MINISTERIE VAN ONDERWIJS, KUNSTEN EN WETENSCHAPPEN

ZOOLOGISCHE MEDEDELINGEN

UITGEGEVEN DOOR HET

RIJKSMUSEUM VAN NATUURLIJKE HISTORIE TE LEIDEN

DEEL XXXIII, No. 3 19 Mei 1954

ON A SMALL COLLECTION OF SURINAM FISHES

by

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A collection of Surinam fishes, all probably collected in the neighbourhood of Paramaribo during the late autumn of 1952, was kindly presented to the Rijksmuseum van Natuurlijke Historie at Leiden by the direction of the Rotterdam Zoological Garden „Blijdorp".

The collection contains some 800 specimens, the examination of which yielded sufficiently interesting results to justify the present publication.

Order OSTARIOPHYSOIDEA

Family CHARACINIDAE

Curimatopsis macrolepis Steindachner

1 ex., neighbourhood of Paramaribo, standard length 26 mm (caudal fin damaged).

This species was already known from the lower regions of the Surinam River and the Marowini River.

Curimatus copei Fowler

Curimatus copei Fowler, 1906, p. 301, fig. 7.

1 ex., neighbourhood of Paramaribo, standard length 10.4 cm (caudal fin slightly damaged).

The specimen is in a reasonably good condition and hardly differs from Fowler's extensive description of the present species; moreover, some of the aberrant characters show a much closer agreement with Fowler's figure which, in some respects, slightly disagrees from his text. On account of this, only the differing characters are given.

Body slightly more slender, the predorsal hump less developed (sexual character?), depth about 3 in standard length. About 24 scales before dorsal.

Snout about 4 in head (as in Fowler's figure). Interorbital space 2.8 in head. Mouth roof with two moderate ridges, converging rostrad. Gill rakers on upper part of first arch partly very indistinct, probably about 8; on lower part 28, those small or rudimentary included.

This seems to be the first report of the present species since it was first described by Fowler. It is obviously different from *Curimatus schomburgki* Günther, having only two moderately developed longitudinal folds along the roof of the mouth. It distinctly differs from *Curimatus ciliatus* Müller & Troschel in the development of the gill rakers, especially on the lower half of the anterior arch.

Anisitia notata (Schomburgk)

2 ex., neighbourhood of Paramaribo, standard length 56 and 58 mm.

This species was already known to occur in Surinam (Surinam River and Upper Saramacca River).

Pyrrhulina filamentosa Cuvier & Valenciennes

28 ex., probably neighbourhood of Paramaribo, standard length 17-59 mm.

Copeina arnoldi Regan

1 ex., neighbourhood of Paramaribo, standard length 32 mm.
47 ex., probably neighbourhood of Paramaribo, standard length 20-37 mm.

Nannostomus beckfordi Günther

9 ex., neighbourhood of Paramaribo, standard length 21-36 mm.
7 ex., probably neighbourhood of Paramaribo, standard length 22-27 mm.

These specimens belong to the same species as those previously recorded from Surinam as *Nannostomus anomalus* Steindachner. According to Hoedeman (1950, pp. 13, 16) the latter name should be replaced, being a mere synonym of Günther's *beckfordi*.

Nannostomus marginatus Eigenmann

22 ex., neighbourhood of Paramaribo, standard length 17-21.5 mm.

Leporinus maculatus Müller & Troschel

4 ex., neighbourhood of Paramaribo, standard length 45-68 mm.

These specimens, though generally in a good condition, are very stiff, possibly having been preserved originally in formaline. On account of this, the examination of the teeth was difficult but, as far as could be established without damaging the present specimens, all but possibly one seem to have

four teeth on each side of the upper jaw against three on each side of the lower jaw. The fourth (posterior) teeth can be very small and inconspicuous. This is just the opposite of the variation as described in a previous paper (Boeseman, 1953, p. 17) and rather invalidates the only crucial character for a discrimination between the present species and *Leporinus granti* Eigenmann.

The supposed difference in the situation of the mouth (Eigenmann, 1912, pp. 300 (key), 307; pl. 43 figs. 2 & 3) seems irrelevant: according to Eigenmann the mouth is inferior in *maculatus,* terminal in *granti.* Fowler (1950, p. 237, fig. 275), however, gives drawings of four specimens of *maculatus,* all with the mouth terminal.

The presumed differences in colour markings may be due to individual variation. Consequently I regard *granti* as a synonym of *maculatus.*

As already noticed by Myers (1950) the genus *Leporinus* stands in need of a thorough revision, the species having "nowhere been revised as a whole since Günther (1854, Cat. Fishes Brit. Mus., vol. 5), when very few were known".

