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HYPOSTOMUS NEMATOPTERUS, A NEW SPECIES OF MAILED CATFISH FROM THE OYAPOCK RIVER SYSTEM, FRENCH GUIANA (PISCES, SILURIFORMES, LORICARIIDAE)

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ABSTRACT

Hypostomus nematopterus n.sp. is described (and illustrated) from the Oyapock river system, French Guiana. The relationship of this species with *Hypostomus gymnorhynchus* (Norman, 1926) is discussed.

INTRODUCTION

Hypostomus Lacepède, 1803, is the most speciose genus of the family Loricariidae: approximately 120 species have been described (Isbrücker, 1980). The great majority of *Hypostomus* species are still imperfectly known. Many museum collections contain rich unidentified and misidentified material. Only two regions within the very large area of distribution of *Hypostomus* are relatively well known, viz., S.E. Brazil (Gosline, 1947) and Surinam (Boeseman, 1968, 1969). Sympatric *Hypostomus* species are usually well distinguishable from each other, whereas the differences often seem subtle between species occurring in different river systems. Considering this, we realize that the formal naming of *Hypostomus nematopterus* might seem of little use.

However, the holotype is in a perfect state of preservation. The species shows several characters (one of which is extraordinary) enabling to distinguish *Hypostomus nematopterus* from all other species and it is the first species of the genus known from the Oyapock river system (a second *Hypostomus* species, yet unidentified, occurs in the same system). These circumstances seem to be sufficient to publish the description and illustrations now.

We are grateful to the collectors of the material examined: Dr. J.-P. Gosse and Mr. F. d'Aubenton. Mr. L.A. van der Laan made the photographs.

Hypostomus nematopterus n.sp.

(Fig. 1; Table I)

Etymology.-

nema (Greek), thread; pteron (Greek), wing,

i.e. fin. In allusion to the filamentous dorsal fin.

Material.-

Holotype, Institut Royal des Sciences Naturelles de Belgique, Bruxelles, IRSNB 689, SL 100.7 mm, French Guiana, Alikene Creek, left bank tributary to Camopi River, Oyapock river system, coll. J.-P. Gosse, 1-XII-1969. Paratype, Instituut voor Taxonomische Zoölogie, Amsterdam, ZMA 107.804, SL 75.6 mm, rapids "Trois Sauts" in upper Oyapock River (02°15'N, 52°53'W), coll. F. d'Aubenton, 28-IX-1976.

Diagnosis.-

Hypostomus nematopterus differs from all other *Hypostomus* spp. by its extremely long dorsal fin spine and anterior branch of its first dorsal fin ray. The spine extends to beyond the caudal fin base.

Additional distinguishing characters are discussed below.

Description.-

Most of the morphometric data are given in Table I.

Additional measurements of the holotype.- Length of the anterior branch of the first dorsal fin ray 55.0 mm (1.8 times in standard length, SL; 0.6 times in head length, HL), length of the posterior branch 40.3 mm (2.5 in SL, 0.8 in HL). Length of the anterior branch of the second dorsal fin ray 35.1 mm (2.9 in SL, 0.9 in HL). Length of the posterior branch of the last dorsal fin ray 19.1 mm (5.3 in SL, 1.6 in HL), reaching to base of adipose fin spine. Length of mandibular ramus 5.1 mm (2.1 times interorbital width).

Selected morphometric data of the paratype (which is not in perfect state of preservation).- SL 75.6 mm. Total length 113.7 mm. Head length 25.1 mm (3.0 in SL). Interdorsal length 5.0 in SL, 1.7 in HL. Dorsal spine length 1.8 in SL, 0.6 in HL. Upper caudal spine length <2.7 in SL, <0.9 in HL. Lower caudal spine length <2.0 in SL, <0.7 in HL. Snout length 5.3 in SL, 1.8 in HL. Maximum orbital diameter 13.7 in SL, 4.6 in HL. Interorbital width 9.2 in SL, 3.1 in HL. Depth caudal peduncle 11.1 in SL, 3.7 in HL. Depth caudal peduncle in interdorsal length 2.2

Counts (holotype and paratype): Lateral body scutes, including small triangular scutelet on caudal fin base 27. Predorsal scutes, between supraoccipital process and the small procurrent predorsal spinule, 3. A narrow, curved predorsal scutelet in front of the procurrent predorsal spinule extends along the dorsal fin spine base, followed by 8 scutes enclosing the dorsal fin. Seven scutes between dorsal fin and base of adipose fin spine, and 5 between adipose fin spine and base of caudal fin. One azygous preadipose scutelet is present. Base of adipose fin membrane extends on two scutes. Scutes in anterior transverse series, just behind the head 4+1+4. The first predorsal scute (like the scute which reaches the supraoccipital process) is counted as 1, though it consists of two medially fused parts, which is usually visible in Loricariidae. Two scutes along anal fin base, and 13 between base of last anal fin ray and caudal fin base.

