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NOTE ON THE CHARACID GENUS BRACHYCHALCINUS BOULENGER (1892), INCLUDING THE DESCRIPTION OF A NEW SPECIES

by

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In a previous paper (1952, p. 190) I reported upon a specimen from the Lucie River, Surinam, doubtlessly belonging to Boulenger's genus *Brachychalcinus,* but had to abstain from giving a definite specific identification on account of the lack of comparative material, the insufficiency of previous literature, and the obviously juvenile state of the single specimen.

A possibility to look once more into this matter, and to amend my previous statement, was brought about by the existence of eight specimens from the same river system, and probably belonging to the same species, in the collections of the Chicago Natural History Museum, and the offer to have these sent to me as a loan. For this courtesy, and for the loan of a single juvenile specimen of *Brachychalcinus retrospina* Boulenger, I am indebted to Dr. R. F. Inger, Assistant Curator of Fishes of the Chicago Natural History Museum.

The genus *Brachychalcinus* Boulenger (1892, p. 11) belongs to the subfamily Stethaprioninae, a subfamily allied to the Tetragonopterinae but differing by the possession of a procumbent predorsal spine. Within this subfamily, however, *Brachychalcinus* differs from the other, and better known genera, by the shape of this procumbent spine, described by Eigenmann & Myers (1929, p. 508) as "trigger- or hammer-shaped, its free portion forming a longer anterior and shorter posterior branch, both of which are sharply pointed". It is triangular in lateral view, with the longest side about continuous with the dorsal outline, its two further sides concave,

and is attached with the lower angle. A similar spine is found just before the origin of the anal fin.

Of this very rare South American genus, only two species hitherto have been described, viz., *Brachychalcinus copei* (Steindachner) (1882, p. 180 *); 1883, p. 40) and *B. retrospina* Boulenger (1892, p. 12, pl. 2 fig. 2). In more recent literature but few new data have been added, and it seemed almost certain that the species belonging to this genus were to be found in a rather restricted area in the Amazon Basin, in the Rio Paraguay, and in Bolivia. The present investigations, however, proved that a third species inhabits the waters of the upper Corantyne Basin.

With the data available in literature and the specimens at my disposal, the following key could be composed:

a. D. I. 11/12; A. II. 32-36; gill-rakers 8/9 + 11? (see below); scales in lateral line 32-36, in transverse series 9/11-1-10/11; a silvery lateral stripe.

b. D. I. 12; A. II. 35/36; scales in lateral line 32/33, in transverse series 11-1-10/11; head more than 3.5 in standard length . . . . . *copei* (Steindachner).

bb. D. I. 11/12; A. II. 32-34; scales in lateral line 33-36, in transverse series 9/10-1-10/11; head 3.75-4.33 in standard length . . . . . *retrospina* Boulenger.

aa. D. I. i. 9 (or ii. 9); A. II (I. i or II. i). 28-32 (1); gill-rakers 9/10 + 13/14; scales in lateral line 37 (36), in transverse series 11/12 (13)-1-10/11 (12); head 3.8-4 (3.3 in juv.) in standard length; a narrow dark lateral stripe . *guianensis* nov. spec.

Brachychalcinus copei (Steindachner)

Stethaprion copei Steindachner, 1882, p. 180 (type locality: Tabatinga), 1883, p. 40 (Tabatinga); Eigenmann & Eigenmann, 1891, p. 60 (reference only).

Brachychalcinus copei, Eigenmann, 1910, p. 441 (reference); Pearson, 1924, p. 46 (Ixiamas, Bolivia); Eigenmann & Myers, 1929, p. 508 (copied, after Steindachner); Fowler, 1940, p. 100 (reference), 1950, p. 366 (reference); Ribeiro, 1944, p. 4 (name only).

No specimens of this species have been examined.

Brachychalcinus retrospina Boulenger

Brachychalcinus retrospina Boulenger, 1892, p. 12, pl. 2 fig. 2 (Santa Cruz, Brazil); Eigenmann, 1910, p. 441 (reference); Eigenmann & Myers, 1929, p. 508, pl. 70 fig. 5 (not fig. 4, as erroneously stated; Rio Jauru; Cáceres); Ribeiro, 1944, p. 4 (Matto Grosso; Manaus; Benjamin Constant, Rio Javari; Rio Javari; Salobra); Fowler, 1950, p. 366 (not fig. 414 !; references only).

One specimen, Cáceres, Matto Grosso, Brazil, J. D. Haseman, May 24, 1909 (Chicago Museum, no. 56752).

The specimen is juvenile, measuring only 24 mm standard length, consequently but few data could be verified or added to those available in literature.

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*) Not seen.

According to the description given by Eigenmann & Myers (1929, p. 509) there are but 6 + 11 gill-rakers on the first branchial arch, but in their "Key to the Species" (p. 508) they state: "gill-rakers 20 + 21, the 9 above the middle much smaller". In the latter statement, the authors probably meant "20-21", as is confirmed by the examination of the only specimen available: on the upper part about 8-9 small rakers, anteriorly minute and indistinct, but gradually increasing in size towards the lower part on which 11 longer gill-rakers are found.

In contrast with the specimens of *guianensis*, the specimen at hand shows but scant remains of the horizontal lateral stripe. Of the two rather faint humeral bands, the well marked darker blotch on the anterior band seems to be more vertically elongate, while no remains of a darker blotch on the second band could be found. There is a distinct dark stripe running from the tip of the occipital process to the procumbent predorsal spine.

