

be regarded as congeneric with Thomson's or Koren and Danielssen's species. Might not the second section of the generic diagnosis run thus? "5-rayed, with an extremely wide ambulacral furrow, some of the bounding spines of which bear vexilla"?

The diagnosis goes on, "The interbrachial space broad and closely beset with sessile pedicellariæ." I cannot from the figure given regard *B. pallidus* as having a broad interbrachial space, and *B. vexillifer* certainly has not; there is nothing in the dried specimen to justify our speaking of the scales which thickly cover this area as pedicellariæ, but I am not entitled to traverse Messrs. Koren and Danielssen's description; I would suggest that the lines run "The interbrachial space closely covered with pedicellaria-like scales."

I am by no means sure that *B. loripes*, Sladen, is a true *Bathybiaster*; it is not an Astropectinine, as the Astropectininae are defined by Mr. Sladen; the ambulacral ossicles are set at an angle and not side by side, and the groove is not nearly so wide as in the two northern species.

*Individual Peculiarity.*—Here and there two superomarginals, apparently separated only in their upper half, correspond to one inferomarginal.

#### DESCRIPTION OF THE PLATES.

##### PLATE XXIII.

- Fig. 1. *Bathybiaster vexillifer* from above, to show the general form and appearance of the specimen.  
2. The same from below, to show particularly the great width of the ambulacral grooves.

Both three fourths the natural size.

##### PLATE XXIV.

- Fig. 1. A "vexillum,"  $\times 20$ . a, The dried membrane attached to the spine shown *in situ*, as seen in the dried specimen.  
2. The structure of the ambulacra,  $\times 2$ .  
3. The form and characters of the dorsal paxillæ,  $\times 2$ .  
4. A view of the side of the arm,  $\times 2$ .  
5. The mouth-plates and adjoining ossicles,  $\times 2$ .  
6. The region of the anus,  $\times 4$ .

4. An Account of the Siluroid Fishes obtained by Dr. H. von Ihering and Herr Sebastian Wolff in the Province Rio Grande do Sul, Brazil. By G. A. BOULENGER.

[Received March 21, 1891.]

(Plates XXV. & XXVI.)

During the last few years, the British Museum has received a great number of Fishes collected in the Province Rio Grande do Sul by Dr. H. von Ihering and Herr Sebastian Wolff. The recently published excellent synopsis of the American Siluroids by Dr. and



Mrs. Eigenmann<sup>1</sup> has induced me to make a thorough re-examination of the Siluroids collected by those gentlemen, the more so as Dr. Hensel's account<sup>2</sup> is much in need of revision.

1. PIMELODUS (PIMELODELLA) LATERISTRIGA, Müll. & Trosch.<sup>3</sup>

2. PIMELODUS (PIMELODELLA) NIGRIBARBIS. (Plate XXV. fig. 1.)

*Pimelodus* (*Pseudorhamdia*) *nigribarbis*, Bouleng. Ann. & Mag. N. H. (6) iv. 1889, p. 266.

D. 1/6. A. 17. P. 1/8.

Head bony above, granulated, once and two thirds to once and four fifths as long as broad; occipital process obtusely keeled, twice as long as broad, in contact with the basal bone of the dorsal spine; length of head thrice and a half to thrice and two thirds in the total (without caudal); eye rather large, its diameter four and a half times in the length of the head, once and a half in the length of the snout, twice in the interorbital space; maxillary barbel extending to the origin of the anal, outer mandibular to the extremity of the pectoral. Præmaxillary teeth present, but very feebly developed. Pectoral spine a little longer than dorsal, three fourths the length of the head, serrated on both sides. Dorsal fin much deeper than long, the spine strong, but little shorter than the anterior branched rays, two thirds the length of the head; adipose fin one sixth to one eighth of the total length (without caudal), two thirds to one half of its distance from the dorsal. Depth of body about one fifth of the total length. Caudal deeply forked, with the lobes pointed, the upper being the longer. Upper parts and fins powdered with black, most closely on the ventrals and anal and on the barbels, which are almost black.

Total length 155 millim.

I have now before me three specimens, from the Camaquã<sup>4</sup> or Icamaquã River. They differ from the description of *Pimelodus valenciennis*, Lütken, in the width of the head being more instead of less than half the length, and in the larger eye, the diameter of which is contained four and a half times instead of six times in the length of the head.

