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METALORICARIA PAUCIDENS, A NEW SPECIES AND GENUS
OF MAILED CATFISH FROM FRENCH GUIANA
(PISCES, SILURIFORMES, LORICARIIDAE)

BY

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(Avec 3 planches hors texte)

ABSTRACT

Metaloricaria is a new monotypic genus of South American Mailed Catfish related to *Harttia* and allied genera, distinguished principally by the shape and number of teeth, and by the shape and structure of the lips. Its type-species, *Metaloricaria paucidens*, is described and figured for the first time.

INTRODUCTION

The new species described herein was discovered during a recent visit to the Institut Royal des Sciences Naturelles de Belgique (I. R. Sc. N. B.) at Brussels. The fourteen specimens on which it is based form part of large ichthyological collections made during a recent expedition to French Guiana by Dr. J. P. GOSSE.

Metaloricaria paucidens belongs to a group of Loricariinae (including Harttiinae BOESEMAN, 1971) having twelve branched caudal fin rays and lacking an orbital notch. The other genera of this group are *Sturisoma*, *Harttia*, *Acestridium* (*), *Lamontichthys*, and *Harttiella*. *Metaloricaria* differs from these genera by its dentition, which is of a similar structure as found in *Rineloricaria* and *Pseudoloricaria*, two genera of Loricariinae with ten branched caudal fin rays and with an orbital notch.

(*) See note added in proof.

The lips of *Sturisoma*, *Harttia*, *Lamontichthys*, and *Harttiella* are rather narrow, semicircular in shape. The lower lip of *Metaloricaria* is much broader than in the four genera mentioned, its posterior edge being nearly straight or slightly rounded. A review of several generic concepts within Loricariinae (sensu lato) is in progress. A brief discussion on the relation of *Metaloricaria* with other genera is given now. It will be compared more thoroughly at generic and specific level in a review in preparation.

I am indebted to Dr. J. P. GOSSE and to Mr. E. WALSCHAERTS (both of I. R. Sc. N. B.) for their hospitality, and help in loaning the material. Mr. L. A. VAN DER LAAN (Instituut voor Taxonomische Zoölogie, « Zoölogisch Museum », Z. M. A., Amsterdam) made the photographic illustrations.

Metaloricaria new genus

Distinctions. — Related to *Harttia* STEINDACHNER, 1876, from which it differs in nature of dentition and in shape and structure of lips.

Type-species. — *Metaloricaria paucidens* new species.

Etymology. — From *meta* (Greek, μετά), preposition meaning among, and *Loricaria*, type-genus of Loricariidae.

Metaloricaria paucidens new species

(Figs. 1 to 4a-f, table I)

Material examined. — One specimen (holotype), I. R. Sc. N. B. 549, ♂, standard length 270 mm, and four specimens (paratypes), I. R. Sc. N. B. 550, standard length 142 to 173 mm, French Guiana, creek at right bank of Ouaqui River, upstream of Saut Bali, Maroni (= Marowijne —, Surinam) river system, coll. J. P. GOSSE, 18-XI-1969, — one specimen (paratype), I. R. Sc. N. B. 551, standard length 171 mm, French Guiana, Marouini River, just downstream of the first falls, coll. J. P. GOSSE, 23-XI-1969, — four specimens (paratypes), I. R. Sc. N. B. 552 (three), Z. M. A. 112.741 (one, ♂), standard length 85.8 to 234.5 mm, French Guiana, Oyapock River, Saut Alicoto (upstream of Camopi), about 03° 07' N, 52° 16' W, coll. J. P. GOSSE, 4-XII-1969, — four specimens (paratypes), I. R. Sc. N. B. 553, standard length 81.5 to 166.5 mm, French Guiana, Sikini Creek at left bank of Oyapock River, coll. J. P. GOSSE, 6-XII-1969.

