

Two new species of the ornamental loricariid genus *Baryancistrus* (Siluriformes: Hypostominae) from rio Trombetas basin, Pará, Brazil

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Two new species of *Baryancistrus* are described from the rio Trombetas basin. These new species were collected in the late 1980's and were analyzed morphologically and compared to the eight currently assigned species of *Baryancistrus*. Both new species are distinguished from their congeners by a set of non-unique characters, such as coloration, extension of dorsal-fin membrane, abdominal covering, number of mandibular teeth and size of fins. These new species are only registered for strong-energy and clear waters, powerful cataracts, with rocky substrates, being sometimes, syntopic. The patterns of distribution and morphological features among all *Baryancistrus* species are discussed, and an identification key is presented. Despite of occurring in a protected area, previous studies on hydroelectric plants for the rio Trombetas, as the Hydropower Plant of Cachoeira Porteira, are being re-examined by current authorities, raising deep concerns on the future conservation of the unique biodiversity of the rio Trombetas basin.

Keywords: Amazon, Conservation, Freshwater, Hydroelectric, Identification key.

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Duas novas espécies de *Baryancistrus* são descritas para a bacia do rio Trombetas. Estas novas espécies foram coletadas no fim da década de 1980, e foram analisadas morfológicamente e comparadas com as oito espécies correntemente conhecidas para *Baryancistrus*. Ambas espécies novas são diferenciadas das suas congêneres por um conjunto de características não-exclusivas tais como coloração, extensão da membrana da nadadeira dorsal, cobertura abdominal, número de dentes mandibulares e tamanho das nadadeiras. Essas espécies novas só foram registradas para ambientes de fortes corredeiras, água claras de substrato rochoso, sendo alguns registros sintópicos. Os padrões de distribuição e os aspectos morfológicos de todas as espécies de *Baryancistrus* são discutidos, e é apresentada uma chave de identificação. Apesar de ocorrerem em uma área protegida, estudos preliminares de construção de hidrelétricas, como a UHE Cachoeira Porteira, estão sendo reexaminados pela atual administração federal, aumentando a preocupação para a futura conservação desta biodiversidade única da bacia do rio Trombetas.

Palavras-chave: Amazonas, Chave de identificação, Conservação, Hidrelétricas, Peixes de água doce.

INTRODUCTION

Based on ShoalConservation.org (Edmondstone, 2024), 243 new freshwater fish species were described in 2023, being 106 from South America. Fricke *et al.* (2025) added 423 species among marine and freshwater, all described in 2024 and 2025. Loricariidae account so far 1,068 valid species (Fricke *et al.*, 2025), with almost 50% of these comprising representatives of the subfamily Hypostominae. Among them, *Baryancistrus* Rapp Py-Daniel, 1989 is morphologically very distinct, registered for many drainages in the Amazon and Tocantins-Araguaia basins, and largely known in the international aquarium trade; however, its taxonomy is still poorly understood within Loricariidae. The genus was first raised to accommodate *Hypostomus niveatus* Castelnau, 1855, a very peculiar species described from rio Araguaia (Figs. 1, 2A–B). Isbrücker (2001) included another species in *Baryancistrus*, *Hemiancistrus longipinnis* Kindle, 1894, from rio Tocantins (Figs. 2C–D). Currently, the genus comprises eight species: *B. niveatus* (Araguaia), *B. longipinnis* (Tocantins), *B. xanthellus* Rapp Py-Daniel, Zuanon & de Oliveira, 2011 and *B. chrysolomus* Rapp Py-Daniel, Zuanon & de Oliveira, 2011 from rio Xingu basin, and, more recently, *B. hadrostomus* de Oliveira, Rapp Py-Daniel & Oyakawa, 2019 and *B. micropunctatus* de Oliveira, Rapp Py-Daniel & Oyakawa, 2019 from rio Jari, Pará State. Outside the Amazon, *B. demantoides* Werneke, Sabaj, Lujan & Armbruster, 2005 and *B. beggini* Lujan, Arce & Armbruster, 2009, were described both from the confluence area between Orinoco and Ventuari rivers (Venezuela and Colombia) but their inclusion in *Baryancistrus* is contentious.

Besides the eight known valid species, there are records of several undescribed morphotypes from rio Tapajós and Trombetas in Pará State, and Araguari in Amapá State. These undescribed morphotypes are very popular in the aquarium trade due to



FIGURE 1 | *Hypostomus niveatus* original illustration (Castelnau, 1855, plate 21, fig. 3, from “Araguaya, Goyaz”, Brazil).

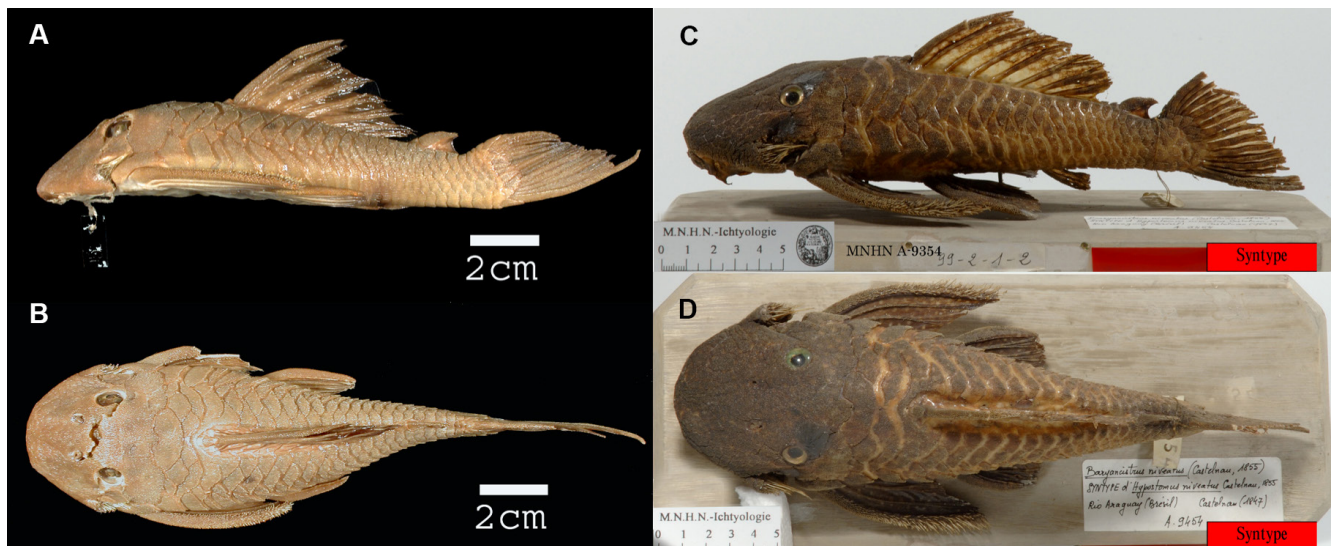


FIGURE 2 | **A, B.** Lateral and dorsal views of holotype of *Hemiancistrus longipinnis*, MCZ 29051 (images available from Museum of Comparative Zoology, Harvard University: ©President and Fellows of Harvard College). **C, D.** Lateral and dorsal views of syntypes of *Hypostomus niveatus* (MNHN A.9354 and MNHN A.9454, respectively) (images available from AllCatfishSpecies Inventory project, ACSI).

their coloration of bright spots over a dark background, and have been exported to US, Europe Union and Asia under DATZ Magazine different Loricariidae Code “L – Numbers” (Schraml, Schäfer, 2004) for years (Rapp Py-Daniel *et al.*, 2011).

Baryancistrus are heavily built loricariids and can be characterized among other ancistrins by a set of non-exclusive characters, such as wide mouth, numerous oral teeth implanted in parallel jaws, head and body large and robust, snout completely plated, strong odontodes on the interopercular area and an extended hypertrophied membrane in the last dorsal-fin ray connected to the pre-adipose plate. The presence of a hypertrophied membrane after the last dorsal-fin ray is shared by the genera *Spectracanthicus* Nijssen & Isbrücker, 1987 and *Parancistrus* Bleeker, 1862.

These fishes occur in clear waters of green to olive-green coloration from precambrian-born tributaries located in the massifs of Guyana and Brazilian Shield and from the Orinoco River basin in Venezuela and Colombia. *Baryancistrus* species are rheophilic, inhabiting rapids and fast waters of large rivers and tributaries, and are often associated with rocky substrates. These habitats are the most frequently targeted for construction of hydroelectric power stations as the Tucuruí Dam (Tocantins River), Belo Monte (Xingu River), Sete Quedas (Teles Pires River) and several others under study or planned for the Tapajós, Trombetas, Juruena, Jarí rivers and others (de Oliveira *et al.*, 2012).

Armbruster (2004, 2008) provided morphology-based phylogenies with conflicting hypotheses of relationships of *Baryancistrus* with other Ancistrini. In the latter hypothesis (2008), *Baryancistrus* is inserted in the *Panaque*-clade as the sister group of a large set of genera, such as *Acanthicus* Agassiz, 1829, *Hemiancistrus* Bleeker, 1862, *Hypancistrus* Isbrücker & Nijssen, 1991, *Leporacanthicus* Isbrücker & Nijssen, 1989, *Megalancistrus* Isbrücker, 1980, *Micracanthicus* Isbrücker & Nijssen, 1991 (Genus 1 in Armbruster, 2008), *Panaque* Eigenmann & Eigenmann, 1889, *Peckoltia* Miranda Ribeiro, 1912, *Pseudacanthicus* Bleeker, 1862, and *Spectracanthicus* (*Oligancistrus* Isbrücker & Nijssen, 1987 included), based on the lack of odontodes on the opercle of adults.