<sup>1</sup> Occasional Papers of the Calif. Acad. of Sc. i. 1890.

<sup>2</sup> Arch. f. Nat. 1868 & 1870.

<sup>3</sup> I have compared my specimens with one from the Rio das Velhas, described by Prof. Lütken, and received from the Copenhagen Museum. I have seized this opportunity to re-examine my *P. buckleyi* and compare it with a specimen from Macacos recently received from the Museum of Comparative Zoology under the name of *P. buckleyi*. In the types the pectoral spine is as long as the distance from the anterior border of the eye to the opercular border and practically smooth on its inner edge; in the specimen from Macacos the pectoral spine is stronger, as long as the distance between the base of the maxillary barbel and the opercular border, and its inner edge is distinctly though very feebly serrated. There can be no doubt that the two are distinct, and I venture to propose for the species described by Dr. and Mrs. Eigenmann as *P. buckleyi* the name of *Pimelodus* (*Pimelodella*) *eigenmanni*.

<sup>4</sup> Not Camapuã, as stated by mistake in the original description.



3. *PIMELODUS MACULATUS*, Lacép.4. *PIMELODUS* (*RHAMDIA*) *HILARII*, C. & V.5. *PIMELODUS* (*PSEUDOPIMELODUS*) *COTTOIDES*, sp. n. (?).  
(Plate XXV. fig. 2.)D.  $1\frac{1}{6}$ . A. 9-10. P.  $1\frac{1}{5}$ .

Head naked above, a little broader than long; occipital process very short, in contact with the basal bone of the dorsal spine, and two fifths the length of the latter; length of the head nearly one fourth of the total (without caudal); eye very small, hardly half as long as the snout; maxillary barbel extending to the middle of the pectoral spine, outer mandibular extending as far as the maxillary, mental a little shorter. The band of præmaxillary teeth of moderate breadth, without prolonged lateral portion. Pectoral spine very stout, very strongly serrated along its inner, less so along its outer edge; humeral process strong, half as long as pectoral spine. Distance between end of snout and dorsal spine one third or two fifths of total length (without caudal); dorsal fin considerably deeper than long; adipose fin as long as dorsal, separated from it by a space not quite twice its length. Depth of body one fourth total length (without caudal). Caudal emarginate. Handsomely marked dark brown and pale reddish brown above, the latter colour forming a band across the nape, a spot on each side of the body, below the middle of the dorsal, a broad band behind the dorsal, an oblong spot in front of the adipose fin, and a band round the tail, involving the end of the adipose fin; dorsal fin dark brown, with a whitish spot occupying the basal half of its posterior moiety; pectoral dark brown, with a small basal whitish spot; anal whitish in the middle, crowded with dark brown spots at the base and in its distal moiety; ventrals whitish at the base, crowded with dark brown spots on the remainder; caudal whitish, with a distal crescentic band of closely-set dark brown spots; barbels annulate with black; lower parts pale brown, marbled with dark brown.

Total length 92 millim.

Two adult and several young specimens from the Camaquã River.

I should have referred these specimens to Valenciennes's *P. charus* but for the fact that it is identified by Steindachner with *P. bufonius*, C. & V., a species with a very different dentition. The nearest ally of *P. cottoides* would then be *Pseudopimelodus parahibæ*, Stdr., with which it is possibly identical. The proposal of a new name is, however, justified, even should the two species be the same, as the name *parahibæ* is preoccupied in the genus *Pimelodus* for a species of the subgenus *Rhamdia* (*R. parahibæ*, Stdr.).

6. *HEPTAPTERUS MUSTELINUS*, Val.

Numerous specimens, from 42 to 220 millim. They vary greatly, irrespective of size, in the elongation of the body, the length of the head being contained from five times and one third to six times and a half in the total (without caudal). The number of anal rays varies from 19 to 23.



7. *ARIUS COMMERSONII*, Lacép.

Notes on the habits and development of this Siluroid in the Laguna dos Patos have been published by Dr. v. Ihering, Biol. Centralbl. viii. 1888, p. 268.

8. *GENIDENS CUVIERI*, Cast.9. *CALLICHTHYS ASPER*, Q. & G.

