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STATUS OF THE PRIMARY HOMONYMOUS SOUTH AMERICAN CATFISH *LORICARIA CIRRHOSA* PERUGIA, 1897, WITH REMARKS ON SOME OTHER LORICARIIDS (PISCES, SILURIFORMES, LORICARIIDAE)

The Loricariidae, or Mailed Catfishes, are primary freshwater fishes confined to large parts of South America. The most recent revision is that of Regan, 1904. Due to numerous additions of nominal species and genera, the family needs a careful revision, although some subsequent revisions of lower taxa within the family are available. The present paper is one of a series in which the author attempts to contribute to such a revision by redescribing and figuring the material on which old, poorly known nominal species were based.

Perugia (1897) described *Loricaria cirrhosa* as a new species. However, the specific name *cirrhosa* was already preoccupied, for Bloch & Schneider (1801) described *Loricaria cirrhosa*, a nominal species that was correctly synonymized with *Loricaria cataphracta* Linnaeus, 1758, by Valenciennes, in Cuvier & Valenciennes, 1840:476. Perugia's original description appears to have escaped notice, until Tortonese (1963:311) pointed out that Perugia's description was based on four syntypes. Tortonese stated to be aware of dealing with a junior homonym, and suggested some relationship to species like *Loricaria vetula* Valenciennes, in Cuvier & Valenciennes, 1840, and *Loricaria apeltogaster* Boulenger, 1895. Isbrücker (1972:187) also briefly discussed *Loricaria cirrhosa* Perugia, and noticed a close resemblance with a - at that time unidentified - species. The latter was represented by three specimens from the original series on which *Loricaria lata* Eigenmann & Eigenmann, 1889, was based. The lectotype and remaining paralectotypes of *Loricaria lata* greatly differ from these three specimens, which

were thought to be more closely related to *Loricaria evansii* Boulenger, 1892, rather than to *Loricaria cataphracta* Linnaeus, 1758.

Subsequent direct comparison of the four syntypes of *Loricaria cirrhosa* Perugia, with the holotype of *Loricaria evansii* yielded evidence that they are very closely related. Several small differences found, may indicate specific or subspecific distinction between PERUGIA's and BOULENGER's specimens, although it is not at all excluded that all these specimens represent one species only. However, this is difficult to judge from the specimens at hand. The holotype of *Loricaria evansii* clearly shows characters known in the adult males of many species of Loricariidae, viz. the development of stiff bristle-like denticles along the snout margin, noticeable tough spines on the dorsal side of the pectoral fin spine and some rays, and a rather broad head, whereas such denticles and spines are not developed in the four syntypes of *Loricaria cirrhosa* Perugia, and in the three specimens separated from the original *Loricaria lata* series, which all have the head less broad than the holotype of *Loricaria evansii*. Samples with mature males and females are needed to obtain evidence concerning the nature of the differences found. Therefore, *Loricaria cirrhosa* Perugia, *Loricaria lata*, *sensu lato*, and *Loricaria evansii* are tentatively united in the present paper.

Loricaria evansii is very different from *Loricaria cataphracta*, the type species of the genus, and may prove not even to belong to the genus *Loricaria*. It seems, however, inadvisable to merely transfer *Loricaria evansii* into another genus, as no sufficient review of generic interrelationships is available. A discussion of some generic concepts is given below, as a preliminary speculation on the future generic allocation of *Loricaria evansii* and a number of related species.

The author is much obliged to Prof. Dr. E. Tortonese (Museo Civico di Storia Naturale « Giacomo Doria », Genova, MSNG) for the loan of the syntypes of *Loricaria cirrhosa* Perugia, for the translation of PERUGIA'S original Italian description, and for the preparation of the Italian summary in the present paper. Dr. P.H. Greenwood (British Museum (Natural History), London, BMNH) sent the holotype of *Loricaria evansii* on loan. Mr. A.L. van der Laan (Instituut voor Taxonomische Zoölogie (Zoölogisch Museum), Amsterdam, ZMA) made the photographic illustrations. In the following description, the abbreviation MCZ refers to the Museum of Comparative Zoology, Cambridge, U.S.A.

Loricaria evansii Boulenger, 1892

(Figs. 1-3, table 1)

Loricaria lata; Eigenmann & Eigenmann, 1889:36-37 [in part; composite original description; locality: Brazil, Goyaz]; - Eigenmann & Eigenmann, 1890:384-385 [based on preceding reference].

Loricaria Evansii Boulenger, 1892:10-11, pl. 1 [original description; type locality: Brazil, Province of Matto Grosso, Jangada; holotype in British Museum (Natural History), London, BMNH 1892.4.20.29].

Loricaria evansii; Regan, 1904:290 [on the holotype; description; classified within the subgenus *Loricaria* in key on page 273].

Loricaria evansi; Fowler, 1945:126 [in original description of *Euacanthagenys caquetae*].

Loricaria cirrhosa Perugia, 1897:22-23 [non *Loricaria cirrhosa* Bloch & Schneider, 1801, senior primary homonym; original description; type locality: Bolivia, Rio Beni, Missioni Mosetenes; lectotype in Museo Civico di Storia Naturale, Genova, MSNG 8850]; - Tortonese, 1963:311 [on the four syntypes; discussion]; Isbrücker, 1972:187 [discussion].

« (?) *Loricaria* species incerta sedis »; Isbrücker, 1972:183-186, figs. 11, 12n-o, table 1 [description of three paralectotypes of *Loricaria lata, sensu lato*].

Specimens examined.

One (holotype), BMNH 1892.4.20.29, a ♂, 174.3 mm standard length, Brazil, Est. Mato Grosso, Jangada River, collected by J.W. Evans, exact date unknown; - three (paralectotypes of *Loricaria lata, sensu lato*), MCZ 46722, sex unknown, 102.9 to 108.4 mm standard length, Brazil, Est. Goyaz, exact date and locality (1) unknown, collected by Senhor Honorio; - one (lectotype, by present designation, of *Loricaria cirrhosa* Perugia), MSNG 8850, sex unknown, 161.8 mm standard length, and three (paralectotypes of *Loricaria cirrhosa* Perugia), MSNG 43118 (two), ZMA 112.293 (one), sex unknown, 52.3 to 88.3 mm standard length, Bolivia, Rio Beni, Missioni Mosetenes, collected by L. Balzan, 1893.

