



A new *Poptella* from the rio Xingu basin, Brazil (Characiformes: Characidae)

Correspondence:
James R. Garcia-Ayala
jamesrga@hotmail.com

James R. Garcia-Ayala and Ricardo C. Benine

A new species of *Poptella* is described from the rio Xingu basin, Pará and Mato Grosso states, Brazil. The new species is distinguished from all congeners by having a greater number of scales around the caudal peduncle (15–18 *vs.* 13–14). Furthermore, this species can be easily distinguished from *P. brevispina*, *P. longipinnis*, and *P. fuscata* by the lower number of branched rays in the dorsal fin (9 *vs.* 10–11). The description of new taxon represents the third species of the genus *Poptella* described in the last five years.

Keywords: Amazon, Biodiversity, Stethaprioninae, *Stethaprion* clade, Taxonomy.

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Uma nova espécie de *Poptella* é descrita da bacia do rio Xingu, estados do Pará e Mato Grosso, Brasil. A nova espécie é distinguida de todas as espécies congêneres por apresentar maior número de escamas ao redor do pedúnculo caudal (15–18 *vs.* 13–14). Além disso, esta espécie pode ser facilmente distinguida de *P. brevispina*, *P. longipinnis* e *P. fuscata* pelo menor número de raios ramificados na nadadeira dorsal (9 *vs.* 10–11). A descrição do novo táxon representa a terceira espécie do gênero *Poptella* descrita nos últimos cinco anos.

Palavras-chave: Amazônia, Biodiversidade, Clado *Stethaprion*, Stethaprioninae, Taxonomia.



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Departamento de Biodiversidade e Bioestatística, Laboratório de Ictiologia, Universidade Estadual Paulista, Campus de Botucatu, R. Prof. Dr. Antonio C. W. Zanin, s/n, Rubião Jr., 18618-689 Botucatu, SP, Brazil. (JRG) jamesrga@hotmail.com (corresponding author), (RCB) ricardo.benine@unesp.br.



INTRODUCTION

Garcia-Ayala, Benine (2020) referred to as “*Stethaprion* Clade” the clade formed by the genera *Stethaprion* Cope, 1870, *Brachyhalcinus* Boulenger, 1892, *Poptella* Eigenmann, 1908, and *Orthospinus* Reis, 1989, as hypothesized by Mirande (2019). These taxa are diagnosed by the presence of three unbranched dorsal-fin rays, of which the first one is modified into an anteriorly oriented spine-like element (Mirande 2010, 2019), traditionally called “predorsal spine” (Eigenmann, 1907; Géry, 1977; Reis, 1989).

The genus *Poptella* currently consists of six valid species: *P. compressa* (Günther, 1864), *P. longipinnis* (Popta, 1901), *P. paraguayensis* (Eigenmann, 1907), *P. brevispina* Reis, 1989, *P. actenolepis* Garcia-Ayala & Benine, 2019, and *P. fuscata* Garcia-Ayala & Benine, 2021. It is widely distributed in all major cis-Andean South American hydrographic basins (Reis, 1989, 2003). *Poptella* is diagnosed by the saddle-shaped predorsal spine and the characin regular shape of the first anal-fin ray (Reis, 1989). Our comparative morphological analysis of *Poptella* specimens collected in various localities along the Amazon basin revealed a new species from the rio Xingu basin, which we formally describe herein.

MATERIAL AND METHODS

Counts and measurements follow Fink, Weitzman, (1974) and Sidlauskas *et al.* (2011), and Garcia-Ayala, Benine (2019). Measurements were taken point to point with a digital caliper (precision of 0.1 mm) on the left side of the specimens. All measurements are presented as percent of standard length (SL), except those of the head, which are given as percent of the head length in the description, values in parentheses indicate the number of specimens with a particular count, and the asterisk indicates the values of the holotype. Measurements and counts of damaged and/or poorly preserved specimens were not included either in the text and/or in the Tab. 1. Counts of supraneurals, vertebrae, procurrent caudal-fin rays, branchiostegal rays, gill-rakers of the first branchial arch, tooth cusps, diminutive dentary teeth, and the position of pterygiophores were taken from four cleared and stained (c&s) paratypes prepared according Taylor, Van Dyke (1985). Radiographs were also used for eight paratypes taken using the X-ray system Faxitron LX60 DC12 at Laboratório de Ictiologia de Ribeirão Preto, Universidade de São Paulo, São Paulo, Brazil. Vertebral counts included the four vertebrae of the Weberian apparatus, and the terminal centrum counted as one single element. Institutional acronyms are described in Sabaj (2020).

