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# PROCEEDINGS

OF THE

GENERAL MEETINGS FOR SCIENTIFIC BUSINESS

OF THE

# ZOOLOGICAL SOCIETY

OF LONDON.

1901, vol. I.

(JANUARY—APRIL.)

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new to science, two being made the types of additional genera of the family *Cichlidae*.

This Memoir will be published in full in the Society's 'Transactions.'

The following papers were read:—

1. On the Fishes collected by Dr. W. J. Ansorge in the Niger Delta. By G. A. BOULENGER, F.R.S., F.Z.S.

[Received January 4, 1901.]

(Plates II.–IV.<sup>1</sup>)

Whilst recently staying at Sapelle Station, at the junction of the Ethiop and Jamieson Rivers, Dr. Ansorge has, at my request, made a small collection of the Fishes, which proves to be of quite an exceptional interest, from the fact that through it representatives of two families are added to the African freshwater fish-fauna, one being even entirely new, an event that has not happened since 1873, when the late Professor Peters described the genus *Pantodon*, the type of the family *Pantodontidae*. I feel extremely grateful to Dr. Ansorge for the trouble he has taken, under difficult circumstances and without better preserving-fluid than common trade-gin.

The collection was made in August and September 1900. Some of the small Perch-like fishes (*Cichlidae*) were caught with hook and line baited with worms. But most of the fishes, including *Calamichthys*, the Mormyrs, and the new *Phractolæmus*, were captured in creels baited with the orange-red fleshy nut of the oil-palm, set at the mouth of the Ethiop River, close to the bank, by Dr. Ansorge's native boy. All these fishes are considered good-eating by the blacks.

I am pleased to add that the examples of the new species have been generously presented to the British Museum by Dr. Ansorge.

#### POLYPTERIDÆ.

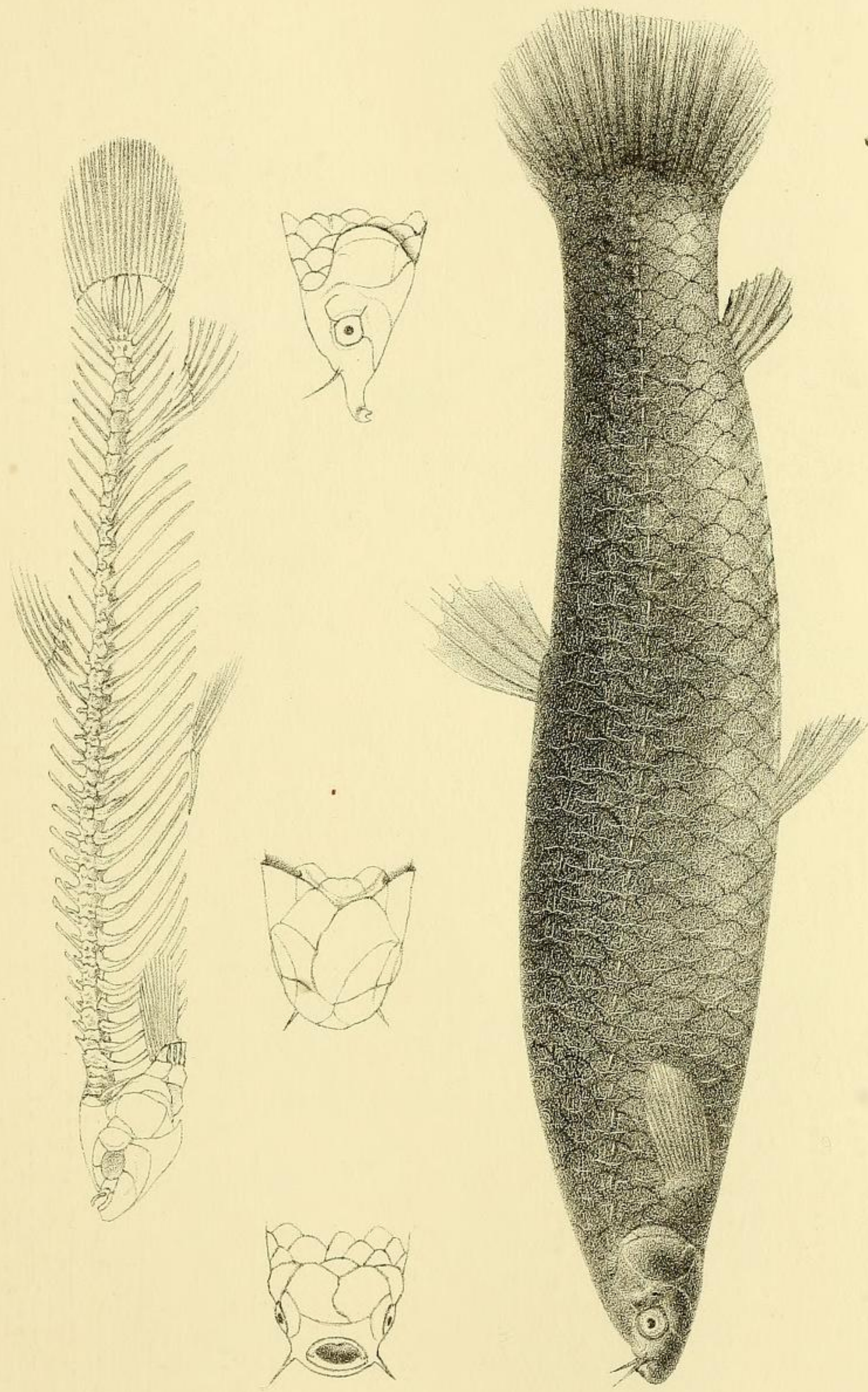
1. CALAMICHTHYS CALABARICUS J. A. Smith.