Description. — Morphometric and meristic data of the holotype first, followed (in parentheses) by the range obtained from all 13 paratypes (for actual measurements see table I) : standard length, from tip of snout to base of middle triangular caudal scute 270.0 (81.5 to 234.5) mm; predorsal length, from tip of snout to posterior rim of predorsal

shield 3.6 (3.4 to 3.8) in standard length; postdorsal length, from base of last dorsal fin ray to base of middle triangular caudal scute 1.6 (1.5 to 1.6) in standard length; head length, from tip of snout to end of occipital process 4.8 (4.5 to 5.1) in standard length; head width, taken at the opercle, just before pectoral spine insertion 5.3 (5.0 to 5.7) in standard length, 1.1 (1.1 to 1.2) in head length; head depth, taken at the end of the occipital process 11.3 (11.0 to 13.8) in standard length, 2.3 (2.3 to 2.9) in head length; body depth at dorsal fin origin 10.8 (10.8 to 13.3) in standard length, 2.2 (2.2 to 2.8) in head length; body width at dorsal fin origin 6.2 (6.5 to 7.7) in standard length, 1.3 (1.3 to 1.6) in head length; body width at anal fin origin 6.9 (6.9 to 8.3) in standard length, 1.4 (1.4 to 1.9) in head length; snout length, from tip of snout to anteriormost point of orbital rim 7.8 (7.8 to 8.9) in standard length, 1.6 (1.6 to 1.9) in head length; diameter of eye, horizontally measured, 6.9 (4.6 to 6.5) in head length; orbital diameter, a horizontal line from rim to rim 5.6 (4.0 to 5.4) in head length; least interorbital width 4.6 (4.8 to 5.7) in head length; internasal width, at the middle of the nostrils 7.8 (6.0 to 8.5) in head length; dorsal spine length 4.8 (4.1 to 4.9 in twelve paratypes) in standard length; length first dorsal ray 4.9 (4.2 to 5.2) in standard length, 1.0 (0.8 to 1.1) in head length; length last dorsal ray 11.3 (10.4 to 14.4) in standard length, 2.3 (2.2 to 3.0) in head length; dorsal fin base 10.9 (9.9 to 12.3) in standard length, 2.3 (2.0 to 2.7) in head length; anal spine length 6.6 (6.5 to 8.0) in standard length, 1.4 (1.3 to 1.7) in head length; pectoral spine length 6.4 (4.9 to 5.4) in standard length, 1.3 (1.0 to 1.2) in head length; pelvic spine length 6.2 (6.0 to 8.5) in standard length, 1.3 (1.2 to 1.7) in head length; length upper principal caudal « spine » (unbranched ray) damaged in holotype (6.6 to 8.7 in standard length in nine paratypes); length lower principal caudal « spine » (unbranched ray) 8.1 (5.7 to 7.9 in twelve paratypes) in standard length; greatest cleithral width 5.2 (4.9 to 5.5) in standard length, 1.1 (1.1 to 1.2) in head length; supra-cleithral width 6.8 (6.9 to 7.6) in standard length, 1.4 (1.4 to 1.7) in head length; thoracic length, taken between the spine insertions of pectoral and pelvic fins 7.7 (7.5 to 9.3) in standard length, 1.6 (1.5 to 1.8) in head length; abdominal length, taken between the spine insertions of pelvic and anal fins 5.6 (5.9 to 6.7) in standard length, 1.2 (1.2 to 1.5) in head length; post-anal peduncular length, taken from base of last anal fin ray to base of middle triangular caudal scute 1.9 (1.8 to 1.9) in standard length; least depth caudal peduncle 9.0 (11.5 to 18.7) in head length; least width caudal peduncle 6.1 (6.5 to 17.7) in head length; distance between anus and anal fin origin 9.8 (9.9 to 11.2) in standard length, 2.0 (2.0 to 2.3) in head length; length rictal barbel 10.0 (9.8 to 15.9) in standard length, 2.1 (2.2 to 3.1) in head length; greatest axial length of lower lip 3.6 (3.1 to 5.2) in head length.