RESULTS

Poptella fortispina, new species

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(Figs. 1–4, Tab. 1)

Poptella compressa. —Reis, 1989:24 (specimens examined). —Garcia-Ayala, Benine, 2017:571 (comparative material examined, specimens from rio Xingu).

Poptella sp. —Garcia-Ayala, Benine, 2019:7 (comparative material examined, specimens from rio Xingu). —Garcia-Ayala, Benine, 2021:7 (comparative material examined).

Holotype. INPA 59843, 53.3 mm SL, Brazil, state of Pará, municipality of Altamira, igarapé Cobal, rio Xingu basin, 03°23'88"S 51°75'19"W, 8 Apr 2013, D. Bastos.

Paratypes. All from Brazil, rio Xingu basin. State of Pará: INPA 52827, 39 (20, 38.3–60.8 mm SL), same data as holotype. ANSP 194605, 1, 31.7 mm SL, rio Bacajái, sand/gravel shoal and rocky outcrop ca. 2.2 and 3 river km, respectively, upstream from the confluence with rio Xingu, 03°35'30.4"S 51°45'156.3"W, 16 Sep 2013, M. H. Sabaj Pérez, L. M. Sousa, A. Gonçalves, N. K. Lujan, D. B. Fitzgerald, P. Madoka Ito, A. Oliveira, R. Robles & fishermen. ANSP 194636, 10, 31.0–39.4 mm SL, rio Itatá ca. 1.1 river km upstream from confluence with right bank of rio Xingu, 03°37'15.7"S 51°49'14.1"W, 17 Sep 2013, A. O. Sawakuchi, J. L. Antinao Rojas, M. H. Sabaj Pérez & fishermen. ANSP 197062, 1, 22.4 mm SL, rio Bacajái, a shallow channel through forest and flooded sedges, ca. 5 river km upstream from the confluence with rio Xingu, 03°36'13"S 51°46'03.5"W, 10 Mar 2013, A. O. Sawakuchi, J. L. Antinao Rojas, M. H. Sabaj Pérez & fishermen. INPA 59846, 4, 31.4–37.4 mm SL, Travessão, rio Xingu, 08°17'41"S 55°12'67"W, 5 Aug 2015, F. C. T. Lima, O. Oyakawa, W. Ohara & M. Pastana. LBP 16680, 4, 38.3–40.5 mm SL, rio Xingu, 03°37'14.3"S 52°02'19"W, 30 Sep



FIGURE 1 | *Poptella fortispina*, holotype, INPA 59843, 53.3 mm SL, Brazil, Pará, rio Xingu basin.

2012, C. Oliveira, R. Britzke, L. M. Souza & D. Bastos. LBP 16681, 38 (24, 32.0–40.2 mm SL), radiographed, 4 c&s, 32.6–38.9 mm SL, rio Xingu, unnamed creek, 03°30'14.3"S 52°02'19"W, 30 Sep 2012, C. Oliveira, R. Britzke, L. M. Souza & D. Bastos. LBP 17695, 2, 37.8–38.2 mm SL, rio Xingu, creek on road PA-279, 06°44'29.5"S 51°49'52"W, 18 May 2013, R. Britzke & M. Martins. MCP 54911, 5, 32.8–34.4 mm SL, rio Xingu, unnamed creek, 03°30'14.3"S 52°02'19"W, 30 Sep 2012, C. Oliveira, R. Britzke, L. M. Souza & D. Bastos. MZUSP 119361, 5, 26.4–46 mm SL, disctric of Castelo dos Sonhos, rio Xingu, creek on road BR-163, 08°17'41"S 55°12'67"W, 5 Aug 2015, F. C. T. Lima, O. Oyakawa, W. Ohara & M. Pastana. ROM 112950, 5, 31.3–33.8 mm SL, municipality of Altamira, rio Xingu, unnamed creek, 03°30'14.3"S 52°02'19"W, 30 Sep 2012, C. Oliveira, R. Britzke, L. M. Souza & D. Bastos. ZUEC 17550, 5, 30.8–33.4 mm SL, Altamira, unnamed creek, 03°30'14.3"S 52°02'19"W, 30 Sep 2012, C. Oliveira, R. Britzke, L. M. Souza & D. Bastos. **State of Mato Grosso, municipality of Gaúcha do Norte:** MZUSP 94333, 28, 15, 33.1–38.8 mm SL, marginal lagoon at the mouth of the ribeirão da Anta, just above the farm of the Mr. Zezé, rio Culuene, 13°30'51"S 53°05'49"W, 22 May 2007, F. C. T. Lima, F. A. Machado, C. A. Figueiredo & J. L. Birindelli. MZUSP 96886, 8, 38.1–54.9 mm SL, córrego do Lício tributary to rio Culuene, 13°50'22"S 53°14'59"W, 5 Oct 2007, F. C. T. Lima, F. A. Machado, C. L. Moreira, A. C. Ribeiro, O. Oyakawa, W. Ohara & M. Pastana.

