exactly identified with any species in his key.

Incidentally, Mr. Norman has also sent me copies of Sauvage's descriptions of some Australian Gobies which enable me to classify the species as follows:—

1. *Gobius suppositus* Sauvage 1880 = *Glossogobius vomer* Whitley, 1929 = *Glossogobius suppositus*. Swan River, Western Australia.
2. *Gobius infaustus* Sauvage 1880 = *Gobius bassensis* Castelnau 1872 = *Arenigobius bifrenatus bassensis*. Melbourne, Victoria.
3. *Gobius olorum* Sauvage 1880 = *Lizagobius olorum*. Swan River, Western Australia. Very like *galwayi* McCulloch and Waite 1918 from South Australia.

My thanks are gratefully extended to Mr. Norman for his kind interest and assistance.

Family **BLENNIIDÆ.**

Genus **Crenalticus** Whitley, 1930.

Crenalticus kingii (Cuv. and Val.).

Salarias kingii Cuvier and Valenciennes, Hist. Nat. Poiss., xi, July 1836, p. 334. North-west coast of New Holland (Captain P. King, 1821).

In the Public Library, Perth, Western Australia, there are exhibited several original drawings and paintings by Captain P. P. King, who in 1817–1822 voyaged in the *Mermaid* and *Bathurst* to survey the tropical and western coasts of Australia. Amongst these are pictures of aborigines, butterflies, the Frilled Lizard, shells, and fishes. The latter were mostly done at Porto Praya and exhibit excellent draughtsmanship. King carefully showed the fin- and scale-counts, and it is a pity that he did not illustrate some of the zoological memoirs of his period. One unfinished drawing is of a blenny and evidently represents the type of *Salarias kingii*, which is so far known only from Cuvier and Valenciennes' description, which may now be supplemented as follows:—

D.13/23; A.24; P.12; V.2 or 3; C.12. Head (20 mm.) 4·9 in standard length (98·5). Depth of body (16) somewhat less than length of middle caudal rays (18) or of pectoral (19). Narial tentacle (2) and ocular tentacle (3) less than eye (4). Base of crest (10) 2 in head. Base of first dorsal fin, 29 mm.; of second, 49; of anal, 56.

The teeth are small; the presence or absence of canines cannot be determined. Ocular and narial tentacles branched. Upper lip entire and apparently very thick. This lack of crenulation of the upper lip, shared with *Salarias meleagris* Cuv. and Val., may require *meleagris* and *kingii* to be separated subgenerically from *Crenalticus*; "*Alticus*" and *Rupiscartes* being generically distinct again.

Dorsal spines much curved, slightly longer than the rays. The last dorsal spine is less than half the length of the others and a notch is thus formed between the two fins. The ninth to last dorsal rays are branched. Second dorsal joined to caudal. Anal free and originating below ninth or tenth dorsal spines.

Captain King's drawing has not been coloured but there are three faintly hatched subhorizontal bands on side of head and some dots along base of dorsal fin.

Family **TETRAODONTIDÆ.**

Omegophora, gen. nov.

Orthotype, *Tetraodon armilla* Waite and McCulloch[12] = *Omegophora armilla.*

Form robust; no fold along the lower portion of the sides and caudal peduncle not depressed. Anterior profile of head oblique; interorbital very slightly sunken. Lips papillose. Eye entirely attached to skin of side of head. Nostrils with rounded margins, somewhat leaf-shaped, without apertures. Gill-opening without spurs or crenulations.

Back, sides, and belly with inconspicuous spines. Lateral line system indistinct. Fins all rounded.

[12] Waite and McCulloch.—Trans. Roy Soc. S. Austr., xxxix, 1915, p. 475, pl. xv: Great Australian Bight. Holotype in S. Australian Mus., Adelaide.

Face and lower part of tail fuscous. Body without spots, bars, or striking colour-pattern except for a conspicuous black arch almost encircling the gill-opening and pectoral base.

Generic definition drawn up from paratypes of *armilla* in the Australian Museum. *Omegophora* is very different from *Tetraodon* Linne,[13] the genotype of which, *T. lineatus*, from the Nile, was selected by Lesson.[14] Boulenger[15] figures this species, which is distinguished from the Australian one by having very different proportions, prickly body, striped coloration, more distensible belly, more fin-rays, well-marked lateral line system and convex interorbital.

The generic name *Gnathodon* was employed in ichthyology by Goldfuss in 1820 for the group embracing *Diodon* and *Tetraodon*, according to Cuvier and Valenciennes[16], whilst Sherborn's "Index Animalium" gives an earlier reference to Oken. *Gnathodon* has been generally overlooked and is best disposed of by being consigned to the synonymy of *Diodon*.

Family **ALEUTERIDÆ.**

Genus **Meuschenia** Whitley, 1929.

Meuschenia skottowei, sp. nov.

"*Unicorn Fish or Leather Jacket*" Skottowe, Select Specimens New South Wales (unpublished Ms. in Mitchell Library, Sydney, dated 1813), Fish No. 10, pl. xlvi, fig. 10. Newcastle, New South Wales. Native name: Yuagunyang.

Monocanthus J. Stuart, unpublished drawings in Linn. Society New South Wales Library, dated 1841, Nos. 122 and 146. Quarantine Station, Port Jackson, New South Wales.

Monacanthus freycineti Hollard, Ann. Sci. Nat., (4) ii, 1854, p. 336. New South Wales specimen only. Not *Balistes freycineti* Quoy and Gaimard, 1824, from Mauritius.