The single specimen contained in the collection, a female measuring 345 millimetres, with 11 dorsal spines, is extremely remarkable for having a very small, but perfectly distinct suboperculum. The absence of this bone, verified on a considerable number of specimens, had been regarded as one of the generic characters distinguishing *Calamichthys* from *Polypterus*. The coloration of the specimen is a dark olive-brown above, gradually shading into a bright yellow beneath; a large deep-black spot on the pectoral fin.

Every possibility of the presence of a suboperculum indicating a

<sup>1</sup> For an explanation of the Plates, see p. 10.



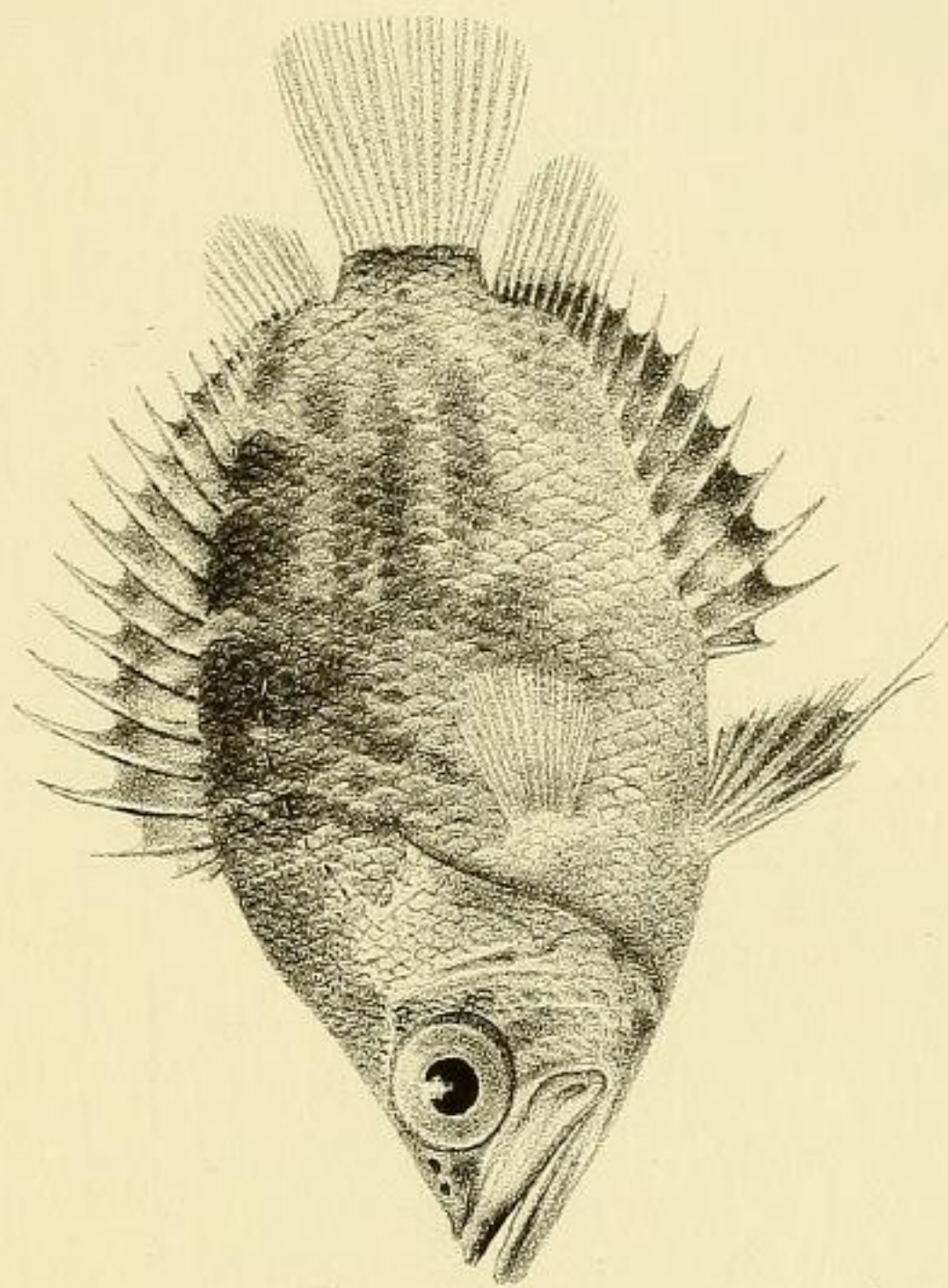


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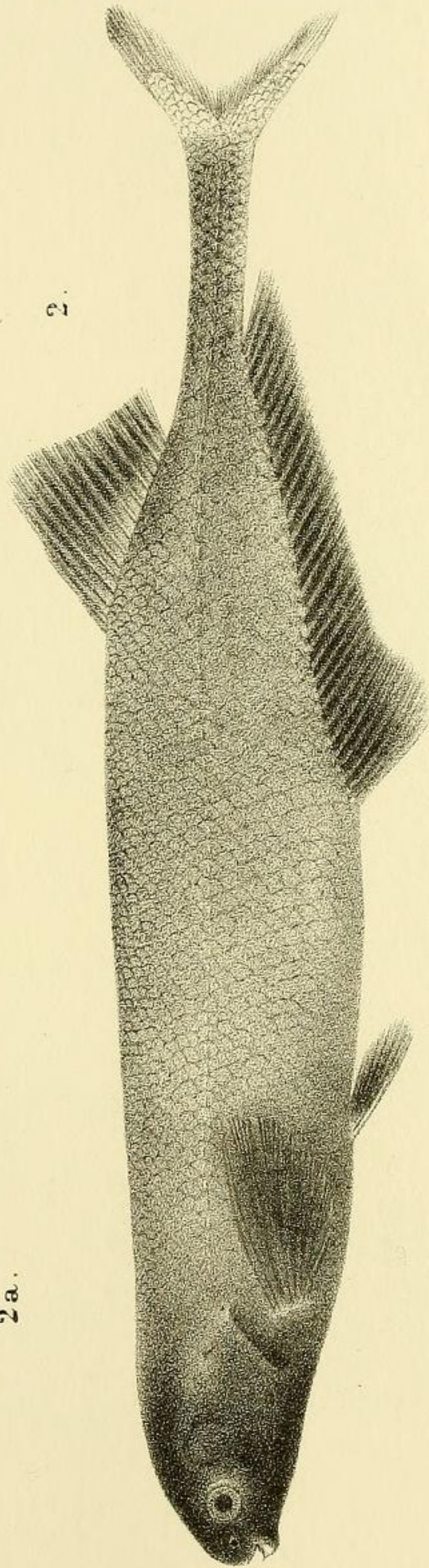
PHRACTOLÆMUS ANSORGII.

Mintern Bros. imp.