Number of premaxillary teeth (left/right) 25/26 in the holotype, 31/33 in the paratype. Number of mandibular teeth 25/25 in the holotype, 29/30 in the paratype.

D I,7. A I,4. P_1 I,6. P_2 I,5. C I,14,I. Four procurrent rays in front of the upper caudal fin lobe, 1 in front of the lower lobe.

Form and structure (Fig. 1): Abdomen naked, except for a series of irregular and very small scutelets between pectoral and pelvic fins. Widely scattered, minute scutelets bearing odontodes between base of pectoral fin spines.

Lateral line complete, faintly visible; some pores are bifid.

Outer surface of upper lip with some small ossifications bearing odontodes. Tip of snout with a rather large, horizontal naked area.

Head smooth, covered with minute odontodes; orbital rim slightly raised dorsally; supraoccipital process prominent.

Scutes with series of horizontally arranged, small odontodes; four longitudinal series of more prominent odontodes on body scutes.

Posterior margin of interoperculum with (left/right) 7/5 prominent odontodes in the holotype.

Cleithrum low, with a slightly oblique, posterior extension.

Lower lobe of caudal fin much longer than

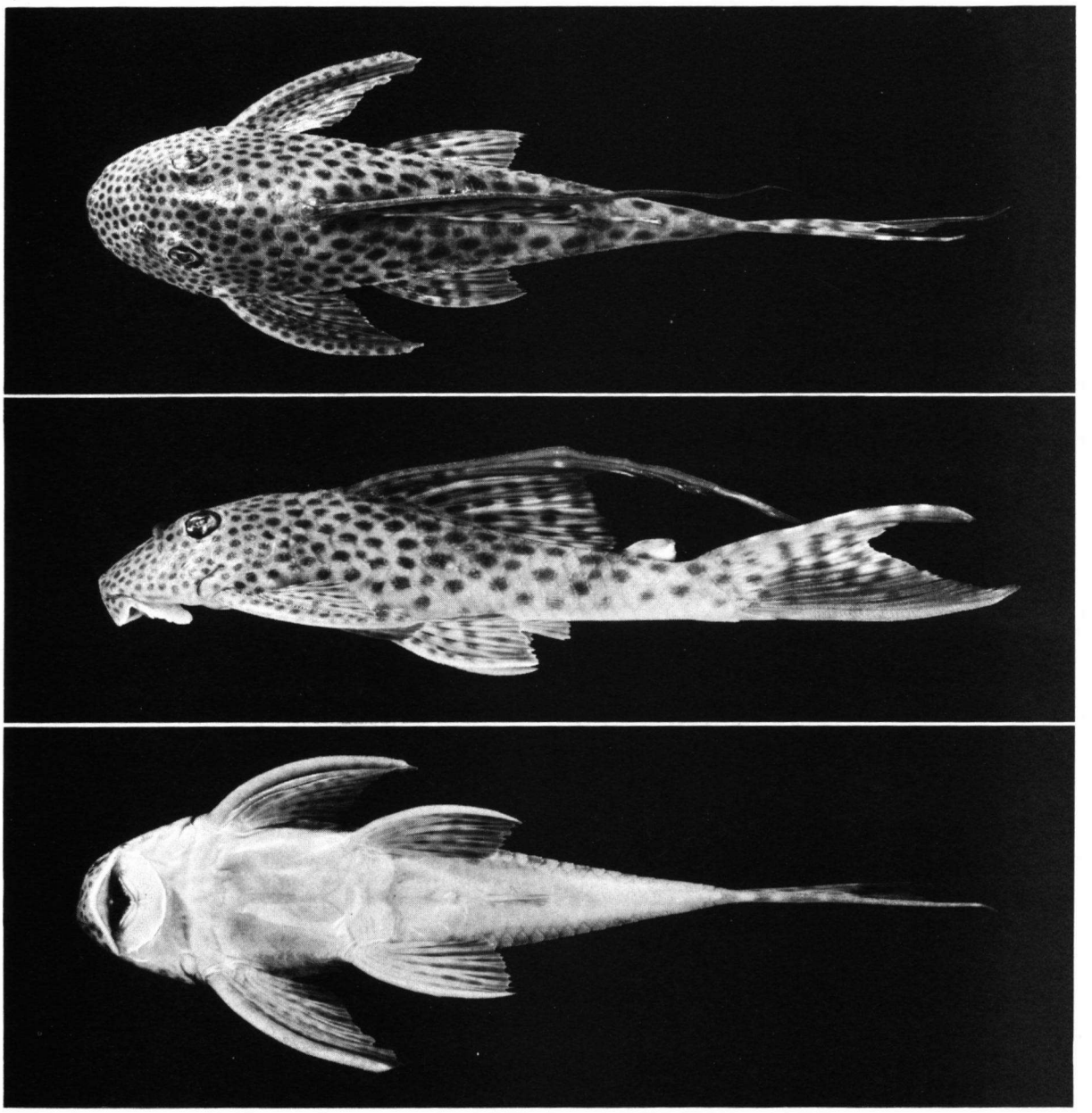

Fig. 1. *Hypostomus nematopterus* n.sp., holotype in dorsal, lateral and ventral view.

the upper lobe; caudal fin forked and large.

Most structures, especially of mouth and lips, same as in *Hypostomus plecostomus* (Linnaeus, 1758) (Isbrücker & Nijssen, 1983: 108-110, figs. 4-5).

Colour of the holotype, in alcohol (Fig. 1): Ground colour of ossified parts yellowish, of naked parts lighter.

Sides and dorsum of head and body with brown spots (sometimes oval), those on the snout be-

-ing about 1.2 mm in diameter, those occurring posteriorly becoming gradually larger and fewer (about 3.0 mm in diameter on body).

Dorsal fin spine and first rays (including membrane) greyish brown. Remainder of this fin light chestnut, with many large brown spots, confined mainly to the membrane.

