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FISHES FROM INLAND NEW GUINEA

(Plate 2; Figure 1; Sketch map.)

By GILBERT P. WHITLEY, F. R. Z. S.

Curator of Fishes, The Australian Museum.

In 1954, my colleagues, Messrs. Ellis Le Geyt Troughton and Norman Camps, of the Australian Museum, visited inland New Guinea and secured a number of interesting freshwater fishes. The collecting localities of their expedition, in chronological order, were:

6. "Tomba".—South-west slopes of Mount Hagen range. 15 miles 18° W. of W.N.W. of Mount Hagen airstrip. Altitude 8,300 ft (no fishes).
7. Cave in Kuber Range.—7 miles 8° W. of S. of Mount Hagen airstrip. Altitude 7,800 ft (no fishes).

Two fluvifauna are represented: Localities 1, 5, and 6 are Leichhardtian with waters flowing to the south of New Guinea; localities 2, 3, 4, and 7 are Gaimardian, having northward-flowing rivers.
The collection comprised twenty-four specimens, referable to eleven species, all except two new to the Australian Museum collections, and two of the species are evidently new to science. The catfish *Copidoglanis gjellerupi* was taken in both Gaimardian and Leichhardtian watersheds, but all the other species were Gaimardian and most of them belonged to forms already named from the Sepik River system or Lake Sentani. The occurrence of the freshwater eel *Anguilla interioris* in a southward-flowing river is of interest as no Anguillidae are so far known from the Gulf of Papua.

It is hoped that further collections will be made from inland waters of New Guinea and Papua, as series of specimens are needed to study variation and to plot the distribution of the species (at present puzzling) in clearer detail.

The freshwater fishes of New Guinea were listed amongst many others in *The Fishes of Oceania*, by H. W. Fowler (1928 and supplements, 1931, 1934 and 1949). No separate list of them has been published: my colleague Mr. Ian Munro, of Cronulla, has a manuscript catalogue which he is preparing with a view to publication elsewhere.

Our knowledge of the freshwater fauna of New Guinea is of such recent growth that, not only is the list of references at the end of this paper practically a comprehensive bibliography of the subject, but the present writer has met many of the men who collected in the wilds there, from Professor L. F. de Beaufort, of Amsterdam, who was with the Dutch expedition to New Guinea in 1903, and visiting European and American naturalists, to the present-day patrol officers who are still opening up new country. Several American and European collectors and naturalists may have taken fishes from the Wahgi Valley to overseas museums. Trout were introduced into the valley by Sir Edward Ralstrom in 1949, and *Tilapia* on private property in 1955.

I am grateful to Mr. Edric Slater for his photograph (Plate 2), taken from a freshly caught specimen, of the “Jimmi River Fish”, *Hemigimelodus*.

A descriptive catalogue of the Australian Museum’s series of fishes is as follows:—

**Family Anguillidae.**

*Genus Anguilla* Shaw, 1803.

*Anguilla interioris* Whitley.  
*Id. Ege, 1939: 10-245, pl. 1, fig. 2 and text figs. 5, 7, 8, 42-53 (Humboldt Bay, Upper Purari River and Dinawa, Owen Stanley Range).  
*Id. Jensens, 1942: 18 et seq.  
*Muraena interioris* Fowler, 1949; 43.

One (Australian Museum registered No. 1B. 3353).  
*Locality 4* (see list p. 23), a limestone creek flowing into the Jimmi River; 22 vii, 1954.  
Length 2 ft 8\(\frac{1}{2}\) in.

Coloration mottled. No white edge to caudal, though dorsal is so edged anteriorly; anterior portions of anal cream.

**Family Ptoposidae.**

*Genus Copidoglanis* Gunther, 1864.

*Copidoglanis gjellerupi* Weber.  
*Id. Hase, 1914: 530.  
*Id. Weber & Beaufort, 1913, 2: 237, figs. 11-12.  
*Copidoglanis papuensis* Hase, 1914; 540, figs. 11-12. Sepik River.

C + D + A circa 140 to 146.

Head (36 to 45 mm) 5.0 to 5.1, depth (30 to 35) 6.3 to 6.7 in total length (180 to 230). Eye (5) 7.2 to 9 in head, 5.2 to 4.6 in snout (16 to 23 mm) and 2 to 3 in interorbital (10 to 15) which is 3 to 3.6 in head.  
Head as deep as broad or slightly broader than deep, its breadth about 1\(\frac{1}{2}\) in its length. Eye situated rather high, mostly in posterior half of head, its margin free. Interorbital convex. Lips thick with partly laminated papillae. Nasal barbel reaching to front or middle of eye. Anterior nostril above upper lip. Mouth wider than interorbital. Lower jaw the
shorter. Maxillary barbel reaching beyond eye. Mandibulary barbels reaching base of pectorals or almost so. Mental barbels shorter. Maxillary teeth conic to molariform, brown, in two oval patches, each twice as broad as long. Vomerine teeth similar, in a broad crescentic patch. Mandibulary teeth molar or peg-like, in two rounded patches, tapering laterally. Nineteen gill-rakers on lower limb of first branchial arch, the free membrane of whose inner border is regular, not crenulated or thrown up into loops.