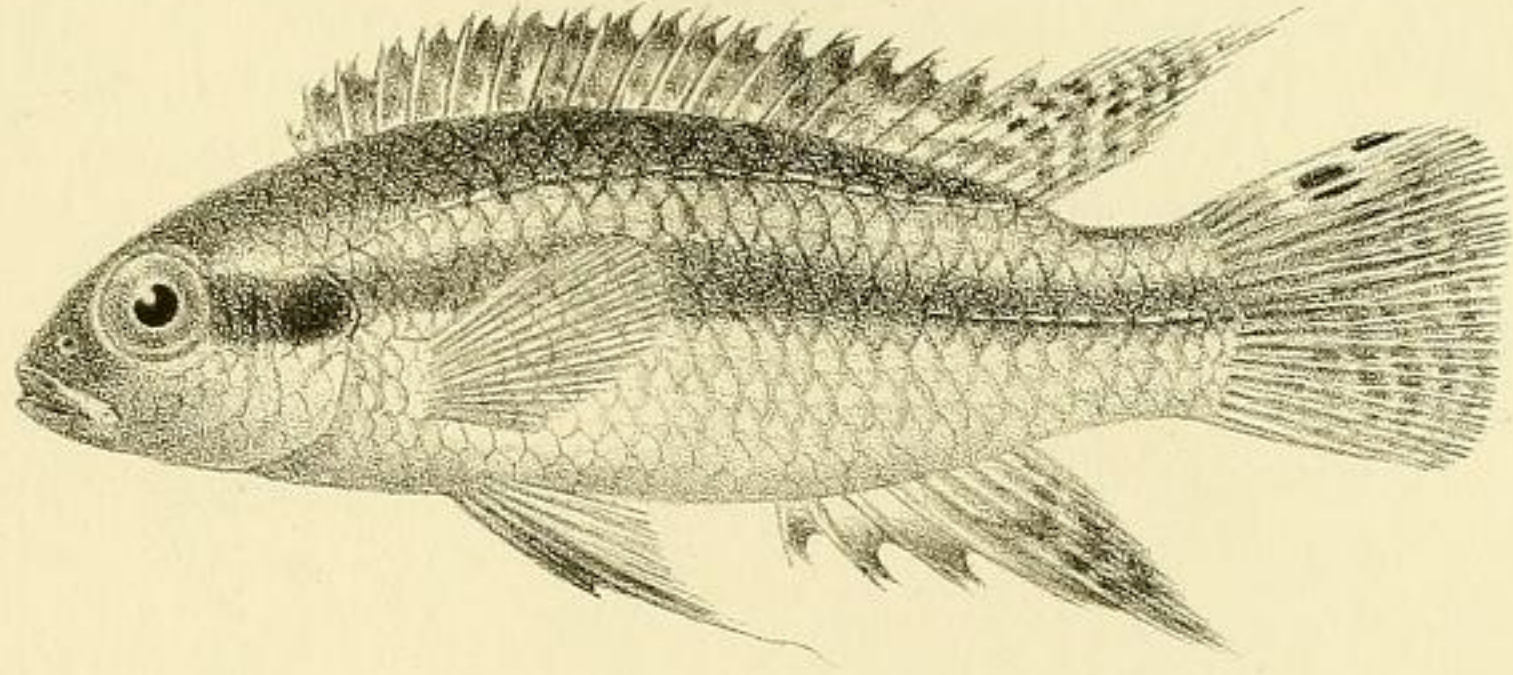
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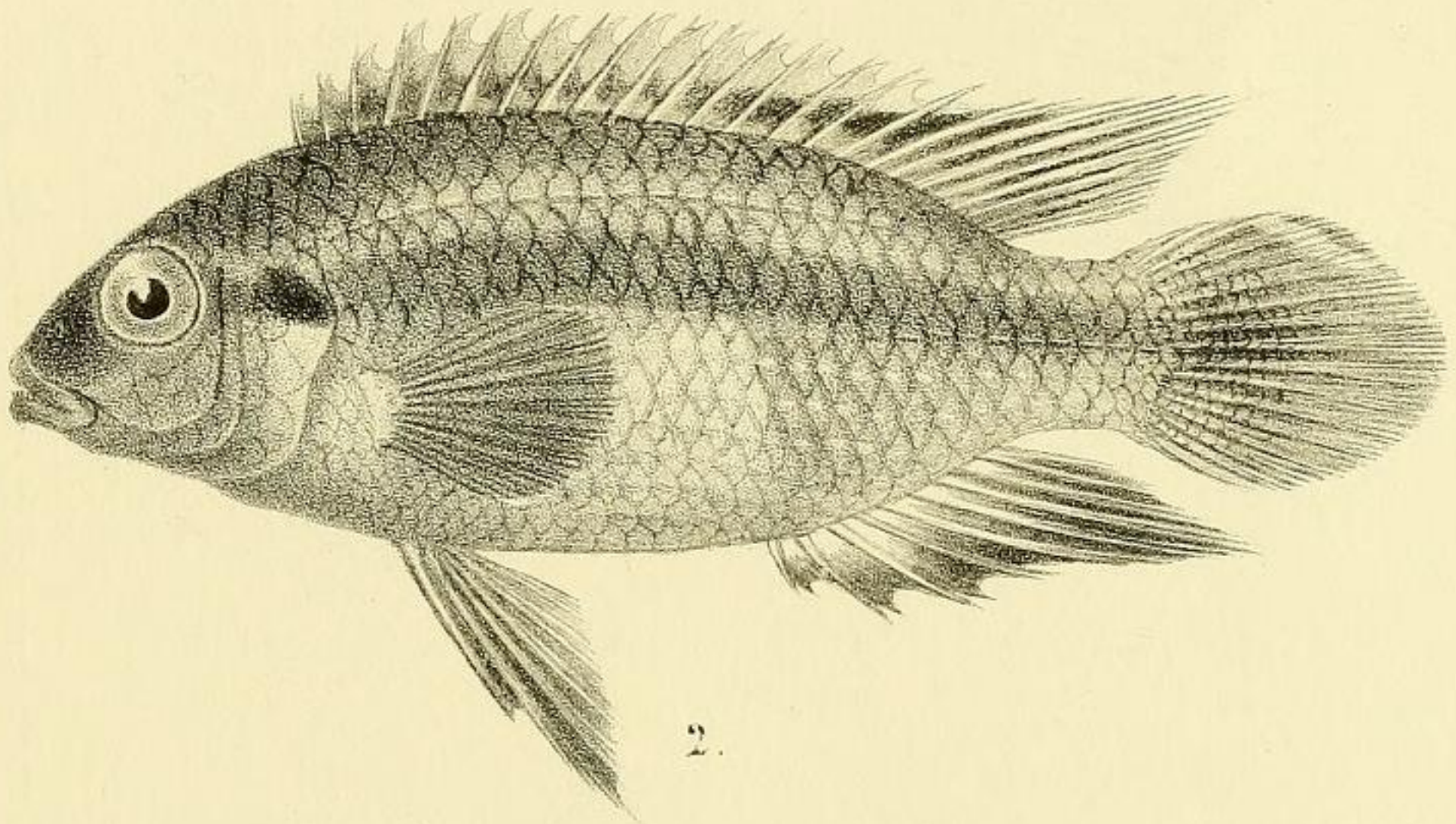
