

LIST OF FISHES COLLECTED IN THE RIVER AT BUYTEN-  
ZORG, JAVA, BY DR. DOUGLAS HOUGHTON CAMPBELL.

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In the summer of 1906, Dr. Douglas Houghton Campbell, professor of botany in Stanford University, made a visit to the famous botanic garden at Buytenzorg, in Java. While there he obtained a small but finely preserved collection of the river fishes, recorded in the present paper. A series of specimens is in the United States National Museum and in the museum of Stanford University. One species is apparently new to science, *Glossogobius campbellianus*.

Family MONOPTERIDÆ.

1. MONOPTERUS ALBUS (Zuiewu).

Length of head, 10.20 in distance between tip of snout and vent; length of tail, 2.50 in distance anterior of vent; eye 8 in head, midway between tip of snout and angle of mouth; teeth small, conical, in bands tapering toward angle of mouth; palatine teeth similar to those of jaw; tail tapering and narrow; origin of dorsal above vent; color in spirits, greenish above, lighter below, some small dark specks on head. One specimen, length 12.50 inches.

Family CLARIIDÆ.

2. CLARIAS MAGUR (Buchanan-Hamilton).

*Macropteronotus magur* BUCHANAN-HAMILTON, Fishes, Ganges, pp. 146, 374, pl. xxvi, fig. 45.

*Clarias magur* CUVIER and VALENCIENNES, Poiss., XV, p. 283.—GÜNTHER, Cat., V, p. 17.

*Clarias batrachus* BLEEKER, Atl. Ich., II, p. 103, pl. xcvi, fig. 2; Java (not *Silurus batrachus* Linnaeus, which is *Clarias fuscus* Lacépède).

Head 5 in length to base of caudal; depth 6.50; eye 9 in head. D. 64; A. 52; dorsal fin not attached to caudal; vomerine teeth in united band; maxillary barbel extending to posterior third of pectoral or beyond.

Four specimens, length, 2.5 to 8 inches.

## Family SILURIDÆ.

3. *OMPOK BIMACULATUS* (Bloch).

*Silurus bimaculatus* BLOCH, *Ausl. Fisch.*, VIII, p. 24, pl. CCCLXIV (Malabar).

*Ompok siluroides* LACÉPÈDE, *Poiss.*, V, p. 50.

*Callichrous bimaculatus* BLEEKER, *Atl. Ich.*, p. 84, pl. LXXVII, fig. 3 (Java).—

DAY, *Fishes of India*, p. 476, pl. CX, figs. 4 and 5.—GÜNTHER, *Cat.*, V, p. 45.

Head 4.60; depth 4.50; eye 5.50 in head; snout 4; D. 4; A. 62; V., 8; bands of fine, sharp-pointed teeth in jaws; vomerine teeth in a single small patch on each side; maxillary extending to anterior margin of eye, lower jaw projecting; a single maxillary barbel on each side, the tip of which extends to near posterior end of pectoral fin; origin of dorsal fin directly above origin of ventrals; distance from tip of snout to origin of dorsal, 2 in distance from origin of dorsal to end of caudal vertebrae.

Color in spirits, a dull grayish, a round dusky spot on anterior of body slightly posterior to origin of lateral line.

Two specimens, length 7.20–8.20 inches.

The name *Ompok* has priority over *Callichrous*.

4. *HYPSELOBAGRUS MACRONEMUS* (Bleeker).

*Bagrus macronemus, singaringan*, and *heterurus* BLEEKER, *Verh. Bat. Gen.*, XXI, 1 *Silur.*, 1846, p. 22 (Java).

*Hypslobagrus macronema* BLEEKER, *Atl. Ich.*, II, p. 58, pl. LXXIII (Java).

Head 4.50; depth 4.20; eye 4 in head; snout 2.40; interorbital 3; D.; I. 7; A. 11; adipose fin very long, its base 2.14 in length without caudal; 4 barbels to each side, the maxillary barbels extending to origin of anal fin; vomerine teeth united in a single band, similar to teeth in jaws; origin of ventrals on a line with origin of adipose dorsal; first spine of pectorals slightly serrate.

