

*Two new Fishes from Tonkin, with Notes on the Siluroid  
Genera Glyptosternum, Exostoma, etc.* By J. R. NORMAN.

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THE new species described below form part of a small collection of fishes made by Mr. H. Stevens, under the direction of the Trustees of the Percy Sladen Trust and the Godman Exploration Fund, in the basin of the Red River, Northern Tonkin.

*Discognathus apogon*, sp. n.

Depth of body 5 to  $5\frac{1}{4}$  in the length, length of head  $4\frac{3}{4}$  to 5. Snout rounded, equal to or a little longer than postorbital part of head; diameter of eye  $4\frac{3}{4}$  to 5 in length of head; interorbital region a little convex, its width 2 to  $2\frac{1}{4}$  in length of head. Width of mouth more than  $\frac{2}{3}$  that of head; barbels absent. Central area of disc about  $\frac{1}{3}$  its total width; free border with numerous small papillae. Upper lip feebly papillose, with crenulated margin. Dorsal III 8; a little nearer base of caudal than end of snout; second branched ray longest, as long as or a little shorter than head. Anal II 5. Pectoral shorter than head, extending more than  $\frac{1}{2}$  of distance from its base to pelvics, which reach vent or a little beyond. Caudal deeply emarginate. Caudal peduncle about twice as long as deep. 40—42 scales in a longitudinal series, 5 from origin of dorsal to lateral line, 3 between lateral line and root of pelvic. Dark brown above, yellowish white below, some dark streaks on upper parts of dorsal rays.

Four specimens, 115–123 mm. in total length, from Ngoi-Tio, Col des Nuages, Tonkin (altitude 4500–6500 feet).

Near *D. imberbis*, Vinciguerra, from Burma, which has a larger head, longer snout, shorter postorbital region, central area of disc more than  $\frac{1}{2}$  its total width, and pectorals extending well beyond vent. It may be distinguished from *D. prochilus*, Sauvage, from Sze Ghuen, China, chiefly by the complete absence of barbels.

*Euchiloglanis macrotrema*, sp. n.

Depth of body 8 to 9 in the length, length of head  $4\frac{3}{4}$  to  $5\frac{1}{6}$ . Head about as broad as long. Eyes very small; interorbital

width nearly 4 in length of head. Snout longer than post-orbital part of head. Nasal barbel  $3 \frac{3}{5}$  to  $3 \frac{3}{4}$  in length of head, nearly or quite reaching eye; maxillary barbel reaching level of upper angle of gill-opening; outer mandibular barbel longer than inner, somewhat shorter than nasal barbel. Fold of lower lip interrupted. Width of mouth about  $2 \frac{1}{4}$  in length of head. Lower angle of gill-opening opposite lower end of pectoral base. Dorsal I 6; origin a little in front of extremity of pectoral, equidistant from upper end of pectoral base and middle of pelvic base. Anal 6. Pectoral with 16 branched rays, a little longer than head, not reaching pelvics. Pelvic with 5 branched rays, nearly or quite reaching vent. Caudal truncate. Caudal peduncle  $2 \frac{1}{2}$  to  $3 \frac{1}{4}$  times as long as deep.

Two specimens, 110 and 170 mm. in total length, from Ngoi-Tio, Col des Nuages, Tonkin (altitude 4500-6500 feet).

Near *E. feae*, Vinciguerra, from Upper Burma, differing especially in the larger gill-openings and the more slender caudal peduncle.

Mr. Regan\* has grouped the fishes formerly placed in the genus *Exostoma* of Blyth into three genera—*Parexostoma*, *Euchiloglanis*, and *Exostoma*,—based mainly on differences in the dentition. The types of *Exostoma andersonii*. Day—a species not seen by Regan,—have been redescribed by Hora†; this species appears to me to be sufficiently distinct from the remainder to warrant the erection of a fourth genus for it. These four genera appear to be well defined, and I adhere to the nomenclature of Regan. Hora has proposed to transfer the name (*Glyptosternum* to the group collectively, but his reason for this—that McClelland's description of the pectoral fin of *G. reticulatum* indicates the structure found in these four genera—and in *Pseudecheneis*—seems to me insufficient. He also considered *Exostoma* to be a synonym of *Glyptothorax*, but, as Regan‡ has pointed out, Blyth's description of the genus leaves no doubt that he had before him a fish congeneric with *Exostoma labiatum*. The assumption that the corrugated thorax described by McClelland in *Glyptosternum reticulatum*, and the absence of folds on the thorax of *Exostoma* as described by Blyth, are both the result

\* Ann. & Mag. Nat. Hist. (7) xv. 1905, p. 182.

