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## *CORYDORAS BREEI*, A NEW SPECIES OF CALLICHTHYID CATFISH FROM THE CORANTIJN RIVER BASIN IN SURINAM (PISCES, SILURIFORMES, CALLICHTHYIDAE)

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ABSTRACT

*Corydoras breei* n. sp., was previously known and misidentified as *C. osteocarus*. It is described and illustrated from the Kabalebo River, tributary to the Corantijn River in Surinam. Its relationships are discussed.

## INTRODUCTION

In 1967 Nijssen & Isbrücker misidentified four specimens of *Corydoras* from the Kabalebo River as *C. osteocarus*. This was then a relatively poorly known species, originally described from the Orinoco River in Venezuela, to which it now appears to be restricted. Subsequently, additional material was collected from the Kabalebo River, which as yet remained unrecorded. Recently, we have examined rich material of *C. osteocarus* from Orinoco River tributaries in Venezuela through the courtesy of Dr Donald C. Taphorn (see Taphorn, 1989). Initially, the latter material was thought to represent an undescribed species, until its identity became established. This induced us to reexamine "*Corydoras osteocarus*" from the Kabalebo River, which yielded that they represent a hitherto undescribed species, the subject of the present note.

## MATERIAL AND METHODS

Morphometric and meristic data are given according to the methods described for the species of the genus *Aspidoras* Ihering, 1907 (cf. Nijssen & Isbrücker, 1976: 108). Comparative material used in this note will be fully recorded in forthcoming papers treating parts of a revision of the genus *Corydoras*.

## ACKNOWLEDGEMENTS

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(ZMA), Amsterdam, The Netherlands, made the photographic illustrations.

**Corydoras breei** n. sp.
(figs. 1-2, 5)

*Corydoras osteocarus* [non Böhlke, 1951]; Nijssen & Isbrücker, 1967: 34-35, fig. 3i, pl. 3 fig. 1 (description; Surinam, Avanavero Falls, Kabalebo River), - Nijssen, 1970: 31, figs. 15, 26d, 38 (description; same locality; discussion).

Etymology.- Named in honour of our colleague Dr Peter Jan Hendrik van Bree, mammalogist at the Institute of Taxonomic Zoology, University of Amsterdam, on occasion of his retirement, September 1992.

Material examined.- Forty-three specimens, SL 27.5-39.9 mm.

Holotype: RMNH 31912, SL 33.7 mm, Surinam, Corantijn river system, Kabalebo River, Avanavero Falls, coll. M. Boeseman, 9-IV-1971.

Paratypes: RMNH 26066, twenty-one, ZMA 107.611, five, topotypes, same data as holotype;- RMNH 26064, ten, topotypes, coll. M. Boeseman, 6-IV-1971; - RMNH 26065, two, topotypes, coll. M. Boeseman, 10-IV-1971; - RMNH 25335, three, ZMA 104.654, one, topotypes, coll. G. F. Mees, 13-IX-1965.

Description.- Holotype, SL 33.7 mm; body depth 13.3 mm; body width 9.9 mm; length dorsal fin spine 11.3 mm; length pectoral fin spine 11.6 mm; head length 10.7 mm; snout length 5.4 mm; length bony orbital 3.8 mm; interorbital width 4.2 mm; width intercoracoid area 5.4 mm; depth caudal peduncle 5.7 mm; fontanel length 3.3 mm. Pectoral fin with 9 branched rays. Dorsolateral body scutes 21, ventrolateral body scutes 20, preadipose scutes 3. Two pairs of rictal barbels, one pair of mental barbels. Medial border of pectoral fin spine finely serrated (fig. 5). Intercoracoid area naked. Fontanel elongate. First branched ventral fin ray broad, indicating that this specimen is a mature male.

Colour in alcohol (figs. 1-2).- Ground colour of dermal ossifications yellowish tan, dorsal half somewhat darker than ventral half; ground colour of naked areas yellowish white. Dorsum and sides of head and body with numerous scattered, inconspicuous brown spots and dots. Denser pigmentation occurs on the lower half of the nuchal scute and between last dorsal fin ray and first preadipose scute, the latter mark slightly extending on the adjacent dorsolateral body scutes. A similar pigmentation is on the meeting line of posterior dorso- and ventrolateral body scutes. Most of the ventrolateral body scutes with faint brown pigment, especially along posterior margins. Dorsal fin spine and a narrow line on the adjacent fin membrane grey, like the predorsal fin spinule (part of the dorsal fin spine locking mechanism). Dorsal and caudal fin rays with widely scattered, minute brown spots and dots. Anal fin with scattered brown chromatophores on the proximal half of the second through fifth branched ray. Dorsum of first and second branched pectoral fin ray with scattered brown pigment, branched rays otherwise hyaline. Pelvic fin hyaline. Upper rictal barbel faintly pigmented, lower rictal barbels and mental barbels unpigmented.