One specimen, length 8.20 inches.

5. *HEMIBAGRUS PLANICEPS* (Kuhl and Van Hasslt).

*Bagrus planiceps* CUVIER and VALENCIENNES, *Nat. Hist. Poiss.*, XIV, p. 421 (Java).

*Hemibagrus planiceps* BLEEKER, *Atl. Ich. Silur.*, p. 56, pl. LXXI (Java).

*Macrones planiceps* GÜNTHER *Cat.*, V, p. 81 (Java and Sumatra).

Head 4; depth 6.10; eye 6 in head; snout 2.75; interorbital 3; D. I, 8; A., 13; base of adipose fin, 1.50 in head; barbels, 4 on each side, maxillary barbels extending to dorsal fin; vomerine teeth in a united band; first spine of pectoral serrate; first dorsal spine slightly serrate.

Color in spirits, grayish, an indistinct dusky spot on sides near origin of lateral line.

Six specimens, length 5 to 9.75 inches.

Family COBITIDÆ.

6. NEMACHEILUS FASCIATUS (Kuhl and Van Hasselt).

*Nemacheilus fasciatus* KÜHL and VON HASSELT, *Algem. Konst. Letterb.*, XI, 1833, p. 133.—BLEEKER, *Atl. Ich.*, p. 70, pl. CIII, fig. 7.—GÜNTHER, *Cat.*, VII, p. 349 (Java).

*Cobitis fasciata* CUVIER and VALENCIENNES, *Poiss.*, XVIII, p. 18.

Head 4.50; depth 5; eye 4.10 in head; snout 2.45; interorbital 2.45; D. 12; A. 7; barbels 5, the maxillary pair scarcely reaching opercle; origin of dorsal in line with origin of ventrals.

Color in spirits, body with 15 to 20 vertical yellowish bands; base of caudal with dark blotch or band; some specimens with a dusky spot on anterior of dorsal.

Twenty-six specimens, length 1.25 to 2.50 inches.

7. LEPIDOCEPHALICHTHYS HASSELTII (Cuvier and Valenciennes).

*Cobitis hasseltii* CUVIER and VALENCIENNES, *Poiss.*, XVIII, p. 56.

*Lepidocphalichthys hasseltii* BLEEKER, *Atl. Ich.*, III, p. 13, pl. CIII, fig. 2 (Buytenzorg, Java).

Head 5; depth 5.25; eye 3.50 in head; snout 2.75; D. 8; A. 7; caudal truncate; barbels present.

Color, in spirits, yellowish, mottled with brownish blotches above; a narrow dusky median line on sides; dorsal and caudal with fine dots; a dusky line on side of snout.

Family CYPRINIDÆ.

8. CYPRINUS CARPIO (Linnæus).

Three specimens of the common carp. A second specimen seems to belong to the variety called *Cyprinus flavipinna* by Doctor Bleeker.<sup>a</sup>

Head 3.20; depth 3; eye 5 in head; snout 2.85; interorbital 2.85; D. 20; A. 8; scales 6-34-5.

Color in spirits, yellowish, darker above.

9. HAMPALA MACROLEPIDOTA (Kuhl and Van Hasselt).

*Capoeta macrolepidota* CUVIER and VALENCIENNES, *Poiss.*, XVI, p. 280, pl. CCCLXXVII.

*Hampala macrolepidota* BLEEKER, *Atl. Ich.*, III, p. 112, pl. XXXVIII, fig. 2 (Java).

*Barbus hampal* GÜNTHER, *Cat.*, VII, p. 139.

Head 3.50; depth 4; eye 4.85 in head; snout 3.30; interorbital 3.50; scales 4-28-5; D. 12; A. III, 5.

<sup>a</sup> *Atl. Ich.*, III, p. 74, pl. CVIII, fig. 3.