Lujan *et al.* (2015), in a molecular-based analysis, included five species of *Baryancistrus*, but the genus came out as non-monophyletic and split into two clades: an Amazon-Araguaia clade, with *B. chrysolomus*, *B. niveatus* and *B. xanthellus* as the sister group of *Spectracanthicus zuanoni* Chamon & Rapp Py-Daniel, 2014, *S. punctatissimus* (Steindacher, 1881) and *Parancistrus nudiventris* Rapp Py-Daniel & Zuanon, 2005; and a well-supported Orinoco clade with *B. beggini* and *B. demantoides* with *Hemiancistrus subviridis* and *H. guahiborum*.

Due to this classificatory inconsistency, a cladistic analysis based on morphology was conducted by the first author, as an unpublished doctoral study, with a large number of Ancistrins in which *Baryancistrus* came out monophyletic but with a slightly different composition. As a result, the following characters emerge as additional osteologic information within *Baryancistrus*: bar-like opercle robust with strong longitudinal crest, not exposed, not bearing odontodes (the only exception so far, is *B. niveatus* that shows odontodes on the opercle); autopalatine longer than maxilar, autopalatine very robust in some species; premaxillary and dentary robust carrying many elongate bicuspid teeth; transcapular ligament strongly attached to compound pterotic; presence of large and curved non-connected anterolateral processes on the basipterygium.

Here we describe two new species of *Baryancistrus* from rio Trombetas basin, compare them with their congeners, present an identification key comprising all the assigned species to *Baryancistrus* and discuss the peculiar biogeographic pattern of the species in the genus.

MATERIAL AND METHODS

Morphometric measurements were taken as point to point linear distances using digital calipers with a precision 0.1 mm. The meristic data were obtained with the use of a stereomicroscope. For morphological analysis, 47 body measurements were compared: 35 morphometric and 12 meristic. The measurements were based on Boeseman (1968) and Fisch-Muller *et al.* (2001) and plate counts follow Schaefer (1997). Fin-ray counts were preceded by I, in case of spines, and i, for soft unbranched rays. Anatomical and morphological terminology follows Schaefer (1987) and Geerinckx, Adriaens (2006) for compound pterotic. Standard length (SL) is given in mm and all measurements are expressed in percentages of SL or head length (HL). All specimens analyzed in this work were obtained from museum collections. Fish collected in the field were immediately anesthetized using water containing a lethal dose of eugenol (clove oil), and then fixed in 10% formalin. No experimentation was conducted on live specimens. In the description section, numbers in parentheses represent the number of specimens per value, in the description of color pattern section, dots are considered round markings, whereas spots are irregularly shaped. For osteological analysis, smaller specimens (up to 90 mm of standard length) were cleared and stained (c&s), following Taylor, Van Dyke (1985). Skeletal (sk) preparations for osteological analysis were possible using living Dermestidae (Coleoptera) larvae, according to Bemis *et al.* (2004). Images of whole specimens and particular features were obtained with a Nikon D-80 digital camera. Some specimens were excluded from the type-series and listed as non-types, due to their poor state of preservation. Institutional acronyms cited in the text follow Sabaj (2020).

RESULTS

Baryancistrus isaaci, new species

(Figs. 3–4; Tab. 1)

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Baryancistrus sp. L 274. —Schraml, Schäfer, 2004:100 (Aquarium magazine). —Seidel, Evers, 2005:538, 539 (Aquarium atlas). —Seidel, 2008:83 (Aquarium atlas).

Baryancistrus niveatus. —Ferreira, 1993:52, 59, 76 (list of species from rio Trombetas).

Holotype. INPA-ICT 53133, 229.2 mm SL, Brazil, Pará, Oriximiná, rio Trombetas, near Caxipacoré stream, 00°36'59.5"S 56°47'15"W, 15 Oct 1985, E. G. Ferreira & L. Rapp Py-Daniel.

Paratypes. All from Brazil, Pará, rio Trombetas basin: INPA-ICT 5456, 1, 32.7 mm SL, Oriximiná, rio Trombetas, Cachoeira Porteira, 01°05'16.3"S 57°03'23.5"W, 19 Apr 1985, E. G. Ferreira & M. Jegu. INPA-ICT 5457, 1, 71.0 mm SL, Oriximiná, rio Trombetas, Cachoeira Porteira, right margin, 01°05'16.3"S 57°03'23.5"W, 20 Apr 1985, E. G. Ferreira & M. Jegu. INPA-ICT 5458, 1, 214.3 mm SL, Oriximiná, rio Trombetas, Caxipacoré stream, 00°33'31.5"S 56°46'11.8"W, 17 Oct 1985, E. G. Ferreira & L. Rapp Py-Daniel. INPA-ICT 5618, 22 (21 alc., 25.4–60.7 mm SL, 1 c&s, 56.2 mm SL), MPEG.ICT 39988, 1, 59.38 mm SL, MZUSP 130923, 2, 50.28–54.80 mm SL, Oriximiná, rio Trombetas, Vira-Mundo waterfall, 00°58'11.9"S 57°01'8.2"W,



FIGURE 3 | *Baryancistrus isaaci*, INPA-ICT 53133, holotype, 229.2 mm SL, from rio Trombetas, Oriximiná, Pará, Brazil.

26 Nov 1987, E. G. Ferreira. INPA-ICT 6087, 5, 111.7–238.7 mm SL, collected with holotype. INPA-ICT 52477, 1, 82.8 mm SL, Oriximiná, rio Trombetas, Enseada waterfall, upstream of Cachoeira Porteira, 00°49'38.8"S 56°57'28.1"W, 24 Oct 2008, M. C. Andrade & D. A. Bastos. INPA-ICT 52478, 4, 108.6–269.9 mm SL, Oriximiná, rio Trombetas, Traval waterfall, upstream of Cachoeira Porteira, 00°46'17.5"S 56°52'15.5"W, 25 Oct 2008, M. C. Andrade & D. A. Bastos.

Diagnosis. *Baryancistrus isaaci* differs from its congeners by having the body covered by large and yellow dots, larger than pupil and distant from each other (*vs.* body uniformly black without dots in *B. beggini*; body covered by small bright white dots in *B. hadrostomus*, *B. longipinnis* and *B. micropunctatus*; or yellow spots of similar size to small than pupil in *B. demantoides*, *B. niveatus* and *B. xanthellus*; or body densely covered by yellowish-white spots larger than pupil in *B. quilombola*; or dark body with very faint, almost indistinguishable light dots in *B. chrysolomus*). *Baryancistrus isaaci* differs from its congeners except *B. longipinnis* and *B. niveatus* by having abdominal area covered by plates (*vs.* abdominal region lacking plates). *Baryancistrus isaaci* also differs from *B. longipinnis* by the dorsal-fin posterior membrane reaching or almost reaching the preadipose plate, leaving just one plate between the membrane and the preadipose plate (*vs.* posterior membrane not reaching the preadipose plate, leaving two to four plates free between dorsal and adipose fins), by a shorter distance between the dorsal and adipose fins 0.0–2.5% of SL (*vs.* 3.5–8.2% of SL), and by postdorsal length 23.2–26.2% of SL (*vs.* 26.8–31.2% of SL). *Baryancistrus isaaci* differs from *B. chrysolomus* and *B. xanthellus* by the absence of a yellow-orange bar on the distal border of dorsal and caudal fins (*vs.* distal yellow-orange bar present) in juveniles and adult specimens. *Baryancistrus isaaci* also differs from *B. niveatus* by a larger orbit diameter 18.5–26.0% of HL (*vs.* 13.5–18.2% of HL).

Description. General features of *Baryancistrus isaaci* shown in Figs. 3–4. Morphometrics and counts on Tab. 1. Large-bodied *Baryancistrus*, largest specimen reaching 238.7 mm SL. Body large and round dorsally; largest breadth of body at cleithrum, tapering towards caudal fin. Laterally, body deep and robust, deepest at insertion of dorsal fin. Lateral profile from snout to supraoccipital strongly inclined; slightly convex from eye to dorsal fin; supraoccipital process large, drop-like, elevated and carrying odontodes on larger specimens. From dorsal-fin insertion body gradually declining until first caudal-fin procurent ray; dorsal profile slightly convex. Body plates not crenated, except by low carena on plates surrounding dorsal-fin base, on anterior mid-ventral plates after cleithrum and on ventral plates of caudal peduncle. Ventral surface straight from snout to caudal fin. Transversely, anterior part of body approximately triangular; slightly oval on caudal peduncle.