Body scutes in longitudinal lateral series, first scute the one following the cleithrum, last scute the middle triangular one on caudal fin base (left/right) 34/34 (34 to 35/33 to 36). Two postoccipital scutes, predorsal

TABLE I. — *Metaloricaria paucidens*. Actual
a) I. R. Sc. N. B. 549; b) I. R. Sc. N. B. 550; c) I. R. Sc. N. B. 551;

measurements in millimeters to the nearest tenth;
d) Z. M. A. 112.741; e) I. R. Sc. N. B. 552; f) I. R. Sc. N. B. 553

Specimen	a	b	b	b	b	c	d	e	e	e	f	f	f	f
Standard length	270.0	173.0	149.0	139.5	142.0	171.0	234.5	225.0	158.5	85.8	166.5	144.5	101.0	81.5
Axial length	295.0	189.6	162.7	153.5	156.0	190.0	257.0	244.0	174.0	±95.0	182.0	157.0	111.0	89.0
Total length	—	196.5	168.5	160.8	161.1	205.0	272.0	262.0	±183.0	±98.0	194.0	166.0	116.0	92.5
Predorsal length	75.4	45.5	40.4	37.9	38.4	46.2	66.9	64.0	43.0	25.2	44.4	39.0	27.9	23.5
Postdorsal length	169.9	111.7	94.6	88.9	90.7	107.5	145.4	139.6	101.9	53.5	107.8	92.0	64.9	50.6
Head length	56.0	34.0	29.9	27.7	28.4	34.4	49.0	45.8	32.0	18.9	32.7	28.6	21.1	18.3
Head width	50.7	31.4	26.5	24.8	24.8	30.1	42.9	41.1	28.6	17.2	29.8	25.4	18.7	15.2
Head depth	23.9	13.4	12.6	11.9	11.2	14.1	21.4	19.4	12.6	7.5	12.7	11.4	7.3	6.7
Body depth at D-origin	25.1	14.3	13.0	12.5	12.0	15.8	21.4	18.7	12.9	7.7	13.0	11.4	7.6	6.8
Body width at D-origin	43.3	26.2	22.6	20.4	19.9	25.8	34.8	34.8	24.0	12.6	23.3	18.8	13.9	11.2
Body width at A-origin	39.4	23.8	20.0	18.4	18.2	24.8	32.0	31.6	20.6	11.5	20.7	17.9	12.2	9.8
Snout length	34.7	19.5	16.9	15.7	16.2	19.8	30.2	28.1	18.6	10.1	19.1	16.7	11.8	9.6
Eye diameter	8.1	6.8	5.6	5.6	5.4	6.7	7.6	7.9	6.2	4.0	6.0	5.6	4.6	3.5
Orbital rim diameter	10.0	7.4	6.6	6.3	6.6	7.8	9.1	8.8	7.1	4.5	7.0	6.5	5.3	4.3
Interorbital width	12.3	6.7	5.6	5.6	5.0	6.5	9.6	8.6	6.1	3.3	6.2	6.0	3.9	3.2
Internasal width	7.2	5.0	4.7	3.9	3.9	5.2	6.5	5.4	4.9	3.0	4.6	4.6	3.5	2.6
Dorsal spine length	56.2	40.5	31.7	—	30.2	41.8	53.9	52.6	35.8	17.5	39.5	30.4	21.3	16.5
Length first dorsal ray	55.1	38.1	30.2	31.7	28.1	40.4	51.2	51.5	34.0	16.5	38.7	30.3	20.4	16.1
Length last dorsal ray	24.0	13.6	10.7	12.4	10.7	13.0	16.3	17.1	13.8	7.3	14.3	12.0	9.7	6.7
Dorsal fin base	24.7	15.8	14.0	12.7	12.9	17.3	22.2	21.4	13.6	7.1	14.3	13.0	8.2	7.4
Anal spine length	40.9	25.0	20.0	17.5	19.1	26.4	33.6	32.1	22.3	11.6	24.0	19.2	14.6	10.8
Pectoral spine length	41.9	33.9	28.7	26.7	29.0	34.5	47.4	45.7	32.5	17.4	32.3	29.3	20.2	15.5
Pelvic spine length	43.5	27.3	21.9	16.5	22.0	27.7	39.0	36.7	25.2	12.9	26.8	22.2	15.4	12.0
Upper caudal spine length	—	22.9	—	18.6	18.5	—	>29.0	>28.5	24.0	—	24.5	—	14.6	9.4
Lower caudal spine length	33.5	22.9	19.3	22.0	20.1	29.9	36.6	37.7	—	12.2	27.4	22.9	15.7	10.3
Cleithral width	51.8	31.8	27.0	25.3	26.2	31.5	44.7	43.2	29.5	17.4	30.9	26.4	18.9	15.8
Supra-cleithral width	39.8	23.7	19.8	18.6	18.7	23.9	33.4	31.7	21.0	12.5	22.1	19.1	13.2	11.0
Thoracic length	35.0	22.9	18.7	18.3	17.4	19.6	27.4	29.0	20.3	11.2	18.0	16.9	12.4	10.8
Abdominal length	47.9	28.6	23.4	22.7	22.4	28.7	37.7	38.4	25.8	14.6	26.9	21.5	15.4	12.5
Post-anal peduncular length	140.0	95.7	79.7	77.5	78.2	97.3	126.0	119.0	85.0	45.4	92.9	80.6	56.0	44.4
Depth caudal peduncle	6.2	2.8	2.6	2.1	2.1	2.8	3.8	3.6	2.3	1.1	2.4	2.0	1.3	1.1
Width caudal peduncle	9.2	5.2	3.9	3.8	3.9	5.3	7.0	6.9	4.4	1.7	4.2	3.8	2.4	1.8
Anus-anal fin origin	27.6	16.7	14.0	14.1	13.8	16.6	22.0	21.9	14.4	8.3	15.8	12.9	9.1	7.8
Length rictal barbel	27.0	13.6	12.4	8.8	11.7	15.1	21.5	21.0	13.1	8.8	14.4	11.4	7.7	6.4
Axial length lower lip	15.7	9.3	8.6	5.3	8.1	9.1	14.3	12.5	8.7	6.2	9.0	8.8	6.0	5.5