Description (for actual measurements see table I). - Morphometric and meristic data of the holotype (BMNH 1892.4.20.29), the lectotype (MSNG 8850) and three paralectotypes (MSNG 43118, ZMA 112.293) of *Loricaria cirrhosa* Perugia, and, in parentheses, the range of the three

(1) In my recent redescription of *Loricaria lata* (ISBRÜCKER, 1972: 171, 179, 181, 183, 187), I thought the Brazilian state of « Goyaz » to represent the type locality, but I overlooked to consult the map of localities in EIGENMANN & EIGENMANN's work of 1890, where « Goyaz » is indicated as a place along a branch of the « Araguay » river. The type locality of *Loricaria lata* hence can be defined as: Brazil, Est. Goiás, Rio Araguaia drainage, upper course of Rio Vermelho at Goiás, (15°57′ S, 50°07′ W).

paralectotypes of *Loricaria lata, sensu lato* (MCZ 46722), respectively: standard length, from tip of snout to base of middle triangular caudal scute 174.3, 161.8, 88.3, 75.6, 52.3 (102.9-108.4) mm; predorsal length, from tip of snout to posterior rim of predorsal shield 2.9, 2.9, 3.0, 3.0, 2.7 (2.9-3.0) in standard length; head length, from tip of snout to end of the occipital process 4.0, 4.2, 4.3, 4.3, 3.9 (4.2) in standard length; head width, taken at the opercle, just before the pectoral spine insertion 4.8, 5.2, 5.1, 5.5, 5.1 (5.1-5.4) in standard length, 1.2, 1.2, 1.3, 1.3, 1.3 (1.2-1.3) in head length; head depth, taken at the end of the occipital process 9.9, 9.9, 9.6, 9.5, 8.9 (10.2-10.3) in standard length, 2.4, 2.3, 2.2, 2.2, 2.3 (2.4-2.5) in head length; snout length, from tip of snout to anteriormost point of the orbital rim 6.8, 7.4, 8.2, 8.0, 7.5 (7.4-7.5) in standard length, 1.7, 1.7, 1.9, 1.9, 1.9 (1.7-1.8) in head length; orbital diameter, a horizontal line from rim to rim, ignoring the notch 7.3, 6.6, 6.8, 6.5, 6.4 (6.4-7.0) in head length; least interorbital width 4.6, 4.9, 4.6, 5.0, 4.7 (4.8-5.2) in head length; internasal width, at the middle of the nostrils 6.6, 6.6, 6.3, 6.3, 5.6 (5.3-5.9) in head length; dorsal spine length 5.3, 5.0, 4.8, 4.9, - (4.9-6.7) in standard length; length first dorsal ray 5.9, 5.4, 5.7, –, – (5.6-6.3) in standard length, 1.5, 1.3, 1.3, –, – (1.3-1.5) in head length; length last dorsal ray 12.5, 11.7, 15.0, –, – (10.4-18.0) in standard length, 3.1, 2.8, 3.4, –, – (2.5-4.3) in head length; dorsal fin base 8.5, 8.3, 8.9, 10.8, 7.9 (9.6-9.9) in standard length, 2.1, 2.0, 2.0, 2.5, 2.0 (2.3) in head length; anal spine length 5.9, 5.3, 5.6, 5.4, 5.1 (5.4-5.6) in standard length, 1.5, 1.2, 1.3, 1.3, 1.3 (1.3) in head length; pectoral spine length 4.8, 4.4, 4.4, 4.5, 4.1 (4.4-4.7) in standard length, 1.2, 1.0, 1.0, 1.0, 1.0 (1.1) in head length; pelvic spine length 5.0, 4.6, 4.6, 4.9, 4.6 (4.3-4.6) in standard length, 1.2, 1.1, 1.0, 1.2, 1.2 (1.0-1.1) in head length; length lower principal caudal 'spine' (unbranched ray) 6.5, 5.9, 6.2, 6.1, – (–) in standard length, 1.6, 1.4, 1.4, 1.4 – (–) in head length; greatest cleithral width 4.5, 5.0, 5.3, 5.3, 4.8 (4.9-5.1) in standard length, 1.1, 1.2, 1.2, 1.2, 1.2 (1.2) in head length; supra-cleithral width 6.3, 6.9, 7.2, 7.2, 6.4 (6.8-7.1) in standard length, 1.6, 1.6, 1.7, 1.7, 1.6 (1.6-1.7) in head length; thoracic length, taken between the spine insertions of pectoral and pelvic fins 5.7, 5.7, 6.2, 6.2, 6.1 (6.8-7.8) in standard length, 1.4. 1.4, 1.4, 1.4, 1.6 (1.6-1.9) in head length; abdominal length, taken between the spine insertions of the pelvic and anal fins 5.2, 5.7, 5.9, 6.2, 5.9 (5.1-5.4) in standard length, 1.3, 1.4, 1.4, 1.4, 1.5 (1.2-1.3) in head length; post-anal peduncular length, taken from the last anal fin ray to the base of middle trian-