Dorsal profile slightly convex from origin of dorsal fin to eye, slightly concave from above eye to snout. Lateral line conspicuous. No axillary pore. No dendritic organ. Preanal length about 2/3 in total.

Height of dorsal fin (23 to 29 mm). 1.3 to 1.7 in head, its hind border straight, its origin -much nearer base of pectorals than that of ventrals. Dorsal spine little shorter than longest rays, flexible distally, more than half depth of body. Height of anterior part of anal less than half length of head. Caudal more or less than half head.

The first visible, procurrent caudal rays emerge above middle of anal from a low fat pad which lies in advance of anal. P. spine flexible distally. Body anteriorly with slender papillae, smaller and more spaced posteriorly and over top of head.


Localities: 2. (IB. 3355-6), 4 (3340) and 5 (3332).

Family Tachysuridae.

Genus Hemipimelodus Bleeker, 1858.

Hemipimelodus Bleeker, 1858: 28 and 236. Logotype, Pimelodus borneensis Bleeker, 1851, from Banjermasin, Borneo.


Pachyula is considered to be a subgenus, distinguished from typical Hemipimelodus by having the lips thick, the upper produced posteriorly in a wide lobe; adipose dorsal fin partly in advance of anal.

Hemipimelodus velutinus Weber.

(Plate 2.)


D.I.6; A.11,17; P.12,12; V.1.3; C.13 branched rays. Head (110 mm) 3.3, depth (80) 4.5 in standard length (365). Eye (14) 3 in snout (44) or 4 in interorbital (35). Breath of head, 81 mm. Width of mouth-opening, 54. Height of dorsal fin, 81; of anal, 50. Postorbital, 59. Ventralis, 58 to 61 mm long. Pectoral length, 94. Depth of caudal peduncle, 27.

Snout rounded. Head covered by skin. Casque granulated. Occipital process keeled, granulated. Median fontanelle does not extend to occipital process. Eyes small, orbital margins mostly free but lower portion of left eye adnate; they are not quite lateral and are in anterior half of head. Interorbital convex. Nostrils on each side close together, separated by a valve, without barbel; both above a line connecting middle of eye and point of snout. Maxillary barbels reaching gill-membranes and base of pectoral. Mandibular barbels short, the outer ones surpass gill-membranes. Mouth narrow, not reaching eye, rounded; when closed only the posterior part of the maxillary border of teeth is covered. A thick fold around lips at angles of mouth but lip not produced posteriorly. A broad patch of villiform teeth on each jaw, continued across symphysis above, but with a symphysial gap below. No incisor-like teeth. Vomer slightly roughened. No palatine teeth. Gill-membranes free from isthmus at their posterior margin, connected with it anteriolaterally. Gill-rakers about 10 on lower limb of first branchial arch.
Humeral process weakly granulated. No axillary pore. Vent between middle of ventral fins. Dorsal fin with rounded tip, its origin nearer pectorals than ventrals, its spine granular anteriorly and without posterior serration. Adipose dorsal well developed, situated above anal fin, its base subequal to that of first dorsal. Pectoral long and pointed above, excavated at middle of margin (the right pectoral fin has healed after injury and is not normal). Pectoral spine similar to dorsal spine. Ventral long, reaching anal. Caudal forked, outer rays three times length of inner ones, lobes pointed.


Described and figured from a gutted specimen, Australian Museum regd. No. 3354, 365 mm in standard length and 1 ft 5.7 in. in total length. This is larger than specimens hitherto described so that the slight differences noted are evidently due to growth.

Locality No. 4; 23 vii, 1954.

Family Melanotaenidae.

Genus Rhombosoma Regan, 1914b.


General characters as described by Herre (1935: 400 and 1936 445, fig. 47) but with anal origin farther back.

D.i, 4 (in one case iv) /i, 16 to 17; A.i, 20 to 22; P.i, 12 to 13. Sc, 32 to 37. Tr. 9 to 11. Predors. 14 to 16.


Described from five specimens (Australian Museum regd. Nos. IB. 3344, 3346 to 3349), 75 to 104 mm in standard length.

Locality No. 4, 21 vii, 1954. The Australian Museum has some smaller examples from the Bulolo goldfields.

Genus Anisocentrus Regan, 1914b.

*Anisocentrus campsi*, sp. nov. (Figure 1.)


Head (14 mm) 4, depth (15) 3.7 in standard length (56). Snout (4) less than eye (5) which is 2.8 in head and equal to the maxillary, interorbital, and depth of caudal peduncle (5). Length of caudal peduncle from end of anal (9 mm), length of pectoral (10) equal to head without snout.

Body compressed. Scales large, regular, very slightly crenulate. Caudal peduncle longer than deep. Anterior dorsal and anal rays much longer than posterior ones. Length of pectoral shorter than or equal to that of head without snout, its lower rays very short. Origin of anal below first dorsal fin. Caudal with procurent spines.

General colour in alcohol light yellow, with brownish edges to dorsal scales and a dusky lateral band. Eye blue. Paired fins plain, others infuscated. Anal fin light with blackish edge.

