

II. GYMNOTONTES. Supraclavicle oblique or nearly horizontal; lower three pterygials enlarged and immovably united to the coraco-scapular cartilage; anterior vertebræ with bifid divergent neural spines; pelvis absent.

- Beak with a median suture; interoperculum not connected with suboperculum; three gills; caudal fin present; body inflatable ..... 5. *Tetrodontidæ*.  
 Beak without median suture; interoperculum attached posteriorly to suboperculum; three gills; caudal fin present; body inflatable ..... 6. *Diodontidæ*.  
 Beak without median suture; interoperculum attached posteriorly to suboperculum; four gills; caudal fin absent, the body non-inflatable, truncate posteriorly, with the dorsal and anal fins confluent ..... 7. *Molidæ*.

XX.—*On a Collection of Fishes made by Mr. John Graham at Yunnan Fu.* By C. TATE REGAN, B.A.

THE British Museum has received from Mr. John Graham a small collection of fishes from the large lake "Sea of Tien," on the north shore of which the city of Yunnan Fu is situated. This lake is at an altitude of about 6000 feet above the sea-level, and its overflow runs northwards by the Pulu-shing to the Yang-tse-kiang. Of thirteen species represented, eight are described below as new to science. The complete list is as follows:—

1. *Cyprinus carpio*, L.

- The two specimens received both lack the anterior barbel\*, and should perhaps be referred to a distinct subspecies on this account. Six examples in the British Museum Collection, from the Southern Shan States, with large scales, 26–29  $\frac{4-5}{6-7}$ , may also be regarded as belonging to a geographical race or subspecies.

2. *Barbus Grahami*, sp. n.

Depth of body  $3\frac{1}{2}$  times in the total length, length of head  $3\frac{3}{4}$  times. Snout nearly twice as long as the eye, the diameter of which is  $5\frac{2}{3}$  times in the length of head and  $1\frac{1}{3}$  times in the interorbital width. Mouth subterminal, maxillary not extending to below the eye. Two barbels on each side, the anterior  $\frac{3}{8}$ , the posterior nearly  $\frac{1}{2}$  the length of head.

\* Some of the specimens figured in Reeve's drawings of Chinese fishes have apparently no anterior barbel.



Sc.  $110 \frac{23}{20}$ , 14 between lateral line and root of ventral; 1. lat. 70. D. III 7, the third simple ray a strong spine, with finely serrated posterior edges, the first branched ray the longest,  $\frac{2}{3}$  the length of head; origin of dorsal equidistant from anterior nostril and base of caudal. A. III 5. Pectoral not reaching ventral. Caudal forked, the upper lobe slightly the longer, a little less than the length of head. Caudal peduncle  $1\frac{3}{4}$  times as long as deep. Brownish, with silvery reflections, lighter below.

A single specimen, 170 mm. in total length.

### 3. *Barbus yunnanensis*, sp. n.

Depth of body  $3\frac{3}{4}$  times in the total length, length of head  $4\frac{2}{3}$  times. Snout  $1\frac{2}{3}$  times as long as eye, the diameter of which is 5 times in the length of head and  $1\frac{3}{4}$  times in the interorbital width. Mouth subterminal; maxillary not extending to below the eye. Two barbels on each side, the anterior  $\frac{1}{5}$ , the posterior  $\frac{2}{7}$  the length of head. Sc.  $46 \frac{6\frac{1}{2}}{7\frac{1}{2}}$ , 4 between lateral line and root of ventral. D. III 8, the third simple ray a strong spine with serrated posterior edges, the first branched ray the longest,  $\frac{4}{5}$  the length of head; origin of dorsal equidistant from tip of snout and base of caudal. A. III 5. Pectoral not reaching ventral. Caudal forked, the lobes as long as the head. Caudal peduncle  $1\frac{2}{3}$  times as long as deep. Brownish, with silvery reflections, lighter below; membrane of outer half of dorsal and anal blackish.

A single specimen, 210 mm. in total length.