Head large and deep. Eye and orbit large and round (orbit diameter 18.5–26% of head length), latero-dorsally positioned; iris diverticulum present and well-developed. Immediately in front of opercle, presence of set of small eversible dermal plates ("cheek plates") carrying large bunch of long odontodes; largest odontodes same size of orbits. Opercle not exposed. Orbit elevated; interorbital distance concave. Slight elevation between orbit and nostril. Supraoccipital process conspicuous, posteriorly round, elevated and separating first pair of predorsal plates. Predorsal area reduced; only two pairs of plates. First predorsal pair extremely large, with quadrangular plates strongly



FIGURE 4 | *Baryancistrus isaaci*, uncatalogued specimen, from Cachoeira da Enseada, Oriximiná, Pará, Brazil. Live specimen (Photo: Douglas A. Bastos).

sutured mesially, or fused. Second predorsal pair with distant small, diamond-like plates, anterior to nuchal plate. Nuchal plate small, immediately anterior to dorsal-fin lock. Nuchal plate hardly visible in specimens under 60 mm SL.

Mouth and lips moderate in size; oral disk round. Lips almost completely covered by small, flattened oval papillae; lips devoid of papillae on external borders and around jaws. Lower lip not reaching pectoral girdle. Maxillary barbel thick, large, anteriorly connected to lower lip by short membrane; free portion of barbel smaller than orbit.

Teeth long, strong, deeply cuspidate and tricolored in adults; main shaft white, distal part of shaft yellow; crown reddish and strongly angled (90°), cuspids large, similar size. Jaws densely toothed in juveniles and adults; below 60 mm SL teeth irregularly organized. Premaxillary and dentaries of similar size, disposed in parallel. Internal buccal papillae between premaxillaries absent; soft area immediately behind jaws densely covered by mat of low papillae.

Dorsal surface of body completely covered by large plates, except in dorsal-fin base. Snout completely plated except by round naked area at very tip. Ventral surface of caudal peduncle covered by large plates; abdomen partially covered by minute plates in large specimens, naked in specimens below 90 mm SL. In adults, abdominal covering more heavily concentrated on pectoral girdle, making an almost homogeneous surface of plates; naked areas on gular area, around pelvic insertion and urogenital area.

Mid-lateral plates 24–25. Body hispid; all plates covered by lines of uniform small odontodes, larger at posterior border. Numerous and hypertrophied odontodes on cheek plates, more developed in large specimens. Five series of plates on caudal peduncle.

Dorsal-fin insertion anterior, almost at line with pelvic insertion; pelvic slightly posterior. Dorsal fin II,7; locking mechanism present, well developed. Dorsal fin long

and relatively low, surpassing adipose fin insertion when addressed. Hypertrophied membrane posterior to last dorsal-fin ray extended through three to four plates, almost reaching adipose supporting plate. Some specimens showing half or one complete plate between membrane and adipose supporting plate. Adipose fin large with developed posterior membrane. One single plate separating adipose fin from first caudal-fin

TABLE 1 | Morphometric and meristic data of holotype (H) and 12 paratypes of *Baryancistrus isaaci*. SD = Standard deviation.

	H	Mean	Range	SD
Standard length (mm)	229.2	–	71.0–269.3	–
Percentage of standard length				
Predorsal length	41.2	42.0	39.2–43.7	1.2
Head length	34.3	35.4	32.6–37.2	1.1
Cleithrum width	35.1	35.0	34.0–36.5	0.7
Cleithrum process width	32.8	33.1	31.9–34.8	0.7
Distance between pectoral and pelvic fin insertions	22.4	23.2	20.7–25.8	1.3
Pectoral spine length	35.9	35.1	32.1–37.5	1.7
Distance between pelvic and anal fins origins	25.4	23.6	20.3–26.0	1.4
Pelvic simple ray length	25.8	27.3	25.8–29.2	1.0
Post anal length	30.7	29.3	27.8–30.7	0.9
Anal simple ray length	10.8	12.3	10.8–13.7	0.9
Dorsal spine length	23.8	27.3	23.8–29.7	2.2
Dorsal-fin base length	40.3	40.7	37.8–44.0	1.6
Dorsal - adipose fin distance	2.0	1.2	0.0–3.4	1.2
Caudal peduncle depth	10.9	11.1	10.6–11.9	0.4
Adipose spine length	7.8	7.3	5.8–8.1	0.7
Adipose - caudal fin distance	23.0	24.1	22.7–25.3	0.8
Body depth at dorsal fin origin	21.1	22.3	20.8–24.2	1.1
Body width at dorsal fin origin	29.0	30.3	29.0–33.2	1.3
Body width at anal fin origin	16.0	17.3	16.0–18.8	0.9
Post-dorsal length	24.5	25.1	23.2–26.9	1.0
Anus - adipose fin distance	4.9	4.1	3.1–4.9	0.6
Percentages on head length				
Orbit diameter	19.9	22.1	18.5–26.0	2.5
Snout length	64.9	63.6	59.6–65.7	2.0
Internare distance	13.3	12.9	11.5–13.8	0.8
Interorbital distance	34.8	33.6	30.0–38.1	2.2
Head depth	60.2	60.0	57.0–63.4	2.3
Dentary length	16.9	18.4	16.9–20.8	1.2
Premaxillary length	17.8	18.1	17.1–19.1	0.7
Head width	92.5	88.6	83.1–95.0	4.1
Nare-orbit distance	15.8	14.0	11.6–15.8	1.4
Interbranchial distance	59.2	58.7	56.2–61.7	1.4
Pectoral spine origin - branchial opening distance	23.6	22.8	18.2–27.1	2.5
Lower lip width	55.9	56.5	49.7–61.1	3.6
Lower lip length	16.2	15.1	11.7–17.5	1.5
Counts				
Number of premaxillary teeth	35		13–41	
Number of dentary teeth	36		14–48	
Lateral median plates	25		24–25	
Plates between anal and caudal fins	10		9–10	
Plates between dorsal and adipose fins	1		0–2	
Predorsal plates	3		3–3	
Plates along dorsal-fin base	12		11–12	

procurrent ray. Caudal fin i,14,i, bilobed, slightly emarginated. Pectoral fin large, I,6, reaching well beyond half of pelvic when adpressed, close to urogenital opening in some specimens. Pectoral spine strong, thick, not pungent, covered by well-developed odontodes, larger at tip of spine. Pelvic i,5, well developed, reaching beyond anal-fin base when adpressed. Anal fin i,4. All fin rays covered by small odontodes. 29 (2) vertebrae, four (1) to five (1) pair of ribs.

Coloration in alcohol. Light brown background on head and dorsum. Numerous pale yellow dots smaller than pupil scattered on head and dorsal surface of pectoral fin; dots much larger than pupil on trunk, flanks, dorsal, adipose and caudal fins, and dorsal surface of pelvic; some large specimens (above 110 mm SL from Cachoeira Porteira) with body dots twice size of head dots. Small specimens with fewer dots; density of dots increase with size. Ventral surface creamy, slightly darker than abdominal plates; external portion of upper lip light brown. Ventral surfaces of simple rays on pelvic and pectoral light brown. Teeth cusps dark brown.

Coloration in life. Color pattern in life similar to preserved specimens (Fig. 4), but with more contrast. Dark brown to black background on head, dorsum and flanks. Dots bright yellow in life. Ventral surface white to gray from tip of snout to anal fin insertion; light gray on ventral caudal peduncle; pale dots more conspicuous on abdominal plates and caudal peduncle. Ventral surface of simple pectoral and pelvic fin rays with light brown coloration. Teeth cusps translucent dark red to brown.



FIGURE 5 | Rio Trombetas, Cachoeira Porteira, Pará, Brazil: one of the sites of collection of *Baryancistrus isaaci*. Photo: Alany Gonçalves.