Described from the holotype (Australian Museum regd. No. IB 3337), a specimen 56 mm in standard length or 69 mm (2.7 in) overall. A smaller paratype (IB. 3342), 50 mm in standard length, shows only slight variation, as follows:

D, 5/1, 13; P, 12. Head and depth each 3.8 in standard length. Snout (4 mm) equal to eye and interorbital, 3.2 in head; less than maxillary (4.5) which equals depth of caudal peduncle. Pectoral (8) less than head without snout (9.5).


Named in honour of Mr. Norman Camps, formerly a member of the staff of the Australian Museum, who collected fishes from the Jimmi River when associated with Mr. E. Troughton.

Figure 1.


Family Teraponidae.

Genus Terapon Cuvier, 1816, sensu lato.

Terapon sp. juv.

Three small specimens, 16 to 28 mm long, from the Jimmi River, 1,200 ft, 33 miles N.E. of Mount Hagen airstrip, New Guinea (Locality No. 4), are too juvenile for satisfactory identification. An attempt was made to transport these alive by air but the fishes died.
Family Apogonidae.
Genus Apogon Lacépède, 1802, sensu lato.
Apogon abo Herre.


Three (IB. 3334-5 and 3335), 39 to 105 mm. in standard length, from middle Jimmi River, 20 vii 1954. The characteristic oblique bands are faint in young specimens.

Family Gobiomorphidae.
Genus Mogurnda Gill, 1863.

Mogurnda bloodi, sp. n.

Described from the holotype of the species (Australian Museum regd. No. IB. 3345), a specimen 116 mm in standard length or 5.8 in. overall. It is near the type-species, M. mogurnda (Richardson, 1844), but distinguished mainly by the high number of predorsal scales. Twenty-seven in this one, 15 to 24 in Australian M. mogurnda and 14 to 17 in southern Papuan examples. Named after Captain Ned B. Blood, noted New Guinea naturalist.

Differs from M. aurifodinae Whitley, 1938 and 1939 (types compared directly), from Bulolo goldfields, in having fewer fin-rays and more predorsal scales and in proportions.

M. variegata Nichols, 1951, of which the Australian Museum has a specimen collected by Mr. P. Hinds at the type-locality (Lake Kutuba), has more pointed head and conspicuously banded coloration; the colours of our specimen, when fresh, were as follows:

Creamy-yellow with the back and top of head dark brown. A dark-brown stripe, with irregular edges, along sides joins the back-stripe before the root of the tail. Eye bluish. Two oblique brown stripes on cheeks. Chin yellow. Fins yellow, the dorsal and caudal infuscated with greyish and the anal with dusky border. No ocelli on top of head.

Genus Ophiocara Gill, 1863.

Ophiocara aporos hoedtii (Bleeker).

Eleotris aporos Bleeker, 1854a: 59. Sindangole and Ternate.
Eleotris hoedtii Bleeker, 1854b: 456 and 496. Ambolins.
Ophiocara aporos Roumains, 1953: 346, fig. 84 (q.v. for refs. and synon.).

One specimen, 2 inches overall (IB. 3343).

Locality No. 4.

Ground colour in alcohol white to pale yellow overlaid with dark greyish-brown at edges of dorsal scales, like a network. A brown lateral stripe, darkest posteriorly, ends in a black blotch on caudal rays. Head dusky brown above, white below with black spots. Fins dusky brown (except basal halves of ventrals and anal which are white); caudal with dark spots. Eye blue.
Family GOBIIDAE.

Genus Glossogobius Gill, 1862.

Glossogobius brunonoides (Nichols).

Ground colour yellowish, plain on ventral surface, and on pectoral base and axil, but elsewhere densely overlain with brown or dark-brown markings. Sides of head with dark-brown spots some of which coalesce on the cheeks to form discontinuous longitudinal bands passing between rows of mucus-pores. Top of head dusky. Edges of most scales brown. A series of ill-defined cross-bars on body passing through a median row of conspicuous dark blotches on each side; the last blotch forms a blackish mark at root of caudal fin. Eye dull blue. Fins all dark brown, the anal lighter proximally. An indistinct dark-grey mark near base of upper pectoral rays. Both dorsons and the caudal fin with conspicuous dark spots. One or two black blotches on posterior membranes of first dorsal fin notably conspicuous.

Three specimens (IB. 3336, 3339 and 3341), 86, 91 and 88 mm in standard length respectively.

Locality.—No. 4, 21 vii 1954.

Agree well with Nichols' description of brunonoides, differing only in having maxillary reaching front instead of middle of eye; narrower interorbital and slightly shorter caudal. Differs from G. gutta (H. Buch.) in having more dorsal rays.

SUMMARY.

Freshwater fishes collected by members of the Australian Museum staff in the interior of New Guinea are catalogued, one Anisocentrus and one Mogurnda being described as new species. References supply a bibliography of the freshwater fishes of Papuan-New Guinea.

REFERENCES.


SIMPSON, C. 1954. Adams & Pianus. (Sydney: Angus & Robertson.)[Good historical and general account of the locality.]


EXPLANATION OF PLATE 2.


Photo.—Eudice Slater.