Diagnosis. *Poptella fortispina* can be distinguished from all congeners by having a higher number of scale rows around the caudal peduncle (15–18 *vs.* 13–14). It can be further distinguished from *P. brevispina*, *P. longipinnis*, and *P. fuscata* by having fewer branched dorsal-fin rays (9 *vs.* 10–11). The new species is distinguished from *P. compressa*, *P. paraguayensis*, and *P. actenolepis* by having a comparatively robust, thick, broad, and downward curved predorsal spine (*vs.* delicate, thin, and narrow straight predorsal spine) (Figs. 2, 4). Additionally, it can be distinguished from *P. actenolepis* by having more scale rows between the lateral line and dorsal-fin origin (8–10 *vs.* 7) and a comparatively elongated predorsal spine (4.3–5.5 *vs.* 2.8–4.2% mm SL).

Description. Morphometric data summarized in Tab. 1. Largest specimen examined 60.8 mm SL. Greatest body depth at dorsal-fin origin. Dorsal profile slightly convex between tip of snout and vertical through middle of orbit; slightly concave from this point to end of occipital process, and convex from tip of occipital process to dorsal-fin origin. Dorsal-fin base posteroventrally slanted. Profile straight or slightly convex from posterior terminus of dorsal-fin base to end of adipose fin. Caudal peduncle profile slightly concave both dorsally and ventrally. Ventral profile convex from tip of dentary to anal-fin origin. Body profile along anal-fin base straight and posterodorsally slanted. Prepelvic region compressed with median keel.

Mouth terminal. Distal tip of maxilla reaches vertical through anterior margin of pupil, not extending beyond third infraorbital. Premaxillary teeth in two rows; outer row with four*(110), rarely five (4) tricuspid teeth. Inner row with five*(113) or rarely six (1) pentacusp teeth. Maxilla with one (37) or two*(75) conical or tricuspid teeth. Dentary with four teeth with five cusps, usually central cusp longest, and one small tricuspid tooth, followed by five to seven small conical teeth (Fig. 3).

TABLE 1 | Morphometric data of holotype (H) and paratypes of *Poptella fortispina*. Range includes values of the holotype. N = the total number of specimens examined. SD = Standard deviation.