### 4. *Achilognathus barbatulus*, Gthr.

### 5. *Barilius polylepis*, sp. n.

Depth of body  $4\frac{2}{3}$  times in the total length, length of head  $4\frac{2}{3}$  times. Snout nearly as long as the eye, the diameter of which is  $3\frac{2}{3}$  times in the length of head and is nearly equal to the interorbital width. Mouth small, oblique, the maxillary not extending to below the eye; no barbels. Sc.  $70 \frac{11\frac{1}{2}}{5\frac{1}{2}}$ , 3 between lateral line and root of ventral. D. III 7, its origin a little behind that of the ventral and nearly equidistant from tip of snout and base of caudal. A. III 13. Pectoral extending  $\frac{3}{5}$  of the distance from its base to the origin of ventral. Caudal forked. Caudal peduncle twice as long as deep. Brownish above, silvery on the sides and below.

A single specimen, 130 mm. in total length.

Allied to *B. hainanensis*, Blgr., from which it is distinguished especially by the much smaller scales.



6. *Misgurnus anguillicaudatus*, Cantor.7. *Nemachilus pleurotænia*, sp. n.

Depth of body 5 times in the total length, length of head 4 times. Snout nearly as long as the postorbital part of head. Diameter of eye  $4\frac{1}{4}$  times in the length of head and nearly equal to the interorbital width. Nostrils well separated, the anterior tubular. Rostral barbels shorter than the one at the angle of the mouth, which is  $\frac{1}{2}$  the length of head. Scales minute; thorax naked; lateral line present anteriorly, disappearing before origin of dorsal. D. III 8, its origin equidistant from anterior nostril and base of caudal, above or slightly in advance of the origin of ventral. A. III 5. Pectoral extending  $\frac{2}{3}$  of the distance from its base to origin of ventral. Ventral with 9 rays. Caudal bilobed. Caudal peduncle  $1\frac{1}{5}$ – $1\frac{1}{3}$  times as long as deep. Back with some dark spots or markings; a blackish longitudinal stripe along the middle of the side; fins immaculate.

Two specimens, 46 and 51 mm. in total length.

8. *Nemachilus nigromaculatus*, sp. n.

Depth of body 4– $4\frac{1}{4}$  times in the total length, length of head  $3\frac{2}{5}$  times. Snout shorter than the postorbital part of head. Diameter of eye  $4\frac{3}{4}$ – $5\frac{1}{5}$  times in the length of head, interorbital width 3– $3\frac{1}{4}$  times. Nostrils well separated, the anterior tubular. Rostral barbels shorter than the one at the angle of the mouth, which is less than  $\frac{1}{3}$  the length of head. Scales very small, not imbricated; thorax and abdomen naked; lateral line absent. D. III 8, its origin equidistant from middle of eye and base of caudal, a little in advance of the origin of ventral. A. III 5. Pectoral extending  $\frac{1}{2}$ – $\frac{3}{5}$  of the distance from its base to origin of ventral. Ventral with 8 rays. Caudal truncate. Caudal peduncle as deep as or deeper than long. Back and sides spotted or marbled with blackish; fins immaculate.

Two specimens, 61 and 77 mm. in total length.

9. *Silurus mento*, sp. n.

Depth of body  $5\frac{1}{4}$ – $5\frac{1}{2}$  times in the total length, length of head 4– $4\frac{2}{3}$  times. Breadth of head  $1\frac{4}{7}$ – $1\frac{2}{3}$  times in its length, diameter of eye  $7\frac{1}{2}$ – $9\frac{1}{2}$  times, interorbital width 3– $3\frac{1}{2}$  times, length of snout  $3\frac{2}{3}$ –4 times. Lower jaw projecting, the mouth superior; vomerine teeth in two separate patches; 4 barbels, the maxillary ones extending to the base of pectoral



or beyond, the mental ones nearly  $\frac{2}{3}$  as long. D. 4, its distance from the tip of snout  $\frac{1}{2}$  its distance from the caudal. A. 71-73, continued on to the caudal. P. I 12, the spine stout, anteriorly somewhat roughened or slightly serrated, posteriorly with a series of 6-9 fairly strong teeth, its length a little more than  $\frac{1}{2}$  that of the soft part of the fin, which extends nearly to the origin of ventral. Ventrals with 10 rays, originating just in front of the vent and extending to the third or fourth ray of anal. Caudal truncate rounded. Greyish, clouded with blackish.

Two specimens, 115 and 215 mm. in total length.