I agree with the Eigenmanns in referring *C. affinis*, Gthr., and *C. hemiphractus*, Hens., to this species. The Rio Grande specimens have usually  $\frac{27}{26}$  scutes; and I may add that we have a specimen from Bahia with as many as  $\frac{29}{27}$ .

10. *CALLICHTHYS (CORYDORAS) PALEATUS*, Jen.11. *LORICARIA ANUS*, Val.

In a large specimen, 420 millim. long, the length of the first dorsal ray is  $1\frac{1}{10}$  in the length of the head (to extremity of occiput), and the diameter of the orbit (without the notch) is  $4\frac{1}{2}$  in the length of the snout. In a small specimen, measuring 170 millim., the length of the first dorsal ray is  $1\frac{1}{6}$  in the length of the head, and the diameter of the eye  $2\frac{3}{4}$  in the length of the snout. Two or three minute teeth are present on each side of the upper jaw. Upper caudal lobe considerably longer than the lower.

12. *LORICARIA LIMA*, Kner.

Although I have examined but three specimens, two of which I would refer to *L. strigilata*, I am much inclined to agree with Dr. v. Ihering (*in litt.*) in regarding *L. strigilata* and *L. cadeæ* of Hensel as based on variations of *L. lima*.

13. *OTOCINCLUS NIGRICAUDA*, sp. n. (Plate XXV. fig. 3.)

D.  $1\frac{1}{7}$ . P.  $1\frac{1}{5}$ . V.  $1\frac{1}{5}$ . A.  $1\frac{1}{5}$ . L. lat. 23-25.

Closely allied to *O. affinis*, Stdr., but snout more rounded, eye rather smaller, its diameter two fifths the length of the snout, and ventral shields more numerous and irregular, forming five to seven longitudinal series. The coloration is very different from that of *O. affinis*. Dark olive-brown above; dorsal, anal, and paired fins with the rays barred black and white; caudal deep black, with the outer rays spotted with white.

Total length 42 millim.

Several specimens.

14. *PLECOSTOMUS COMMERSONII*, Val.15. *CHÆTOSTOMUS CIRRHOSUS*, Val. (Plate XXVI. fig. 1.)

I give figures illustrating the very marked differences between the heads of male and female as shown by specimens from Dr. v. Ihering's collection. In addition to the rostral appendages and the stronger præopercular armature, the male differs in the longer pectoral fin, which extends to the middle of the ventral spine instead of to its base.



16. *BUNOCEPHALUS IHERINGII*, sp. n. (Plate XXVI. fig. 2.)D. 5.<sup>1</sup> A. 9. P. 1/4. V. 6.

Head much depressed, its depth twice in its width, once and one third in its length; upper jaw not projecting; cranial ridges feebly prominent; interorbital space concave, one third the width of the corresponding part of the head; maxillary barbel extending a little beyond the base of the pectoral; mental barbel half as long as and not reaching to postmental. Pectoral spine slightly curved, the terminal hooks largest; coracoid process slightly divergent, extending to middle of pectoral spine and beyond humeral process. Dorsal fin nearer the end of the snout than to the caudal. Hind portion of the tail compressed. The length of the caudal fin contained about five times in the total length. Skin everywhere covered with small warts. Dark brown above; a blackish lateral stripe, with small greyish spots; greyish white below.

Total length 60 millim.

Two specimens.

The only other described species with 9 anal rays, *B. aleuropsis*, Cope, from Pebas, Ecuador, differs in the longer maxillary barbel, which is said to reach the middle of the pectoral spine. The discovery of this new species extends the range of *Bunocephalus* considerably southwards.

17. *TRICHOMYCTERUS BRASILIENSIS*, Lütke.18. *TRICHOMYCTERUS MINUTUS*, sp. n. (Plate XXVI. fig. 3.)

D. 8. A. 6.

Length of head two ninths of the total (without caudal); eye a little nearer the end of the snout than to the opercular border, measuring two thirds the interorbital width; gill-opening not continued forward to below the eye; maxillary barbels three fifths the length of the head, not reaching the gill-opening; nasal barbels short, extending to the eye. Dorsal fin entirely in front of anal; none of the fin-rays prolonged; the origin of the dorsal midway between the end of the snout and the extremity of the caudal. Caudal fin rounded. Pale brown above, with three longitudinal series of large squarish dark brown blotches; fins immaculate.

