Original article

A new species of *Poptella* (Characiformes: Characidae: Stethaprioninae) from the Rio Juma, Rio Madeira basin, Brazil

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A new species of *Poptella* is described from the Rio Juma, a tributary of the lower Rio Aripuanã, Rio Madeira basin, Amazonas, Brazil. The new species is distinguished from all congeners, except *P. brevispina*, by having a lower number of scale rows between the lateral line and dorsal-fin origin (7 *vs.* 8-10). The new species can be readily distinguished from *P. brevispina* by the lower number of branched dorsal-fin rays (9 *vs.* 10). This is the first description of a new species of *Poptella* since the revisionary study of the Stethaprioninae, published 30 years ago.

Keywords: Amazon, Biodiversity, Freshwater fish, Stethaprionini, Taxonomy.

Uma nova espécie de *Poptella* é descrita do Rio Juma, tributário do baixo Rio Aripuanã, bacia do rio Madeira, Amazonas, Brasil. A nova espécie é distinguida de todas suas congêneres, exceto *P. brevispina*, por apresentar menor número de séries de escamas entre a linha lateral e origem da nadadeira dorsal (7 vs. 8-10). A nova espécie pode ser facilmente diferenciada de *P. brevispina* pelo menor número de raios ramificados na nadadeira dorsal (9 vs. 10). Esta é a primeira descrição de uma nova espécie de *Poptella* desde a última revisão taxonômica de Stethaprioninae, publicada há trinta anos.

Palavras-chave: Amazônia, Biodiversidade, Peixes de água doce, Stethaprionini, Taxonomia.

Introduction

The subfamily Stethaprioninae was first proposed by Eigenmann (1907). It is morphologically defined by the presence of a bony, anteriorly directed spine, preceding the first dorsal-fin ray, and by the presence of very small, thin anal-fin hooks facing in all directions on mature males (Eigenmann, 1907; Reis, 1989). Recently, Mirande (2018) proposed a new phylogenetic classification based on morphological and molecular characters. This author expanded Stethaprioninae and divided it into four tribes: Stethaprionini Eigenmann, 1907, Grundulini Fowler, 1958, Gymnocharacini Eigenmann, 1909, and Rhoadsiini Fowler, 1911. Mirande also expanded the Stethaprionini to comprise, along with Brachychalcinus, Orthospinus, Poptella, and Stethaprion (original genera of the Stethaprioninae Eigenmann, 1907; Reis, 1989), species of Aphyodite, Bryttanichthys, Bryconella, Ectretopterus, Gymnocorymbus, Hasemania, Hemigrammus, Hyphessobrycon, Jupiaba, Moenkhausia, Petitella, Pristella, and Stichonodon.

Poptella is widely distributed in all the major cis-Andean tropical South America river drainages, and small rivers flowing into the Atlantic from South America, between the

Río Orinoco and the Rio Parnaíba, except the upper Rio Paraná, Rio Uruguay and Rio São Francisco (Reis, 1989, 2003). The genus *Poptella* was proposed by Eigenmann (1907) to allocate *Tetragonopterus compressus* Günther, 1864, based on syntypes from Guyana, Suriname, and Peru. *Poptella* is characterized by having the anterior end of the predorsal spine rounded and ventrally concave and saddleshaped, and first anal-fin ray not expanded (Reis, 1989).

Poptella currently comprises four valid species: *P. brevispina* Reis (1989), *P. compressa* (Günther, 1864), *P. longipinnis* (Popta, 1901), and *P. paraguayensis* (Eigenmann, 1907). The diagnostic characters of these species rely on the number of branched dorsal-fin rays, length of predorsal spine, number of rows of scales between the lateral line and dorsal-fin origin, and degree of pigmentation on adipose fin. The Stethaprioninae Eigenmann (1907) was the subject of a systematic study (Reis, 1989) in which *P. brevispina* was the last species of *Poptella* to be described. After almost three decades of Reis's paper, the continuous examination of *Poptella* collected in various localities along the Amazon basin revealed a new species, apparently endemic to the Rio Juma, Rio Madeira system, which we formally describe herein.