#### 10. *Liobagrus nigricauda*, sp. n.

Depth of body about 6 times in the total length, length of head  $3\frac{2}{3}$ - $3\frac{3}{4}$  times. Breadth of head  $1\frac{1}{8}$ - $1\frac{1}{4}$  times in its length, interocular width  $2\frac{3}{4}$ -3 times, length of snout about  $3\frac{1}{2}$  times. Eyes very small. Jaws equal anteriorly; mouth wide. Post-mental barbel the longest, extending to base of pectoral or a little beyond. D. I 5, the spine concealed in a fold of skin which also extends over the soft rays, about  $\frac{2}{3}$  the length of head; adipose fin low, originating above or a little in advance of the anal and extending on to the procurrent rays of the caudal. A. 15. P. I 7, the spine concealed like that of the dorsal, a little more than  $\frac{1}{2}$  the length of the fin, which is rounded and nearly equal in length to  $\frac{2}{3}$  the length of head, extending  $\frac{1}{2}$  the distance from its base to the origin of ventral. V. 6. Caudal rounded. Greyish, spotted or marbled with darker; dorsal and pectoral in great part blackish; ventrals and anal with or without blackish spots; caudal, in the smaller specimen, with a large median blackish blotch confluent with a semioval blackish basal band, in the larger specimen almost entirely blackish except for two small light areas on the upper and lower margins respectively.

Two specimens, 64 and 96 mm. in total length.

The genus *Liobagrus*, established in 1878 by Hilgendorf for *L. Reinii* from Southern Japan, is allied to *Akysis* and *Acrochordonichthys*, but is distinguished by the truncate or rounded caudal and by the wide gill-openings, which are not restricted from above, whilst the gill-membranes are entirely separate from each other and from the isthmus. *Amblyceps marginatus*, Gthr. (Pratt's 'Snows of Thibet,' Appendix, p. 245, pl. ii. fig. A, 1892), is another species of this genus, differing from the one described above in the coloration, projecting lower jaw, longer barbels, and truncate caudal. *Amblyceps* is distinguished from *Liobagrus* by the nostrils,



which are close together instead of well separated, and by the forked caudal. In *Liobagrus*, as in *Akysis* and *Acrochordonichthys*, and also in *Amblyceps*, the air-bladder is reduced to two small lateral portions enclosed in bone.

11. *Macrones medianalis*, sp. n.

Depth of body  $5\frac{1}{4}$ – $5\frac{1}{2}$  times in the total length, length of head  $3\frac{4}{5}$ – $4\frac{1}{6}$  times. Diameter of eye  $5$ – $6\frac{2}{3}$  times in the length of head, interorbital width  $3\frac{3}{5}$  times, length of snout  $3\frac{1}{4}$  times. Nasal barbel extending beyond posterior border of eye, maxillary barbel to base of pectoral or beyond, post-mental barbel to the edge of the gill-membrane at a point directly posterior to its origin or a little beyond. Upper jaw slightly the longer; width of mouth  $\frac{1}{2}$  the length of head. Upper surface of head covered by skin; supraoccipital process more than twice as long as broad, its length  $\frac{1}{4}$  that of the head; basal bone of the anterior dorsal ray hidden beneath the skin, separated by a short interspace from, or in contact with the supraoccipital process. D. I 7, the spine smooth, equal to  $\frac{2}{3}$ – $\frac{3}{4}$  the length of head; length of adipose fin equal to its distance from the base of middle rays of caudal. A. 17–18. P. I 7, the spine with a series of 5–8 teeth posteriorly, equal in length to that of the dorsal. V. 6. Caudal bilobed. Caudal peduncle twice as long as deep. Greyish, with a few large dark spots or blotches.

Three specimens, 65–128 mm. in total length.

Although with less than 20 anal rays, the relations of this species are with the section *Pseudobagrus*.

12. *Monopterus javanensis*, Lacep.

13. *Ophiocephalus argus*, Cant.

XXI.—*Rhynchotal Notes*.—XXI. By W. L. DISTANT.

HETEROPTERA.

Fam. Capsidæ. (Part II.)

THIS paper concludes the examination of the Capsidæ contained in the British Museum, including Walker's types;



Regan, C. Tate. 1904. "On a collection of fishes made by Mr. John Graham at Yunnan Fu." *The Annals and magazine of natural history; zoology, botany, and geology* 13, 190–194.

**View This Item Online:** <https://www.biodiversitylibrary.org/item/61725>

**Permalink:** <https://www.biodiversitylibrary.org/partpdf/58154>

**Holding Institution**

University of Toronto - Gerstein Science Information Centre

**Sponsored by**

University of Toronto

**Copyright & Reuse**

Copyright Status: NOT\_IN\_COPYRIGHT

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.