Variability.- Morphometric and meristic data of holotype and 10 paratypes (RMNH 26066), standard length (SL) 28.1-37.6 mm; body depth, expressed as a ratio of SL 2.5-2.9; body width, expressed as a ratio of SL 3.4-3.8; length dorsal fin spine, expressed as a ratio of SL 2.9-3.7; length pectoral fin spine, expressed as a ratio of SL 2.9-3.7; head length, expressed as a ratio of SL 3.2-3.4; snout length, expressed as a ratio of head length (HL) 2.0-2.3; length bony orbital, expressed as a ratio of HL 2.4-2.8; interorbital width, expressed as a ratio of HL 2.4-2.8; width intercoracoid area, expressed as a ratio of HL 1.7-2.4; depth caudal peduncle, expressed as a ratio of HL 1.9-2.1. Dorsal fin with 7 branched rays (8 in one paratype); anal fin with 2 unbranched (1 in one paratype) and 5 branched rays; pectoral fin with 8 branched rays in 7 paratypes, with 9 branched rays in 4 paratypes; pelvic fin with 1 unbranched and 5 branched rays; cau-

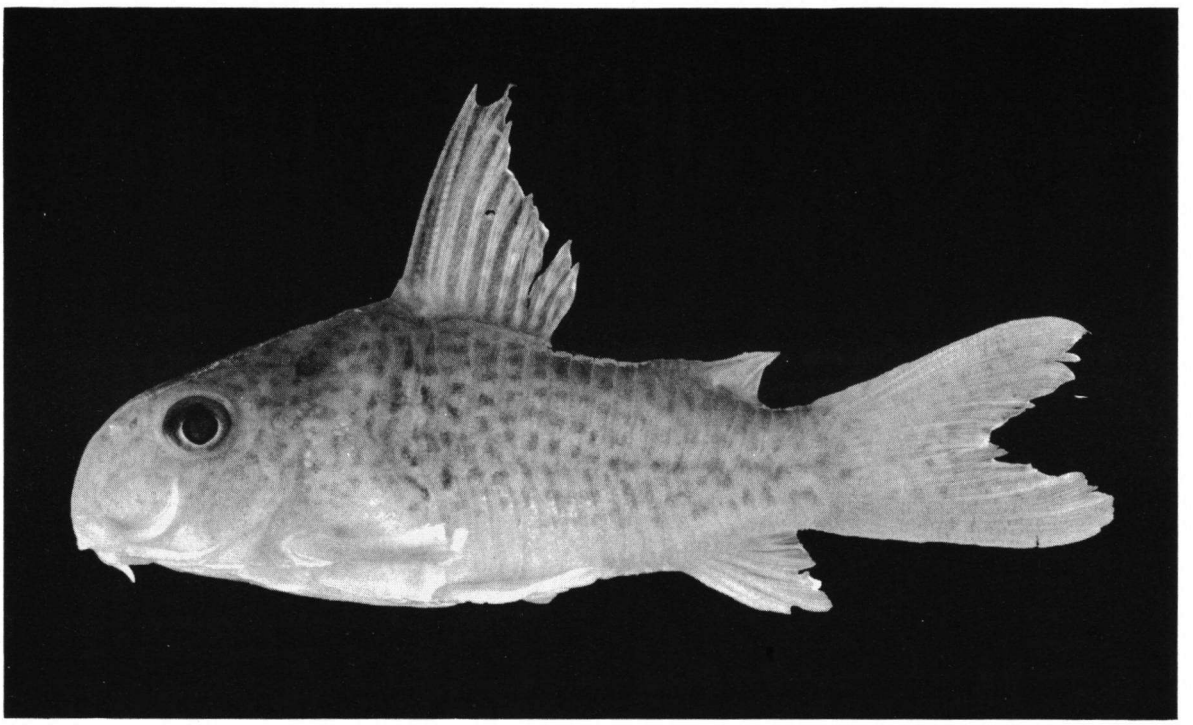

Fig. 1. *Corydoras breei* n. sp., holotype (RMNH 31912, SL 33.7 mm).