scute not included. Three pairs of scutes between anus and anal fin origin. Oblong scutes on thorax between last pectoral fin ray and pelvic spine (left/right) 8/7 (6 to 8/4 to 8). In specimens longer than about 150 mm standard length the interthoracic area is completely covered with irregular polygonal small scutes, about eight to ten between pelvic spine insertions, becoming gradually smaller anteriorly, leaving a naked median notch on the intercoracoid area.

Fin spine and ray counts : dorsal fin I.6, last ray split to its base; anal fin I.4, last ray split to its base; pectoral fin I.6; pelvic fin I.5; principal caudal fin rays I.12.I, outer ones unbranched, probably not forming filamentous extensions. Fin rays, particularly in pectoral fin, richly branched.

Teeth in both jaws, about equal in length. In the upper jaw there are (left/right) 19/19 (7 to 17/5 to 15) teeth. Apparent replacement — non erect — teeth in upper jaw were observed in a paratype 171 mm standard length (I. R. Sc. N. B. 551), two in the left half next to 11 functional teeth, and in a paratype 158.5 mm standard length (I. R. Sc. N. B. 552), two in the right half next to 10 functional teeth. In the lower jaw there are (left/right) 19/18 (8 to 17/9 to 17 or 18) teeth. Non erect, or replacement teeth were found in three cases to occur in the lower jaw, viz. in the specimen I. R. Sc. N. B. 551, one in the left half next to 14 functional teeth, in the specimen I. R. Sc. N. B. 552, about five in the right half next to about 13 functional teeth, and in a specimen 166.5 mm standard length (I. R. Sc. N. B. 553), one in the right half next to 14 functional teeth. As shown in fig. 4, there is some variation in shape of the teeth. Whether this variation is due to age or sex of the specimen, or a matter of age of the teeth is hard to tell.

There is a very slight depression in the tail at about the 23d longitudinal lateral body scute. In most specimens this depression can easily be overlooked.

Dermal ossifications and fin spine and rays covered with minute lanceolate denticles, those along longitudinal lateral edges of body scutes very weakly developed as compared to other species of Loricariinae. Tip of snout naked, except for a series of very small dermal scutes in front of dorsal side of upper lip. Coalescing scutes (left/right) 23/21 (21 to 24/20 to 25).

Head rather triangular in dorsal view, ventral edges weakly roundish. Dermal ossification of head extends ventrally, forming a somewhat triangular scute, reaching the branchiostegal flap posteriorly.

Eye rather large, slightly oval in shape, covered with a narrow dorsal — pale tan coloured — skinny flap, which ventrally extends a little with a small rounded flap. Iris partly covered with a large, ventrally pointed flap. No posterior orbital notch. Shape of orbital rim much like that found in *Harttia*. Supraorbital edges slightly raised.