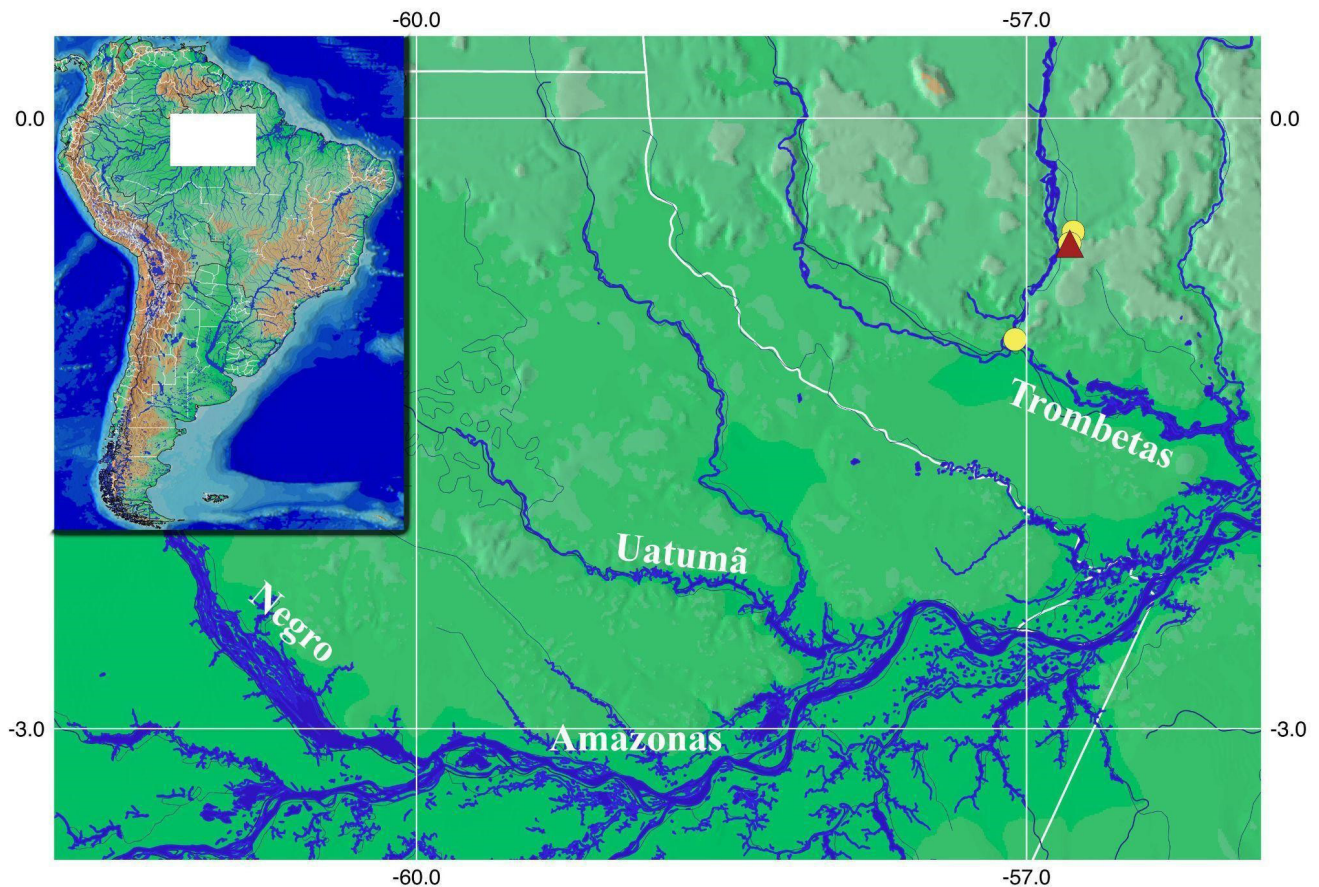


FIGURE 6 | Map of distribution of *Baryancistrus isaaci* in rio Trombetas, Pará, Brazil (triangle = type-locality).

Geographical distribution. *Baryancistrus isaaci* is restricted to the rio Trombetas basin, a clear-water tributary on the left bank of rio Amazonas in the State of Pará, Brazil, draining from the Guianas (Figs. 5, 6). This species was found in Trombetas and its major tributaries, such as Igarapé Caxipacoré, on rapids, waterfalls and rocky stretches of the river. It has been recorded for heavy to moderate waterfalls, such as Cachoeira Porteira, Cachoeira Vira-Mundo, Cachoeira da Enseada and Cachoeira Trava.

Etymology. The specific name, a noun (masculine, singular), honors Isaïc Isbrücker, for his contribution to the knowledge of Neotropical Ichthyology, especially loricariids. Isaïc is an excellent ichthyologist and aquarist, and an example of resilience against preconceived ideas, deserving to be honored by his extreme talent and knowledge on loricariids. He has dedicated a relevant part of his career as ichthyologist sharing his knowledge with the academia and general aquarium experts. A noun in a genitive case.

Conservation status. Graça *et al.* (2025) state that the catchment area of the rio Trombetas is almost entirely inside protected areas of different categories: Conservation Unit Areas (UC) such as Biological Reserve of Trombetas (REBIO) and State Forest

of Trombetas (FLOTA), Quilombola Territories (QI) such as Quilombo Cachoeira Porteira and Indigenous land Kaxuyana-Tunayana (TI). With this level of protection, the current known area of distribution of *B. isaaci* can be considered without immediate threats for the species. Thus, *B. isaaci* could be categorized as Least Concern (LC) under the current conditions and IUCN standards (IUCN, 2024). However, the project of the Hydropower Plant of Cachoeira Porteira can represent a future threat for the species.

Baryancistrus quilombola, new species

(Figs. 7–8; Tab. 2)

urn:lsid:zoobank.org:act:D464F3F7-059C-49D8-AA96-50EEBD180175

Baryancistrus sp. L 384. — Schraml, Schäfer, 2004:126 (Aquarium magazine). — Ferreira, 1993:52, 59, 76 (list of species from rio Trombetas). — Seidel, Evers, 2005:546, 547 (Aquarium atlas). — Seidel, 2008:84 (Aquarium atlas).

Holotype. INPA-ICT 61201, 188.9 mm SL, Brazil, Pará, Oriximiná, rio Trombetas, Vira-Mundo waterfall rocks, 00°58'11.9"S 57°01'08.2"W, 26 Nov 1987, E. G. Ferreira.

Paratypes. All from Brazil, Pará, rio Trombetas basin: INPA-ICT 5530, 2, 97.9–129.6 mm SL, Oriximiná, rio Trombetas, rapids on the right margin at the level of the stream Caxipacoré, 00°34'59.5"S 56°47'26.6"W, 24 Apr 1985, M. Jegu & E. G. Ferreira. INPA-ICT 5531, 1, 117.8 mm SL, Oriximiná, rio Cachorro, tributary of rio Trombetas, 00°59'22.1"S 57°04'02.8"W, 19 Oct 1985, E. G. Ferreira & L. Rapp Py-Daniel. INPA-ICT 5532, 2, 59.1–132.6 mm SL, Oriximiná, rio Trombetas, upstream of the Vira-Mundo waterfall, 00°56'53"S 57°01'09.4"W, 8 Oct 1985, E. G. Ferreira & L. Rapp Py-Daniel. INPA-ICT 5559, 1, 223.7 mm SL, Oriximiná, rio Trombetas, upstream of Cachoeira Porteira, 01°03'22.4"S 57°03'53.2"W, 25 Nov 1987, E. G. Ferreira. INPA-ICT 5561, 1, 185.6 mm SL, Oriximiná, rio Trombetas, rio Cachorro tributary of rio Trombetas, 00°59'22.1"S 57°04'02.8"W, 28 Nov 1987, E. G. Ferreira. INPA-ICT 5565, 1, 99.4 mm SL, Oriximiná, rio Trombetas, upstream of Cachoeira Porteira, 01°03'22.4"S 57°03'53.2"W, 6 Sep 1990, E. G. Ferreira & J. Zuanon. INPA-ICT 5586, 92, 34.4–128.7 mm SL, MPEG.ICT 39989, 2, 79.45–85.35 mm SL, MZUSP 130922, 2, 78.03–79.93 mm SL, Oriximiná, rio Trombetas, Vira-Mundo waterfall, rocks, 00°58'11.9"S 57°01'08.2"W, 26 Nov 1987, E. G. Ferreira. INPA-ICT 52434, 3, 163.3–175.8 mm SL, Oriximiná, rio Trombetas, upstream of Cachoeira Porteira, 00°51'29"S 56°54'34.3"W, 4 Dec 2007, J. R. Carvalho Jr.

Non-types. INPA-ICT 5545, 9 (8 alc., 33.7–150.4 mm SL, 1 c&s, 86.8 mm SL). Oriximiná, rio Trombetas, near Caxipacoré stream, 01°00'00.0"S 57°01'47.3"W, 15 Oct 1985, E. G. Ferreira & L. Rapp Py-Daniel. INPA-ICT 52435, 4, 43.1–119.4 mm SL, Oriximiná, rio Trombetas, Enseada waterfall, upstream of Cachoeira Porteira, 00°49'38.8"S 56°57'28.1"W, 24 Oct 2008, M. C. Andrade & D. A. Bastos.

Diagnosis. *Baryancistrus quilombola* differs from all congeners by a smaller interorbital width 25.9–29.6% of HL (*vs.* 30.0–45.2% of HL). *Baryancistrus quilombola* differs from its congeners except from *B. micropunctatus* by a greater dorsal-fin spine length 34.7–41.8% of SL (*vs.* 20.1–32.2% of SL). *Baryancistrus quilombola* can be distinguished from its congeners by general color pattern of body and fins: background gray to light-gray densely covered by large round to quadrangular light spots, larger than pupil (*vs.* dark background covered by light dots smaller than pupil in *B. hadrostomus*, *B. longipinnis* and *B. micropunctatus*; dark background covered by yellow round dots, largely spaced, larger than pupil in *B. isaaci*; background dark gray to black



FIGURE 7 | *Baryancistrus quilombola*, INPA-ICT 61201, holotype, 188.9 mm SL, from rio Trombetas, Cachoeira Vira-Mundo, Oriximiná, Pará, Brazil.

covered by well-defined yellowish and spaced dots similar or smaller than pupil on the remaining species). *Baryancistrus quilombola* differs from *B. longipinnis* by extension of dorsal-fin posterior membrane, reaching adipose-fin supporting plate (*vs.* posterior membrane not reaching adipose-fin supporting plate, leaving two to four free plates between dorsal and adipose fins). *Baryancistrus quilombola* still differs from *B. isaaci*, *B. longipinnis* and *B. niveatus* by abdomen completely naked (*vs.* abdomen partially or completely covered by plates).