Adipose fin spine greyish; membrane whitish.

Pectoral and anterior third of pelvic fin with prominent brown spots, those on the pectoral fin rays smaller than on the spine and on the pelvic fin.

Tip of upper caudal fin lobe and about half of lower lobe (horizontally) with dense greyish brown pigment. About five series of small brown spots, forming ill-defined, vertical narrow bars.

Anal fin hyaline, except for widely scattered dark chromatophores.

DISCUSSION

Boeseman (1968, 1969) reviewed the Surinam forms of the genus *Hypostomus*, including two species from French Guiana, viz., *Hypostomus verres* Valenciennes, in Cuvier & Valenciennes, 1840 (from "Cayenne") and *H. gymnorhynchus* (Norman, 1926) (from Iponcin Creek, into Approuague River).

Boeseman recognized a total of sixteen species and three subspecies from Surinam and French Guiana. These subspecies (*Hypostomus gymnorhynchus occidentalis* Boeseman, 1968, *H. gymnorhynchus tapanahoniensis* Boeseman, 1969, and *H. pseudohemiurus macrophthalmus* Boeseman, 1968) were subsequently ranked as species by Isbrücker (1980).

On the basis of the ratio "depth of caudal peduncle in interdorsal length", Boeseman (1968) distinguished two groups, the *Hypostomus plecostomus*-group (depth of caudal peduncle 1.35-1.7 times in interdorsal length), and the *Hypostomus watwata*-group (depth of caudal peduncle 1.8-2.7 times in interdorsal length). *Hypostomus nematopterus* has the depth of the caudal peduncle contained 2.2 times in the interdorsal length, and thus can be attributed to Boeseman's *H. watwata*-group.

In Boeseman's (1968: 30-31) key to Surinam species of *Hypostomus*, *H. nematopterus* approaches *H. sipaliwinii* Boeseman, 1968, *H. surinamensis* Boeseman, 1968, *H. gymnorhynchus* (Norman, 1926), -which included *H. tapanahoniensis* Boeseman, 1969- and *H. occidentalis* Boeseman, 1968. A comparison of Boeseman's descriptions and illustrations indicates that *H. nematopterus* is most closely related to *H. gymnorhynchus*.