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Material and Methods

Counts and measurements follow Sidlauskas et al. (2011) and Fink, Weitzman (1974), except for the number of scale rows between lateral line and midventral scale series, which were counted at the vertical just ahead of the pelvicfin insertion, and head depth, which was measured at the vertical through the tip of supraoccipital spine; the predorsal spine length is added, measured as the greatest length along its longitudinal axis, taken point to point. The number of scale rows between dorsal-fin origin and lateral line was counted in all paratypes, considering their diagnostic nature. Measurements were taken point to point with a digital caliper (precision of 0.1 mm) on the left side of specimens. Values between parentheses indicate the number of specimens with a particular count and the asterisk indicates values of the holotype. For osteological observations, cleared and stained (c&s) specimens were prepared according to Taylor, Van Dyke (1985). Radiographs were taken using the X-ray system Faxitron LX60 DC12 at LIRP (FFCLRP-USP). Vertebral counts included the four vertebrae of the Weberian apparatus and the terminal centrum counted as one single element, and were taken from two c&s specimens. Color description in life was based on field photographs of one freshly collected specimen. Measurements are presented as proportions of standard length, except for subunits of the head, which are given as proportions of head length. Specimens examined herein belong to the following institutions: Instituto Nacional de Pesquisas da Amazônia, Manaus (INPA), Laboratório de Biologia e Genética de Peixes, Instituto de Biociências, Universidade Estadual Paulista, Botucatu (LBP), Museo de Historia Natural de la Universidad Nacional Mayor de San Marcos, Lima (MUSM), Museu Paraense Emílio Goeldi, Belém (MPEG), Museu de Zoologia da Universidade de São Paulo, São Paulo (MZUSP) and Royal Ontario Museum, Toronto (ROM).

Results

Poptella actenolepis, new species

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Figs. 1-3, Tab. 1

Poptella compressa. -Pastana, Ohara, 2016:392 [Rio Juma, tributaries of Rio Aripuanã basin; ecological notes]. -Ohara *et al.*, 2017:8 [Rio Juma, tributaries of Rio Aripuanã basin; ecological notes]. -Garcia-Ayala *et al.*, 2017:571 [Rio Juma, tributaries of Rio Aripuanã basin; comparative material].

Holotype. MZUSP 124423, 71.9 mm SL, radiographed, Brazil, Amazonas, Apuí, Rio Juma, tributary of the Rio Aripuanã, Rio Madeira basin, igarapé Mutum, nearby the

bridge on road BR 230 between Vicinal Brasília and Nova Esperança, 07°14'56"S 59°58'42.744"W, 8 Oct 2016, O. Oyakawa, W. M. Ohara, T. Teixeira & M. Pastana.

Paratypes. All from Brazil. MZUSP 117635, 49, 25.9-36.5, 4 c&s 31.2-34.5 mm SL, Amazonas, Apuí, Rio Juma, upstream cachoeira do Paredão, tributary of Rio Aripuanã, Rio Madeira basin, 07°49'22''S 60°51'06''W, 24 Jun 2015, W. M. Ohara & V. Abraão. MZUSP 117586, 26 (15 measured, 17.4-39.9 mm SL), Amazonas, Apuí, Rio Juma, tributary of Rio Aripuanã, Rio Madeira basin, 07°12'44.64''S 59°55'19.74''W, 24 Jun 2015, W. M. Ohara & V. Abraão. MZUSP 122982, 27 (5 measured, 55.1-72.3 mm SL), radiographed, 2 c&s 61.5-63 mm SL, same data as holotype.

Diagnosis. Poptella actenolepis can be distinguished from all congeners, except from *P. brevispina*, by having a lower number of scale rows between lateral line and dorsal-fin origin (7 vs. 8-10). It can be distinguished from *P. brevispina* and *P. longipinnis* by having a lower number of branched dorsal-fin rays (9 vs. 10). Poptella actenolepis can also be differentiated from *P. longipinnis* by having the first rays of the dorsal and anal fin darker and much longer than the following rays (vs. first dorsal and anal fin rays slightly longer than the following rays). The new species differs from *P. paraguayensis* by having a lower number of branched anal-fin rays (27-29 vs. 30-35) and a comparatively shorter predorsal spine (2.8-4.3 vs. 4.7-6.4% mm SL).

Description. Morphometric data summarized in Tab. 1. Largest specimen examined 72.4 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, 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 of head and body convex from tip of dentary to anal-fin insertion. Body profile along anal-fin base straight and posterodorsally slanted. Prepelvic region compressed with a median keel.

Mouth terminal. Maxilla reaching vertical passing through anterior margin of pupil; its posterior end not extending beyond third infraorbital. Premaxillary teeth in two rows. Outer row with 4*(40) or 5(3) teeth with three cusps. Inner row with 5(43) teeth with five cusps. Maxilla with 1(11) or 2*(32) teeth with three cusps or conical. Dentary with five pentacuspidate teeth, usually central cusp longest, followed by a series of 7 to 9 small conical teeth (Fig. 2).