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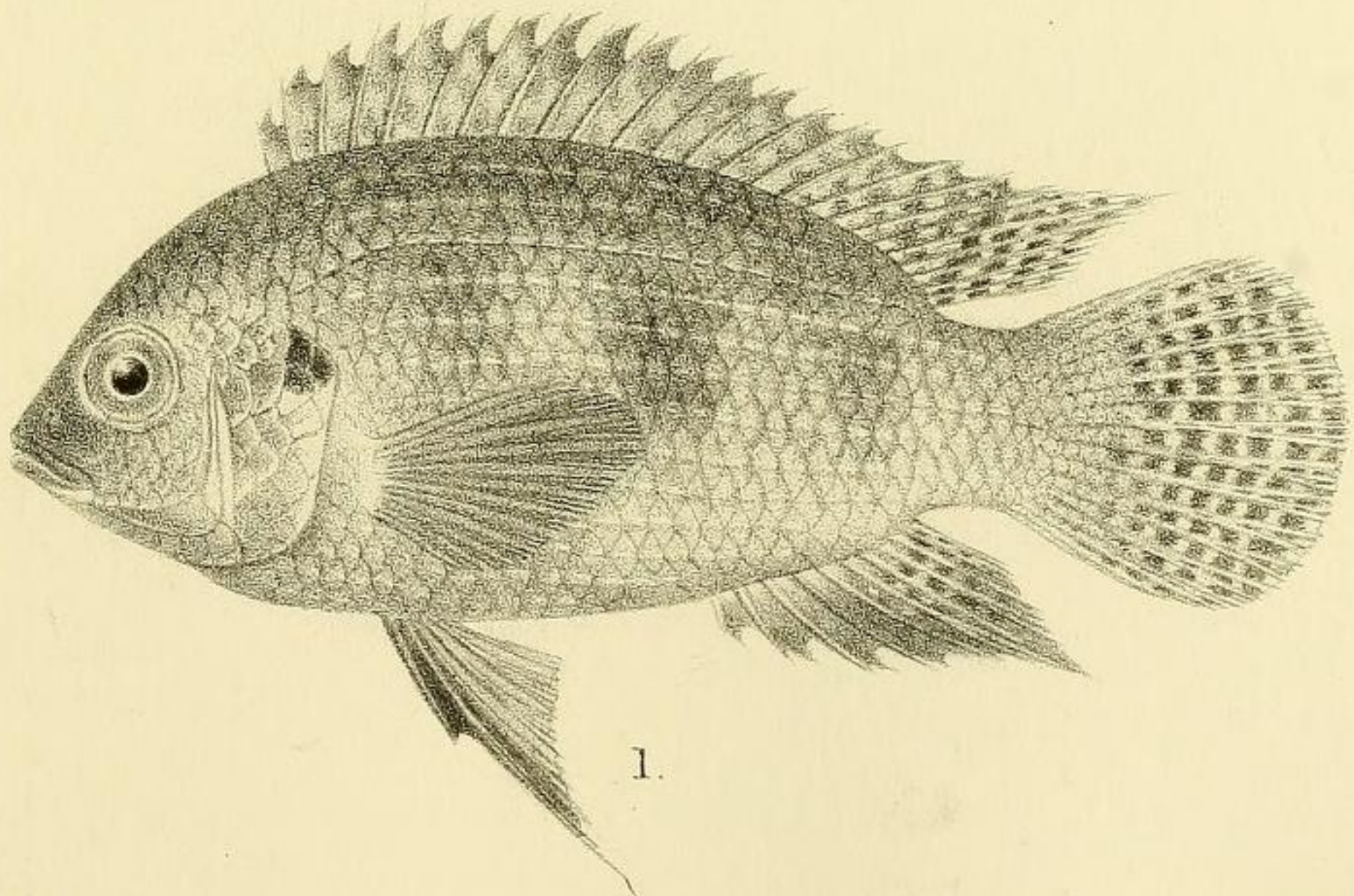