Crenuchus spilurus Günther

194 ex., neighbourhood of Paramaribo, standard length 19-38.5 mm.

A very common Surinam species.

Aphyocharax melanotus Eigenmann

1 ex., probably neighbourhood of Paramaribo, standard length 25 mm.

This is a very badly preserved specimen doubtlessly belonging to the genus *Aphyocharax* (premaxillaries with a single row of tricuspid teeth: lateral line incomplete), and probably to the present species (A. ii. 25).

This seems to be the first report of the species (and the genus) from Surinam.

Moenkhausia chrysargyrea (Günther)

3 ex., probably neighbourhood of Paramaribo, standard length 58-62 mm.

Pristella riddlei (Meek)

1 ex., probably neighbourhood of Paramaribo, standard length 27 mm.

Hemigrammus rodwayi Durbin

16 ex., probably neighbourhood of Paramaribo, standard length 22-29 mm.

Condition very bad.

Hemigrammus orthus Durbin

5 ex., probably neighbourhood of Paramaribo, standard length 21-27 mm.

Only one of these is in a good condition.

Hemigrammus micropterus Meek

5 ex., probably neighbourhood of Paramaribo, standard length 22-29 mm.

The squamation, as in the specimens reported upon in previous papers (Boeseman, 1948, p. 369; 1952, p. 188; 1953, p. 19), accurately agrees with the figure given by Eigenmann (1918, pl. 18 fig. 3), representing the type of the present species. In his text (p. 150) the number of scales given for the transverse series is much too low. Only a single maxillary tooth was found.

Ephippicharax orbicularis (Cuvier & Valenciennes)

2 ex., neighbourhood of Paramaribo, standard length 34 and 42 mm.

Carnegiella strigata (Günther)

92 ex., neighbourhood of Paramaribo, standard length 21.5-28 mm.
2 ex., probably neighbourhood of Paramaribo, standard length 27 and 29 mm.

Gasteropelecus sternicla (Linnaeus)

43 ex., neighbourhood of Paramaribo, standard length 30-43 mm.
90 ex., probably neighbourhood of Paramaribo, standard length 32-49 mm.

The number of maxillary teeth is very variable, frequently different on both sides, sometimes as few as 0-1 on one side (probably caused by damage of the rather badly preserved specimens?). Moreover, the adipose fin may be greatly reduced, in a few examples no remains could be found.

Family GYMNOTIDAE

Eigenmannia virescens (Valenciennes)

2 ex., probably neighbourhood of Paramaribo, length 98 (tail mutilated) and 149 mm.

Family HELOGENEIDAE

Helogenes marmoratus Günther

1 ex., neighbourhood of Paramaribo, standard length 29 mm.

Family CALLICHTHYIDAE

Corydoras punctatus (Bloch)

2 ex., neighbourhood of Paramaribo, standard length 23.5 and 25 mm.

In the smallest specimen is the caudal fin missing and are the colour markings rather indistinct, but in the well preserved second specimen the markings are still distinct and almost completely agreeing with the figure given by Holly (in Holly, Meinken, & Rachow, 1934-). The principal differences are as follows: the dark blotch on the dorsal fin partly covers only the first to third soft rays (apical half), and the fourth ray (apical third), and is more rounded; the apical half of the dorsal spine and the tops of the branches of the fifth ray are slightly dusky. A dusky elongate spot on the membrane between the sixth and the seventh ray, situated near the centre; a row of indistinct, dusky spots along and near base of dorsal fin. Adipose with a small dark spot immediately behind insertion of spine, a second near end of base, a much darker and larger rounded spot at top, separated from the apical margin by a narrow dusky area. Caudal fin with four transverse rows of rather vague spots, excepting those along base, rather more distinct than in Holly's figure; a few indistinct dusky spots on anal fin, inconspicuous spots on pectoral fins, scattered pigmentation on ventral fins. Scattered round dusky spots on head, body, and tail, about as in Holly's figure on occipital, nuchal, and interorbital regions, distinctly larger (about the size of the large posterior nostril, somewhat smaller than the pupil) on body and tail; generally vague, but darker and more distinct dorsally and along the median line (especially along posterior half). Scattered small dark points on opercles, cheeks, and subopercles, much smaller than in Holly's figure; snout and upper maxillary barbel dusky.

Myers (1940) already doubted the accuracy of the number of soft rays in the dorsal fin (9) as given by Bloch and Lacépède. This doubt is confirmed by the present specimens, their fin formula being: D I.7(1), but with the last ray very widely split, consequently giving the impression of eight soft rays. This is even more so in a third specimen, provisionally identified as *punctatus,* collected by the Saramacca Expedition near Tugumutu (Upper Saramacca River), 23-2-1903, standard length 40 mm; the identification of this specimen, however, is not completely certain, principally on account of the almost complete lack of even the slightest remains of the original colours or markings.