Description. General features of *Baryancistrus quilombola* are shown in Figs. 7–8. Morphometric data and counts resumed in Tab. 2. Mid-sized *Baryancistrus*, with larger specimen measuring 223.7 mm SL. Body round anteriorly from dorsal view; body uniformly large from cleithrum until fourth mid-ventral plate, then tapering towards caudal peduncle. Largest body width at cleithrum. Body deep and slim; deepest at dorsal-fin insertion. In lateral view, dorsal profile convex from tip of snout to dorsal-fin insertion; strongly inclined between tip of snout and orbit and almost straight from this point to dorsal-fin insertion. From dorsal-fin insertion, body slightly convex until origin of caudal fin. Ventral surface straight from tip of snout to origin of caudal fin. Transversely, anterior part of body approximately triangular and oval on caudal peduncle. Low carena along dorsal-fin base. Four anterior mid-ventral plates slightly bent; ventral plates on caudal peduncle bent, forming a conspicuous keel.

Head long, deep and moderately slim. Eyes large and round (orbit diameter 17.4–24.3% on head length), latero-dorsally positioned; well-developed iris diverticulum. Orbit not elevated; interorbital area almost completely flat. Supraoccipital almost fused to other plates. Supraoccipital process pointed, slightly elevated and short, separating first pair of predorsal plates anteriorly. Predorsal area reduced to two pairs of plates: first pair with large plates, quadrangular, almost fused; second pair with two elongated plates connected to each other by a thin stripe of skin. Nuchal plate small; locking mechanism present.

Mouth and lips moderate in size; oral disk round; lips almost completely covered by small, round papillae; papillae decrease in size towards borders and maxillae; no papillae around jaws and on lip border. Lower lip not reaching pectoral girdle. Maxillary barbel elongate, smaller than orbit, thick proximally.

Teeth numerous and deeply cuspidated, thin, delicate; teeth tricolored with long transparent shaft, subapical region white, crown golden. Cusps small, spatulated, largely asymmetrical, diagonally divided; mesial cusp almost twice of lateral cusp. Premaxillary and dentary similar in size; in parallel disposition. Single buccal papilla behind premaxillaries, long and thin.

Dorsally, body completely covered by plates except at dorsal-fin base. Snout completely plated with small round naked area at tip. Abdominal and gular area completely devoid of plates; specimens above 110 mm SL show thin transversal stripe of small plates between pectorals and, longitudinally, small and irregularly-shaped thoracic plates between pectoral and pelvic fins. Ventral surface completely plated from anus to caudal fin. Mid-ventral plates 24–25. All plates covered by odontodes organized in thin lines. Well-developed and numerous odontodes on eversible cheek plates; hypertrophied odontodes in larger specimens; larger odontodes reaching or surpassing posterior orbit. Opercle not exposed, but rather covered by several small plates, almost fused in some cases. Five series of plates on caudal peduncle.

Dorsal fin anterior; dorsal-fin insertion anterior to vertical through pelvic fin. Dorsal fin II,7; locking mechanism present and functional. Dorsal fin long, high, reaching spine of adipose fin when adpressed. Extension of dorsal-fin posterior hypertrophic membrane over four to five dorsal plates, reaching supporting plate of adipose fin. Adipose fin well developed with enlarged posterior membrane. One pair of dorsal plates separating adipose from first procurent caudal-fin ray. Caudal fin i,14,i, conspicuously emarginate. Pectoral fin I,6, large, reaching beyond middle of pelvic fin in larger specimens, but not reaching urogenital pore when adpressed. Pectoral-fin spine thick, strong, not pungent and bearing large odontodes distally on males. Pelvic fin i,5, well developed, reaching posterior end of anal-fin base when adpressed. Anal fin i,4, moderate in size. All rays covered by numerous small odontodes. Vertebrae 29(1); seven pair of ribs (1).

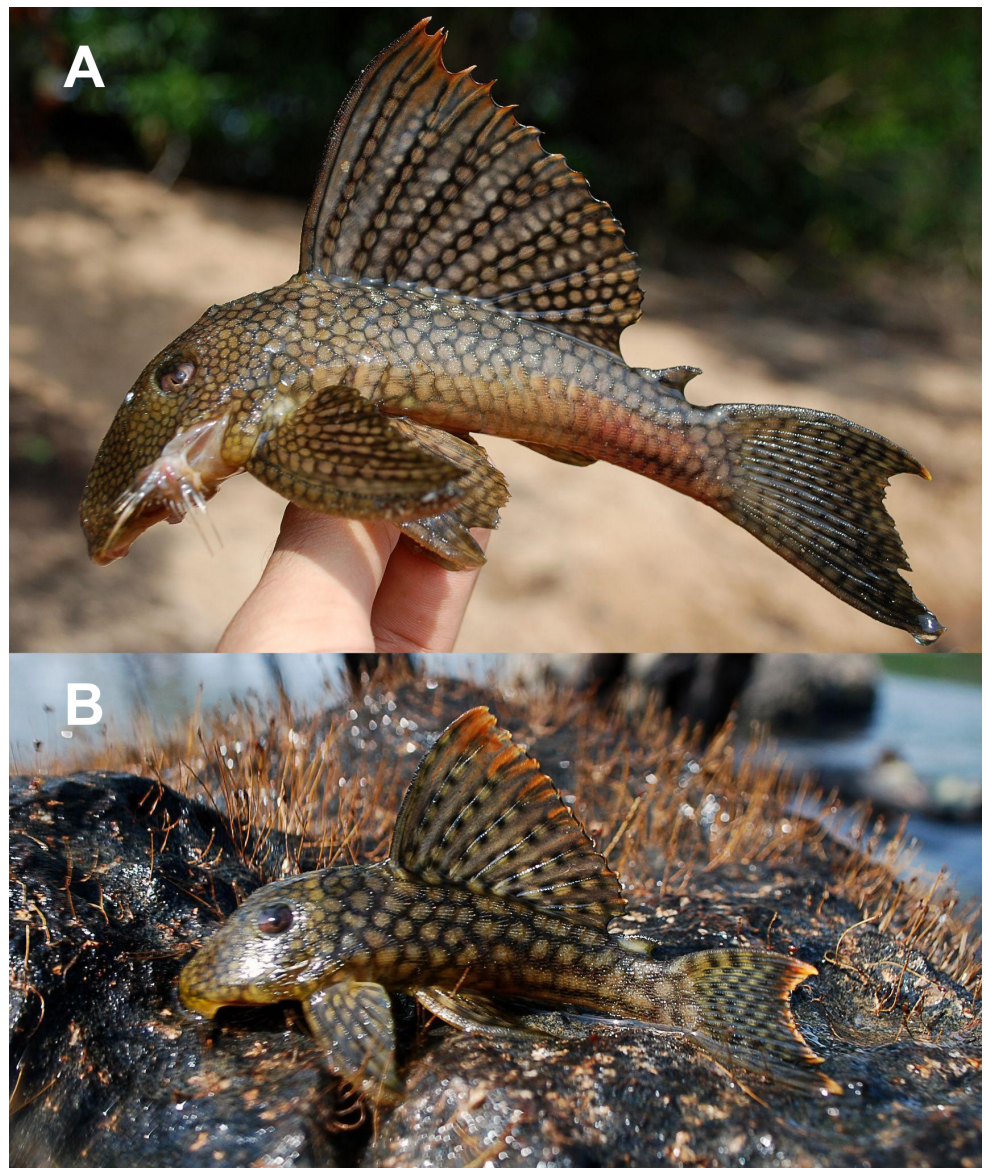


FIGURE 8 | *Baryancistrus quilombola*, (A) INPA-ICT 52435, paratype, 119.4 mm SL, from rio Trombetas, Oriximiná, Pará, a, (B) uncatalogued juvenile, live specimen. Photo: Douglas A. Bastos.

TABLE 2 | Morphometric and meristic data of holotype (H) and paratypes of *Baryancistrus quilombola*. N = Number of specimens, SD = Standard deviation.

Measurements	H	Mean	Range	SD	N
Standard length (mm)	188.9	123.7	76.1–223.7	38.7	27
Percentage of standard length					
Predorsal length	37.2	40.2	37.2–42.8	1.2	27
Head length	32.3	34.3	32.1–35.7	1.0	27
Cleithrum width	29.9	31.8	29.9–33.3	0.9	27
Cleithrum process width	28.1	30.0	27.3–32.0	1.2	27
Distance between pectoral and pelvic fin insertions	25.0	24.4	20.8–27.1	1.4	27
Pectoral spine length	34.6	34.9	33.0–36.9	1.0	27
Distance between pelvic and anal fins origins	24.6	23.3	22.0–25.2	0.9	27
Pelvic simple ray length	26.4	27.7	25.3–29.3	1.1	27
Post anal length	28.6	29.4	27.7–31.0	0.9	27
Anal simple ray length	11.2	12.6	11.2–14.0	0.8	27
Dorsal spine length	36.2	38.1	34.7–41.8	2.1	24
Dorsal-fin base length	45.5	44.7	42.5–47.1	1.3	27
Dorsal - adipose fin distance	0.0	0.0	0.0–0.0	0.0	27
Caudal peduncle depth	10.9	11.6	10.6–12.5	0.5	27
Adipose spine length	6.8	7.5	6.6–8.3	0.5	26
Adipose - caudal fin distance	21.2	21.9	20.4–23.5	0.8	27
Body depth at dorsal fin origin	18.2	19.8	18.0–23.2	1.2	27
Body width at dorsal fin origin	28.1	28.1	26.0–29.5	0.9	27
Body width at anal fin origin	17.2	16.7	15.3–18.5	0.8	27
Post-dorsal length	21.3	21.2	19.4–22.7	0.7	27
Anus - adipose fin distance	5.0	4.0	2.9–5.0	0.5	27
Percentages on head length					
Orbit diameter	17.9	21.1	17.4–24.3	2.0	27
Snout length	66.8	62.6	58.9–67.3	2.4	27
Internare distance	11.8	11.0	9.7–12.4	0.8	27
Interorbital distance	29.1	28.0	25.9–29.6	1.1	27
Head depth	53.9	55.7	53.0–59.9	1.7	27
Dentary length	18.2	17.9	16.0–20.0	1.0	27
Premaxillary length	19.8	18.8	16.8–21.2	1.0	27
Head width	86.9	85.2	81.7–90.7	2.2	27
Nare-orbit distance	11.8	11.8	10.4–13.8	0.9	27
Interbranchial distance	54.7	54.9	51.7–58.1	1.9	27
Pectoral spine origin - branchial opening distance	23.4	22.3	18.8–26.0	1.5	27
Lower lip width	55.5	54.1	49.8–58.8	2.6	27
Lower lip length	14.9	14.7	12.5–15.6	1.3	27
Counts					
Number of premaxillary teeth	75		40–76		27
Number of dentary teeth	74		40–74		27
Lateral median plates	25		24–25		27
Plates between anal and caudal fins	10		9–11		27
Plates between dorsal and adipose fins	0		0–0		27
Predorsal plates	3		3–3		27
Plates along dorsal-fin base	13		13–14		27

