

Garantiana-like forms with indistinct peripheral break of ribs; no definite break bordered by knobs as in *Garantiana*. Some species from the *niortensis*-beds of Osborne, Dorset, answer to this description.

The new species enumerated as belonging to these genera have not yet been described by Dr. Mascke, but they are promised in an important forthcoming work. Those who know how the present paucity of names for these fossils hampers geological and biological work will earnestly desire that its publication be not delayed.

Besides these genera, that of *Cadomites*, Munier-Chalmas, type *Am. deslongchampsii*, d'Orb., would certainly be added under Mascke's family *Stephanoceratidæ*. To this genus belongs *A. daubenyi*, Gemmellaro, a very rare species for Britain, which has been found in the *truellii*-beds of Burton Bradstock, Dorset; and there are other species not yet named.

It will be seen that Mascke arranges "*Stephanoceras* and allies," from the *Coronatenschichten* only, into 21 genera, of which 11 are new, and that he mentions 292 species, of which 253 are new—that is to say, that in a part only of what was a few years ago grudgingly regarded as one genus with some dozen species, he proposes to have 3 families, 21 genera, and some 300 species. Put in another way, it is, perhaps, more striking—the "good old species" "*A. humphriesianus*" is to be divided into 71 species, distributed among 4 genera, in 2 families.

These results are quite in accordance with the expectations of those who have studied the Inferior Oolite, and know by experience its remarkably prolific Ammonite fauna; but they will doubtless surprise those who have thought that the Inferior Oolite had been given too many species already, and that the best way to veil the fact of its Ammonite fecundity was to cause the discontinuance of the work on it. However, what is not to be accomplished in one country is evidently to be undertaken with vigour in another.

XXIV.—*Descriptions of new Freshwater Fishes from China and Japan.* By C. TATE REGAN, M.A.

Gymnostomus formosanus.

Depth of body $3\frac{1}{3}$ to 4 in the length, length of head 4 to $4\frac{1}{2}$. Snout shorter than postorbital part of head. Diameter of

eye $4\frac{1}{3}$ to 5 in the length of head, interorbital width $2\frac{4}{5}$ to 3. Width of mouth a little more than $\frac{2}{5}$ the width of head; sheath of lower jaw with rounded anterior edge; folds of lower lip separated anteriorly by an interspace which is about $\frac{1}{3}$ the width of mouth (rather more in the adult, less in the young); 4 barbels, the posterior longer than the anterior ones and nearly as long as the eye. Dorsal 11, with 8 branched rays; origin equidistant from end of snout and base of caudal or nearer the former; first branched ray the longest, as long as (adult) or a little longer than (young) the base of the fin. Anal 8, with 5 branched rays. Pectoral a little shorter than the head, not reaching the ventrals, which are inserted below the anterior part of the dorsal. 40 to 42 scales in a longitudinal series, $5\frac{1}{2}$ or 6 in a transverse series from origin of dorsal to lateral line, 3 or 4 between lateral line and base of ventral. Silvery, back darker; young with 6 or 7 blackish vertical bars; membrane of dorsal fin blackish; ventrals and anal usually more or less blackish.

Eight specimens, the largest 160 mm. in total length, from Lake Candidius, Formosa, collected by Herr Sauter.

Closely allied to the Chinese *G. styani*, Blgr., and *G. kreyenbergii*, Regan, and intermediate between them in the structure of the mouth.

Ischikavia macrolepis.

Depth of body $3\frac{1}{3}$ in the length, length of head 4. Snout a little shorter than eye, the diameter of which is $3\frac{1}{4}$ to $3\frac{1}{2}$ in the length of head and less than the interorbital width. Mouth oblique. Dorsal 10, with 7 branched rays, its origin behind the ventrals and nearer to the base of caudal than to the end of snout. Anal 16-17, with 13 or 14 branched rays. Pectoral extending to the ventrals. 38 to 40 scales in a longitudinal series, 7 or 8 in a transverse series from origin of dorsal to lateral line, 3 between lateral line and base of ventral.