Aleuterius variabilis Bleeker, Nederl. Tijdschr. Dierk., ii, 1865, p. 69. Port Jackson. Not *A. variabilis* Richardson, Zool. Voy. Erebus and Terror, 1846, pp. viii and 67, pl. liii, figs. 1–7, from King George's Sound.

Monacanthus hippocrepis Steindachner, Sitzb. Akad. Wiss. Wien, lvii, 1868, p. 1002. *Id.* Günther, Cat. Fish. Brit. Mus., viii, 1870, p. 246 (Sydney rec. only). *Id.* Castelnau, Proc. Linn. Soc. New South Wales, iii, 1879, p. 399. *Id.* Schmeltz, Cat. Mus. Godef., vii, 1879, p. 62. *Id.* McCoy, Prodr. Zool. Victoria, dec. xiii, 1886, p. 95, pl. cxxv (Port Phillip, Victoria). *Id.* Ogilby, Cat. Fish. New South Wales, 1886, p. 62 and Ed. Fish. New South Wales, 1893, p. 194, pl. xlviii. *Id.* Stead, Fish. Austr., 1906, p. 222, fig. 78 and Ed. Fish. New South Wales, 1908, p. 118, and of authors dealing with eastern Australian specimens. Not *Balistes hippocrepis* Quoy and Gaimard, Voy. Uranie, Zool. 1824, p. 212, from Mauritius, described as blackish, with very movable ventral spine; see also Hollard, Ann. Sci. Nat., (4) ii, 1854, p. 338.

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[13] Linne.—Syst. Nat. ed. 10, 1758, p. 332.
[14] Lesson.—Dict. Classique d'Hist. Nat. xvi, 1830, p. 198.
[15] Boulenger.—Cat. Fresh-water Fishes of Africa Brit. Mus. iv, 1916, p. 143.
[16] Cuvier and Valenciennes.—Hist. Nat. Poiss., i, Oct., 1828, p. 226.

? *Monacanthus castelnaui* Macleay, Proc. Linn. Soc. New South Wales, vi, 1881, p. 316. New name for *M. peronii* Castelnau, ibid. iii, 1879, p. 398, not of Hollard. "Body covered with papillæ having rather the form of small mushrooms." Port Jackson.

Pseudomonacanthus hippocrepis Waite, Mem. New South Wales Nat. Club, i, 1904, p. 56.

Cantherines hippocrepis McCulloch, Austr. Zool., ii, 1922, p. 126; Austr. Zool. Handbook, i, 1922, p. 100 (not fig.).

Meuschenia hippocrepis McCulloch, Austr. Mus. Mem., v, 1929, p. 416 (Eastern Australian records only). *Id.* Barrett, Water Life, 1933, pp. 23 and 31, coloured fig. 7.

Cantherhines freycineti McCulloch, Austr. Mus. Mem., v, 1929, p. 418. Not *Balistes freycineti* Quoy and Gaimard, 1824.

D. ii/38; A. 35; P. 14.

Depth at origin of dorsal and anal fins (94 mm.) 2·7, maximum length of head (79) 3·2, in length to hypural joint (255). First dorsal spine (52) 1·5, gill-opening (23·5) 3·3, and caudal peduncle (39) 2 in head. Eye (15) 4·2, interorbital (21·5) 2·9 in snout (63).

General form elongate-ovate; upper profile of head slightly convex and chin somewhat protruding. Skin very rough to the touch. Each scale gives rise to several spines and rugosities, but none of these is mushroom-shaped. A bristly area is formed anterior to the caudal spines but it is not so brush-like as in some Leatherjackets. In many places the scales are indistinguishable, the integument being beset with very small spines which extend over the caudal fin. Six strong antrorse spines on the caudal peduncle, which is shorter than the interdorsal space. Ventral spine present as an immovable rugose knob.

Fins evenly rounded, not angulate. Caudal bisinuate.

General colour (in alcohol) olivaceous or greyish, with some bluish lines crossing the cheeks and flanks and extending along the body near the bases of the dorsal and anal fins and around the upper part of the caudal peduncle. A large, irregular, bluish and brown or orange blotch on each side of body. Caudal spines orange. First dorsal membrane dark blue; rest of fins yellowish, the caudal crossed by a prominent black band.

Described from the holotype of the new species, a specimen 255 mm. in standard length or 12 inches in total length.

Loc.—Long Reef, Collaroy, New South Wales; April, 1933 (M. Ward). Austr. Mus. regd. No. IA 5698.

This species is the Orange-spotted or Variable Leatherjacket of New South Wales which grows to a length of about eighteen inches. This fish has been said to be very variable in colour, a horseshoe mark being either present or absent on the sides, but all the many local specimens I have seen had merely an irregular blotch which in no wise resembled a horseshoe, as is seen in southern or western Australian specimens identified as *Cantherines hippocrepis*, and as figured by McCoy. Thus the New South Wales form evidently belongs to a hitherto undescribed species, distinguished by its elongate-ovate form with convex profile and protruding chin, coloration, etc.

Specimens are in the Australian Museum from Port Stephens, Broken Bay, Pittwater, Elizabeth Bay and Port Jackson generally, Long Reef, Coogee, Botany Bay, and Eden, New South Wales.

Named in honour of Lieutenant Thomas Skottowe, who was appointed Commandant at Newcastle, New South Wales, in 1811, and who employed T. R. Browne to paint the animals of the district. Their manuscripts and paintings, dated 1813, are in the Mitchell Library, Sydney, and the fishes include the first illustration I have been able to discover of *Meuschenia skottowei*. Some even better paintings of this species were prepared by Dr. James Stuart almost a century ago and are now in the library of the Linnean Society of New South Wales.

Sydney: Alfred James Kent, I.S.O., Government Printer—1934.