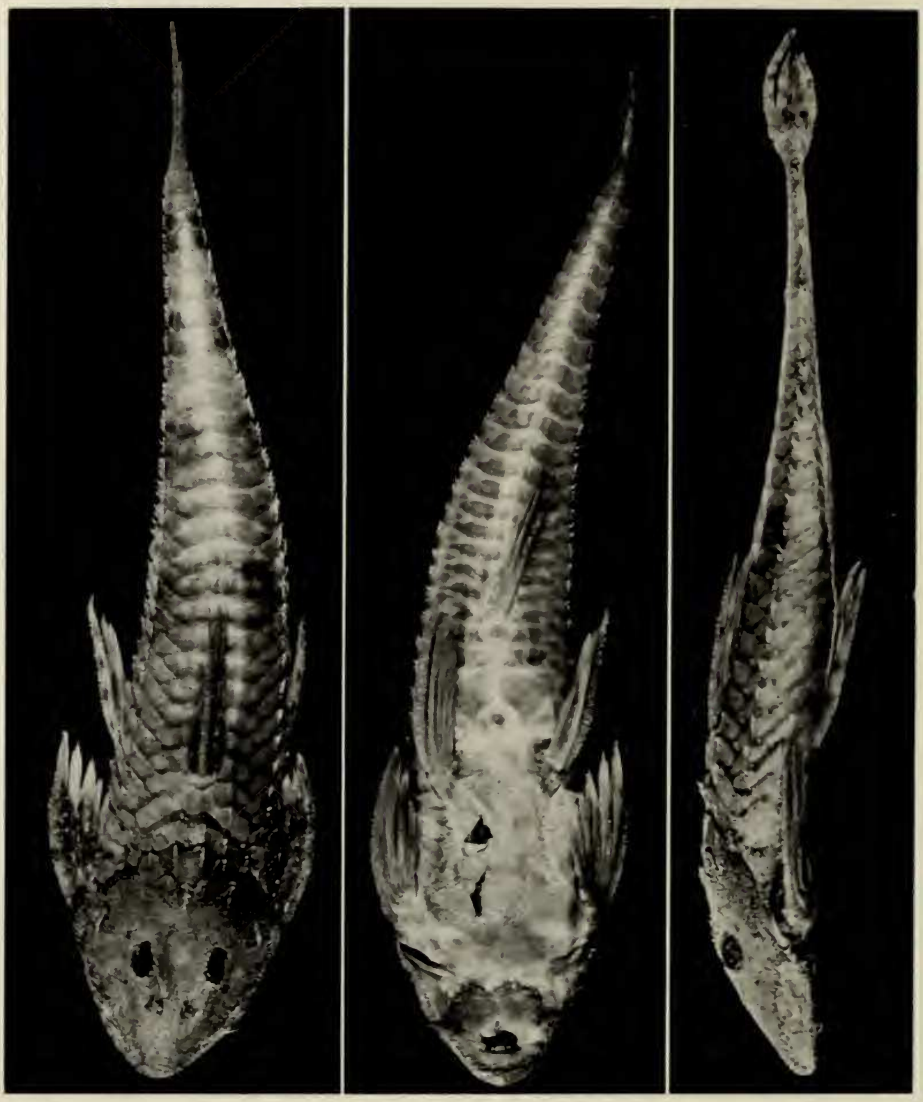

Fig. 1 - *Loricaria evansii* Boulenger, 1892, holotype (BMNH 1892.4.20.29) in dorsal, ventral, and lateral view.

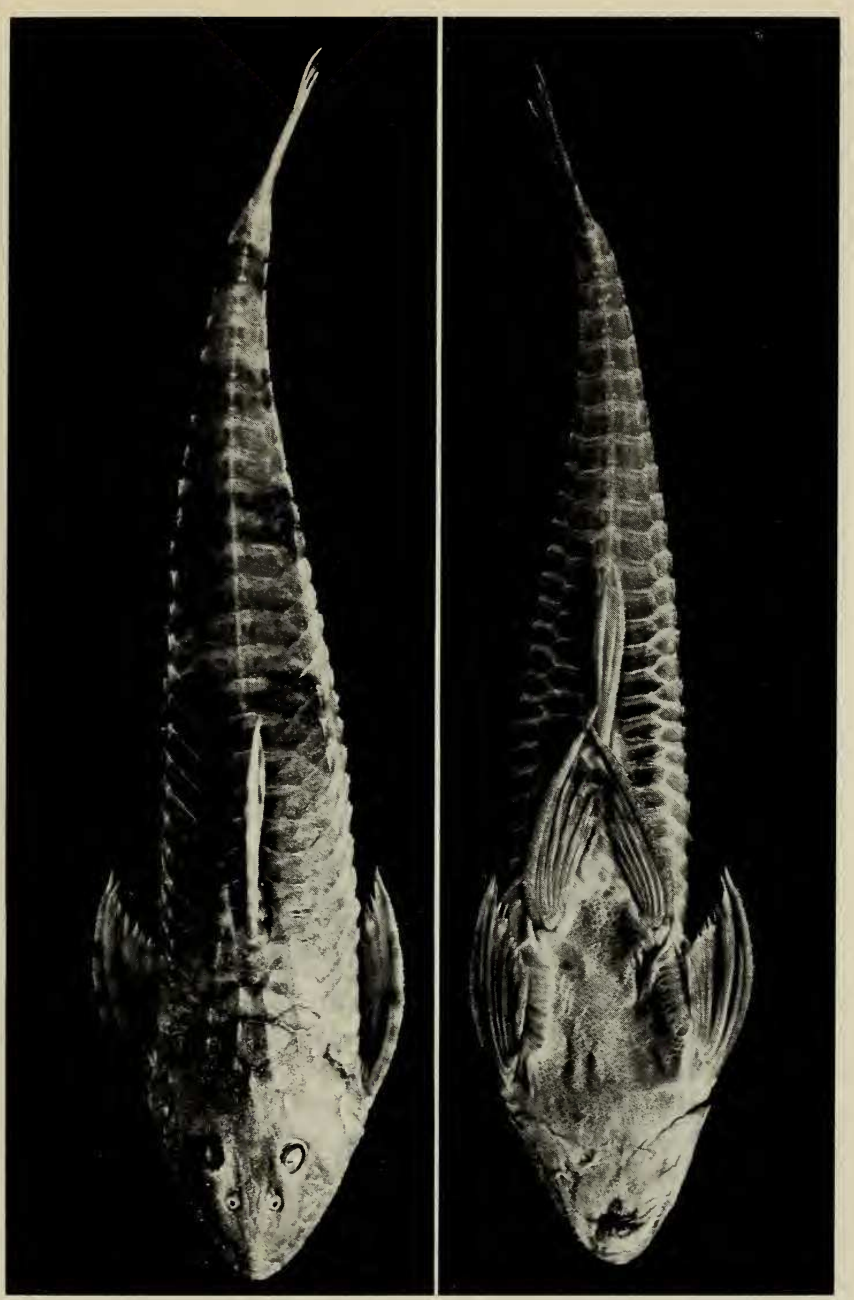

Fig. 2 - *Loricaria evansii* Boulenger, 1892, lectotype of *Loricaria cirrhosa* Perugia, 1897 (MSNG 8850), in dorsal and ventral view.