Coloration in alcohol. Head, trunk and fins with dark background densely covered by large, irregularly shaped clear spots, smaller on head. Dark gray coloration at very tip of fin rays with some specimens preserving the reddish color of interradyal membranes and rays observed in living specimens (see below). Ventral surface creamy or white.

Coloration in life. Head, trunk and fins with dark green to dark gray background densely covered by large, irregularly shaped clear spots, smaller on head (Fig. 8). Spots orange to reddish, with spots on head similar in size or smaller than pupil; spots larger and clearer on trunk and fins. Pectoral and pelvic fins covered by spots dorsally only, barely seen ventrally; interradyal of all fins with membrane dark green to gray, with distal tip almost black in some specimens. Anterior and posterior border of dorsal fin spine with black stripe; lateral distal face of all dorsal fin-rays reddish, more conspicuous on spine, first, second and last branched rays; red spots on first interradyal dorsal-fin membrane. Distal tips of simple caudal fin rays slightly reddish. Ventral surface pale, without spots; lips and ventral surfaces of pectoral and pelvic fins yellowish; caudal peduncle gray.

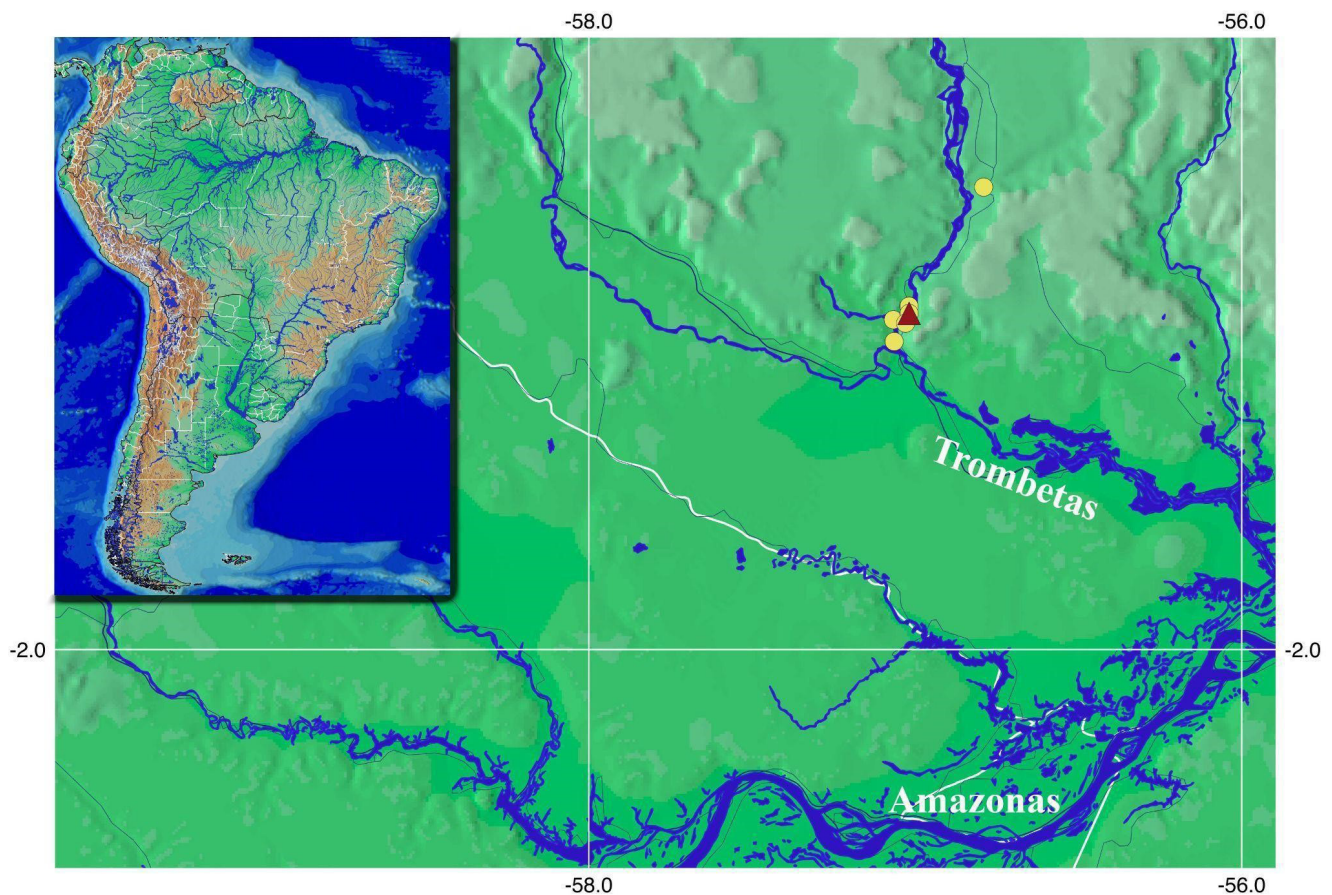


FIGURE 9 | Distribution of *Baryancistrus quilombola* from rio Trombetas, Pará, Brazil (triangle = type-locality).



FIGURE 10 | Rio Trombetas, Pará, Brazil: (A–C) Cachoeira Vira-Mundo, type-locality of *Baryancistrus quilombola*, (D) Cachoeira Enseada, one of the sites of collection (Photo: Alany Gonçalves).

Geographical distribution. *Baryancistrus quilombola* is only known from the rio Trombetas basin (Figs. 9–10). This species was recorded for Cachoeira Porteira, Cachoeira Vira-Mundo and Cachoeira Enseada, besides in some of Trombetas main tributaries, such as Igarapé Caxipacoré.

Etymology. The specific name *quilombola* (a noun in the nominative singular standing in apposition to the generic name) honors the Quilombola's communities of the rio Trombetas, also called Quilombos. Quilombolas are Afro-Brazilian descendents that escaped from slavery, or after abolition of slavery, that organized agrarian communities according to cultural, religious and geographic backgrounds in different areas in Brazil. The presence of large quilombos in the Amazon and, particularly, in the rio Trombetas basin deserves recognition, as the first Quilombo fully recognized by the Brazilian government was in rio Trombetas (Duque, 2009). They are eximious fishermen and profound connoisseurs of the dangerous waters in the rio Trombetas, as well as important activists of the Quilombola cause in South America.

Conservation status. *Baryancistrus quilombola* can be categorized as Least Concern (LC), IUCN 2024, with the same conservation status as *B. isaaci*, since these species are sympatric and sometimes syntopic and share habitat preferences. That also means that the construction of the Hydropower Plant of Cachoeira Porteira would not threaten only one species, but both *Baryancistrus* species from the rio Trombetas.