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1.

P. J. Smit del et lith.

1. PELMATOCHROMIS ANSORGII.

2. P. PULCHER.

3. P. TÆNIATUS. Mintern Bros. imp.



species distinct from *Calamichthys* seems to me removed by the fact that I have carefully compared this specimen with others likewise from the Niger delta, without being able to detect any other important difference. I look upon it as an atavistic individual anomaly.

MORMYRIDÆ.

2. *ISICHTHYS HENRYI* Gill.

The single specimen is more elongate than any on record, the depth of the body being contained 13 times in the total length, the length of the head  $8\frac{1}{4}$  times. D. 53; A. 52; lat. l. 140. Total length 210 millim.

3. *MARCUSENIUS LONGIANALIS*, sp. n. (Plate III. fig. 1.)

Depth of body 5 to  $5\frac{2}{3}$  times in total length, length of head 6 to  $6\frac{1}{2}$  times. Head  $1\frac{1}{4}$  as long as deep; snout convex,  $\frac{1}{4}$  length of head, slightly projecting beyond the mouth; latter small, sub-inferior, below level of eye, its width  $\frac{1}{6}$  length of head; teeth feebly notched, 5 in the upper jaw, 6 in the lower; nostrils nearly equally distant from end of snout and from eye, anterior on a level with centre of latter, posterior with its lower border; eye small,  $\frac{1}{2}$  length of snout,  $\frac{2}{5}$  interorbital width. Dorsal 15-16, its length  $\frac{1}{4}$  its distance from the head, originating above 16th or 17th ray of anal. Anal 32-33, thrice as long as dorsal, nearer base of caudal than base of ventral. Pectoral obtusely pointed, a little shorter than head,  $1\frac{2}{3}$  length of ventral, reaching base of latter. Caudal scaly at the base, with pointed lobes. Caudal peduncle  $3\frac{1}{2}$  times as long as deep, nearly as long as head. 63 to 66 scales in the lateral line,  $\frac{9}{10}$  in a transverse line on the body,  $\frac{6-7}{6-7}$  between dorsal and anal, 12 round caudal peduncle. Purplish brown, more or less profusely speckled with blackish; fins dark brown.