In general, the coloration of the specimen is very light yellowish, much lighter than the more brownish specimens of *guianensis*.

Fowler's figure (1950, p. 367, fig. 414) according to its legend represents *Brachychalcinus retrospina* Boulenger. This is doubtlessly erroneous. It has obviously been made after the figure given by Eigenmann & Myers (1929, pl. 70 fig. 4), also according to its legend representing this species. However, on the cited plate the numbers of the figures 4 and 5 have been interchanged: fig. 4 represents *Ephippicharax franciscoensis* Eigenmann, and fig. 5 *Brachychalcinus retrospina* Boulenger. Consequently, Fowler's figure too represents *E. franciscoensis* Eigenmann.

Brachychalcinus guianensis nov. spec.

Brachychalcinus (*copei* Steindachner ?), Boeseman, 1952, p. 190.

One specimen, Lucie River, Corantyne Expedition, K. M. Hulk, December 1, 1910, standard length 24 mm (Leiden Museum, no. 18473).

Eight specimens, Itabu Creek, New River Drainage, British Guiana, E. R. Blake, October, 1938, standard length 47-62 mm (Chicago Museum, no. 51535).

D. I. i. 9 or ii. 9; A. II (or I. i or II. i). 28-32 (1); P. about 13; V. i. 6; C. 19; scales: 11/12 (13)-37 (36)-10/11 (12); gill-rakers 9/10 + 14 (13).

Head 3.8-4.2 (3.3 in juv.), depth 1.3-1.4 (1.8 in juv.) in standard length; eye 2.2-2.45 (2.05 in juv.), snout 4.4-5.0 (5.0 in juv.), interorbital width 2.3-2.5 (2.7 in juv.), postorbital length of head 2.65-2.8 (3.1 in juv.) in total dength of head.

This is a much compressed species, subrhomboidal in shape, with a very deep body, in general appearance closely resembling the two allied species mentioned before. The preventral area trenchant, the predorsal area between

base of occipital spine and procumbent predorsal spine, bordered laterally by 15-17 scales, also rather trenchant especially just before the procumbent spine. Both areas without a median series of scales.

The snout is rather blunt and rounded, with the slightly oblique mouth situated before the centre of the eye; the very convex interorbital and adjacent parts of the dorsal outline are distinctly concave in lateral view. Fontanels large, occipital process 2.3-2.75 in the distance from its base to the dorsal.

Dentification: premaxillary with an outer series of 4 conical teeth and an inner series of 5 multicuspid teeth. Occasionally there may be 5 conical teeth in the outer series, as was found in one specimen on one side. Maxillaries with 0?-2 small teeth anteriorly. Mandible with 4 graduated teeth, abruptly with minute ones on the sides.

The gill-rakers are well developed, on the lower half about twice the length of those on the upper half of first branchial arch.

Distance from tip of snout to origin of dorsal 1.8-1.9, from tip of snout to origin of anal 1.4-1.45 (1.65 in juv.), from tip of snout to origin of adipose 1.2 (1.24 in juv.), from tip of snout to insertion of ventrals 1.6-1.8 (1.9 in juv.), from tip of snout to insertion of pectoral 3.15-3.4, from tip of snout to vent 1.5-1.6 (1.74 in juv.) in standard length. Length of caudal peduncle 2.2-2.35 (2.5 in juv.), depth of caudal peduncle 2.1-2.3 (2.5 in juv.) in length of head.

Length of anal fin base 1.9-2.1 (2.4 in juv.) in standard length, longest dorsal ray 0.9-1, longest anal ray 1.5-1.65, longest pectoral ray 0.95-1.1, longest ventral ray 1.7-1.95, and length of caudal lobes (from end of lateral line) 0.8-0.9 in total length of head. The end of the lateral line divides the caudal fin into an upper part of 10, and a lower part of 9 rays.

The predorsal spine is triangular in lateral view, one side continuous with the dorsal outline, the anterior and posterior points very sharp, attached at the lower angle of the triangle. A similar spine is found immediately before the anal fin.

The anterior two rays of the dorsal fin are simple, the first one often spinous. Of the anal fin, the anterior two or (in one specimen only) three rays are simple, the first and sometimes the second spinous.

The scales are smooth, entire, with distinct concentric striae, and with but few radials; regularly imbricate except along the anal fin base. The caudal fin is covered with small scales up to half the distance to the tips of the caudal lobes.

In general the coloration is rather yellowish brown, with the scales above the narrow black lateral stripe more heavily pigmented than those on the

lower parts of the body. The dorsal scales show, just behind the free margins of the scales covering their bases, a lighter rounded part with but few distinct pigmented spots; behind this part a rather broad area with numerous, though smaller, pigmented spots, providing this part with a much darker aspect; then follows a generally much narrower zone without, or with but few spots; and finally, a single series of distinct dark spots of pigment along the free margin of the scale. Of the ventral scales, those situated before the vertical through anal origin show no or hardly any pigmentation; those above and behind anal fin are scarcely covered with pigmented spots, but without any definite pattern.

There are two faint humeral bands, each with a well defined darker spot; the anterior spot, situated slightly above 2nd to 5th or 6th scale of lateral line, slightly less dark but better defined than the posterior spot, situated above 8th (9th) to 11th or 12th scale of lateral line, and generally reaching, sometimes even crossing the lateral line. The horizontal lateral stripe is very dark and sharply defined; it is situated between the upper part of the posterior humeral spot and the centre of the base of caudal fin, and is somewhat thinner continued anteriorly towards the anterior spot.

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*) Not seen.