gular caudal scute 2.2, 2.2, 2.1, 2.1, 1.8 (2.2) in standard length; least depth caudal peduncle 14.4, 13.1, 13.5, 14.7, 13.5 (14.3-15.4) in head length; least width caudal peduncle 7.3, 6.1, 7.5, 8.8, 12.7 (7.7-9.2) in head length; distance between anus and anal fin origin 8.7, 9.7, 10.9, 9.8, 9.7 (8.8) in standard length, 2.2, 2.3, 2.5, 2.3, 2.5 (2.1) in head length; longest barbel of upper lip 8.8, 10.8, 11.3, –, – (11.9) in standard length, 2.2, 2.5, 2.6, –, – (2.8) in head length; greatest axial length of lower lip 7.9, 5.3, 5.6, 4.2, – (3.4-4.5) in head length.

Body scutes in longitudinal lateral series, first scute the one following the cleithrum, last scute the triangular one on caudal fin base 32, 31, 32, 32, 32 (31-32). Two series of postoccipital scutes in all specimens, predorsal scute not included. Three pairs of scutes between anus and anal fin in all specimens. Oblong scutes on thorax between last pectoral fin ray and pelvic spines (left/right) 7/8, 9/11, 6/8, 9/9, 5/7 (6/5-7). Fin spine and ray counts identical in all specimens: 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 (the outermost rays unbranched) I,10,I.

The lips of the holotype are not in perfect condition, the cirrhi along the edge being shrunken. Fortunately, the drawing by MINTERN, published with BOULENGER,s original description (1892, plate 1) shows the cirrhi more exactly (confirmed by autopsion) than the figure in the present paper. The lower lip of the holotype is deeply notched in the middle. The remaining specimens have the lower lip more rounded, with, a slight notch only. The lectotype has 24 barbels, up to about 3 mm long, along the margin of the upper lip. Lower lip surface with numerous papillae, which are rather long towards the buccal cavity, decreasing in size towards the margin. Along the margin, there are numerous short barbels. A fleshy, barbel-like flap, as long as or a little longer than the longest tooth, is present in the buccal cavity, at either side between the upper and lower jaws.

Teeth in both jaws about equal in length, varying a little in shape (fig. 3). Teeth in the upper jaw (right/ left) 5/4, 3/4, 3/3, 4/4, 3/4 (2-5/3-5), in the lower jaw 2/4, 4/4, 4/3, 3/3, 4/4 (4/4).

Eye large, slightly oval in shape; pupil covered by a conspicuous, ventrally rounded flap, originating from the iris. Shallow orbital notch present.

Dermal ossifications, fin spine and rays with small denticles, which are somewhat larger in the holotype than in the other specimens

(compare figs. 1 and 2). Two distinct rows of denticles along the lateral body scutes converge posteriorly on the first (left/right) 19/19, 19/19, 20/19, 20/20, 19/19 (18-21/18-21) scutes and run parallel along the remaining scutes. In the holotype two to eight denticles on each scute, the posteriormost denticle the largest. Margin of the snout of the holotype (up to the gill openings, except tip of snout) with a large number

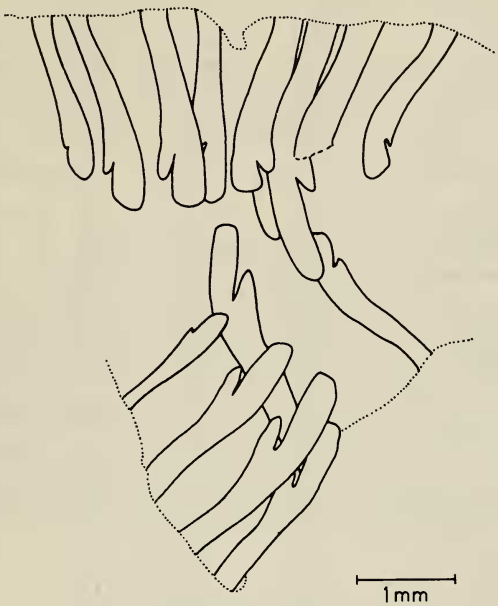

Fig. 3 - *Loricaria evansii* Boulenger, 1892, camera lucida drawing of dentition of the holotype.

of stiff, bristle-like denticles, up to about 2 mm long. Pectoral fin spine and the four subsequent rays dorsally with a number of irregularly arranged, large, recurved, thorn-like denticles in the holotype. Tip of snout naked ventrally. Belly with very small patches of denticles on minute, isolated platelets, few in number in the holotype, some in specimens MCZ 46722, and many in the lectotype and some of the paralectotypes of *Loricaria cirrhosa* Perugia (compare figs. 1 and 2 of the present paper with fig. 11 in ISBRÜCKER, 1972). Otherwise the belly is naked.

Sensory canals present on head and between converging rows of denticles, the latter sometimes bifurcated.