† Rec. Ind. Mus. xxv. 1923, p. 1.

‡ Ann. & Mag. Nat. Hist. (9) vi. 1923, p. 608.

of preservation in spirit, seems a somewhat insufficient reason for interchanging these generic names.

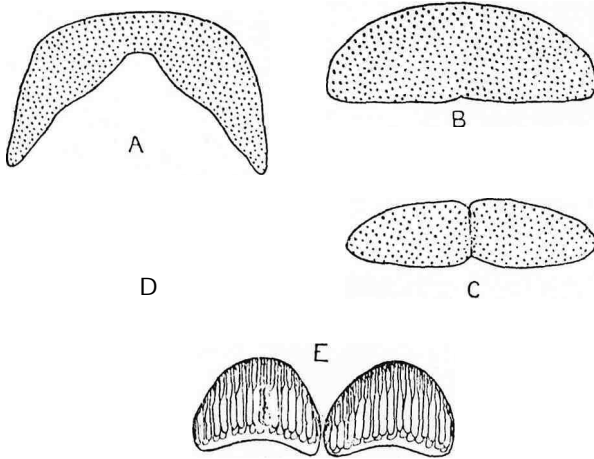
The following synopsis is based on that given by Regan, but has been modified to include all the species now known :—

- I. Teeth, all pointed, those of the upper jaw forming a band which is produced backwards at the sides (figs. 1 A, 2 A) ; gill-openings extending on to the lower surface of the body; fold of lower lip broadly interrupted; pectoral with 11 branched rays ..... PAREXOSTOMA, Regan.
- A. Pectoral extending  $2/3-3/4$  of the distance from its base to the base of pelvics; caudal peduncle 3 times as long as deep ..... [=*P. oschanini*, Herz.] ‡.
- 1. *P. stoliczkæ*, Day
- B. Pectoral extending  $1/2-3/5$  of the distance from its base to the base of pelvics; caudal peduncle twice as long as deep. *P. maculatum*, Regan.
- II. Teeth all pointed, those of the upper jaw forming a band, which is not produced backwards at the sides (figs. 113, 1 C) , gill-openings not extending on to the lower surface of the body; lower lip continuous or not; pectoral with 13-19 branched rays ..... EUCHILOGLANIS, Regan  
[=CHIMARRHICHTHYS, Sauvage]
- A. Fold of lower lip interrupted; pectoral with 13-17 branched rays.
  - 1. Lower angle of gill-opening above base of pectoral spine.
    - a. Pectoral fin extending scarcely  $2/3$  of the distance from its base to base of pelvics; band of teeth in upper jaw partially divided in the centre (fig. 1 C) ; pectoral with 15 branched rays ..... 1. *E. fæve*, Vinciguerra.
    - b. Pectoral fin extending  $3/4$  or more of the distance from its base to base of pelvics; band of teeth in upper jaw not divided.
    - \* Pectoral with 13-15 branched rays; caudal peduncle much longer than deep.
    - †. Width of mouth  $2\ 1/2$  to 3 in length of head; caudal peduncle 2 to  $2\ 2/5$  times as long as deep ..... 2. *E. davidi*, Sauvage.

‡ This species is found in Eastern Turkestan and in the mountain-regions that border it on the south and west. I have compared an example from Kashmir, undoubtedly *P. stoliczkæ*, with others from the Ak Sai River, Eastern Turkestan, and the Upper Amu-Daria, received as *P. oschanini*, and am unable to detect any important differences between them.