Ventral side of lips close-set with minute papillae, except for rictal barbels, which are smooth. Papillae of upper lip and along outer edge of

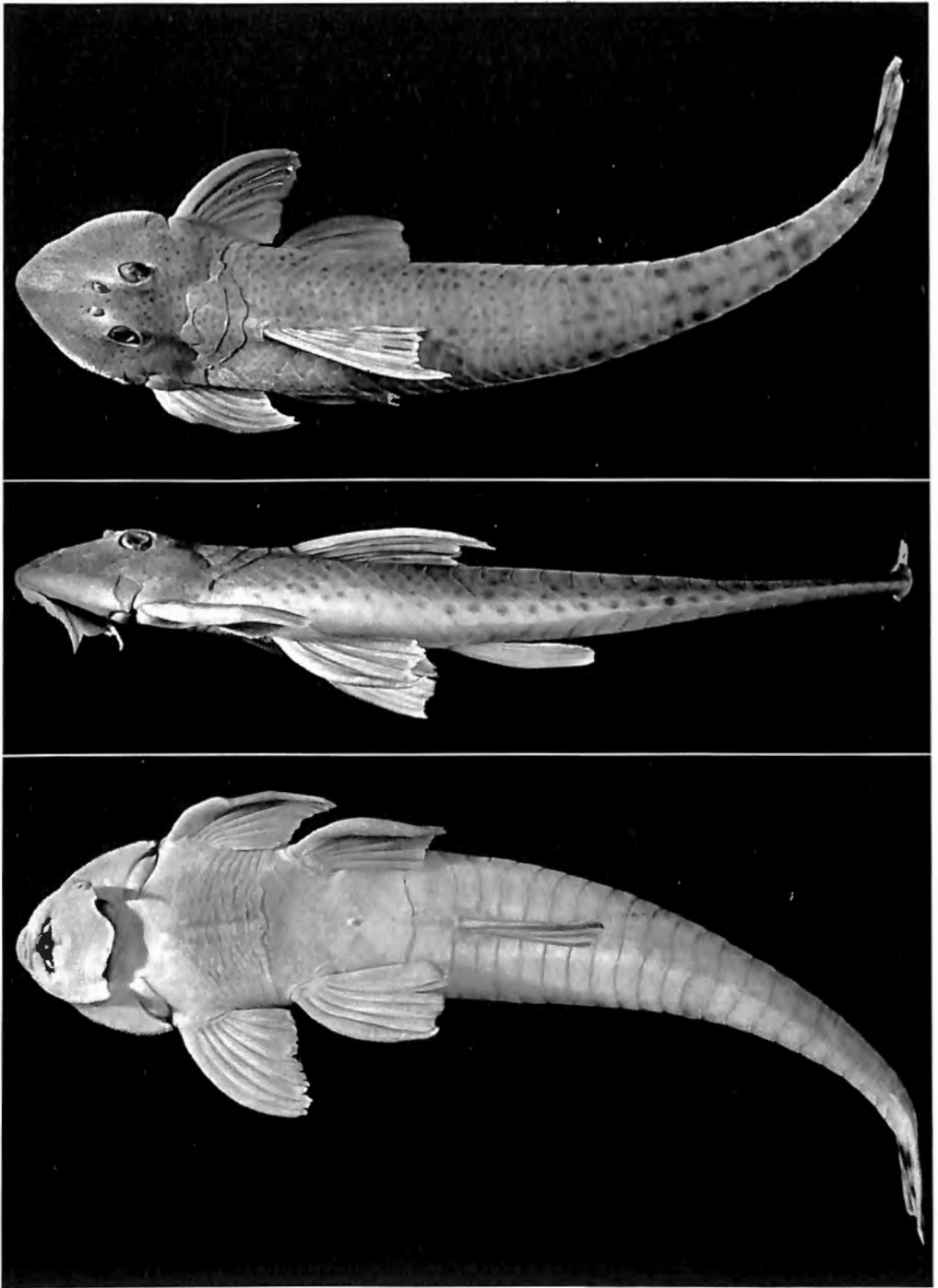


Fig. 1. — *Metaloricaria paucidens*. Holotype in dorsal (above), lateral (centre), and ventral (below) view.