A fourth (aquarium) specimen, possibly also from Surinam, identified as *punctatus,* still has very distinct remains of the original coloration; it has the spots on head, body, and tail rather small, very dark, and well defined, only slightly larger than in Holly's figure; it has a spot of dark pigment at the centre of the adipose fin. It differs, however, from the previously described specimens, by having a dark blotch on the lower anterior part of the first dorsal fin, by having seven rows of dark spots on the caudal fin,

by having a dark blotch around the insertion of the dorsal spine, and by having a very inconspicuous darker band vertically across the eye shaped about as in *melanistius* Regan. The blotch below the insertion of the dorsal spine, however, is not sharp triangular as in *melanistius,* while the markings on adipose and caudal fins much better agree with *punctatus.* The agreement with Stoye's figure of "*Corydoras??*" (1952, p. 53) is almost complete. All this made me wonder if hybridization between *punctatus* and *melanistius* might be possible; on the other hand, this specimen and Stoye's "*Corydoras??*" may represent a hitherto undescribed species.

Gosline (1940, p. 21) observed that "Bloch's species is known only from a plate and a rather poor description". He further remarked that "none of the more recently described species quite agrees with it". The two specimens recently obtained obviously belong to the present species and seem to be the first examples recorded since its establishment.

Family LORICARIIDAE

Plecostomus plecostomus (Linnaeus)

2 ex., neighbourhood of Paramaribo, standard length 67 and 94 mm.

The nuchal plate bordering the occipital shows a submedian suture, especially distinct in the smaller specimen.

Order CYPRINODONTOIDEA

Family CYPRINODONTIDAE

Rivulus urophthalmus Günther

1 ex., neighbourhood of Paramaribo, standard length 31 mm.
8 ex., probably neighbourhood of Paramaribo, standard length 26-39 mm.

Rivulus ?agilae Hoedeman

187 ex., neighbourhood of Paramaribo, standard length 13.5-27 mm.

Of this species, recently discriminated by Hoedeman (1954, p. 202), only a short diagnosis has been given, unfortunately in an aquarium journal of rather restricted importance. Moreover, the published diagnosis is insufficient for the distinction between the present species and the closely related Rivulids, i.e., *geayi* Vaillant and *breviceps* Eigenmann, the complete ranges of variation of the morphological characters in these species still being insufficiently known. (The same may be said for numerous other species belonging to this difficult genus, the whole group urgently needs a revision).

Nevertheless I think that Hoedeman is right in separating the present species from those hitherto known, not on account of important morpho-

logical differences, but almost entirely on account of the characteristic colour markings. Luckily, a very extensive description of the colours and colour markings of *agilae* is given in the same issue of the aquarium journal by Gols, together with a nice figure. Especially on account of the agreement with Gols's description, the present specimens have provisionally been identified as *Rivulus agilae* Hoedeman.

A paratype of *Rivulus geayi* Vaillant, kindly lent to me by Miss E. Trewavas of the British Museum, still after almost 55 years shows a distinct series of vertically elongate, dark brownish spots along the sides, especially distinct on the posterior part of the tail, in complete agreement with Vaillant's figure (1900, pl. 7 fig. 2). These dark spots are lacking in *agilae*, only remains of a much less dark oblique striation are generally visible on the tail.

A part of the present material is in a poor condition, with hardly any indications left of the original coloration. Having the same fin formula and squamation, they are regarded as conspecific with the further material of *agilae*.

Order PERCOMORPHOIDEA

Family POLYCENTRIDAE

Polycentrus schomburgki Müller & Troschel

1 ex., probably neighbourhood of Paramaribo, standard length 23 mm.

Family CICHLIDAE

Nannacara anomala Regan

56 ex., neigbourhood of Paramaribo, standard length 14-44 mm.
2 ex., probably neighbourhood of Paramaribo, standard length 35 and 35.5 mm.

One of the specimens has a short sharp side-branch on the third anal spine, the longest soft anal rays reaching to tip of the elongate caudal fin, the longest soft dorsal rays being only slightly shorter. Moreover, it has 17 dorsal spines.

Aequidens potaroensis Eigenmann

1 ex., probably neighbourhood of Paramaribo, standard lengh 62 mm.

This specimen has the spinous dorsal fin deformed: the third spine is curved backwards, the second slightly less strongly curved backwards, the fourth deformed, short, probably broken. The fin formula consequently is as follows: D IV.X.10; A III.9(1).

The dark band between eye and preopercle is still distinct, the cross-

bands less conspicuous. There are 2 or 2½ rows of scales between lateral line and origin of the soft dorsal fin.

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