Total length 145 millim.

Two specimens.

Closely allied to *M. brachyhistius* Gill. Distinguished by the more elongate form, the more slender caudal peduncle, the longer anal fin, and the higher number of scales in the lateral line.

NOTOPTERIDÆ.

4. *NOTOPTERUS AFER* Gthr.

PHRACTOLÆMIDÆ.

The highly remarkable fish discovered by Dr. Ansorge, which I here describe under the name of *Phractolæmus ansorgii*, cannot be incorporated into any of the families known at present. It falls into the suborder Malacopterygii as restricted and defined by me<sup>1</sup>, and occupies a position intermediate between the *Osteoglossidæ* and the *Clupeidæ*. The family *Phractolæmidæ* may be characterized as follows:—

Mouth edentulous, projectile, bordered by the very slender

<sup>1</sup> Poissons du Bassin du Congo, p. 44 (1901).



premaxillaries and maxillaries. Supraoccipital in contact with the frontals, widely separating the small parietals. Operculum and suboperculum well developed; preoperculum small; interoperculum enormous, covering the gular region and overlapping its fellow; symplectic absent; only three slender branchiostegal rays; no pharyngeal teeth. Ribs stout, sessile, nearly completely encircling the body; slender epineurals; no epipleurals; caudal region very short. No postclavicle. Pectoral fins inserted low down, folding like the ventrals; latter with 6 rays.

PHRACTOLEMUS, gen. n.

Body elongate, subcylindrical, covered with large striated scales; lateral line complete, formed of a series of straight tubes extending along the entire length of the exposed part of the scales. Head small, strongly ossified, covered with thin skin; mouth small, probosciform, capable of being thrust forward, when at rest folded over and received into a depression on the upper surface of the head; a single narial orifice, preceded by a barbel; eyes small, lateral. Gill-openings narrow, restricted to the sides; gular region protected by the interopercles, that on one side (usually the right) overlapping that on the other side. Four gills; no pseudobranchiæ. Pectoral fins small, with 18 rays; ventrals far back, with 6 rays; dorsal short, with 6 rays, opposite to the space between the ventrals and the anal; latter short, with 6 rays; caudal fan-shaped, with 18 to 20 rays; all the fin-rays articulated. Air-bladder very large, extending as far back as the anal fin. Stomach with 3 pyloric appendages; intestine extremely long and much convoluted.

5. PHRACTOLEMUS ANSORGII, sp. n. (Plate II.)

Depth of body 5 to 6 times in total length, length of head  $6\frac{1}{2}$  to  $7\frac{2}{3}$  times. Head depressed, with very broad, slightly convex interorbital region; diameter of eye  $4\frac{1}{2}$  to  $5\frac{1}{2}$  times in length of head, 3 to  $3\frac{1}{2}$  times in interorbital width; barbel nearly  $\frac{1}{3}$  length of head. Dorsal with the two anterior rays simple, the other four bifid; the first ray equally distant from the head and from the root of the caudal; second ray longest,  $1\frac{1}{2}$  length of head. Anal similar to dorsal, but rays shorter, the second or longest only  $\frac{3}{4}$  length of head. Pectoral rounded, a little shorter than head, as long as ventral, which is pointed and equally distant from head and from anal. Caudal rounded. Caudal peduncle compressed, nearly as long as deep, as long as head. Scales large, longitudinally striated, 35 to 37 in a longitudinal series,  $\frac{3\frac{1}{2}}{4\frac{1}{2}}$  in a transverse series. On the caudal region the scales of the lateral line and those of the series above it may bear a central sclerous tubercle (probably a seasonal character). Uniform olive-grey.

The vertebræ, in a male specimen of which a skeleton has been prepared, number 34, 26 precaudal and 8 caudal, the last bearing 6 hypurals to support the homocercal fin; the ribs are subequal,



very thick, with a wing-like expansion behind at the base, and begin on the second vertebra, there being besides a strong occipital rib. The frontals are very large and the right extends with its curved border beyond the median line, as if overlapping its fellow; two supraorbital bones on each side; the parietals are very small, and completely separated by the broad and short supraoccipital, which does not bear a crest. The pair of large bones covering the throat, the right overlapping the left, and which at first suggest the gular plates of the *Polypteridæ*, are to be identified as interoperculum; above the interoperculum two very large suborbitals, covering the hyomandibular and quadrate, which are thrust forward for the suspension of the feeble mandibular rami, which are disconnected at the symphysis; the premaxillary and maxillary bones more slender still and connected by ligament with the mandible. The shoulder-girdle is suspended from the posttemporal close to the operculum; it includes the ordinary elements (clavicular, supraclavicular, coracoid, scapula), but a postclavicular is absent; the mesocoracoid arch is present, slender; the coracoids are much smaller than the claviculars, and do not meet on the median line; 4 pterygials support the pectoral fin-rays.