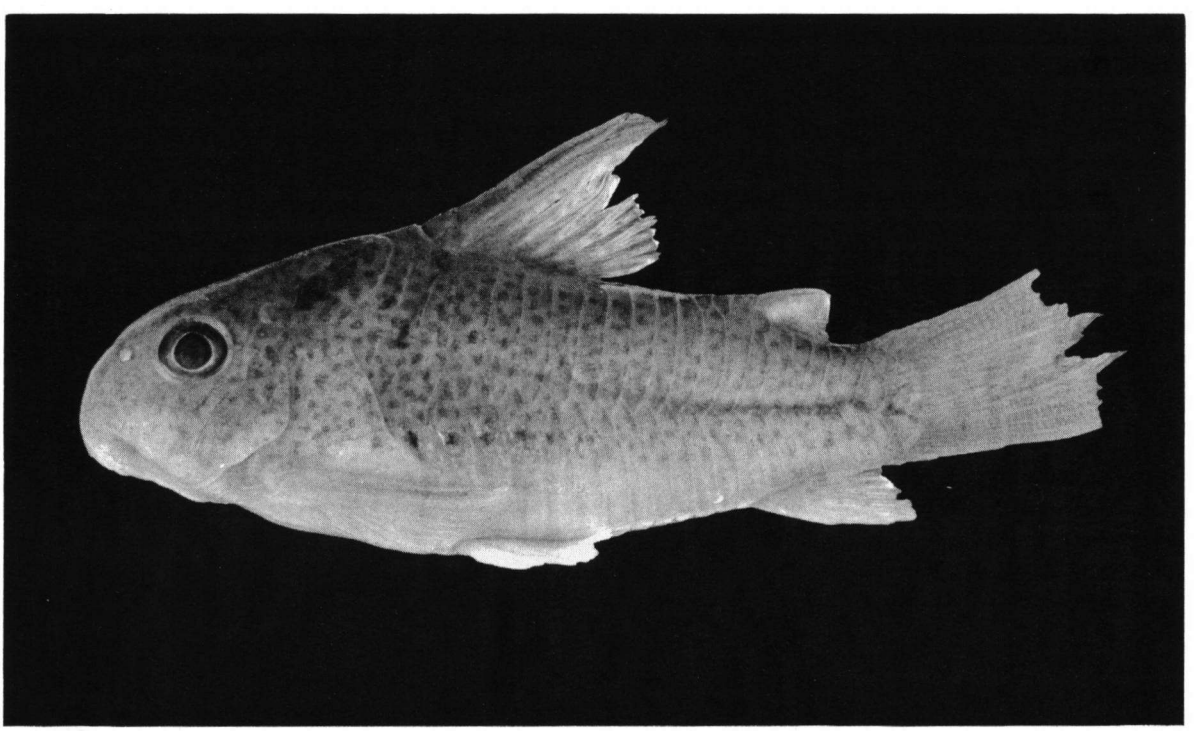

Fig. 2. *Corydoras breei* n. sp., paratype (ZMA 107.611, SL 38.8 mm), showing a more conspicuous midlateral line than the holotype.