I. J. H. ISBRÜCKER. — *Metaloricaria paucidens*, a new species and genus of mailed catfish from French Guiana (Pisces, Siluriformes, Loricariidae).



Fig. 2. — *Metaloricaria paucidens*. Paratype (I. R. Sc. N. B. 552, standard length 85.8 mm) in dorsal (left) and lateral (right) view.

I. J. H. ISBRÜCKER. — *Metaloricaria paucidens*, a new species and genus of mailed catfish from French Guiana (Pisces, Siluriformes, Loricariidae).

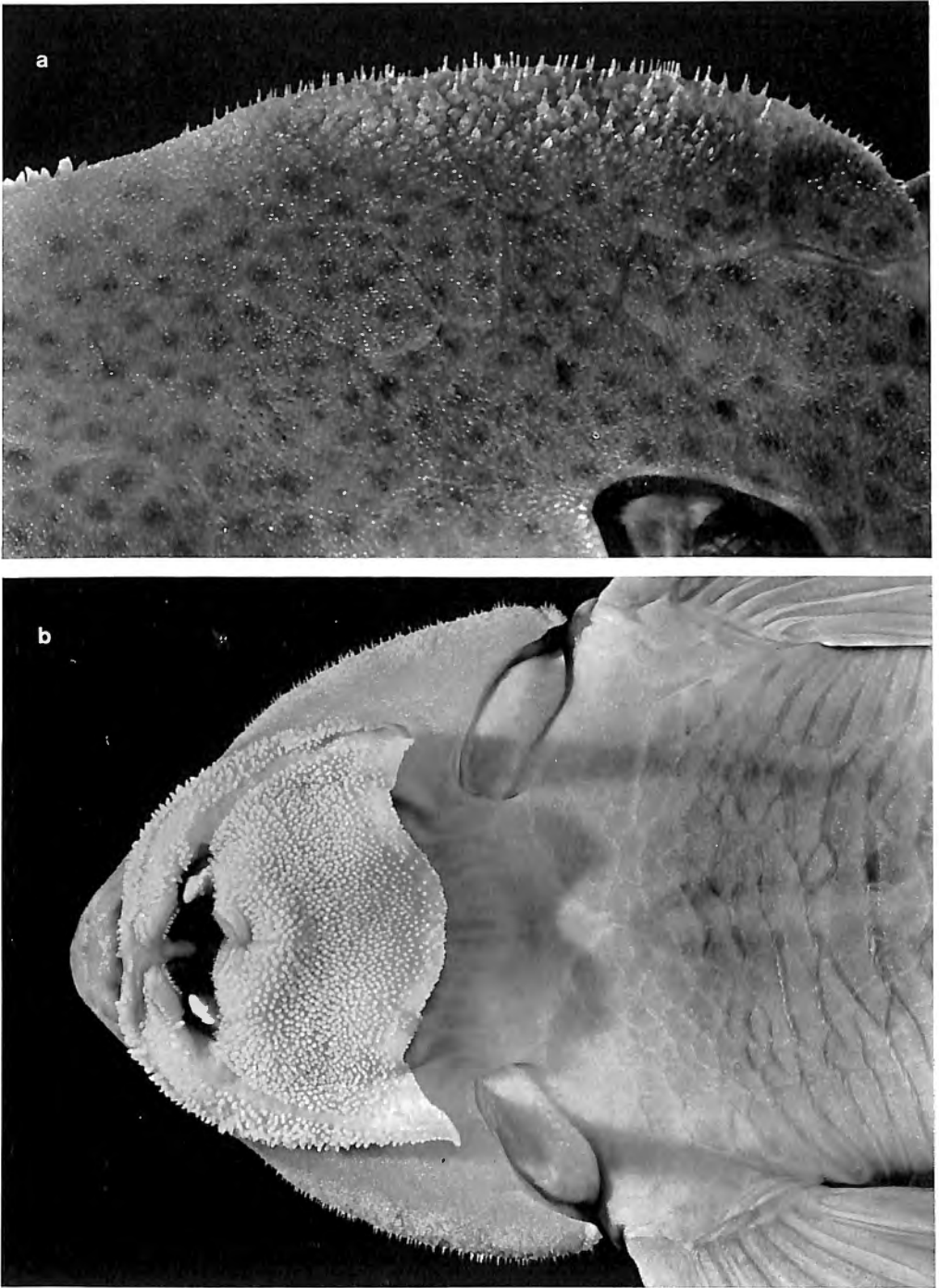


Fig. 3. — *Metaloricaria paucidens*. a) bristles on right cheek of holotype, in dorsal view, b) head in ventral view of holotype.