Three small specimens, the largest 60 mm. in total length, from Kagi, Formosa, collected by Herr Sauter.

This species is extremely similar to the Japanese *I. steenackeri*, Sauvage, which has much smaller scales.

Achilognathus smithii.

Depth of body $2\frac{1}{2}$ in the length, length of head 4. Diameter of eye 3 in the length of head and equal to the interorbital width. No barbels. Dorsal 13, with 10 branched rays. Anal 13. Pectoral extending to the ventrals. 33 scales in a

longitudinal series, 6 in a transverse series from origin of dorsal to lateral line, 4 between lateral line and base of ventral. Silvery, back darker; a dark blue lateral stripe commencing on the upper part of the side midway between the head and the origin of the dorsal fin and extending to the base of the caudal; a blackish stripe on the anterior part of the dorsal near the base.

A single small specimen, 38 mm. in total length, from the R. Nodogawa, Kioto, Japan, presented by R. Gordon Smith, Esq.

Allied to *A. cyanostigma*, Jord. & Fowl., which has a more slender body (depth 3 in the length), fewer fin-rays (dorsal and anal each with 8 branched rays), more scales (39) in the lateral line, and a shorter pectoral.

Clarias sauteri.

Depth of body $5\frac{1}{2}$ to $6\frac{1}{2}$ in the length, length of head $3\frac{1}{2}$ to 4. Breadth of head equal to its length without the snout. Head smooth or finely granulated above; occipital process obtuse (more acute in the young); eyes small. Præmaxillary band of teeth 4 times as long as broad; teeth on the palate obtuse, forming a crescentic band narrower than that of the præmaxillaries. Maxillary barbel extending to posterior part or end of pectoral. About 15 gill-rakers on the lower part of the anterior arch. Dorsal 57-64. Anal 40-45. Dorsal and anal fins free from the caudal, which is rounded. Pectoral spine entire or with fine serræ hidden beneath the skin, its length $\frac{2}{3}$ to $\frac{3}{4}$ that of the fin or $\frac{1}{3}$ to $\frac{2}{5}$ the length of head. Dark greyish, paler below; sometimes small pale spots on the sides.

Several specimens, 120 to 200 mm. in total length, from Kagi, Formosa, collected by Herr Sauter.

This species is close to the Chinese *C. fuscus*, Lacep., which differs notably in having villiform teeth on the palate.

Pseudobagrus brevianalis.

Depth of body 5 in the length, length of head 4 to $4\frac{1}{2}$. Head covered with smooth skin; snout broad, obtuse, $\frac{1}{3}$ the length of head; eye small, its diameter $\frac{1}{4}$ the interocular width, which is $2\frac{1}{4}$ to $2\frac{1}{3}$ in the length of head. Mouth sub-terminal; maxillary barbel extending to basal part of pectoral. D. I 7; adipose fin nearly equal to the anal and opposite to it. Anal 16-18; base shorter than the head. Caudal very slightly emarginate, with rounded lobes. Pectoral spine with

denticulated inner edge, $\frac{2}{3}$ to $\frac{5}{6}$ the length of the fin or $\frac{1}{2}$ to $\frac{2}{3}$ the length of head. Greyish.

Several specimens, measuring up to 115 mm. in total length, from Lake Candidius, Formosa, collected by Herr Sauter.

Allied to the Japanese *P. aurantiacus*, Schleg., which has a longer anal fin.

Liobagrus sugubii.

Depth of body $4\frac{2}{3}$ to 5 in the length, length of head $4\frac{1}{2}$ to $4\frac{3}{4}$. Head as broad as long; interocular width 2 to $2\frac{1}{2}$ in the length of head. Lower jaw shorter than the upper; præmaxillary band of teeth twice as long as broad; posterior mandibular barbel extending to base of pectoral. Dorsal I 5; spine $\frac{1}{4}$ the length of head. Pectoral spine less than $\frac{1}{2}$ the length of the fin, which is $\frac{1}{2}$ to $\frac{2}{3}$ the length of head. Anal 15-16. Caudal rounded or subtruncate. Greyish brown; scattered pale spots on the side; lower fins pale; caudal with a narrow whitish edge.