Hypostomus gymnorhynchus was described originally from the Approuague River (a large basin running west of, and somewhat parallel to the Oyapock River drainage). *H. gymnorhynchus* is still known from the holotype only (Boeseman, 1969), which is 145 mm in standard length (Boeseman, 1969, Table 4), about 45 mm longer than the holotype of *H. nematopterus*. *Hypostomus gymnorhynchus* was redescribed and illustrated by Boeseman (1968: 45-47, pl. 5, figs. 1-2). It has the last dorsal fin ray considerably shorter than the interdorsal length, whereas in *H. nematopterus* the last dorsal fin ray almost reaches the adipose fin spine base. *Hypostomus gymnorhynchus* has 22 teeth on each mandibular ramus (a few perhaps hidden in the gums, as suggested by Boeseman), whereas the smaller *H. nematopterus* has 25 to 33 teeth; *Hypostomus* spp. are known to have an increasing number of teeth during growth. The major difference between *H. gymnorhynchus* plus all other *Hypostomus* spp. and *H. nematopterus* is the filamentous dorsal fin in the latter. In addition, *Hypostomus gymnorhynchus* and *H. nematopterus* differ in the size and number of dark spots on head and body: these are more conspicuous and less numerous in the latter than in the former species; compare our Fig. 1 with those of the holotype of *H. gymnorhynchus* in Boeseman, 1968, pl. 5, figs. 1-2, and in Boeseman, 1969, fig. 5a.

REFERENCES

BOESEMAN, M., 1968. The genus Hypostomus Lacepède, 1803, and its Surinam representatives (Siluriformes, Loricariidae).- Zool. Verh. Leiden, 99: 1-89, 18 pls.

------, 1969. Additional new species of Hypostomus Lacépède, 1803, from Surinam; with remarks on the apparent "gymnorhynchus-complex" (Siluriformes, Loricariidae).- Beaufortia, 16 (215): 119-136.

GOSLINE, W.A., 1947. Contributions to the classification of the loricariid catfishes.- Arq. Mus. nac. Rio de Janeiro, 41: 79-134, 9 pls.

ISBRÜCKER, I.J.H., 1980. Classification and catalogue of the mailed Loricariidae (Pisces, Siluriformes),- Verslagen en technische Gegevens, Inst. taxon. Zoöl. (Zoöl. Mus.), Univ. Amsterdam, 22: 1-181.

------ & H. NIJSSEN, 1983. Aphanotorulus frankei, une espèce et un genre nouveaux de Poissons-Chats cuirassés de Bassin du Rio Ucayali au Pérou (Pisces, Siluriformes, Loricariidae).- Rev. fr. Aquariol. Herpétol., 9 (4): 105-110.

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	A	B	C
Standard length	100.7	100.7	100.7
Axial length	123.3	-	-
Total length	146.8	-	-
Head length	31.2	3.2	-
Predorsal length	38.4	2.6	0.8
Postdorsal length	36.4	2.8	0.9
Postanal length	33.1	3.0	0.9
Dorsal fin base	27.1	3.7	1.2
Interdorsal length	20.0	5.0	1.6
Dorsal spine length	76.7	1.3	0.4
Anal spine length	10.4	9.7	3.0
Anal fin height	10.9	9.2	2.9
Pectoral spine length	33.1	3.0	0.9
Pelvic spine length	27.1	3.7	1.2
Adipose spine length	8.2	12.3	3.8
Upper caudal spine length	40.1	2.5	0.8
Lower caudal spine length	45.3	2.2	0.7
Snout length	18.8	5.4	1.7
Lower lip length	5.1	19.8	6.1
Maxillary barbel length	7.5	13.4	4.2
Thoracic length	23.9	4.2	1.3
Abdominal length	21.8	4.6	1.4
Maximum orbital diameter	6.9	14.6	4.5
Interorbital width	10.9	9.2	2.9
Cleithral width	27.4	3.7	1.1
Supracleithral width	23.9	4.2	1.3
Head width	26.2	3.8	1.2
Head depth	18.1	5.6	1.7
Body depth at dorsal	20.5	4.9	1.5
Body width at dorsal	24.4	4.1	1.3
Body width at anal	15.4	6.5	2.0
Depth caudal peduncle	9.1	11.1	3.4
Width caudal peduncle	4.9	20.6	6.4

Table I. Morphometric data of the holotype of *Hypostomus nematopterus* n.sp. A) measurements in mm, B) ratios of standard length, C) ratios of head length.