Four specimens of this extraordinary fish, measuring from 50 to 150 millim., were brought home by Dr. Ansorge, to whom it gives me great pleasure to dedicate the species.

#### CHARACINIDÆ.

6. *SARCODACES ODOË* Bl.
7. *ALESTES LONGIPINNIS* Gthr.

#### SILURIDÆ.

8. *CLARIAS ANGOLENSIS* Stdr.
9. *SCHILBE DISPILA* Gthr.
10. *CHRYSICHTHYS NIGRODIGITATUS* Lacép.
11. *MALOPTERURUS ELECTRICUS* Gm.

#### CYPRINODONTIDÆ.

12. *HAPLOCHILUS INERAFASCIATUS* Gthr.

#### OPHIOCEPHALIDÆ.

13. *OPHIOCEPHALUS OBSCURUS* Gthr.

#### ANABANTIDÆ.

14. *ANABAS KINGSLEYÆ* Gthr.

#### NANDIDÆ.

The *Nandidæ* (including the *Polycentridæ*) are a small family of



freshwater fishes from S.E. Asia and South America, apparently most nearly allied to the *Centrarchidæ*, but distinguished from them by the absence of the entopterygoid.

The new genus here described is its first-known African representative.

POLYCENTROPSIS, gen. n.

Body short, elevated, very strongly compressed; scales moderately large, ciliated. Lateral line incomplete, reduced to a few tubes. Mouth large, extremely protractile, the ascending processes of the premaxillaries extremely long and extending to the occipital region; villiform bands of very small teeth in the jaws, on the vomer, and on the palatines; head for the greater part covered with scales; præorbital, præopercle, and interopercle serrated; opercle ending in a spine. Gill-membranes separate; six branchiostegals; no pseudobranchiæ. Dorsal and anal fins nearly equally developed, with numerous strong spines and the soft portion much reduced. Ventrals below the pectorals, close together, with a strong spine. Vertebrae 23 (10 + 13)<sup>1</sup>.

15. POLYCENTROPSIS ABBREVIATA, sp. n. (Plate III. fig. 2.)

Depth of body twice in total length, length of head twice and a half. Snout acutely pointed, chin slightly projecting; diameter of eye a little longer than snout or interorbital width; nearly one third length of head; maxillary extending to below posterior third of eye; suborbital arch very slender; 6 or 7 series of scales on the cheek. 10 gill-rakers on lower part of anterior arch, the longest nearly as long as gill-filaments. Dorsal XV–XVI 11; spines increasing in length to the fourth and decreasing from the seventh or eighth, the longest half length of head and a little longer than the soft rays. Anal similar, X 9. Pectoral obtusely pointed, half length of head. Ventral longer, produced in a filament, extending beyond origin of anal. Caudal truncate. Caudal peduncle extremely short. Sq. 32–35  $\frac{4}{17}$ ; lat. l. 5–6. Pinkish brown, marbled with darker; spinous dorsal and anal dark brown, with darker and lighter spots and edged with black; ventrals blackish; base of soft dorsal, anal, and caudal blackish, edged with pink.

Total length 68 millim.

Two specimens.

CICHLIDÆ.

16. HEMICHROMIS FASCIATUS Peters.

17. HEMICHROMIS BIMACULATUS Gill.

18. PELMATOCHROMIS GUENTHERI Sauv.

(*Hemichromis voltae* Stdr.; *H. tersquamatus* Gthr.)

19. PELMATOCHROMIS ANSORGII, sp. n. (Plate IV. fig. 1.)

Teeth in 2 or 3 series in each jaw, outer largest but rather small. Depth of body  $2\frac{1}{5}$  to  $2\frac{1}{3}$  times in total length, length of

<sup>1</sup> *Nandus marmoratus* has also 23 vertebrae, but 13 + 10.



head  $2\frac{4}{5}$  or 3 times. Snout broad, rounded, with straight or slightly convex upper profile, as long as the diameter of the eye, which is contained  $3\frac{1}{2}$  to  $3\frac{2}{3}$  times in length of head and  $1\frac{1}{3}$  times in interorbital width; maxillary extending to below anterior border of eye; 3 or 4 series of scales on the cheek; large scales on the opercle. Gill-rakers short, 10 or 11 on lower part of anterior arch. Dorsal XV-XVI 10-11; spines subequal, not quite  $\frac{1}{2}$  length of head; middle soft rays somewhat produced,  $\frac{3}{4}$  or  $\frac{4}{5}$  length of head. Pectoral  $\frac{2}{3}$  or  $\frac{3}{4}$  length of head. Ventral produced into a filament, reaching origin of anal or a little beyond. Anal III 8; third spine as long as dorsals. Caudal rounded. Caudal peduncle much deeper than long. Scales smooth, with very distinct concentric striation, 28-29  $\frac{3}{10}$ ; lat. l.  $\frac{17-19}{8}$ . Dark olive-brown above, yellowish beneath; a blackish opercular spot; three or four vertically elongate large dark spots on each side of the body, below the upper lateral line; fins greyish, soft dorsal, anal, and caudal chequered with small darker and lighter spots.