Key for identification of *Baryancistrus* species
(*B. beggini* and *B. demantoides* still included for the sake of comparison)

- 1a. Abdomen plated or partly plated..... 2
- 1b. Abdomen naked 4
- 2a. 0–1 plates between last dorsal-fin ray membrane and adipose; up to 48 mandibular teeth on any maxilla *B. isaaci* (Trombetas)
- 2b. 1–3 plates between last dorsal-fin ray membrane and adipose; more than 60 teeth on any maxilla..... 3
- 3a. Opercle with exposed odontodes; abdomen naked or partly plated..... *B. niveatus* (Tocantins-Araguaia)
- 3b. Opercle not exposed; abdomen plated..... *B. longipinnis* (Tocantins-Araguaia)
- 4a. Dark background spotless or dots very reduced, inconspicuous..... 5
- 4b. Spots or dots always present, conspicuous, different sizes 7
- 5a. Dark background, with clear dots, very reduced, inconspicuous; presence of orange or clear band on dorsal and caudal fins; up to 96 mandibular teeth..... *B. chrysolomus* (Xingu)
- 5b. Dark background, dots very reduced and largely spaced, or body spotless; no bands on fins..... 6
- 6a. Large sized fishes, up to 246 mm SL, spots very reduced and largely spaced; up to 100 mandibular teeth..... *B. hadrostomus* (Jari)
- 6b. Small sized fishes, up to 90 mm SL, spotless; up to 36 mandibular teeth..... *B. beggini* (Ventuari, Orinoco basin)
- 7a. Clear and spaced dots up to half of the body, not beyond dorsal fin *B. demantoides* (Ventuari, Orinoco basin)
- 7b. Whole body covered by clear spots or dots 8
- 8a. Body densely covered by very reduced white dots; dots smaller than pupil *B. micropunctatus* (Jari)
- 8b. Body covered by large spots or dots 9
- 9a. Dots bright yellow or white, largely spaced; presence of yellow band on dorsal and caudal fins, reduced to a yellow distal spot in large specimens..... *B. xanthellus* (Xingu)
- 9b. Body densely covered by large irregularly shaped clear spots..... *B. quilombola* (Trombetas)

DISCUSSION

Baryancistrus isaaci and *B. quilombola* share with their congeners the expanded membrane after the last dorsal-fin ray, connected or not to the preadipose plate, large mouth, numerous teeth (maximum numbers range up to 98 on the premaxillary and up to 102 on the dentary) and the spotted color pattern. Spotted color pattern is quite pervasive among hypostomines (*Hypostomus* Lacépède, 1803, *Parancistrus*, *Spectracanthicus*), and certainly among *Baryancistrus* representatives. However, the distinction of the color pattern observed on the species from Trombetas is remarkable, with *B. isaaci* showing the general color pattern of clear dots over a dark background, whereas *B. quilombola* shows a densely arranged irregularly large-shaped spots, over a grayish background all over body and fins. Associated with the densely spotted color pattern, *B. quilombola* shows a larger number of thin teeth (up to 76) and an elongate body shape promptly distinctive from the heavier body and strong and fewer oral teeth observed in *B. isaaci* (up to 47) (Fig. 11). Besides, *B. isaaci* has a plated abdomen in specimens above 90 mm SL whereas *B. quilombola* shows a naked abdomen even in the larger specimens. Besides, *B. quilombola* shows a higher dorsal fin than *B. isaaci*.

Baryancistrus xanthellus and *B. chrysolomus* from the rio Xingu basin are quite distinctive from the rio Trombetas *Baryancistrus* by the presence of an orange-yellowish band in the dorsal fin present during the whole life of the individual in *B. chrysolomus* whereas, in *B. xanthellus*, it is strongly reduced with growth (Rapp Py-Daniel *et al.*, 2011). *Baryancistrus hadrostomus* and *B. micropunctatus*, from rio Jari, are also quite distinct from the rio Trombetas representatives. *B. hadrostomus* shows a large mouth, with up to 100 oral teeth, quite dark background with few and inconspicuous scattered clear small dots whereas *B. micropunctatus* has fewer teeth, up to 60, and it is densely covered by very reduced white dots (de Oliveira *et al.*, 2019). Both *B. longipinnis* and *B. niveatus* are also distinct from the Trombetas representatives by differences in the spotted color pattern and extension of the posterior membrane of the dorsal fin (Lujan *et al.*, 2009; Rapp Py-Daniel *et al.*, 2011).

Baryancistrus demantoides and *B. beggini* from the rio Ventuari, Orinoco basin were putatively assigned to *Baryancistrus*. Werneke *et al.* (2005) commented the lack of synapomorphies for the genus *Baryancistrus*, but based on the posterior expansion of the dorsal fin and lack of synapomorphies of *Parancistrus* and *Spectracanthicus*, decided to assign the species to *Baryancistrus*. In their description of *B. demantoides*, the authors stated “membranous connection present between last dorsal ray and body to preadipose plate”. *Baryancistrus beggini* was described as a small sized loricariid (up to 80.9 mm SL), with up to 36 teeth and conspicuous extended posterior membrane of the dorsal fin until preadipose plate, clearly illustrated.

In Lujan's *et al.* (2015) multilocus analysis on Hypostominae, both *B. demantoides* and *B. beggini* came in a different clade apart from the clade ((*B. xanthellus* + *B. chrysolomus*) “*B. niveatus*”). Currently, a manuscript under preparation is suggesting a new generic status for both *B. demantoides* and *B. beggini* (R. E. Reis, 2024, pers. comm.). A more inclusive molecular analysis of the current representatives of *Baryancistrus* will certainly contribute to the elucidation of the relationships among the congeners.

Concerning the distribution of the species of *Baryancistrus*, it is quite challenging to explain the sympatry, even syntopy, of the species in pairs, or sometimes, in triads: two

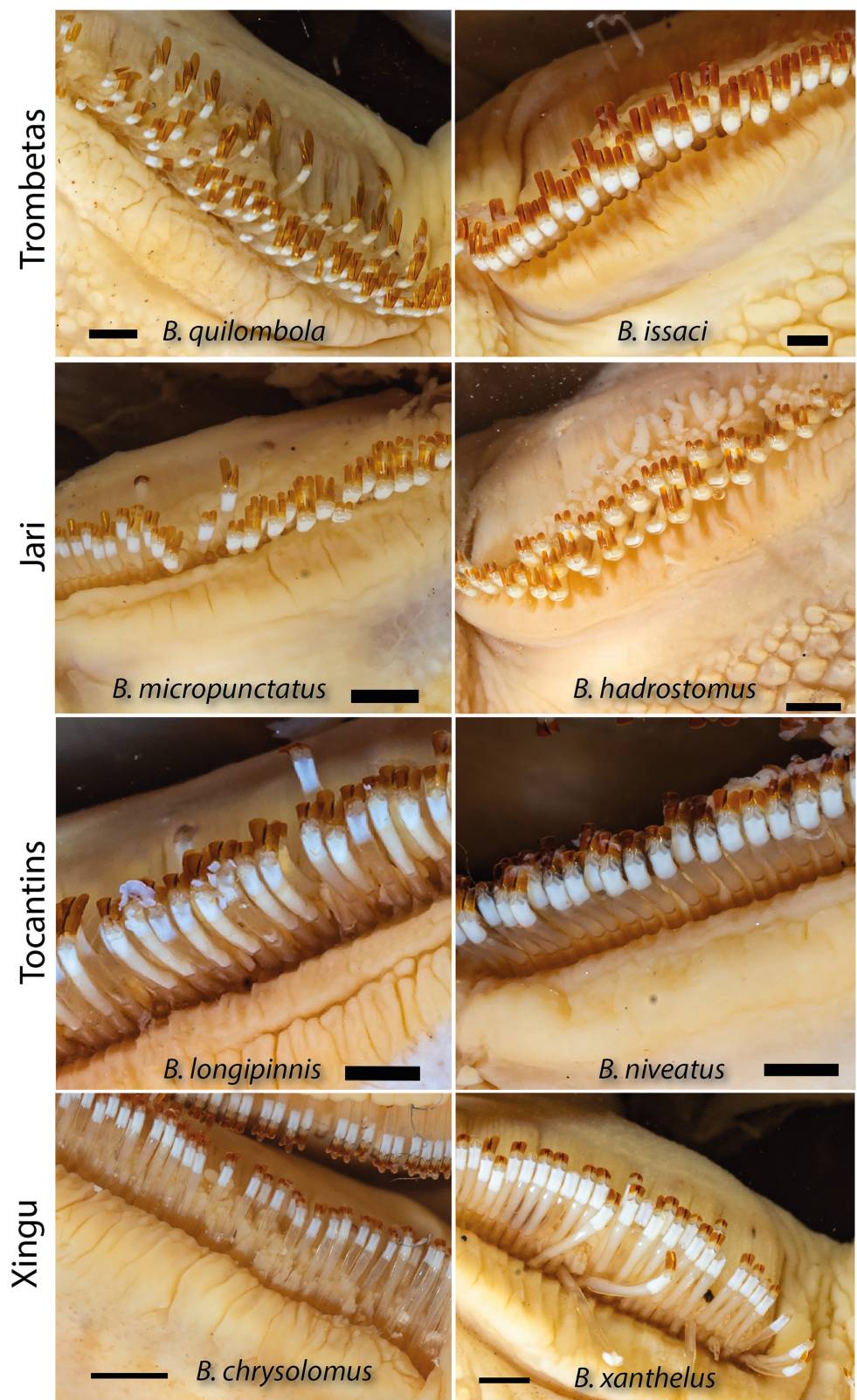


FIGURE 11 | Variation on robustness and number of dentary teeth of species of *Baryancistrus*. Black bar = 1 cm. Photo: Douglas A. Bastos.

in the Tocantins-Araguaia basin, two in the rio Xingu basin (with a putative third one), two in the rio Jari basin, two in the Ventuari River, and two in the rio Trombetas basin (with a putative third one). In the case of the *Baryancistrus* representatives of Xingu and Trombetas, the color pattern is quite distinctive between the sympatric taxa, although in both cases we also have a clear distinction between mouth size and number of oral teeth. Differences in size of mouth and number of teeth are also evident in the rio Jari *Baryancistrus* (*B. hadrostomus* and *B. micropunctatus*) (Fig. 11), but different from the other species cited above, the color pattern is pretty much the same. Diet of ancistrins tends to be very conservative (Lujan *et al.*, 2012), but the impact of differences in shape and number of teeth in the diet of these fishes still have to be examined.