Table I

Actual measurements in millimeters to the nearest tenth, from the specimens described in this paper. A - BMNH 1892.4.20.29; B - MSNG 8850; C and E - MSNG 43118, D - ZMA 112.293.

character	A	B	C	D	E
standard length	174.3	161.8	88.3	75.6	52.3
axial length	192.8	—	98.2	—	—
predorsal length	60.5	55.5	29.5	25.3	19.6
head length	43.2	38.1	20.3	17.6	13.5
head width	36.5	30.9	15.7	13.8	10.3
head depth	17.7	16.4	9.2	8.0	5.9
snout length	25.8	21.8	10.7	9.5	7.0
orbital diameter	5.9	5.8	3.0	2.7	2.1
interorbital width	9.4	7.7	4.4	3.5	2.9
internasal width	6.6	5.8	3.2	2.8	2.4
dorsal spine length	32.6	32.5	18.3	15.6	—
length first dorsal ray	29.8	30.0	15.5	—	—
length last dorsal ray	13.9	13.8	5.9	—	—
dorsal fin base	20.6	19.4	9.9	7.0	6.6
anal spine length	29.8	30.8	15.8	14.0	10.2
pectoral spine length	36.3	36.9	20.1	16.8	12.9
pelvic spine length	34.6	35.3	19.7	15.3	11.4
lower caudal spine length	26.7	27.4	14.3	12.4	—
cleithral width	39.0	32.2	16.6	14 3	10.9
supra-cleithral width	27.8	23.3	12.3	10.5	8.2
thoracic length	30.6	28.2	14.2	12.2	8.6
abdominal length	33.4	28.1	14.9	12.2	8.9
post-anal peduncular length	78.5	72.9	41.6	35.9	29.5
depth caudal peduncle	3.0	2.9	1.5	1.2	1.0
width caudal peduncle	5.9	6.2	2.7	2.0	1.6
anus-anal fin origin	20.0	16.7	8.1	7.7	5.4
length barbel upper lip	19.9	15.0	7.8	—	—
axial length lower lip	5.5	7.2	3.6	4.2	—

Colour (in alcohol). - Ground colour tan. Four to six transverse, dorsolateral faint brown bands, most prominently pigmented laterally. Dorsal and caudal fins with regular brown dots, some of them on the membrane but mostly confined to the rays, same as in the dorsal side of pectoral and pelvic fins. Some inconspicuous, small faint brown dots in the anal fin.

The most recently collected specimen described above was caught in 1893. None of the specimens at hand is in perfect condition. Note that the upper caudal filament, shown by Mintern's lithograph of the holotype in 1892 is broken off. Freshly preserved specimens of *Loricaria evansii* will allow a more precise description of the lips and of the colour pattern.

The number of longitudinal lateral body scutes is given only, because of a perfect correlation between the number of longitudinal lateral body scutes and the number of scutes between the dorsal spine and caudal fin on the one hand and those between the anal fin origin and caudal fin on the other hand.

Generic position of *Loricaria evansii*

Loricaria evansii is not closely related to *Loricaria cataphracta* Linnaeus, 1758, and its allies. Some other nominal species like *Loricaria nudiventris* Valenciennes, in Cuvier & Valenciennes, 1840, *Loricaria macrodon* Kner, 1854, and *Loricaria gymnogaster* Eigenmann & Vance, in Eigenmann, 1912b, invite for comparison with *Loricaria evansii*, because of an agreement in reduced development of dermal ossifications in the abdominal region, and their similar lip structure, aberrant from the lip structure in *Loricaria cataphracta*. *Loricaria evansii* develops (temporarily?) bristle-like denticles along the snout margin and additional prominent thorn-like denticles on the pectoral fin spine and rays in sexually mature males, not known in *Loricaria cataphracta*. It may be justified, therefore, to look for another generic allocation of *Loricaria evansii* and its allies, but the present confused classification of the group concerned makes me think it wise to retain *Loricaria evansii* in the genus *Loricaria*, until a revision of many more species has been undertaken.

Loricaria Linnaeus, 1758

My concept of the genus *Loricaria* is narrower than that of most previous authors. *Loricaria*, as defined by its type species, has most peculiar lips, a remarkable dentition, a triangular rather than a rounded shape of the head, whereas its members do not develop bristle-like structures along the snout margin, on the pectoral fin, or - as known for many nominal *Rineloricaria* species - on the predorsal region. Six nominal species mostly referred to *Loricaria* up to the present do not develop bristle-like structures as a secondary sexual character neither, but should be placed into the genus *Pseudohemiodon* (see below).

There are four nominal genera, two of which have been considered synonymous with each one of the two remaining concepts, that should be discussed in relation with *Loricaria evansii*, viz. *Rineloricaria* (with *Hemiloricaria*), and *Spatuloricaria* (with *Euacanthagenys*).

Rineloricaria Bleeker, 1862

Formerly the genus *Rineloricaria* has at times been confused greatly with *Loricariichthys* Bleeker, 1862, with which it has little in common (cf. ISBRÜCKER, 1971b). Probably this confusion arose from the fact that EIGENMANN (1912a: 244-250) recognized *Rineloricaria* as a subgenus of *Loricariichthys*. Most species now referred to *Rineloricaria* are comparatively small in size and quite slender. No secondary sexual dimorphism can be observed from the lips, as in *Loricariichthys*. However, in a great number of species the mature males are known to develop bristle-like structures along the snout margin, on the pectoral fin, and in the predorsal region. The belly is completely covered with several series of small platelets, rather than by large plates as formed in *Loricariichthys* species.

Hemiloricaria Bleeker, 1862, based on *Hemiloricaria caracasensis* Bleeker, 1862, remained a quite mysterious taxon until VAN DER STIGCHEL (1946:177-178; 1947:177-178; the specific name erroneously spelled « *caracassensis* ») pointed out that it was based on the female of *Loricaria lima* Kner, 1854, the type species of *Rineloricaria*. *Rineloricaria lima* was originally described from the single male holotype. Most recently, BOESEMAN (1972:312-315, pl. 1, table 1) redescribed, figured, and discussed the holotype of *Hemiloricaria caracasensis* (misspelling the specific name as « *caracassensis* » throughout), considering it a species of the genus *Loricaria*. BOESEMAN deduced that not Caracas should be regarded the type locality, stating: «... it seems warranted to provisionally consider the region around Bogotá and Villavicencio to be the type locality, ... ». BOESEMAN compared the holotype of *Rineloricaria caracasensis* (Bleeker, 1862), with a syntype of *Loricaria magdalenae* Steindachner, 1878 (1), and with an additional specimen from the upper Rio Meta. He found these three specimens to be identical.