Total length 90 millim.

Four specimens.

Allied to the preceding, from which it differs chiefly in the shorter snout, the smaller mouth, and the more rounded caudal.

20. PELMATOCHROMIS PULCHER, sp. n. (Plate IV. fig. 2.)

Teeth in 4 or 5 series in each jaw, outer largest. Depth of body  $2\frac{2}{3}$  to 3 times in total length, length of head 3 to  $3\frac{1}{2}$  times. Snout broad, rounded, with convex upper profile, as long as the eye, which is contained  $3\frac{1}{3}$  times in length of head and does not quite equal interorbital width; maxillary extending to between nostril and eye; 2 or 3 series of scales on the cheek; large scales on the opercle. Gill-rakers short, 10 to 12 on lower part of anterior arch. Dorsal XVI 9-10; spines gradually increasing in length to the last, which measures half length of head; some of the soft rays more or less produced, often longer than the head. Pectoral  $\frac{2}{3}$  or  $\frac{3}{4}$  length of head. Ventral more or less produced into a filament, reaching origin of anal, or beyond. Anal III 7-8; third spine as long as longest dorsal. Caudal rounded or subacuminate. Caudal peduncle as long as deep. Scales smooth, 27-29  $\frac{2-2\frac{1}{2}}{10}$ ; lat. l.  $\frac{18-20}{8-10}$ . Olive, with two darker or blackish longitudinal bands on each side, the upper from the occiput to the base of the soft dorsal, the lower from the eye, over the opercle, to the extremity of the caudal fin; sides of body below lower lateral band and between pectorals and ventrals of a beautiful rose-colour; spinous dorsal grey, black at the base, the black area gradually rising to cover nearly the whole of the soft dorsal; pectoral, outer side of ventral, and extremity of anal blackish; caudal grey, with an oblique white streak above in the males.

Total length 95 millim.

Several specimens.

Most nearly related to *P. subocellatus* Gthr., from the Gaboon, but easily distinguished by the proportions of the dorsal spines.



## 21. PELMATOCHROMIS TENIATUS, sp. n. (Plate IV. fig. 3.)

Teeth in 2 series in the upper jaw, in 3 in the lower, outer largest. Depth of body 3 times in total length, length of head  $3\frac{1}{2}$  times. Snout broad, rounded, with convex upper profile, as long as the eye, which is contained  $3\frac{1}{3}$  times in length of head and nearly equals interorbital width; maxillary extending slightly beyond vertical of anterior border of eye; 2 series of scales on the cheek; large scales on the opercle. Gill-rakers short, 11 on lower part of anterior arch. Dorsal XVIII 7; spines gradually increasing in length to the last, which measures half length of head; longest soft rays produced into a filament, as long as head. Pectoral  $\frac{4}{5}$  length of head. Ventral produced into a filament, extending beyond origin of anal. Anal III 7; third spine as long as longest dorsal. Caudal rounded. Caudal peduncle a little deeper than long. Scales smooth,  $28\frac{2}{9}$ ; lat. 1.  $\frac{21}{9}$ . Brownish above, yellowish beneath; two blackish longitudinal bands on each side, the upper from the occiput to the base of the soft dorsal, the lower from the eye, over the opercle, to the root of the caudal; fins greyish, ventrals white with a black outer border; oblique dark streaks on the soft dorsal; small blackish spots on the caudal and two larger ones edged with white on its upper border.

Total length 75 millim.

A single specimen.

Also nearly allied to *P. subocellatus*. Readily distinguished from it, and from *P. ansorgii*, by the dorsal formula.

## 22. TILAPIA MARIE Blgr.

This species was described from a single specimen from Azumine Creek, Opobo River, in Miss Kingsley's collection. Three specimens are in Dr. Ansorge's collection, the largest measuring 135 millim. The caudal fin is rounded rather than truncate. D. XVI 12-13; A. III 10; Sq. 29-30  $\frac{3\frac{1}{2}}{10}$ ; lat. 1.  $\frac{20-21}{12-13}$ .

## 23. TILAPIA LATA Gthr.

## GOBIDÆ.

## 24. ELEOTRIS SENEGALENSIS Stdr.

## EXPLANATION OF THE PLATES.

## PLATE II.

*Phractolæmus ansorgii*, with upper, lower, and side views of head, and skeleton, p. 6.

## PLATE III.

Fig. 1. *Marcusenius longianalis*, p. 5.  
2. *Polycentropsis abbreviata*, and skeleton, p. 8.

## PLATE IV.

Fig. 1. *Pelmatochromis ansorgii*, p. 8.  
2.        "        *pulcher*, p. 9.  
3.        "        *tæniatus*, p. 10.