Color in spirits dull yellowish; upper and lower margin of caudal black; front margin of dorsal black; a large dusky blotch on sides below anterior portion of dorsal.

Three specimens, length 3 to 7.50 inches.

This species belongs to the genus or section *Hampala*, distinguished by the form of the mouth, which is larger than usual in *Puntius* and *Capota*.

10. **BARBODES RUBRIPINNIS** (Kuhl and Van Hasselt).

*Barbus rubripinnis* (KUHLE and VAN HASSELT), CUVIER and VALENCIENNES, Poiss., XVI, p. 149.—GÜNTHER, Cat., VII, p. 116.

*Puntius rubripinnis* BLEEKER, Atl. Ich., III, pl. CXXXIV, fig. 3.

Head 4.20; depth 2.60; eye 4.50 in head; snout 3.40; interorbital 2.10; D. 11; A. 9; third dorsal ray strong and serrate behind; scales 5-32-5; barbels 4; the upper pair one-half length of lower; lips smooth.

Color in spirits, yellowish, slightly darker above; an indistinct dusky blotch on caudal peduncle.

Two specimens, length 3.25 to 7 inches.

*Barbodes* is distinguished from *Puntius* (*Systomus*) by the presence of four barbels.

11. **BARBODES OBTUSIROSTRIS** (Van Hasselt).

*Barbus obtusirostris* (VAN HASSELT) CUVIER and VALENCIENNES, Nat. Hist. Poiss., XVI, p. 167 (Java).—GÜNTHER, Cat., VII, p. 121 (Java).

*Puntius obtusirostris* BLEEKER, Atl. Ich., IV, p. 106, pl. CXXXIII, fig. 1.

Head 4.10; depth 2.60; eye 3.25 in head; snout 3.30; interorbital 2.75; D. 11; A. 12; scales 5-26-3; origin of dorsal on a line with origin of ventral; third dorsal ray strong and denticulate. Color in spirits, yellowish, slightly darker above tip of dorsal and margin of caudal dusky.

Four specimens, length 4.25 to 5 inches.

12. **BARBODES BINOTATUS** (Kuhl).

*Barbus binotatus* and *B. maculatus* CUVIER and VALENCIENNES, Poiss., XVI, pp. 168-195 (Java).

*Barbus maculatus* GÜNTHER, Cat., VII, p. 123.

*Barbus microps* GÜNTHER, Cat. VII, p. 124 (Java).

Head 3.10; depth 3.10; eye 3 in head; snout 4; D. 11; A. 8; scales 5-22-3; barbels 4; origin of dorsal over origin of ventrals.

Color in spirits, yellowish white, darker above; a round black spot on middle of caudal peduncle, another at anterior base of dorsal, and one at anterior base of anal; a broken indistinct dusky line along middle of sides, this line made up of more or less numerous black dots. These markings disappear more or less completely with age.

Numerous specimens, length  $1\frac{1}{4}$  to 3 inches.

There seems to be no important reason for separating the Java species, *Barbodes microps* (Günther), from the common East Indian species of this type, for which the oldest name seems to be *binotatus*.

13. ANEMATICTHYS APOGON (Kuhl).

*Barbus apogon* CUVIER and VALENCIENNES, Poiss., XVI, p. 392 (Java).—GÜNTHER, Cat., VII, p. 150 (Java).

*Cyclocheilichthys apogon* BLEEKER, Atl. Ich., III, pl. cxxx1, fig. 3 (Java).

Head 3.50; depth 2.80; eye 3.30 in head; snout 3.30; interorbital 3; D. 12; A. 8; scales 34; origin of dorsal behind origin of ventrals; osseous dorsal ray serrate, its length about equal to head; no barbels.

Color in spirits, yellowish, indistinct dusky streaks on back and indistinct dusky blotch on caudal peduncle.

Numerous specimens, length 1-5 inches.

*Anematichthys* differs from *Cyclocheilichthys* in having no barbels.