Dorsal-fin rays iii,9*(43). First dorsal-fin element modified into a small predorsal spine, with a rounded tip in lateral view and slightly curved in dorsal view, with two projections postero-ventrally resembling a saddle (Fig. 3). First unbranched dorsal-fin ray shorter than second. Dorsal-fin origin anterior to vertical through middle of standard

length. Adipose fin present. Anal-fin rays iv,27(4); v,27(4); iv,28*(20); v,28(2); iv,29(10) or v,29(3). Anterior unbranched anal-fin rays slightly longer than following rays. Anal-fin origin at vertical through two scales posterior to last branched dorsal-fin ray. Pectoral-fin rays i,10(26) or i,11*(17). Tip of pectoral-fin extends beyond midlength of adpressed pelvic-fin. Pelvic-fin rays i,6(1) or 7*(42). Tip of adpressed pelvic fin reaching second anal-fin ray. Pelvic-fin origin anterior to middle of standard length. Caudal fin i,17,i*(3), rarely 15(2) branched rays. Dorsal procurrent caudal-fin rays 12(5); ventral procurrent caudal-fin rays 9*(2) or 10(3). Caudal-fin forked, lobes somewhat pointed and similar in size.

Cycloid scales with six to nine parallel *radii*. Lateral line complete with 34*(34) or 35(10) perforated scales; lateral line deflected downward. Predorsal scales 5(8), 6(25) or 7(10)*. Scale rows between dorsal-fin origin and lateral line 7(105). Scale rows between lateral line and pelvic-fin origin 8(43). Scale rows around caudal peduncle 13(13) or 14*(30). Single series of 10 to 13 scales covering base of anterior anal-fin rays. Small scales covering proximal two-thirds of caudal-fin lobes.

First gill arch with $13^{*}(30)$ or 14(13) rakers on lower limb and 9(6) or $10^{*}(37)$ rakers on upper limb. Total vertebrae $30^{*}(5)$. Supraneurals $3^{*}(5)$ (Fig. 1b).



Fig. 1. a. *Poptella actenolepis*, holotype, MZUSP 124423, 71.9 mm SL, Brazil, Amazonas, Apuí, Rio Juma, Rio Madeira basin; b. radiograph of the holotype.