VAN DER HOEVEN published (1852:90, in German; 1855:278, in Dutch) a very brief and incomplete description of a new *Loricaria*, which he named *Loricaria rostrata*. This is a primary homonym of *Loricaria rostrata* [Von] Spix, in [VON] SPIX & AGASSIZ, 1829, type-species of *Sturisoma* Swainson, 1838. VAN DER HOEVEN's 1852 description

(1) This nominal species was figured by STEINDACHNER, 1879a, pl. 7 figs. 2, 2a and 3.

reads: « Bei *Loricaria rostrata*, einer neuen Art aus dem Reichsmuseum zu Leyden, läuft ebensowohl der oberste als der unterste Strahl der Schwanzflosse in einen Faden aus. Diese Art, die aus Caracas stammt, ist sehr klein, mit einem spitzen Kopfe ». KNER (1854:85, footnote) seems to be the only author who referred to this description. BOESEMAN (1972:314) gave 1843 as the year of shipment - from Caracas - of the holotype of *Rineloricaria caracasensis*. I have little doubt that this specimen is also the holotype of *Loricaria rostrata* (non [Von] Spix, 1829) Van der Hoeven, 1852.

Most *Rineloricaria* species that I have examined, seem to be more closely related to *Rineloricaria caracasensis* than to *Rineloricaria lima* (Kner, 1854). It is not probable that *Loricaria evansii* has to be classified under *Rineloricaria*.

Spatuloricaria Schultz, 1944

The genus *Spatuloricaria* was originally described for the type - and at that time only known species, *Spatuloricaria phelpsi* Schultz, 1944a. This species closely resembles *Loricaria evansii*, and might be regarded a congener of it, if the teeth of the latter were spoon-shaped, which they are not. In fact, I did not succeed in finding any *Loricaria evansii*-like fish bearing teeth like those described and figured for *Spatuloricaria*, and thus cannot evaluate the nature of this character.

SCHULTZ (1944a: 287), in his « Key to the genera of Loricariidae reported from Venezuela based on specimens from that area » distinguished between section 12*b* leading to *Spatuloricaria*: « Tips of teeth with both lobes spoon-shaped, inner lobe largest » and section 12*a* leading to *Loricaria*: « Teeth with elongate bilobed tips ». SCHULTZ (1944a-334) stated: « This new genus [*Spatuloricaria*] of the subfamily Loricariinae is a *Loricaria* with spoon-shaped teeth (spatula) just as *Cochliodon* is a *Plecostomus* [a junior synonym of *Hypostomus* - see BOESEMAN, 1968] with spoon-shaped teeth. However, the teeth of *Spatuloricaria* are bilobed, and each lobe is spoon-shaped, the inner lobe several times larger than the outer lobe, all teeth long and slender except expanded tips;... » and on the same page: « Named *Spatuloricaria* in reference to the spoon-shaped teeth that separate it from the only genus, *Loricaria*, with which it is closely related ». SCHULTZ (1944b) discovered a second species, which he named *Spatuloricaria atratoensis*, and which has the teeth exactly as in *Spatuloricaria phelpsi*. FOWLER (1945) de-

scribed *Euacanthagenys caquetae* as a new (monotypic) genus and species and believed it « superficially suggestive » of *Loricaria evansii*. In 1954 FOWLER listed *Euacanthagenys* as a synonym of *Spatuloricaria*, but retained the species, *Spatuloricaria caquetae*.

The respective holotypes and only known specimens of *Spatuloricaria phelpsi*, *Spatuloricaria atratoensis*, and *Euacanthagenys caquetae*, have in common that they are sexually mature males with bristles along the snout margin, and without well developed dermal scutelets in the belly. They are rather large specimens, 338 mm, 338 mm, and 520 mm, respectively. The respective type localities are a) the Río Socuy 3 km above its mouth, Maracaibo Basin, Venezuela, b) the Río Truando, tributary of Río Atrato, Colombia, and c) Morelia, Río Caqueta drainage, Colombia. It is of interest to compare these three nominal species with the other « *Loricaria* » forms with a poorly developed abdominal mail, such as *L. nudiventris*, *L. macrodon*, *L. evansii*, *L. gymnogaster*, and others

SCHULTZ (1944a) described a new subspecies, *Loricaria gymnogaster lagoichthys*, based on 574 specimens, largest 305 mm standard length, among which are 43 specimens (USNM 121097) collected together with the holotype of *Spatuloricaria phelpsi*. It makes me wonder whether the tooth shape may vary with age and/or sex; if *Loricaria gymnogaster lagoichthys* and *Spatuloricaria phelpsi* are related or identical, one could suppose that the bristles in the male of these (or this) and several other species appear temporarily only, and disappear after a while (spawning season ?). There are two indications that seem to support this theory. I have seen a series of 173 specimens of *Pseudancistrus barbatus* (Valenciennes, in CUVIER & VALENCIENNES, 1840), in a single sample from the Suriname River, among which is one specimen only (ZMA 106.332; the other 172 specimens in ZMA 106.331) with an excessive development of long bristles along the cheek. In the second place, I have selected occasionally living *Rineloricaria* specimens belonging to several species, imported for aquarium purposes, among which were bristled and non-bristled individuals. After a while the males lost their bristles, and could hardly be told apart from the females. Subsequently the bristles appeared again.

It is of interest to note here what SCHULTZ remarked upon the validity of a dental characteristic in two other related, or identical, genera of loricariid fishes, *Cochliodon* versus *Cheiridodus*. First (1944a:

286, footnote 26): « On the young [of *Cochliodon pospisili* Schultz, 1944a, cf. pages 312-313] up to a standard length of about 50 mm. the unworn teeth of my specimens from the Maracaibo Basin have their expanded tips twice as long as wide and a small lobe on the outer side, but in those about 60 mm. the lobe seems to have fused with the rest of the tooth as it wears down to half its original length; the teeth on the lower jaw lack the second small lobe at a much shorter length; it appears, therefore, from the specimens available, that one must cast serious doubt on the validity of the genus *Cheiridodus* Eigenmann ». On page 311 Schultz placed *Cheiridodus* as a junior synonym of *Cochliodon* and remarks: « Eigenmann in describing the genus *Cheiridodus* separated it from *Cochliodon* by the presence of a « small lobe on the outer edge of the base of each tooth ». I am able to find such a lobe on small specimens up to a standard length of about 60 mm. from the Maracaibo Basin, but the little lobe disappears with age and the tooth wears down until it becomes cup-shaped. It is possible that *Cheiridodus hondae* (Regan) is very close to *Cochliodon plecostomoides* Eigenmann, neither of which I have seen. The relationship of these two genera needs investigation ».