14. OSTEOCHILUS HASSELTII (Cuvier and Valenciennes).

*Rohira hasseltii* CUVIER and VALENCIENNES, Poiss., XVI, p. 274.—BLEEKER, Atl. Ich., III, p. 66, pl. cxv, fig. 1 (Java).

*Osteochilus hasseltii* GÜNTHER, Cat., VII, p. 41 (Java).

Head 4.25; depth 3; eye 4 in head; snout 2.75; interorbital 2; D. 17; A. III, 5; scales 6-35-5; barbels 4; lips fringed.

Color in spirits, yellowish, a dusky line along each row of scales, a round dusky spot on caudal peduncle.

Two specimens, length 3.75-5.50 inches.

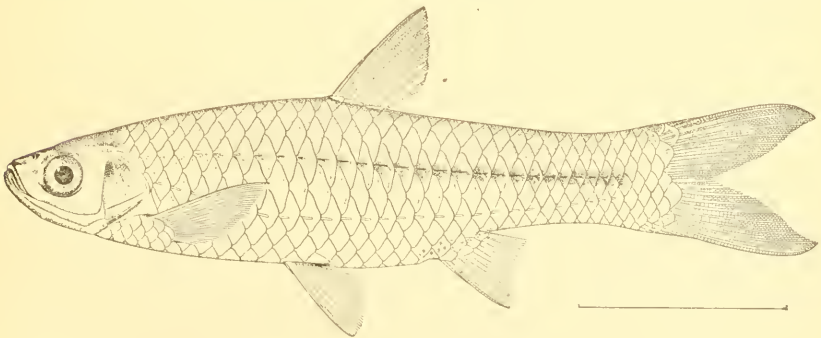


FIG. 1.—RASBORA LATERISTRATIATA.

15. RASBORA LATERISTRATIATA (Van Hasselt).

*Leuciscus lateristriatus* VAN HASSELT, Konst. Allg. Letterb., 1823, II, p. 132.

*Rasbora lateristriata* BLEEKER, Atlas Cyprin., p. 121, pl. xvii, fig. 2 (Java and Sumatra).—GÜNTHER, Cat., VII, p. 195.

Head 4.50 in length to base of caudal; depth 3.75; eye 3.30 in head; snout 3.50; interorbital 2.40; D. 9; A. 7; scales 5-30-2; lateral line low; mouth oblique, the maxillary scarcely extending to eye; no bar-

bels; gill rakers short, less than 10 on lower limb; origin of dorsal behind ventrals, slightly nearer tip of snout than base of caudal; longest dorsal ray 2.50 in distance from tip of snout to origin of dorsal; origin of anal nearer to origin of ventral than base of caudal; base of anal 2.50 in head; ventrals midway between posterior margin of opercles and origin of anal, their length 1.30 in head; pectorals about equal to length of head; caudal emarginate, slightly longer than head.

Color in spirits, yellowish white, a brown stripe on middle of sides, broad and distinct on posterior half of body and fading out anteriorly, scarcely showing on anterior third of body; fins uniform. None of our specimens show any trace of a dark spot above the vent. This is probably to be seen on adults only. Nineteen specimens, length 1.25 to 3.75 inches.

### Family PECILIIDÆ.

#### 16. APLOCHEILUS PANCHAX (Buchanan-Hamilton).

*Esox panchax* BUCHANAN-HAMILTON, Fishes, Ganges, pp. 211, 380, pl. III, fig. 69.

*Panchax buchmanii* CUVIER and VALENCIENNES, Poiss. XVIII, p. 283.—BLEEKER,

Atl. Ich., III, p. 141, pl. XLIII, fig. 3 (Buytenzorg, Java).

*Haplochilus panchax* GÜNTHER, Cat., VI, p. 311.

Head 3.10; depth 4; eye 3.10 in head; snout 2.50; interorbital 2; D. 7; A. 14; scales 24; fine teeth in jaws; snout flat and somewhat spatulate.