Tab. 1. Morphometric data	of Poptella acteno	lepis. Range includes	s holotype. SD =	Standard deviation.
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	Holotype	Ν	Range	Mean	SD				
Standard length (mm)	71.9	43	18.3-72.4	45.4	-				
	Percentage of standard le	ength							
Snout to dorsal-fin origin	51.4	43	50.1-57.7	53.5	0.8				
Snout to adipose-fin origin	86.3	43	81.2-91.1	86.6	0.8				
Snout to anal-fin origin	67.1	43	64.9-74.9	69.3	1.1				
Snout to pelvic-fin origin	55.2	43	50.9-57.3	54.2	1.7				
Snout to pectoral-fin origin	30.2	43	29.7-34.6	31.9	0.7				
Dorsal-fin origin to pectoral-fin origin	47.9	43	34.7-51.8	44.5	1				
Dorsal-fin origin to pelvic-fin origin	57.9	43	36.9-61.1	49.6	1.6				
Dorsal-fin origin to anal-fin origin	57.6	43	39.1-63.3	51.1	1.2				
Dorsal-fin origin to anal-fin end	54.4	43	45.8-57.4	51.8	1				
Dorsal-fin origin to hypural joint	58.3	43	51.7-59.7	55.7	0.9				
Dorsal-fin origin to adipose-fin origin	40.3	43	32.9-44	38.7	0.7				
Length of dorsal-fin base	17.2	43	12.2-19.1	15.9	0.7				
Dorsal-fin end to pelvic-fin origin	53.4	43	34.7-56.4	45.7	1				
Dorsal-fin end to adipose-fin origin	22.5	43	19.4-25.9	22.7	0.7				
Dorsal-fin end to anal-fin origin	49.1	43	35.4-54.1	44.4	1				
Dorsal-fin end to anal-fin end	33.2	43	27.1-39.4	34.15	0.6				
Adipose-fin origin to anal-fin origin	50	43	34.8-52.5	44.4	1.1				
Adipose-fin origin to anal-fin end	17.1	43	11.5-18.1	14.8	0.5				
Adipose-fin origin to hypural joint	18.1	43	13.8-18.7	16.1	1.1				
Length of anal-fin base	42.1	43	29.1-43.6	36.8	1.1				
Predorsal spine	3.9	43	2.8-4.3	3.6	0.2				
Anal-fin origin to hypural joint	8.6	43	8.2-13.8	10.2	0.9				
Pectoral-fin length	23.5	43	18.4-28.3	23.3	1.2				
Pelvic-fin length	17.6	43	12.3-20.2	16.1	1.1				
Dorsal-fin length	31.7	43	28.2-40.7	34.3	0.9				
Anal-fin length	22.4	43	14.2-26.6	22.8	1.7				
Distance from eye to dorsal-fin origin	41.1	43	32.1-41.1	36.7	0.6				
Pelvic-fin origin to anal-fin origin	16.1	43	10.8-22.6	15.8	0.8				
Pelvic-fin origin to adipose-fin origin	59.7	43	43.1-65.3	53.5	1.2				
Pelvic-fin origin to hypural joint	64.5	43	51-68.4	60.1	0.9				
Pelvic-fin origin to pectoral-fin insertion	23.8	43	15.3-24.5	20.5	1.1				
Greatest body depth	56	43	38.6-59.9	48.9	1.2				
Greatest body width	12.6	43	4.3-13.7	8.7	0.5				
Caudal-peduncle depth	9.5	43	7.7-11.7	9.6	0.8				
Head depth	49.4	43	31.8-49.7	41.9	1				
Snout to supraoccipital crest	31.3	43	30.7-36.3	33.4	1				
Head length	27.8	43	23.1-32	28.3	0.8				
Percentage of head length									
Preopercle length	78.3	43	66.3-89.4	77.2	1.7				
Snout to anterior margin of eye	22.6	43	19.7-28.9	24.8	0.9				
Snout depth	11.7	43	11.1-22.2	15.3	1.4				
Jaw length	45.2	43	41.4-54.6	47.1	1.1				
Eye diameter	47.5	43	47.5-57.6	52.1	1.3				
Interorbital width	36.8	43	32-46.8	38.6	1				





Fig. 2. Lateral view of left side of premaxilla, maxilla and dentary of *Poptella actenolepis*, MZUSP 122982, paratype, 63 mm SL.



Fig. 3. *Poptella actenolepis*, MZUSP 122982, paratype, 61.5 mm SL, lateral view of left side of modified dorsal fin element.

Color in alcohol. General body color yellowish. Dorsal portion of head and body darkly pigmented. Chromatophores concentrated on snout, jaws, and dorsal portion of neurocranium. Chromatophores more densely concentrated along the entire dorsal median line. Upper half of scales slightly dark and generally delineated by black chromatophores, producing slightly crosslinked aspect. Two humeral blotches separated by a lighter area. First humeral blotch rounded, encompassing three horizontal scale series and three vertical scale series formed by dark chromatophores concentrated deeply under skin. Second humeral blotch faint, extending about two scales horizontally and two scales vertically, with dark chromatophores scarcely distributed deeply under skin, narrow longitudinal dark line running along horizontal septum, extending from humeral region to caudal peduncle. Caudal peduncle blotch absent. Pectoral fin hyaline,

with chromatophores scattered throughout interradial membrane. Dorsal, pelvic and anal fins with scattered dark chromatophores, more concentrated along first rays and interradial membranes. Adipose fin with scattered dark chromatophores throughout the fin. Caudal fin with scattered dark chromatophores on posterior margins of rays and interradial membranes (Fig. 1a).

Color in life. Dorsal portion of head and body green brownish. Infraorbitals and opercular area silvery. Iris orange on upper portion, silvery ventrally, anterior and posterior portions of eye with faint silvery pigmentation. Middorsal and ventral portions of body silvery. First humeral blotch conspicuous, second humeral blotch inconspicuous. Dorsal, adipose, pelvic, and anal fins orange. Pectoral and caudal fins yellow (Fig. 4).

Sexual dimorphism. Mature males of *Poptella actenolepis* over 60.0 mm SL exhibit a series of small bony hooks on all fins. Hooks usually concentrated on postero-lateral margin of each segment of distal half of fin rays. Hooks distributed on 1st to 7th branched dorsal-fin rays, with one to two hooks per ray segment. Pectoral and pelvic fins with one or two hooks per ray segment, distributed from 1st to 5th branched fin rays. Anal fin with with one to three hooks per ray segment of most branched rays (1st-27th), being more numerous on the first seventh branched rays. Caudal fin with one hook on per ray segment, more concentrated on middle and inferior lobe rays. Further secondary sexual dimorphisms, such as differences in standard length or sexual dichromatism, were not detected in *P. actenolepis*.