It is rather strange that Schultz failed to notice that a comparable (although actually different) tooth shape he described for his *Spatuloricaria phelpsi*, and on which he laid so much importance, also is present in specimens described by him simultaneously as a new subspecies, *Loricaria variegata venezuelae*, based on 159 specimens (of which I have seen 3 paratypes, zma 102.134, ex-usnm 121110). In fact, neither *Loricaria variegata*, nor Schultz's supposed subspecies, belong either to *Loricaria* or to *Spatuloricaria*, but, because of a combination of characters, should be placed into *Pseudohemiodon*.

Pseudohemiodon Bleeker, 1862

The genus *Pseudohemiodon* was recently re-established (Isbrücker, 1971a) and contains two subgenera, *Pseudohemiodon* Bleeker, 1862, and *Planiloricaria* Isbrücker, 1971. Subsequent examination of type specimens of several nominal *Loricaria* species proved that at least six species belong to *Pseudohemiodon*. My definition of the nominal subgenus, based on the original description of its type-species, *Pseudohemiodon* (*Pseudohemiodon*) *platycephalus* (Kner, 1854), turned out to be incomplete. All forms examined have teeth on both the upper and lower

jaws, not on the lower jaw only, as stated for *P.* (*P.*) *platycephalus* (of which no type material could be traced). *Pseudohemiodon* is distinguishable from *Loricaria* by its extreme flatness of the head, its lip structure, and its characteristic dentition. There seems to be an evolutionary tendency from a greatly rounded, broad head in *Pseudohemiodon cryptodon*, through a more triangularly shaped broad head in *Pseudohemiodon platycephalus*, *Pseudohemiodon lamina*, *Pseudohemiodon variegatus variegatus*, *Pseudohemiodon variegatus venezuelae*, *Pseudohemiodon laticeps*, and *Pseudohemiodon amazonum*, towards the acute head in *Pseudohemiodon macromystax*, leading to the long-snouted *Reganella depressa* (Kner, 1854). Members of *Pseudohemiodon* seem to be sparsely represented (or recognized) in museum collections, with an exception maybe for *P. variegatus*. A preliminary list of nominal species and subspecies may be of use.

Pseudohemiodon (Pseudohemiodon) platycephalus (Kner, 1854)

Hemiodon platycephalus Kner, 1854: 89-91, pl. 1 fig. 6, and pl. 6 fig. 2 [original description; holotype lost; type locality: « Rio Cujaba », upper course of Rio Paraguay].

Pseudohemiodon platycephalus; Bleeker, 1862: 3 [name only; designation as type-species of a new genus]; - Bleeker, 1863: 81 [name only; type-species of the genus].

Loricaria platycephala; Günther, 1864: 258 [description, after Kner]; - Fowler, 1954: 99, fig. 701 [references].

Loricaria (*Pseudohemiodon*) *platycephala;* Eigenmann & Eigenmann, 1889: 37 [listed]; - Eigenmann & Eigenmann, 1890: 362 [in key, after Kner], and p. 370 [listed; references].

Loricaria (*Loricaria*) *platycephala;* Regan, 1904: 247 [in key], and p. 295 [description, after Kner]; - Ringuelet, Aramburu & Alonso de Aramburu, 1967: 405 [references].

Pseudohemiodon (*Pseudohemiodon*) *platycephalus;* Isbrücker, 1971a: 276, figs. 1, 2a [mention of lost holotype; comparison, after Kner, with new subgenus; figures from Kner].

Pseudohemiodon (Pseudohemiodon) lamina (Günther, 1868)

Loricaria lamina Günther, 1868: 239, figs. 6-7 [original description; type locality: « ...Xeberos », which is Jeberos, at a tributary of the Rio Huallaga, 05°18′ S, 76° 15′ W, Peru; lectotype in British Museum (Natural History), London, BMNH 1867.6.13.33]; - Fowler, 1954: 94-95, fig. 695 [references].

Loricaria (*Loricaria*) *lamina;* Regan, 1904: 274 [in key], and p. 294-295 [description, based on three syntypes].

As the lectotype of this species I herewith select BMNH 1867.6.13.33, a specimen 158.8 mm standard length. There are two paralectotypes,

BMNH 1867.6.13.34, a specimen 143.6 mm standard length, and BMNH 1867.6.13.35, a broken specimen, approximately 146.0 mm standard length.

Pseudohemiodon (Pseudohemiodon) variegatus variegatus (Steindachner, 1879)

Loricaria variegata Steindachner, 1879b: 163-165, pl. 3 [original description; type locality: Panama, « Mamoni-Flusse bei Chepo »; holotype in Naturhistorisches Museum, Vienna, NMW 45138].

Pseudohemiodon (Pseudohemiodon) variegatus venezuelae (Schultz, 1944)

Loricaria variegata venezuelae Schultz, 1944a: 329-331, pl. 12c, table 25 [original description; type locality: Venezuela, « Río Palmar at the bridge about 70 km. southwest of Maracaibo »; holotype in United States National Museum, Washington D. C., USNM 121108].

Loricaria variegata venezuelensis; Schultz, 1944a: 330, table 25 [lapsus].

Pseudohemiodon (Pseudohemiodon) laticeps (Regan, 1904)

Loricaria lamina; Boulenger [non Günther, 1868], 1896: 34 [name only; misidentification; Paraguay].

Loricaria (*Loricaria*) *laticeps* Regan, 1904: 274 [in key], and p. 295, pl. 20 fig. 1 [original description; type locality: « Paraguay »; lectotype in British Museum (Natural History), London, BMNH 1895.5.17.113]; - Fowler, 1954: 95-96, fig. 696 [references].