Color in spirits, yellowish brown, a large distinct black ocellus on base of dorsal, caudal rounded.

Numerous specimens, length 1-1.40 inches.

### Family EXOCETIDÆ.

#### 17. DERMATOGENYS FLUVIATILIS (Bleeker).

*Hemirhamphus fluviatilis* BLEEKER, Nat. Tydschr. Ned. Ind., I, p. 95.—GÜNTHER, Cat., VI, p. 275.

Head 4; depth 7.50; eye 4 in head; snout 2.50; its length greater than width, length of the projecting under jaw from tip of upper 1.75 in head; D. 9; A. 14; origin of dorsal over 5th ray of anal.

Ten specimens, very young, length 1 to 2 inches.

### Family OPHICEPHALIDÆ.

#### 18. OPHICEPHALUS STRIATUS Bloch.

*Ophicephalus striatus* BLOCH, Ichth., p. 359.—BLEEKER, Atl. Ich., IX, pl. CCCXCIX, fig. 1.—GÜNTHER, Cat., III, p. 474 (Java).

Head 3.10; depth 5.75; eye 8 in head; snout 5.50; interorbital 4; D. 42; A. 27; scales 5-57-8.

Color in spirits whitish below, brownish gray above; a dusky stripe back from angle of mouth; vertical fins with more or less distinct oblique stripes.

Three specimens, length, 5 to 8.25 inches.

19. *OPHICEPHALUS GACHNA* (Buchanan-Hamilton).

*Ophicephalus gachna* BUCHANAN-HAMILTON, Fishes Ganges, p. 68, pl. XXI, fig. 21.—GÜNTHER, Cat., III, p. 471.

Head 4; depth 6; eye 7.50 in head; snout 5; interorbital 3.20; D. 33; A. 22; scales 5-43-6.

Color in spirits, brownish, indications of darker bands over back; vertical fins margined with white; pectorals with dusky stripes.

Six specimens, length 2.25 to 6 inches.

Family ANABANTIDÆ.

20. *ANABAS SCANDENS* (Daldorff).

*Perca scandens* DALDORFF, Trans. Linn. Soc., III, p. 62.

*Anabas scandens* GÜNTHER, Cat., III, p. 375.—DAY, Fishes of India, p. 370, pl. LCVIII, fig. 3.

Head 3; depth 3; eye 4.10 in head; snout 5; D. XVII, 8; A. IX, 9; scales 30.

Color in spirits, brownish, black at posterior margin of opercle. One specimen, length 4.50 inches.

Family OSPHIROMENIDÆ.

21. *OSPHROMENUS STRIATUS* (Bleeker).

*Trichopus striatus* BLEEKER, Batav. Gen., XXIII, p. 11.

*Osphromenus striatus* GÜNTHER, Cat., III, p. 386.

Head 2.50; depth 3; eye 3.30 in head; snout 3; D. III, 6; A. VII, 25; scales 28; outer rays of ventrals greatly prolonged.

Body with four longitudinal dusky bands; in some specimens the two median bands are more distinct than in others, the bands broadening into a dusky blotch at upper part of opercles, a dusky spot on caudal peduncle.

Fifty-seven specimens, length 1 to 2 inches.

22. *OSPHROMENUS TRICHOPTERUS* (Pallas).

*Labrus trichopterus* PALLAS, Spicilegia, VIII, p. 45.

*Osphromenus trichopterus* GÜNTHER, Cat., III, p. 384 (Java).

Head 3.50; depth 2.60; eye 3.50 in head; snout 4; interorbital 2.75; D. VII, 6; A. XI, 36; scales 40; ventrals consisting of two long filaments which extend to caudal fin.

Color in spirits, yellowish brown, a black spot on middle of sides, another on sides of caudal peduncle; caudal anal soft; anal with white spots.