	Holotype	Range	N	Mean	SD
Standard length (mm)	55.9	32.0–60.8	62	39.4	–
Percentage of standard length					
Snout to dorsal-fin origin	50.8	49.2–53.9	62	51.9	1.0
Snout to adipose-fin origin	84.5	83.3–88.1	62	86.5	1.1
Snout to anal-fin origin	67.2	66.1–70.9	61	68.6	1.5
Snout to pelvic-fin origin	52.9	50.8–56.7	61	53.8	1.6
Snout to pectoral-fin origin	29.1	28.8–33.8	62	31.1	1.1
Dorsal-fin origin to pectoral-fin origin	47.5	45–50.9	61	48.2	1.7
Dorsal-fin origin to pelvic-fin origin	57.6	53.2–62.0	61	57.7	2.5
Dorsal-fin origin to anal-fin origin	58.1	55.4–61.7	57	58.7	1.8
Dorsal-fin origin to anal-fin end	52.5	51.3–57.5	61	54.4	1.4
Dorsal-fin origin to hypural joint	57.2	56.2–61.1	61	59.2	1.3
Dorsal-fin origin to adipose-fin origin	40.4	40.0–44.7	61	42.3	1.2
Length of dorsal-fin base	16.7	15.4–19.4	61	17.6	0.9
Dorsal-fin end to pelvic-fin origin	53.3	49.0–56.7	61	53.2	2.0
Dorsal-fin end to adipose-fin origin	24.5	22.5–26.9	61	25.2	1.0
Dorsal-fin end to anal-fin origin	50.0	48.2–53.8	61	50.9	1.6
Dorsal-fin end to anal-fin end	37.1	34.7–39.7	61	37.3	1.2
Adipose-fin origin to anal-fin origin	49.8	47.0–53.7	61	51	1.6
Adipose-fin origin to anal-fin end	16.4	14.2–19.8	61	16.9	1.2
Adipose-fin origin to hypural joint	16.4	15.7–19.0	61	17.5	0.9
Length of anal-fin base	40.2	39.0–43.7	54	41.3	1.6
Predorsal spine	4.6	4.3–5.5	60	4.8	0.3
Anal-fin origin to hypural joint	10.5	9.1–12.8	62	11.0	0.8
Pectoral-fin length	25.0	24.6–28.3	61	26.1	0.9
Pelvic-fin length	17.8	17.7–19.9	36	18.8	0.6
Dorsal-fin length	31.6	30.0–37.4	52	34.1	1.8
Anal-fin length	18.9	18.4–27.9	37	23.7	2.8
Pelvic-fin origin to anal-fin origin	16.4	15.2–19.8	61	17.7	1.0
Pelvic-fin origin to adipose-fin origin	60.4	58.1–64.8	61	64.9	1.7
Pelvic-fin origin to hypural joint	64.3	63.2–69.9	61	66.6	1.5
Pelvic-fin origin to pectoral-fin insertion	22.9	19.2–25.8	61	22.7	1.6
Greatest body depth	56.5	50.0–60.0	62	55.4	2.8
Greatest body width	11.2	9.4–13.6	62	11.6	1.1
Caudal-peduncle depth	10.7	9.8–12.6	61	11.3	1.0
Head depth	45.0	42.1–49.3	62	45.8	1.7
Distance from eye to dorsal-fin origin	30.2	28.9–34	50	31.5	1.0
Snout to supraoccipital crest	38.9	36.6–42.4	62	39.5	1.3
Head length	26.8	26.3–31.0	62	28.9	1.0

TABLE 1 | (Continued)

	Holotype	Range	N	Mean	SD
Percentage of head length					
Preopercle length	89.5	87.1–93.9	54	90.7	1.8
Snout to anterior margin of eye	23.8	21.6–28.7	54	24.2	1.6
Snout depth	14.5	12.6–17.2	53	15.1	1.3
Upper Jaw length	39.4	36.7–43.5	54	39.9	1.6
Eye diameter	41.1	41.0–47.5	49	43.9	1.7
Interorbital width	34.0	32.5–37.9	54	35.4	1.3



FIGURE 2 | Predorsal spine and dorsal-fin rays of *Poptella fortispina*, LBP 16681, paratype, 32.1 mm SL, lateral view, left side. Scale bar = 1 mm.

Dorsal-fin rays iii,9*(124). First dorsal-fin element modified into well-developed spine. Anterior end of predorsal spine rounded and ventrally concave, saddle-shaped (Figs. 2–4). Predorsal-spine origin anterior to vertical through middle of standard length. First unbranched dorsal-fin ray shorter than second one. Second unbranched and first branched dorsal-fin rays slightly longer than following ones. Adipose fin present. Anal-fin rays iv* (124) or v (1), 25 (1), 27 (7), 28 (33), 29 (44), 30 (26), 31 (13), 32 (1). Pectoral-fin rays i,10 (20), i,11* (98) or i,12 (7). Posteriormost unbranched and first branched anal-fin rays longer than branched rays. Tip of pectoral fin reaching middle of when depressed pelvic fin. Pelvic-fin rays i,7* (125). Tip of pelvic fin reaching first two small unbranched anal-fin rays when depressed. Caudal fin i,16,i (1) or i,17,i (8). Dorsal procurrent caudal-fin rays 10 (2) or 11 (2); ventral procurrent caudal-fin rays 8 (3) or 9 (1). Caudal fin forked, lobes somewhat pointed and of similar size.