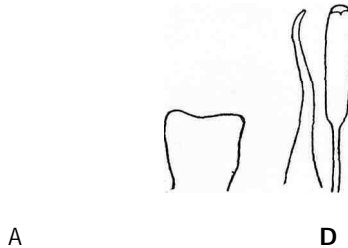
††. Width of mouth 2 to 2 1/3 in length of head; caudal peduncle 3 times as long as deep. 3. *E. myzostoma*, Norman.  
 \*\*. Pectoral with 16-17 branched

Fig. 1.



Dentition of upper jaw of: (A) *Parexostoma stoliczkae*, (B) *Euchiloglanis davidi*, (C) *E. feae* (D) *Glaridoglanis andersonii* (after Hora), (E) *Exostoma vinciguettae*.

Fig. 2.



Isolated tooth of: (A) *Parexostoma stoliczkae*, (B) *Euchiloglanis davidi*, (C) *Glaridoglanis andersonii* (after Hora), (D) *Exostoma vinciguettae*.

- rays; caudal peduncle about as long as deep. . . . . 4. *E. hodgarti*, Hora.  
 2. Lower angle of gill-opening opposite base of pectoral spine . . . . . 5. *E. microtrema*, Norman.

- B. Fold of lower lip continuous; pectoral with 16-19 branched rays.
1. Pectoral with 19 branched rays, extending beyond origin of pelvics . . . 6. *E. macropterus*, Vinciguerra.
  2. Pectoral with 16 or 17 branched rays, not extending beyond origin of pelvics . . . . . 7. *E. blythii*, Day.
- III. Teeth greatly compressed, with apices broad, truncate or notched, those of the upper jaw forming a band which is not produced backwards at the sides (figs. 1.1), 2 C); gill-openings not extending on to the lower surface of the body; fold of the lower lip broadly interrupted; pectoral with 11 branched rays. . . . . GLARIDOGLANIS, gen.nov.  
1. *G. andersonii*, Day.
- IV. Teeth rather large, movable, oar-shaped, flattened distally (fig. 2 D), depressed and directed backwards, arranged in two well-separated bands or patches in each jaw (fig. 1 E); gill-openings not extending on to the lower surface of the body; fold of the lower lip continuous; pectoral with 10-12 branched rays . . . . EXOSTOMA, Blyth.
- A. Caudal fin truncate or very slightly emarginate . . . . . 1. *E. vixiguerrae*, Regan [incl. *E. stuarti*, Hora, and *E. chaudhuri*, Hora].
  - B. Caudal fin forked or rather deeply emarginate.
    1. Pectoral with 10 branched rays . . . . 2. *E. bealmorii*, Blyth.
    2. Pectoral with 13 branched rays . . . . 8. *E. labiatum*, MacClell.

The following species requires a new description :—

*Euchiloglanis davidi*.

*Chimarrichthys davidi*, Sauvage, Rev. et Mag. Zool. xxv. 1874, p. 333; Regan, Ann. & Mag. Nat. Hist. (7) xv. 1905, p. 183.

*Exostoma davidi*, Günther, in Pratt, Snows of Thibet, Appendix, p. 245 (1892).

*Glyptosternum davidi*, Hora, Rec. Indian Mus. xxv. 1923, p. 37.

Depth of body 5 to 6 1/2 in the length, length of head 4 1/6 to 4 3/5. Head about as broad as long. Eyes very small; inter-orbital width 3 1/2 to 3 4/5 in length of head. Snout about as long as postorbital part of head. Nasal barbel 3 3/5 to 3 1/2 in length of head, reaching eye; maxillary barbel short, scarcely reaching beyond lower end of pectoral base; outer mandibular barbel longer than inner, but shorter than nasal barbel. Fold of lower lip widely interrupted. Width of mouth 2 1/2 to 3 in length of head. Lower angle of gill-opening opposite or below the middle of pectoral base. Dorsal I 6; origin above posterior half of pectoral, equidistant from upper angle of

gill-opening and middle of pelvic base. Anal 6. Pectoral with 13 or 14 branched rays, a little longer than head, scarcely reaching pelvics. Pelvic with 5 branched rays, almost reaching vent. Caudal subtruncate. Caudal peduncle 2 to  $2 \frac{2}{5}$  times as long as deep. Uniform pale brownish.

Eastern Tibet.

Described from five specimens, 125-155 mm. in total length, including one of the types of the species.