Ten specimens, length 1.50 to 3.25 inches. This is the variety called *koelreuteri* by Cuvier and Valenciennes.<sup>a</sup>

### Family GOBIDÆ.

#### 23. GLOSSOGOBIUS TAMBUJON (Bleeker).

*Gobius tambujon* BLEEKER, Banten, p. 319 (Java).

*Gobius tambujon* GÜNTHER, Cat., III, p. 32.

Head 3.30; depth 4.75; eye 3 in head; snout 4; D. VI-7; A. 7; scales 24; head naked; maxillary extending to a line with anterior part of eye; tongue emarginate; width of head greater than its depth; depth of head 1.50 in its length; interorbital space equal to width of pupil; teeth minute.

Color whitish, with five indistinct dusky bands over back—equal in width to the interspaces, five dusky blotches on sides alternating with the bars of back, dusky lines radiating from eye.

Forty-one specimens, length 1-1.50 inches.

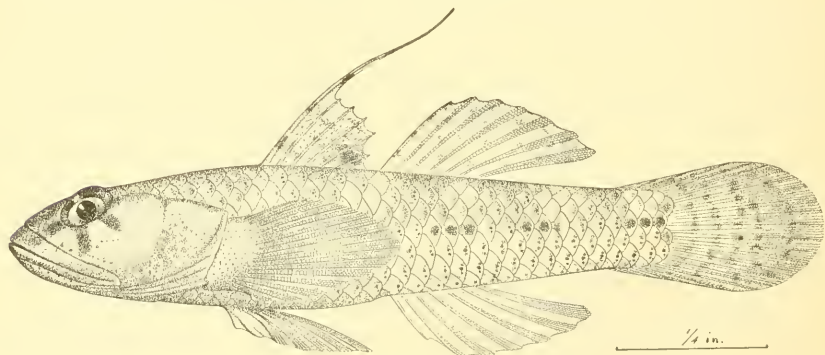


FIG. 2.—GLOSSOGOBIUS CAMPBELLIANUS.

#### 24. GLOSSOGOBIUS CAMPBELLIANUS (Jordan and Seale, new species).

Head 3 in length to base of caudal; depth 5; eye 4 in head; D. VI-6; A. 7; scales 23; tongue notched; cheeks tumid; maxillary about 2 in head, extending to posterior margin of eye; interorbital narrow; head naked, its width 1.20 in its length, its depth 2; mouth wide, oblique, lower jaw slightly projecting; lips narrow; snout blunt, its length 4.20 in head; isthmus very narrow, teeth small, sharp-pointed, no canines; the gill openings wide; 2 longitudinal rows of small warts on cheeks, about 3 vertical rows on opercles; top of head smooth and

<sup>a</sup>Nat. Hist. Poiss., pl. cxcix.



flat; origin of dorsal slightly posterior to axis of ventral; second dorsal spine long and thread-like, extending to behind second dorsal; base of second dorsal 2.50 in head, its longest ray 1 in head; origin of anal midway between posterior end of maxillary and base of caudal, its longest ray 1.75 in head; tip of ventral scarcely reaching origin of anal, its longest ray 1.20 in head; pectoral 1.15 in head, no free rays; caudal rounded, its length 1.10 in head.

Color in spirits, greenish; five dusky bars over back which extend obliquely forward on sides, a row of five dusky elongate spots on median line; three or four short dusky lines radiate from eye; caudal with about six dusky vertical lines, other fins washed with dusky.

Two specimens, length 1.10 to 1.50 inches.

The type is No. 61051 U. S. N. M. Cotype is No. 20160 Stanford University, from Buytenzorg, Java, collected by Dr. D. H. Campbell.

This species seems to belong to *Glossogobius*, having the large mouth, notched tongue, and narrow isthmus of *Glossogobius brunneus* and *G. giuris*. The scales are, however, much larger than in the latter species, and the soft dorsal and anal shorter. *Gobius melanurus* Bleeker, scantily described by Bleeker, agrees with this species in scales and fin rays. The color is different, however, and the mouth is not described.