Scales cycloid, with two to six parallel radii. Lateral-line series with 35 (34), 36* (72) or 37 (19) perforated scales. Lateral line slightly curved downward. Predorsal scale series 1 (19), 2 (9) or 3* (3), irregularly arranged. Scale rows between dorsal-fin origin and lateral line 8 (20), 9* (50), or 10 (55). Scale rows between lateral line and midventral scale series 8 (4), 9* (70), or 10 (51). Scale rows around the caudal peduncle 15 (48), 16

(23), 17 (25) or 18* (29). Small scales at base of anal fin in two series at first fin rays and becoming a single series extending to middle of anal fin. Small scales covering proximal two-thirds of caudal-fin lobes.

Total vertebrae 30 (10) or 31 (2). Supraneurals 3 (12) with bony lamellae on upper portion. First gill-arch with 13* (76), 14 (24) or 15 (3) gill rakers on ceratobranchial, 1* (103) on cartilage between ceratobranchial and epibranchial, and 9 (23), 10 (70) or 11 (10) gill rakers on epibranchial.

Coloration in alcohol. General body color yellowish. Dorsal portion of head and body darkly pigmented. Chromatophores concentrated on snout, jaws, dorsal portion of neurocranium and along dorsal midline of body. Posterior portion of scales slightly dark and generally delineated by dark chromatophores. Two vertically elongated humeral blotches, extending up to six horizontal scale rows above lateral line and one scale row below lateral line, and separated by two horizontal scale rows. First blotch more conspicuous, with concentration of dark chromatophores forming a darker round blotch just above lateral line. Second humeral blotch faint. Narrow longitudinal dark line with chevron-like marks running along horizontal septum, extending from humeral



FIGURE 3 | Premaxilla, maxilla, and dentary of *Poptella fortispina*, LBP 16681, paratype, 33.7 mm SL, lateral view, right side. Scale bar = 1 mm.

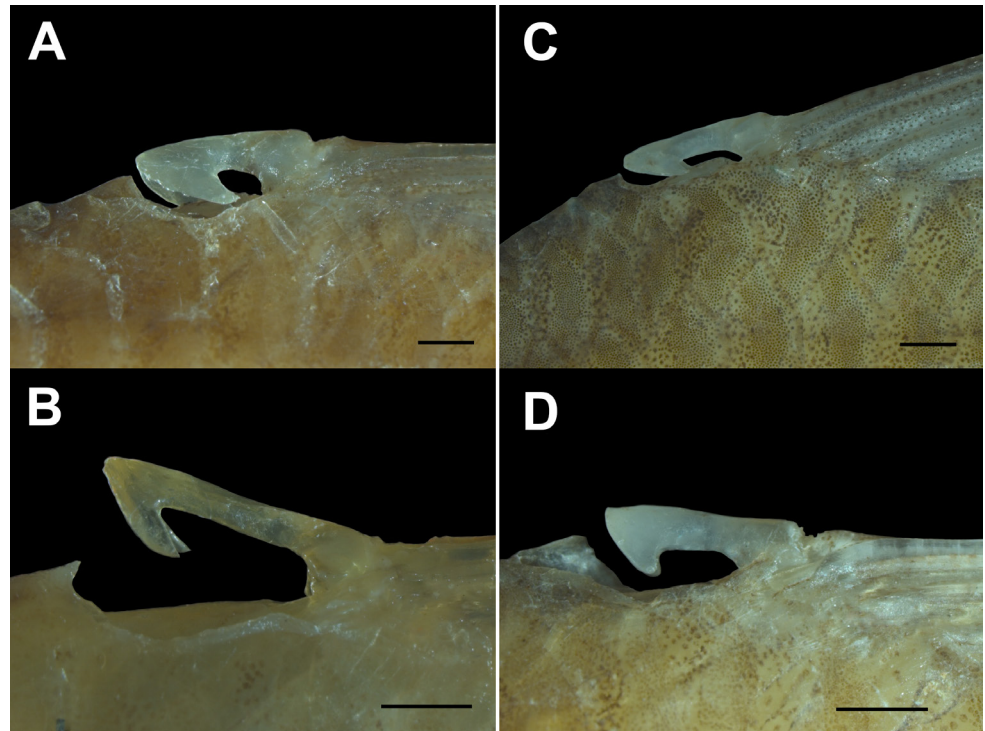


FIGURE 4 | Predorsal spines of *Poptella* species: **A.** *P. fortispina*, INPA 52827, paratype, 59.9 mm SL; **B.** *P. paraguayensis*, LBP 3826, 48.9 mm SL; **C.** *P. compressa*, ROM 97574, 48.4 mm SL; **D.** *P. actenolepis*, MZUSP 12282, paratype, 54.6 mm SL; lateral view, left side. Scale bars = 1 mm.