Geographic distribution. *Poptella actenolepis* is known from Rio Juma, a tributary of the lower Rio Aripuanã, Rio Madeira basin, Amazonas, Brazil (Fig. 5).

Etymology. The specific epithet "*actenolepis*" is from the greek *akten*, meaning without lot, poor; and from the greek *lepis*, meaning scale, in reference to the lower number of transversal scale rows of the new species. An adjective.

Conservation status. *Poptella actenolepis* is so far known only from the rio Juma and one of its tributaries, rio Aripuanã drainage, and its conservation status is uncertain based on the currently available data of its geographic distribution. However, considering that no imminent threats to the species were detected in the area of occurrence of the new species, we suggest that *P. actenolepis* be classified as least concern (LC) according to the International Union for Conservation of Nature categories and criteria (IUCN, 2017).

Remarks. Reis (1989) diagnosed *Poptella compressa* from congeners by the combination of a larger predorsal spine, ii+9 dorsal-fin rays, and hyaline adipose fin. Considering this, *P. actenolepis* can be mistaken for *P. compressa*, being



Fig. 4. *Poptella actenolepis*, MZUSP 122982, paratype, 55.1 mm SL, Brazil, Amazonas, Apuí, Rio Juma, Rio Madeira basin. Photo by W. Ohara.



Fig. 5. Map showing the type-locality (red triangle) of *Poptella actenolepis*, Rio Juma, a tributary from the Rio Aripuanã, Rio Madeira basin, Brazil. Yellow circles represent paratypes.

only differentiated by the number of longitudinal series of scales above the lateral line (7 *vs.* 8-9, respectively). It is noteworthy that our comparative examination evidenced that 313 specimens of *P. compressa*, varying from 23.2-72.2 mm in SL, have, consistently, eight to nine longitudinal scale rows above the lateral line and, on the other hand, for *P. actenolepis*, 105 specimens, ranging from 18.3-72.5 mm SL, consistently have only seven longitudinal scale rows above the lateral line.

Among the valid species of *Poptella*, *P. compressa*, is widely distributed in the Amazon basin and northeastern Brazil (Reis, 1989, 2003). In the Rio Madeira, it is known to occur only in its upper portion (Rio Guaporé and Rio Jamari). *Poptella actenolepis* is only known from the Rio Juma, a tributary of the the highly endemic Rio Aripuanã (see Kullander, 1995; Ohara *et al.*, 2017). Ohara *et al.* (2017) discussed that the fish endemism is not only characteristic to the upper portion of the Rio Aripuanã, as first discussed by Kullander (1995), but, actually, patchily distributed in its upper and middle portions. *P. actenolepis*, as several examples cited by Ohara *et al.* (2017), is only known from its type locality, and most probably restricted to this area.

Garcia-Ayala *et al.* (2017) discussed that small bony hooks on all fins of adult males are present in *Poptella compressa*, *P. brevispina*, *P. longipinnis*, and in *Brachychalcinus reisi*. Adult males of *P. actenolepis* also bear bony hooks on rays of all fins. Although the occurrence of bony hooks on all fins of mature males has been considered an uncommon characteristic in Characidae (Bertaco, Lucinda, 2006; Bertaco *et al.*, 2007; Mirande, 2010; Camelier, Zanata, 2014), it seems to be well distributed in the Stethaprioninae (*sensu* Reis, 1989), as already indicated in the description of *B. reisi* (Garcia-Ayala *et al.*, 2017).