I. J. H. ISBRÜCKER. — *Metaloricaria paucidens*, a new species and genus of mailed catfish from French Guiana (Pisces, Siluriformes, Loricariidae).

rietal barbels up to about 3 to 4 times longer than those on lower lip surface. The lower lip is broad, the edge with relatively small papillae, and nearly straight or slightly rounded posteriorly, rather than narrow and semicircular as found in *Harttia*.

Buccal cavity with a large, smooth flap between upper jaws, and with a large papillated flap at either side between upper and lower jaws.

Pores of the sensory canal system present on head and between converging and parallel edges of longitudinal lateral series of body scutes, the latter pores mostly bifurcated.

The spines of pectoral and pelvic fins are distinctly thicker in adult specimens than in juveniles. Whether the thickness of these spines differs in females and males of the same size, is not clear from the specimens at hand.

Colour in alcohol (see figs. 1 and 2). — Ground colour of dorsal sides of head and body very pale tan, of ventral sides of head and body very pale yellow. Head and predorsal area with numerous, minute to small, brownish, ill-defined dots. Body posterior to pectoral fin base with numerous small to rather large, brownish, ill-defined dots, in many specimens tending to form more or less regular rows, especially along longitudinal lateral body scutes, middorsal posterior to last dorsal fin ray, and along dorsal scutes where these meet the longitudinal lateral body scutes.

In some specimens there are up to three narrow transverse brown bands posterior to last third of standard length (see fig. 2). The largest specimen (standard length 225 mm), showing distinct traces of such bands, is in I. R. Sc. N. B. 552.

Dorsal fin spine and rays usually faintly spotted with tan, in larger specimens the membrane with a faint, ill-defined brownish pigmentation. Pectoral fin membrane with some faint brownish spots in specimens up to about 160 mm, evenly reddish-tan in larger specimens. Pelvic fin membrane in two smallest specimens (standard lengths 81.5 and 85.8 mm) with few concentrations of brownish pigment, plain reddish-tan in larger specimens. Anal fin without pigmentation. Base of caudal fin (on and just about triangular scutes) black. Distal end of lower lobe mostly with a distinct, large black or brown irregular blotch, sometimes covering posterior half of the lobe. Upper lobe usually with one to three irregular oblique rows of brown or black spots, mostly confined to the rays, reaching the blotch in lower lobe in some specimens.

Bristles of the male (see figs. 1 and 3). — The holotype and one of the paratypes (Z. M. A. 112.741, standard length 234.5 mm) can be recognized as mature males by the development of bristles. These are confined to the posterior two-thirds (approximately) of the snout margin. The bristles are quite short, up to about 1 mm in the holotype. They are very slender, straight, erect, the yellowish tip pointed. The bristles are originating from a layer of thick, rough skin. In the paratype Z. M. A. 112.741, the development of bristles is less advanced than in the