The sympatry observed in *Baryancistrus* species does not seem to be related to mimicry as in some species of *Corydoras* (Tencatt, Britto, 2016). Instead, the repeated color pattern of clear dots on a dark background, raises the hypothesis of conservativeness related to success, as these fishes are totally adapted to high-energy waters and rocky substrates, where light incidence and reflectance are fractal. On the other hand, sympatry of species is not necessarily related to closeness or phylogenetic familiarity. Cases of sympatry of congeners that are more related to congeners from other basins have been already assigned to the rio Paraná basin (Borges *et al.*, 2020; Dagosta *et al.*, 2024). Lima, Ribeiro (2011), also discussing species relatedness in different drainages, remarked that river capture could have a strong influence in dispersal of fish, uniting lineages from different historical geologic backgrounds or origins. That is, despite being similar and sympatric, these pairs of species might not be closely related.

The rio Trombetas is formed by the confluence of the rios Poana and Anuma, which originate at the highland areas of Guyana, Suriname and Brazil, and flow to the Amazonas (Graça *et al.*, 2025). These highlands can reach 900 m a.s.l. and are part of the Precambrian Guyana Shield (Graça *et al.*, 2025). As other precambrian-born drainages, the rio Trombetas is a clear water drainage, with high oxygenated waters due to strong cataracts distributed on different sites along the river, being Cachoeira Porteira the last one. Most of the rio Trombetas basin runs over protected areas or different categories (Indigenous lands, Conservation Units).

As both *B. isaaci* and *B. quilombola* share sympatry and, sometimes, syntopy, we believe that the level of threats towards the conservation of the two species is quite similar. These are species adapted to high-energy environments, highly oxygenated and clear waters, extensive rocky substrate, exactly the kind of habitats targeted by the “green or clean energy” propagated by the construction of hydroelectric power plants to generate electricity. These species were originally collected as part of the inventory for the report on environmental viability for the construction of the Hydropower Plant of Cachoeira Porteira by Centrais Elétricas do Norte do Brasil S/A (Eletronorte) between 1985 and 1987. The whole project has been shelved for decades for several reasons. However, new studies have been developed by EPE (Empresa de Pesquisa Energética/ Institute of Research on Electric Resources) focusing on evaluation of new sites for power plants to be constructed (EPE, 2020). So far, *B. isaaci* and *B. quilombola* can be considered free from anthropic or developmental threats, as they occupy a large and protected area, and could be considered as taxa of Least Concerns (LC) for conservation, according to IUCN standards.

As a matter of fact, we might have more new species of *Baryancistrus* in the same drainages cited above, as it is shown by the number of morphotypes or L-numbers (Schraml, Schäfer, 2004). There is a potential new species in the rio Xingu, similar to *B. niveatus*, and another one in the rio Trombetas. The latter, however, shows a quite different body shape and coloration. The real diversity of *Baryancistrus* has not been assessed yet. Conservation of this genus raises concerns when we realize that their major habitats are the ones targeted by hydropower plants projects.

Comparative material examined. Brazil: *Oligancistrus punctatissimus*: INPA-ICT 43217, 6 (5 alc., 51.0–74.6 mm SL, 1 sk, 124.1 mm SL), Pará, Porto de Moz, rio Xingu, at rocks at mainstem, right shore (public beach), 2.9 km northeastern below Porto de Moz, 01°43'53"S 52°15'16"W, 4 Mar 2014, M. Sabaj, M. Arce & A. P. Gonçalves. INPA-ICT 51063, 1 c&s, 89.4 mm SL, Pará, Porto de Moz, rio Xingu, close to Porto de Moz, 01°44'42"S 52°14'54"W, 14 Nov 2014, M. Sabaj, M. Arce & A. P. Gonçalves. *Oligancistrus tocaninensis*: INPA-ICT 2990, 140 paratypes (138 alc., 16.2–92.9 mm SL, 2 c&s, 83.4–86.9 mm SL), Pará, Tucuruí, rio Tocantins, below Tucuruí dam, 03°45'58"S 49°40'21"W, 31 Aug 1984, INPA ichthyological team. *Oligancistrus zuanoni*: INPA-ICT 43853, 7 (5 alc., 38.8–116.0 mm SL, 2 sk, 114.4–144.0 mm SL), Pará, Altamira, rio Xingu, above Volta Grande, right shore of the canal, 03°16'17"S 52°05'45"W, 11 Mar 2014, M. Sabaj-Pérez, L. Rapp Py-Daniel, R. R. de Oliveira, M. Arce, A. Gonçalves & D. Fitzgerald. INPA 43387-ICT, 7 (6 alc., 1 sk, 121.5 mm SL), Pará, Altamira, rio Xingu, central area of Volta Grande, 03°35'20"S 51°48'59"W, 9 Mar 2014, M. Sabaj-Pérez, L. Rapp Py-Daniel, R. R. de Oliveira, M. Arce, A. Gonçalves & D. Fitzgerald. *Oligancistrus javae*: INPA-ICT 48004, 74.8 mm SL, Tocantins, Araguatins, rio Araguaia, 05°27'36"S 48°20'38"W, 14 Sep 2009, J. Zuanon, T. Hrbek, V. N. Machado & J. S. Batista. *Spectracanthicus murinus*: INPA-ICT 6984, 31 (29 alc., 2 c&s, 53.7–64.8 mm SL), Pará, Itaituba, rio Tapajós, 23 Oct 1991, L. Rapp Py-Daniel & J. Zuanon. INPA-ICT 45301, 5 (4 alc., 1 c&s, 52.0 mm SL), Mato Grosso, Paranaíta, rio Teles Pires, 09°20'49"S 56°46'42"W, 18 Jun 2013, R. Rojo. **Venezuela: Amazonas:** '*Baryancistrus*' *beggini*: paratypes: ANSP 182806, 3, 66.3–77.9 mm SL, Río Ventuari, 163 km SE de Samariapo, Río Orinoco drainage, 04°03'26"N 66°55'57"W, 1 Apr 2005, N. K. Lujan, M. Arce, T. E. Wesley, E. L. Richmond & M. B. Grant. Non-types: ANSP 190759, 3 (2 alc., 36.6–78.8 mm SL, 1 c&s, 37.5 mm SL), Río Ventuari, em Raudales Chipirito, Río Orinoco drainage, 04°04'5.7"N 66°54'13.3"W, 1 Apr 2010, M. H. Sabaj Pérez, N. K. Lujan, D. C. Werneke, T. P. Carvalho, S. V. Meza, A. Luna & O. Santaella. ANSP 190824, 1, 66.5 mm SL, Río Ventuari, Island at confluence with Río Orinoco, 03°58'42.3"N 67°03'37.7"W, 29 Mar 2010, M. H. Sabaj Pérez, N. K. Lujan, D. C. Werneke, T. P. Carvalho, S. V. Meza & O. León Mata. '*Baryancistrus*' *demantoides*: paratypes: ANSP 180226, 1, 86.3 mm SL, Río Orinoco, indigenous villa Cucue, next to Trapichote, 60 km a leste de San Fernando de Atabapo, 03°58'26"N 67°09'30"W, 3 Apr 2004, M. H. Sabaj, N. K. Lujan, D. Werneke & L. de Souza. ANSP 180227, 1, 89.5 mm SL, Río Ventuari, close to the ornamental fish market, 04°04'32"N 66°53'34"W, 3 Apr 2005, N. K. Lujan, M. Arce, E. L. Richmond, M. B. Grant & T. E. Wesley. ANSP 180228, 1, 117.9 mm SL, Río Orinoco 60 km east of San Fernando de Atabapo, 03°58'26"N 67°09'46"W, 3 Mar 2005, M. H. Sabaj, N. K. Lujan, D. C. Werneke & M. Arce. Non-types: ANSP 190750, 1, 121.8 mm SL, Río Ventuari, in Raudales Chipirito, 88.5 km east of San Fernando de Atabapo, 04°04'5.7"N 66°54'13.3"W, 1 Apr 2010, M. H. Sabaj Pérez, N. K. Lujan, D. C. Werneke, T. P. Carvalho, S. V. Meza, A. Luna & O. Santaella. ANSP 190818, 2, 61.9–167.1 mm SL, Río Ventuari, Island at confluence with Río Orinoco, 71.5 km east of San Fernando de Atabapo, 03°58'42.3"N 67°03'37.7"W, 29 Mar 2010, M. H. Sabaj Pérez, N. K. Lujan, D. C. Werneke, T. P. Carvalho, S. V. Meza & O. León Mata.

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AUTHORS' CONTRIBUTION

Renildo Ribeiro de Oliveira: Conceptualization, Formal analysis, Investigation, Methodology, Writing–original draft.

Lúcia H. Rapp Py–Daniel: Conceptualization, Formal analysis, Investigation, Methodology, Resources, Supervision, Writing–review and editing.

ETHICAL STATEMENT

All material was collected in accordance with Brazilian law, under scientific collection license (SISBIO 31089–2).

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The authors confirm that the data supporting the findings of this study are available within the article.

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