Four specimens, 105 mm. in total length, from Lake Biwa, Japan, presented by H.E. Mr. Sugubi, Governor of Otsu.

Dr. Pappenheim has kindly informed me that the type of *L. reini*, Hilgendorf, is not preserved in the Berlin Museum. Hilgendorf's description is equally applicable to either Japanese species, but for the present the name *L. reini* may be restricted to the species described and figured under that name by Jordan and Fowler (Proc. U.S. Nat. Mus. xxvi. 1903, p. 909, fig. 2), which differs from the one described above in the more slender body, narrower interocular space, longer fin-spines, &c.

Liobagrus styani.

Depth of body 6 to 7 in the length, length of head 5. Head nearly as broad as long; interocular width $2\frac{3}{4}$ to 3 in the length of head. Lower jaw shorter than the upper; præmaxillary band of teeth $2\frac{1}{3}$ to 3 as long as broad; posterior mandibular barbel extending to basal part of pectoral. Dorsal I 5; spine $\frac{1}{4}$ the length of head. Pectoral spine less than $\frac{1}{2}$ the length of the fin, which is $\frac{2}{3}$ to $\frac{3}{4}$ the length of head. Anal 18. Caudal rounded. Greyish; small pale spots on the sides; fins broadly edged with white.

Two specimens, 70 and 85 mm. in total length, from South Hupeh, China, presented by F. W. Styan, Esq., in 1902.

Ctenogobius candidianus.

Depth of body 5 in the length, length of head $3\frac{1}{2}$ to $3\frac{3}{4}$. Snout decurved, nearly twice as long as the eye, the diameter of which is 5 in the length of head; jaws equal anteriorly; mouth little oblique. Opercles naked; nape covered with small scales. Dorsal VI, I 8. Anal I 8. None of the rays of the spinous dorsal produced; soft dorsal and anal rather low. Caudal rounded. Pectoral a little shorter than the head; ventrals extending less than $\frac{1}{2}$ the distance from their base to the origin of anal. 34 to 36 scales in a longitudinal series.

Ten specimens, the largest 80 mm. in total length, from Lake Candidius, Formosa, collected by Herr Sauter.

Very similar to the Japanese *C. hadropterus*, Jord. & Snyder, but with the scales on the nape and the anterior part of the body smaller. Some specimens show traces of markings on the head like those of *C. hadropterus*.

XXV.—*Descriptions of Four new Freshwater Fishes from British New Guinea.* By C. TATE REGAN, M.A.

THE freshwater fishes of New Guinea have recently been made the subject of an extensive memoir by Prof. Max Weber (Expéd. Sci. Néerland. Nouvelle-Guinée, v. Zool. 1907). A small series from British New Guinea brought home by Dr. Seligmann is of some interest, inasmuch as it contains examples of four species which appear to be new to science and of three others not included in Max Weber's list; the latter are *Sicydium cynocephalum*, C. & V., and *Eleotris tænioptera*, Blkr., from the Wedau River, and *Eleotris compressa*, Krefft, from Agajambo. The fishes are from four localities, those from the Wedau River and the Fly River having been presented to the British Museum by Major W. Cooke Daniels, those from Agajambo by C. A. W. Monckton, Esq., and those from Sogeri by Captain F. R. Barton.

Neosilurus bartoni.

Depth of body $6\frac{1}{2}$ in the length, length of head $5\frac{2}{3}$. Head much broader than deep, its breadth $1\frac{1}{3}$ in its length, diameter of eye $4\frac{2}{3}$, length of snout $2\frac{3}{4}$ –3, interorbital width $2\frac{4}{5}$ – $3\frac{1}{5}$. Lower jaw shorter than the upper. Nasal and inner mandibular barbels subequal, a little shorter than the head;



Regan, C. Tate. 1908. "Descriptions of new freshwater fishes from China and Japan." *The Annals and magazine of natural history; zoology, botany, and geology* 1, 149–153.

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