As the lectotype of this species I herewith select BMNH 1895.5.17. 113, a specimen 189.7 mm standard length. There is one paralectotype, BMNH 1895.5.17.114, a specimen 186.2 mm standard length.

Pseudohemiodon (Pseudohemiodon) amazonum (Delsman, 1941)

Loricaria apeltogaster var. *amazonum* Delsman, 1941: 80 [original description; type locality: Brazil, Est. Para, « Trombetas-river, near Obidos »; holotype in Institut Royal des Sciences Naturelles de Belgique, Brussels, IRSCNB 294].

Loricaria apeltogaster amazonum; Fowler, 1954: 91 [reference].

Pseudohemiodon macromystax (Günther, 1869)

Loricaria macromystax Günther, 1869: 426, figs. 5-6 [original description; type locality: Peru, « river Amazons »; holotype in British Museum (Natural History), London, BMNH 1869.5.21.8]; - Fowler, 1954: 96-97, fig. 698 [references].

Loricaria (*Loricaria*) *macromystax;* Regan, 1904: 274 [in key], and p. 294 [description, based on the holotype].

Pseudohemiodon macromystax is known to me from the holotype only. Little is known about the relationship between this species and *Reganella depressa* (Kner, 1854), the type - and only species of *Reganella* Eigenmann, 1905.

Pseudohemiodon (Planiloricaria) cryptodon Isbrücker, 1971

Pseudohemiodon (Planiloricaria) cryptodon Isbrücker, 1971a: 278-281, figs. 2b-c, 3-8 [original description; type-species of new subgenus; type locality: « Peru: Rio Ucayali near Pucallpa »; holotype in « Zoologisches Forschungsinstitut und Museum Alexander Koenig », Bonn, ZFMK /1/66/1717].

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SUMMARY

The four syntypes of *Loricaria cirrhosa* Perugia, 1897 (a primary junior homonym of *Loricaria cirrhosa* Bloch & Schneider, 1801), and the holotype of *Loricaria evansii* Boulenger, 1892, have been compared directly. Because of a close similarity, these two nominal species are tentatively synonymized, although several minor differences found, may prove to be of significance at distinct subspecific or specific level. An unidentified part of the original type series of *Loricaria lata* Eigenmann & Eigenmann, 1889, separated from *L. lata* by ISBRÜCKER, 1972, also is identified with *L. evansii* in the present paper. Figures of the holotype of *L. evansii*, and of the lectotype of *L. cirrhosa* - selected in this paper - are given.

As it is felt that *L. evansii* eventually may prove not to belong to the genus *Loricaria* Linnaeus, 1758, a preliminary discussion of some other generic concepts (*Rineloricaria* Bleeker, 1862, *Hemiloricaria* Bleeker, 1862, *Spatuloricaria* Schultz, 1944, and *Euacanthagenys* Fowler, 1945) is given. The possible identity of *Loricaria rostrata* Van der Hoeven, 1852 (a primary junior homonym of *Loricaria rostrata* Von Spix, 1829), with *Rineloricaria caracasensis* (Bleeker, 1862) - the type species of *Hemiloricaria* - is discussed.

Species of the genus *Pseudohemiodon* possess a dentition comparable with that described by SCHULTZ (1944) for *Spatuloricaria*. However, *Spatuloricaria* and *Pseudohemiodon* differ from each other in several other characters. A preliminary list of nominal *Pseudohemiodon* species and subspecies is presented, including six forms previously known as members of the genus *Loricaria*: *P. lamina* (Günther, 1868), *P. variegatus variegatus* (Steindachner, 1879), *P. variegatus venezuelae* (Schultz, 1944), *P. laticeps* (Regan, 1904), *P. amazonum* (Delsman, 1941), and *P. macromystax* (Günther, 1869). For *P. lamina* and for *P. laticeps* the lectotypes are selected in the present paper.

RIASSUNTO

Si è proceduto all'esame comparativo dei quattro sintipi di *Loricaria cirrhosa* Perugia, 1897 (omonimo primario e più recente di *Loricaria cirrhosa* Bloch e Schneider, 1801) e dell'olotipo di *Loricaria evansii* Boulenger, 1892. In seguito alla stretta somiglianza, queste due specie nominali sono considerate sinonime, benchè vi siano al-

cune lievi differenze che potrebbero risultare valide per distinzioni a livello sottospecifico o specifico. Nel presente lavoro è identificata con *L. evansii* anche una parte non determinata della originale serie tipica di *Loricaria lata* Eigenmann e Eigenmann, 1889, separata da *L. lata* Isbrücker, 1972. Sono presentate figure dell'olotipo di *L. evansii* e del lectotipo di *L. cirrhosa*, designato in questo scritto.

Poichè si ritiene che *L. evansii* possa risultare non appartenente al genere *Loricaria* Linneo, 1758, viene proceduto ad una discussione preliminare di alcuni altri concetti generici (*Rineloricaria* Bleeker 1862, *Hemiloricaria* Bleeker, 1862, *Spatuloricaria* Schultz, 1944, e *Euacanthagenys* Fowler, 1945). Si discute la possibile identità di *Loricaria rostrata* Van der Hoeven, 1852 (omonimo primario più recente di *Loricaria rostrata* Von Spix, 1829) con *Rineloricaria caracasensis* (Bleeker, 1862), la specie tipo di *Hemiloricaria*.

Le specie del genere *Pseudohemiodon* possiedono una dentatura paragonabile con quella descritta da Schultz, 1944 per *Spatuloricaria*. Tuttavia *Spatuloricaria* e *Pseudohemiodon* differiscono tra loro per parecchi altri caratteri. Viene data una lista preliminare delle specie e sottospecie nominali di *Pseudohemiodon*, comprese sei forme dapprima note come membri del genere *Loricaria*: *P. lamina* (Günther, 1868), *P. variegatus variegatus* (Steindachner, 1879), *P. variegatus venezuelae* (Schultz, 1944), *P. laticeps* (Regan, 1904), *P. amazonum* (Delsman, 1941), e *P. macromystax* (Günther, 1869).

Nel presente lavoro sono designati i lectotipi di *P. lamina* e *P. laticeps*.