region to caudal peduncle. Caudal peduncle blotch absent. Pectoral fin hyaline, with chromatophores scattered throughout interradiial membranes. Dorsal, pelvic, and anal fins with scattered dark chromatophores concentrated along first rays and interradiial membrane. Adipose fin with scattered dark chromatophores. Caudal fin with scattered dark pigmentation on its distal margin (Fig. 1).

Sexual dimorphism. Mature males with small bony hooks on the unbranched and branched rays of the dorsal and anal fins. Dorsal fin with one to two hooklets on the distalmost segments of the posterior branch of the 2nd to the 4th branched rays. Anal-fin hooks unevenly distributed on the distalmost segments of the 1st unbranched ray to the 26th branched rays, being more numerous in the first twelve branched rays, with one to two hooks per segment.

Geographical distribution. *Poptella fortispina* is widely distributed in the rio Xingu basin, Pará and Mato Grosso states, Brazil (Fig. 5).

Etymology. The name *fortispina* is from Latin “*fortis*” meaning strong and “*spina*” meaning spine, in reference to the robust predorsal spine.

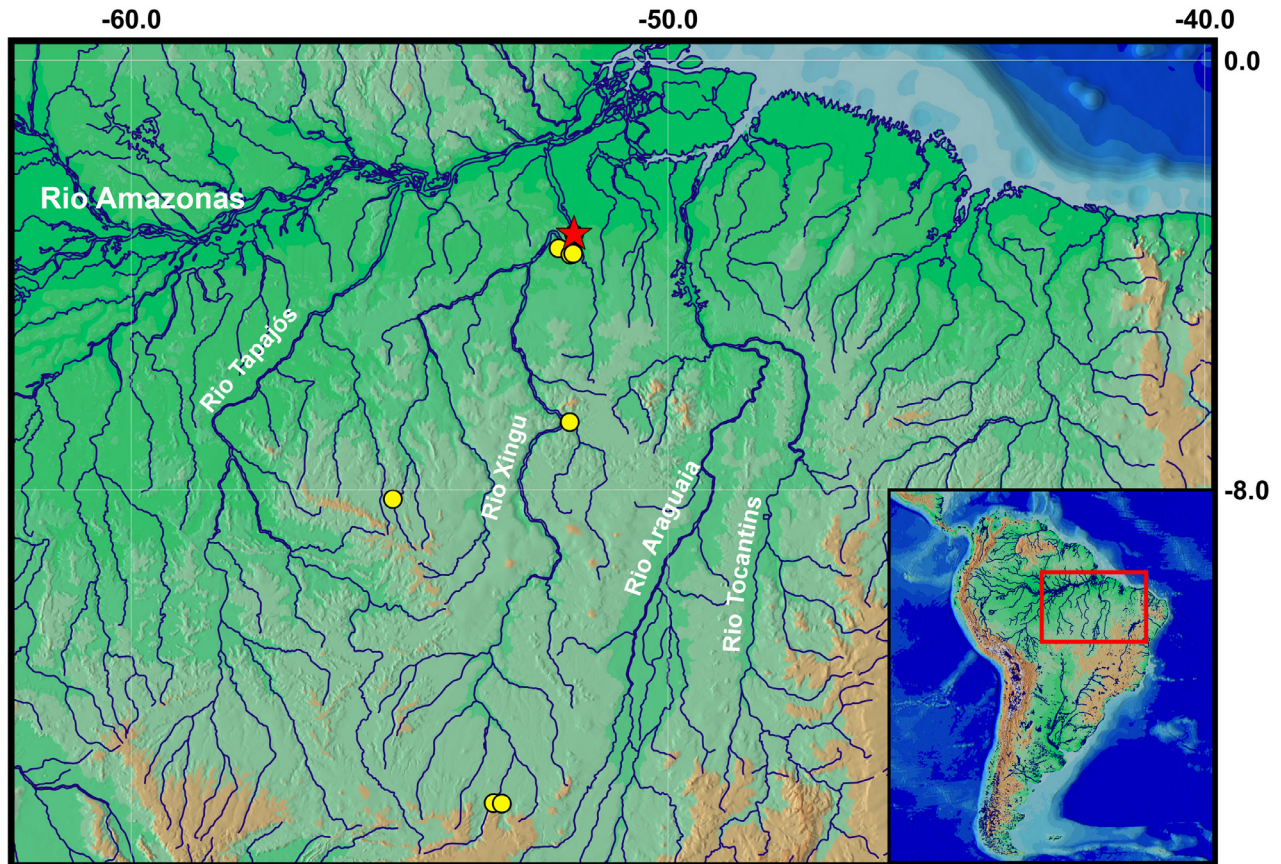


FIGURE 5 | Map showing the known distribution of *Poptella fortispina*. Red star indicates the type-locality. Symbols may represent more than one locality.

Conservation status. Considering that no imminent threats to the species were detected in area of occurrence, we suggest that *Poptella fortispina* be classified as least concern (LC) according to the International Union for Conservation of Nature (IUCN) categories and criteria (IUCN Standards and Petitions Subcommittee, 2022).

Remarks. As demonstrated by Garcia-Ayala, Benine (2020), the number of branched dorsal-fin rays is helpful for the taxonomy of the *Stethaprion* Clade in properly separating the species of *Poptella* and *Brachychalcinus*. *Poptella* may be split into three groups according to the number of branched rays in the dorsal fin: nine, ten or eleven (Garcia-Ayala, Benine 2020). *Poptella fortispina* is the seventh species described for the genus and shares with *P. compressa*, *P. paraguayensis*, and *P. actenolepis* the condition of nine branched dorsal-fin rays. *Poptella brevispina* and *P. longipinnis* have ten branched dorsal-fin rays and *P. fuscata* has eleven branched dorsal-fin rays (Tab. 2).