Three specimens from the San Lorenzo district.

The largest measures only 40 millim.

## EXPLANATION OF THE PLATES.

## PLATE XXV.

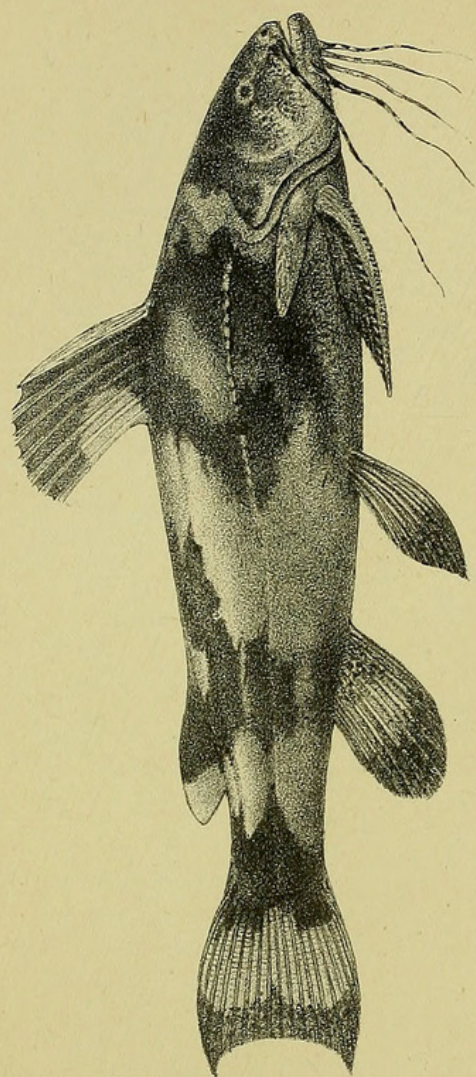
- Fig. 1. *Pimelodus (Pimelodella) nigribarbis*, Blgr.  
 2. *Pimelodus (Pseudopimelodus) cottoides*, Blgr.  
 3. *Otocinclus nigricauda*, Blgr.

## PLATE XXVI.

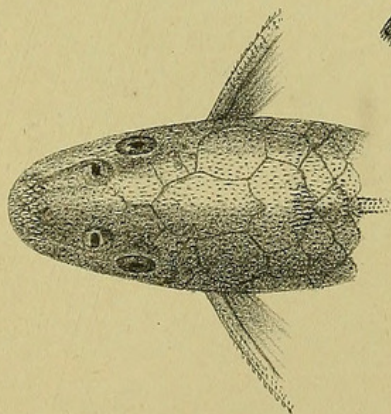
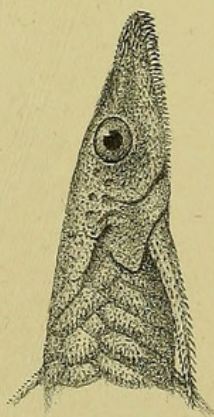
- Fig. 1. *Chætostomus cirrhosus*, Val. Upper views of heads of male and female.  
 2. *Bunocephalus iheringii*, Blgr.  
 3. *Trichomycterus minutus*, Blgr.

<sup>1</sup> The last ray is adnate.