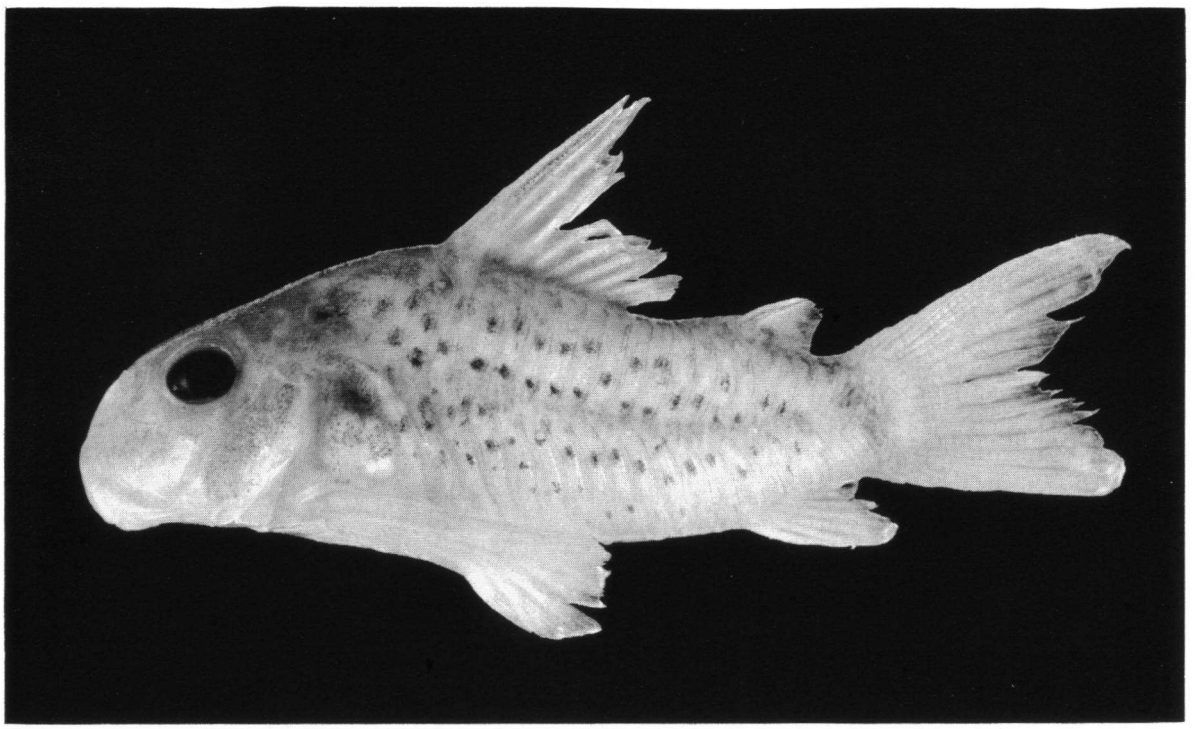

Fig. 3. *Corydoras osteocarus* Böhlke, 1951 (ZMA 119.788, SL 29.9 mm), Venezuela, Guárico, near Cabruta, Río Orinoco drainage.

Fig. 4. *Corydoras xinguensis* Nijssen, 1972, paratype (ZMA 110.392, SL 37.3 mm), Brazil, Est. Mato Grosso, near Posto Dia uarum, Rio Xingu drainage.

Fig. 5. Profile of the right pectoral fin spine of *Corydoras breei* n. sp., paratype (RMNH 25335, SL 35.7 mm), after Nijssen (1970, fig. 26D).

dal fin with 12 (11 in one paratype) branched rays. Dorsolateral body scutes 21-23, ventrolateral body scutes 19-21, preadipose scutes 2-4.

There is some variation in size, intensity and number of spots and dots on head and body. In about one-third of the specimens a midlateral line is absent; about two-third of the specimens have a thin, ill-defined midlateral line, often accentuated by lack of pigment dorsal and ventral to this line; in specimens with denser pigmentation the lack of adjacent pigment is clearer than in others. When a midlateral line is invisible, body pigment is continuous from dorso- to ventrolateral body scutes. The amount and intensity of middorsal pigment also varies: it is sometimes hardly visible. In some specimens a concentration of brown pigment is present just below the base of the adipose fin. The minute spots on the dorsal fin may vary in intensity and number. The pigmentation on the caudal fin is sometimes hardly visible. In two specimens pigment forms an almost evenly brownish fin. However, in most specimens it forms weak, irregular vertical to oblique stripes on the middle branched rays.

Comparison with *Corydoras osteocarus* Böhlke, 1951 (fig. 3).- Of the morphometric and meristic characters examined, only a difference in maximum SL is found: largest of 43 specimens of *C. breei* 39.9 mm, largest of ± 800 specimens of *C. osteocarus* 30.6 mm. *Corydoras osteocarus* is known to occur in the Orinoco river basin only.

Differences in colour pattern: Ground colour whitish, not yellowish tan as in *C. breei*. No spots on head; instead there are some brown pigmented blotches, one of which forms a rather broad, vertical marking below the eye. Dorsal fin without spots on rays, no dark pigment along fin spine, a dark grey line along fin base; all other fins hyaline. No middorsal pigment. No concentration of pigment on humeral scute. A crescent of dark embedded pigment on caudal peduncle near base of caudal fin which continues anteriorly to unite on the dorsal midline behind the adipose fin.

*Corydoras breei* was compared with three species sharing the presence of many spots on head and body, viz., *C. multimaculatus* Steindachner, 1907 (from Brazil, Est. Bahia, tributary to Rio Prêto near Santa Rita de Cassia), *C. polystictus* Regan, 1912 (from Brazil, Est. Mato Grosso, Rio Paraguai at Descalvado and at Cáceres) and *C. xinguensis* Nijssen, 1972 (from Brazil, Est. Mato Grosso, upper Rio Xingu tributaries).