Along with the number of branched dorsal-fin rays, the length of the predorsal spine has been employed in the taxonomy of *Poptella* (Reis, 1989; Garcia-Ayala, Benine 2019, 2020). Reis (1989) used the length of the predorsal spine as part of the diagnostic characters for the species of *Poptella*, indicating, however, overlapping ranges for *P. compressa* (3.1–6.9% mm of SL), *P. longipinnis* (2.5–3.4% mm of SL), *P. paraguayensis* (4.7–6.4% mm

TABLE 2 | Species of *Poptella* grouped based on the number of branched dorsal-fin rays.

Species of the genus <i>Poptella</i>	Dorsal-fin rays	References
Group 1	iii,9	
	n	
<i>Poptella compressa</i> (Günther, 1864)	257	Garcia-Ayala (2018)
<i>Poptella paraguayensis</i> (Eigenmann, 1907)	104	Garcia-Ayala (2018)
<i>Poptella actenolepis</i> Garcia-Ayala & Benine, 2019	107	Garcia-Ayala, Benine (2019)
<i>Poptella fortispina</i>	125	This study
Group 2	iii,10	
	n	
<i>Poptella longipinnis</i> (Popta, 1901)	58	Garcia-Ayala (2018)
<i>Poptella brevispina</i> Reis, 1989	163	Garcia-Ayala (2018)
Group 3	iii,11	
	n	
<i>Poptella fuscata</i> Garcia-Ayala & Benine, 2021	13	Garcia-Ayala, Benine (2021)

of SL), and *P. brevispina* (2.6–4.2% mm of SL). The population of *Poptella* from the rio Xingu basin was first identified by Reis (1989) as *P. compressa*, due to the presence of nine branched dorsal-fin rays, adipose fin hyaline, and an elongated predorsal spine. Owing to the broad range and probably in an attempt to identify a putatively hidden diversity, Reis (1989) subdivided *P. compressa* into four populations named Guyana, rio Madeira, NE Brazil, and rio Orinoco. This procedure substantially reduced the range in each subgroup, except for NE Brazil, which kept values between 4.0% and 6.9% mm of SL. Reis' (1989) NE Brazil included 32 specimens from tributaries of the rio Tocantins, rio Araguaia, rio Corda (Maranhão state), rio Parnaíba, and rio Xingu. Our analyses also showed more discrete subdivisions when these drainages were analyzed separately. Predorsal spines in specimens from the rio Tocantins–Araguaia vary between 5.4–7.0% mm of SL; from the rio Parnaíba, 3.9–4.9% mm of SL; and in specimens from the rio Xingu is 4.3–5.5% mm of SL. Therefore, these values indicate that the length of the predorsal spine may help distinguish specimens from the rio Xingu (*P. fortispina*) from those from the Tocantins–Araguaia basin. These differences, along with other diagnostic features (e.g., the number of scale rows around the caudal peduncle), indicate a hidden diversity in northeastern Brazil yet to be described.