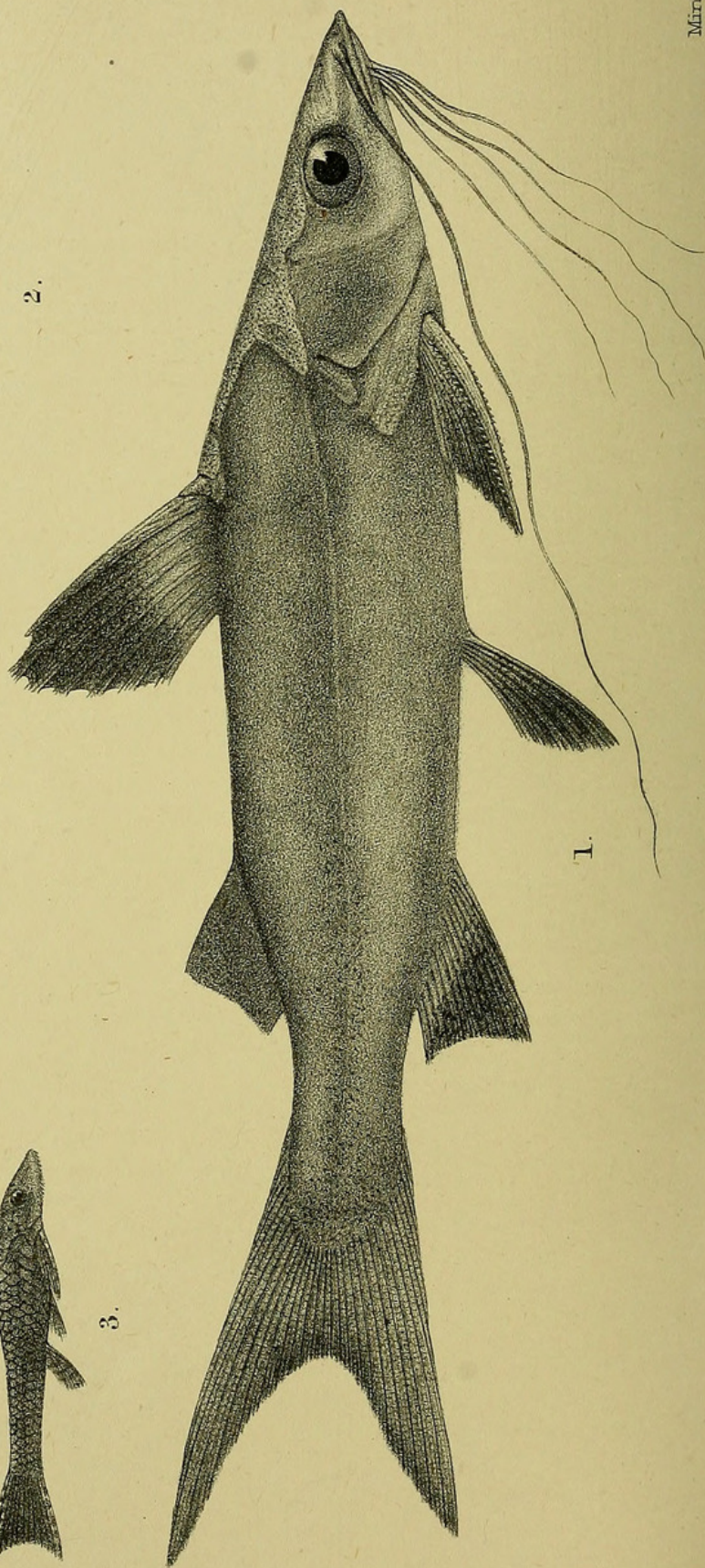




2.



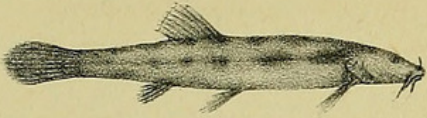
3.



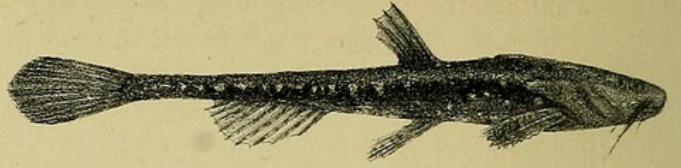
1.