Comparative material examined. Brachychalcinus nummus: Peru: LBP 23927, 6, 57.3-72.5 mm SL; Loreto, Rio Amazonas basin. Orthospinus franciscoensis: Brazil: LBP 8105, 15, 42.5-53.9 mm SL; Minas Gerais, Rio São Francisco basin. Poptella brevispina: Brazil: INPA 52824, 5, 52.6-64.1 mm SL; Pará, Rio Xingu basin. LBP 9332, 28, 54.3-88.2 mm SL; Pará, Rio Guamá. LBP 21014, 11, 29.4-44.3 mm SL; Amapá, Rio Oiapoque. Guyana: MZUSP 109124, 5 of 10, 64.1-68.2 mm SL; Potaro-Siparuni, Rio Kurobromg. Poptella compressa: Brazil: INPA 1307, 2, 42.5-47.7 mm SL; Roraima, Rio Amazonas basin. LBP 16222, 7, 38.5-68.2 mm SL; Pará, Rio Tapajós basin. INPA 9193, 3, 39.4-46 mm SL; Pará, Rio Trombetas basin. INPA 5469, 1, 56.9 mm SL; Amazonas, Rio Amazonas basin. INPA 20948, 5, 41.6-46.7 mm SL. INPA 21758, 1, 55.1 mm SL. All from Rondônia, Rio Madeira basin. LBP 10825, 1, 28.1 mm SL; Mato Grosso, Rio Madeira basin. LBP 13730, 1, 38.9 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. All from Pará, Rio Tapajós basin. LBP 24486, 10 of 16, 31.8-38.3 mm SL. LBP 24495, 16, 41-50 mm SL. LBP 24496, 39, 40-45 mm SL. All from Rondônia, Rio Madeira basin. MZUSP 90585, 5, 36.8-43.4 mm SL; Parnaíba, Rio Balsas. MZUSP 92288, 10 of 21, 67.3-39 mm SL. MZUSP 97276, 14, 30.2-35.5 mm SL; Amazonas, Rio Amazonas basin. MZUSP 97303, 5, 31.7-37.3 mm SL. MZUSP 97276, 14, 30.2-35.5 mm SL; Pará, Rio Tapajós basin, MZUSP 115653, 33, 31.1-45.3 mm SL; Mato Grosso, Rio Madeira basin. Guvana: ROM 64562, 10 of 62, 23.7-39.5 mm SL; Kurupukari, Rio Siparuni basin. Peru: MUSM 16020, 30, 26.8-48.6 mm SL. MUSM 47290, 40, 33.4-44.4 mm SL; Madre de Dios, Rio Madeira basin. Venezuela: ROM 94115, 10, 41-44.2 mm SL; San Fernando De Atabapo, Rio Orinoco basin. Poptella longipinnis: Brazil: INPA 2220, 3, 43.5-50.3 mm SL; Pará, Rio Tocantins-Araguaia basin. LBP 7792, 3, 33.6-37.7 mm SL; Mato Grosso, Rio Tocantins-Araguaia basin. Suriname: MCP 11904, 2 of 3, 59.4-64.1 mm SL; Rio Corantijn. Venezuela: LBP 3060, 17, 34.8-42.3 mm SL; Bolivar, Rio Orinoco basin. Poptella paraguayensis: Brazil: LBP 3826, 15, 39.9-57.9 mm SL. LBP 5114, 11, 32.1-49.2 mm SL. LBP 9885, 10 of 20, 39-48,5 mm SL. All from Mato Grosso, Rio Paraguai basin. Poptella sp.: Brazil: INPA 12329, 4, 34.8-36.4 mm SL; Pará, Rio Tocantins basin. INPA 25677, 3, 31.6-46 mm SL; Pará, Rio Tocantins. INPA 52827, 20 of 55, 37.2-59.8 mm SL. LBP 16681, 51, 29.3-39.2, 4 c&s, 32.6-38.9 mm SL. All from Pará, Rio Xingu basin. LBP 22676, 1, 57,1 mm SL; Tabatinga, Rio Amazonas basin. LBP 23782, 8, 36.9-47.6 mm SL; Acre, Rio Amazonas basin. LBP 8777, 36, 26.5-46.6, 5 c&s, 43.1-34.6 mm SL; Goiás, Rio Araguaia basin. LBP 3980, 2, 38.2-40.2, 1, mm SL. LBP 7792, 55, 27.2-34.1, 3 c&s, 32.8-30.7 mm SL. All from Mato Grosso, Rio Araguaia basin. MPEG 27210, 10, 29.1-39.3 mm SL, Pará, Rio Piriá. MZUSP 4822, 8 of 22, 36.2-43.4 mm SL. MZUSP 89385, 20 of 101, 36.1-49.1 mm SL. MZUSP 89289, 34, 21.2-41.1, 2 c&s, 36.4-39.5 mm SL. All from Goiás, Rio Araguaia basin. Peru: MUSM 55050, 3, 64.4-79.5 mm SL. MUSM 55315, 2, 58.6-68.8 mm SL. All from Loreto, Rio Amazonas basin. Stethaprion erythrops: Peru: LBP 12583, 2, 43.1-47.1 mm SL; Nauta, Rio Marañon basin.

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