Comparative material examined. *Brachyhalcinus retrospina* Boulenger, 1892: **Brazil:** NUP 879, 6, 39.7–58.7 mm SL. *Orthospinus franciscensis* (Eigenmann, 1914): **Brazil:** LBP 8105, 15, 42.5–53.9 mm SL. *Poptella actenolepis*: **Brazil:** MZUSP 117586, 15, 17.4–39.9 mm SL, paratypes. *Poptella brevispina*: **Brazil:** INPA 3493, 13, 50.5–63.1 mm SL; LBP 9332, 28, 54.3–88.2 mm SL; LBP 21127, 11, 29.4–44.3 mm SL. *Poptella compressa*: **Guyana:** ROM 87123, 10, 48.6–63.7 mm SL. *Poptella longipinnis*: **Brazil:** INPA 2220, 3, 43.5–50.3 mm SL; LBP 7792, 3, 33.6–37.7 mm SL. **Suriname:** MCP 11904, 2 59.4–64.1 mm SL. **Venezuela:** LBP 3060, 17, 34.8–42.3 mm SL. *Poptella paraguayensis*: **Brazil:** LBP 3826, 15, 39.9–57.9 mm SL; LBP 5114, 11 32.1–49.2 mm SL; LBP 9885, 10, 39–48.5 mm SL. *Poptella* sp.: **Brazil:** INPA 12329, 4, 34.8–36.4 mm SL; INPA 25677, 3, 31.6–46 mm SL; INPA 12329, 4, 34.8–36.4 mm SL; INPA 25677, 3, 31.6–46 mm SL; LBP 8777, 15, 26.7–46.5 mm SL; LBP 8881, 11, 31.2–38.9 mm SL; LBP 8882, 14, 33.1–38.3 mm SL; LBP 14115, 15, 56.7–70 mm SL; LBP 14204, 1,

52.5 mm SL; LBP 14241, 1, 44.2 mm SL; LBP 16213, 1, 39.1 mm SL; LBP 16222, 7, 38.5–68.2 mm SL; LBP 16228, 1, 36 mm SL; LBP 16268, 1, 50.5 mm SL; LBP 16408, 1, 54.4 mm SL; LBP 23782, 8, 38.2–57.1 mm SL; LBP 23782, 8, 37.4–46.4 mm SL; LBP 24486, 16, 31.8–38.3 mm SL; LBP 24495, 16, 41–50 mm SL; LBP 24496, 39, 40–45 mm SL; LBP 24498, 12, 36.1–42.1 mm SL; LBP 24497, 3 50.1–52.4 mm SL; MCP 22932, 15, 34.6–54 mm SL; MCP 38841, 5, 35.8–54.2 mm SL; MZUSP 89289, 39, 29.3–43 mm SL; MZUSP 89385, 20, 36.5–47 mm SL; MZUSP 92288, 10, 67.3–39 mm SL; MZUSP 97276, 14, 30.2–35.5 mm SL; MZUSP 115653, 11, 34.8–45.4 mm SL; NUP 12724, 10, 36.8–44.1 mm SL; ZUEC 15196, 7, 29.6–36.9 mm SL. **Peru:** MCP 22939, 8, 29.8–42.7 mm SL; MZUSP 90585, 5, 36.8–43.4 mm SL; MZUSP 98723, 10, 33.9–46.1 mm SL; UMSM 23642, 10, 23.2–57.1 mm SL; UMSM 44773, 15, 56.4–66.3 mm SL; UMSM 47327, 11, 41.5–71.2 mm SL. *Stethaprion crenatum* Eigenmann, 1916: **Brazil:** LBP 31261, 2, 67.8–68.1 mm SL.

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AUTHORS' CONTRIBUTION

James R. Garcia-Ayala: Conceptualization, Formal analysis, Investigation, Writing-original draft.

Ricardo C. Benine: Conceptualization, Formal analysis, Investigation, Writing-review and editing.

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The author declares no competing interests.

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