Of *C. multimaculatus* the morphometric and meristic data of the lectotype and 5 paralectotypes were compared. *Corydoras breei* differs in having a longer dorsal spine in SL (2.9-3.7 versus 4.2-5.2), a tendency to have a shorter head (3.2-3.4 versus 3.1-3.2), a larger bony orbit in HL (2.4-2.8 versus 3.0-3.3), a narrower interorbital (2.4-2.8 versus 1.9-2.2) and a broader intercoracoid area (1.7-2.4 versus 2.4-2.9).

Of *C. polystictus* the morphometric and meristic data of the lectotype, paralectotype, the holotype of the synonymous *C. virescens* Ribeiro, 1912, and of 16 other specimens (SL 20.9-34.9 mm) are available.

*Corydoras breei* tends to have a larger bony orbit in HL, 2.4-2.8 versus 2.8-3.2, whereas its interorbital width is 2.4-2.8 versus 2.0-2.2 in *C. polystictus*. In addition, *C. breei* is more profusely spotted than *C. polystictus*.

Of *C. xinguensis* (fig. 4) the morphometric and

meristic data of the holotype and 11 paratypes were compared. They tend to have a deeper body in SL, 2.2-2.5 versus 2.5-2.9 in *C. breei,* and to have a wider interorbital in HL, 2.1-2.5 versus 2.4-2.8 in *C. breei.* The pigmented line along the dorsal fin spine is distinctly broader in *C. xinguensis* than in *C. breei,* and the spotting of head and body is different in both these species.

In the majority (two-third) of the available specimens of *C. breei* a thin midlateral line is visible. These specimens are reminiscent of some populations of *C. bondi bondi* Gosline, 1940 from Guyana and Brazil; to a lesser degree they are reminiscent of *C. bondi bondi, C. boesemani* Nijssen & Isbrücker, 1967, *C. baderi* Geisler, 1969 and of *C. filamentosus* Nijssen & Isbrücker, 1983, all occurring in the Corantijn river system like *C. breei.* None of these species has a profusely spotted head and body as *C. breei.* Moreover, the midlateral stripe in these four taxa is considerably more conspicuous than in *C. breei,* almost always emphasised by a narrow white (versus pigmented to unpigmented in *C. breei)* line dorsally and ventrally.
The morphometric and meristic characters of *C. breei, C. bondi bondi, C. boesemani* and *C. baderi* are quite similar.

The holo- and paratypes of *C. bondi* (from Venezuela) have smaller eyes than *C. breei* (length bony orbit 2.4-2.8 in HL *C. breei,* versus 2.9-3.3 in the holotype and 9 paratypes of *C. bondi*). Specimens of *C. bondi* from some other populations, however, have an eye with the same relative size as *C. breei.* Colour differences: the pigmentation pattern is shown in several published illustrations (Myers, 1942, fig. 7; Nijssen & Isbrücker,1967, pl. 2 fig. 3; Nijssen, 1970, fig. 7).

Between *C. breei* and *C. boesemani* no morphometric and meristic differences are found. There are, however, many differences in pigmentation (Nijssen & Isbrücker, 1967, pl. 4 fig. 1, Nijssen, 1970, fig. 6).

Between *C. breei* and *C. baderi* some slight morphometric differences or tendencies occur. The HL in SL in *C. breei* is 3.2-3.4, against 3.0-3.1 in 14 out of 15 measured *C. baderi,* only one of them having 3.2. The snout length in HL in *C. breei* is 2.0-2.3, against 1.9-2.0 in *C. baderi.* The length of the bony orbit in HL in *C. breei* is 2.4-2.8, against 3.1-3.6 in *C. baderi.* The width of the intercoracoid area in HL in *C. breei* is 1.7-2.4, against 2.7-3.5 in *C. baderi.* Colour differences: see illustrations in Geisler, 1969, figs. 1-2, Nijssen, 1970, fig. 14 (as *C. oelemariensis* Nijssen, 1970).

A comparison of the morphometric and meristic characters reveals numerous conspicuous differences between *C. breei* and *C. filamentosus.* In addition, the inner edge of the pectoral fin spine is weakly serrated in *C. breei,* versus strongly serrated in *C. filamentosus.* The colour pattern of *C. filamentosus* is quite reminiscent of that of sympatric *C. bondi bondi* (Nijssen & Isbrücker, 1983: 77, fig. 6).

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