1. PIMELODUS NIGRIBARBIS. 2. PIMELODUS COTTOIDES. 3. OTOCINCEUS NIGRICAUDA.

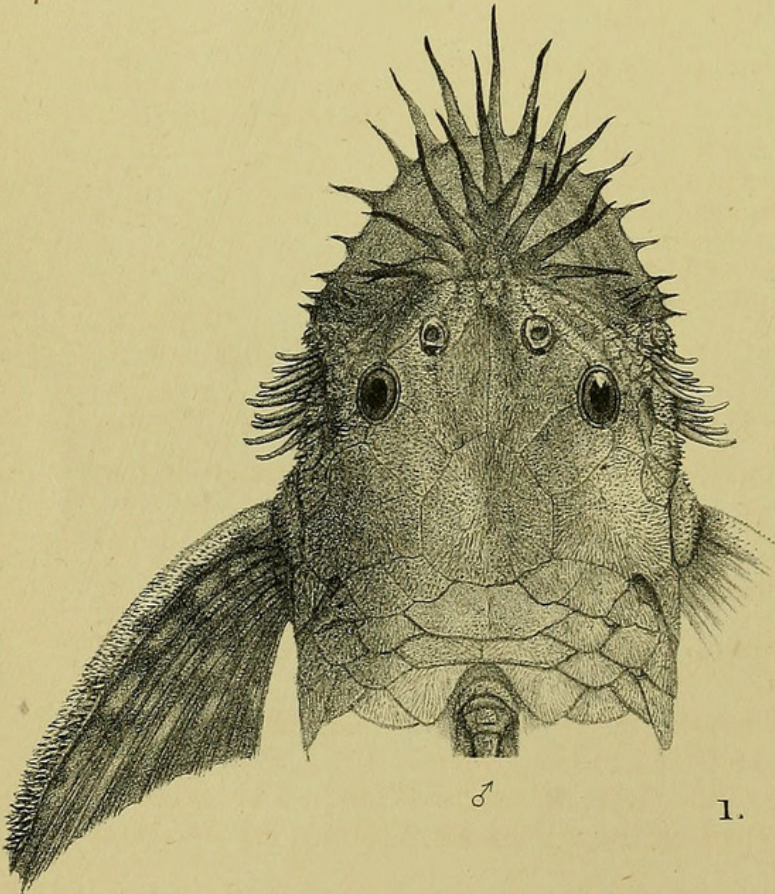
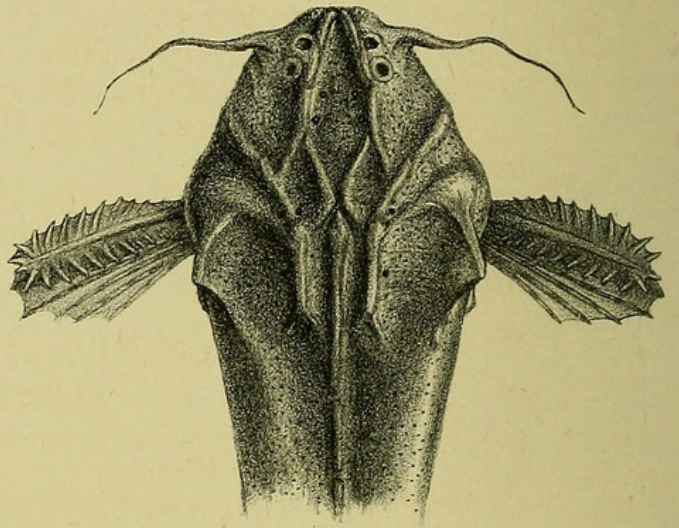
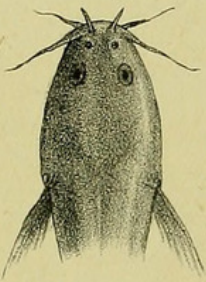




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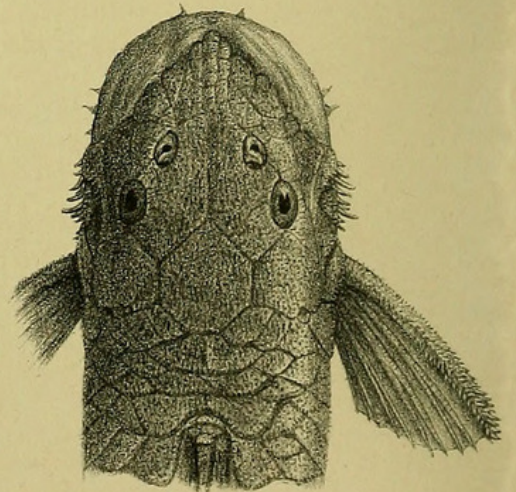


2.



♂

1.



♀

Mintern Bros. lith.

1. CHÆTOSTOMUS CIRRHOSUS 2. BUNOCEPHALUS IHERINGI.  
3. TRICHOMYCTERUS MINUTUS.



Boulenger, George Albert. 1891. "An Account of the Siluroid Fishes obtained by Dr. H. von Ihering and Herr Sebastian Wolff in the Province Rio Graude do Sul, Brazil." *Proceedings of the Zoological Society of London* 1891, 231–235.  
<https://doi.org/10.1111/j.1096-3642.1891.tb01747.x>.

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