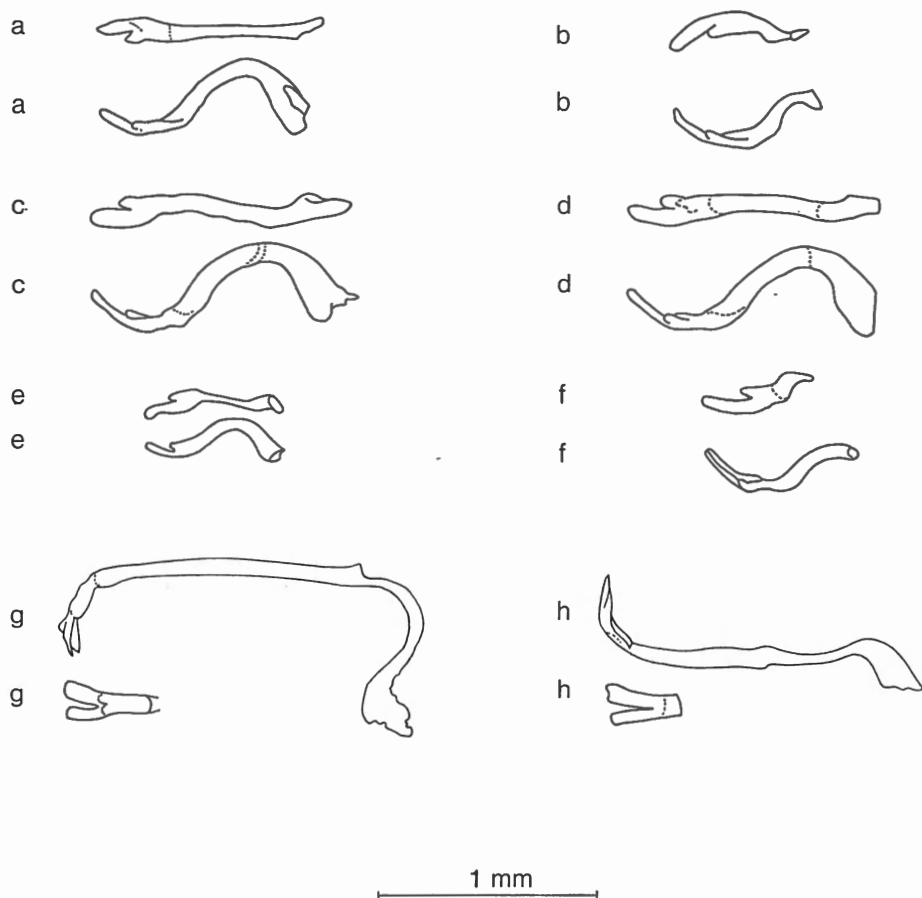


Fig. 4. — Profiles of teeth of *Metaloricaria paucidens* (a-f), *Harttia surinamensis* (g), and *Harttia maculata* (h).

- a. — functional tooth from right upper jaw of I. R. Sc. N. B. 552, standard length 158.5 mm;
- b. — replacement tooth from right upper jaw of I. R. Sc. N. B. 552, standard length 158.5 mm;
- c. — functional tooth from right lower jaw of I. R. Sc. N. B. 552, standard length 158.5 mm;
- d. — replacement tooth from right lower jaw of I. R. Sc. N. B. 552, standard length 158.5 mm;
- e. — largest (functional) tooth from right upper jaw of I. R. Sc. N. B. 553, standard length 81.5 mm;
- f. — largest (functional) tooth from right lower jaw of I. R. Sc. N. B. 553, standard length 81.5 mm;
- g. — functional tooth from right lower jaw of Z. M. A. 106.520, standard length 165.0 mm;
- h. — functional tooth from right lower jaw of Z. M. A. 110.726, standard length 148.0 mm.

holotype, the area covered by them being smaller and narrower, and not yet as much affected by the bristle-bearing skin.

There is no indication of bristle development in the predorsal area, neither on the pectoral fin spine and rays. It is possible that the bristles found in the holotype and one paratype do not show their maximum development.

Etymology. — From *paucus* (Latin) meaning few, and *dens* (Latin) meaning tooth, in reference to the comparatively low number of teeth, as compared to species of the genera *Harttia*, *Sturisoma*, *Lamontichthys*, and *Harttiella*.

Discussion. — As already stated above, *Metaloricaria paucidens* is related with *Harttia* (including *Parasturisoma*, sensu BOESEMAN, 1971, in part), sharing the number of I, 12, I caudal fin rays and the lack of an orbital notch. The dentition, however, is very different (compare figs. 4a-f with figs. 4g and 4h, of *Metaloricaria paucidens*, *Harttia surinamensis* BOESEMAN, 1971, and *Harttia maculata* (BOESEMAN, 1971), respectively). Especially the shape and structure of the lower lip of *Metaloricaria paucidens* is very different from those found in *Harttia* and the related genera *Sturisoma*, *Lamontichthys*, and *Harttiella*.

NOTE ADDED IN PROOF.

Acestridium HASEMAN, 1911 is now placed into a separate subfamily : Acestridiinae ISBRÜCKER & NIJSSEN, 1974 (*Beaufortia*, 22(290) : 67-81).

LITERATURE

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