

# A New *Cyphocharax* from the Lower Rio Tapajós, Amazon Basin, Brazil (Characiformes: Curimatidae)

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**A new species of *Cyphocharax* (Characiformes: Curimatidae) is described from the lower Rio Tapajós basin, including its tributary, the Rio Arapiuns, Pará, Brazil. The new species is diagnosed from congeners by a combination of characters that includes overall body light-colored, with a silvery hue, lacking any pattern of stripes or blotches, a distinctly straight body profile, and some meristic and morphometric features. Comparisons with similar congeners as *Cyphocharax festivus*, *Cyphocharax leucostictus*, *Cyphocharax nigripinnis*, and *Cyphocharax plumbeus*, some of which occur sympatrically with the new species, are presented.**

**Uma nova espécie de *Cyphocharax* (Characiformes: Curimatidae) é descrita da bacia do baixo Rio Tapajós, incluindo seu tributário, Rio Arapiuns, estado do Pará, Brasil. A nova espécie é diagnosticada das congêneres por uma combinação de caracteres: colorido geral do corpo claro, com brilho prateado, sem padrões de estrias ou manchas, perfil do corpo distintamente reto, e alguns caracteres merísticos e morfométricos. Comparações com congêneres similares como *Cyphocharax festivus*, *Cyphocharax leucostictus*, *Cyphocharax nigripinnis*, e *Cyphocharax plumbeus*, alguns dos quais ocorrendo simpatricamente com a nova espécie, são apresentadas.**

THE genus *Cyphocharax* Fowler (1906) is the most speciose of the eight genera of the family Curimatidae (Vari, 1989), encompassing 42 valid species (Vari, 2003; Vari et al., 2012; Wosiacki and Miranda, 2013; Melo and Vari, 2014; Dutra et al., 2016; Melo, 2017), together representing more than a third of all curimatids. The species of the genus occur from southeastern Costa Rica to the region of the La Plata estuary in Argentina. The majority of the species of *Cyphocharax* are distributed east of the Andean cordilleras, in the rivers draining to the Atlantic Ocean (Vari, 1992). Some species are found only in rivers of white, black, or clear water, while others are eurytopic and live in more than one type of water (Vari et al., 2010). A morphological phylogenetic analysis of the family was unable to recover synapomorphies supporting the monophyly of the genus (Vari, 1989, 1992), and in fact, a recent supermatrix-based phylogeny for Anostomoidea based on morphological data failed to recover *Cyphocharax* as a monophyletic taxon (Dillman et al., 2015). Even after the extensive revision of the genus by Vari (1992), new collections in some regions of South America continue to reveal the existence of undescribed species (Melo and Vari, 2014; Melo, 2017).

The species described in the present work was recently discovered in some tributaries of the lower Rio Tapajós, and also in its tributary, the Rio Arapiuns, near the city of Santarém in Pará state, Brazil. It is distinguished from all known congeners by a combination of characters including body shape, color pattern, and lateral line scale counts. This present contribution aims to describe this new taxon and compare it with the most similar congeners.

## MATERIALS AND METHODS

Morphometric and meristic data were obtained according to Vari (1992). However, Vari measured the standard length (SL) to the anterior portion of the hypural plate, instead of the common practice of measuring it to the end of the hypural plate (B. Sidlauskas, pers. comm.); therefore, morphometric

data from subunits of SL presented in his papers and those taken by most authors are not comparable. Thus, we compared morphometric data of subunits of SL of the new species with congeners that were measured in the present study (*C. festivus*, *C. nigripinnis*, and *C. plumbeus*). Counts and measurements were taken whenever possible on the left side of specimens. Measurements are presented as percents of SL, except for subunits of the head, which are given as percents of head length (HL). Frequency of each count is provided in parentheses after the respective count; asterisks indicate holotype values. Counts of vertebrae, unbranched fin rays, and procurrent rays were taken from cleared and stained specimens, prepared according to the protocol by Taylor and Van Dyke (1985). Museum abbreviations follow Sabaj (2016).

### *Cyphocharax muyrakytan*, new species

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Figure 1A, B; Table 1

**Holotype.**—ZUEC 14100, 54.3 mm SL, Brazil, Pará, Santarém, Rio Arapiuns, lake two km north of Comunidade Santa Sofia, 02°18'34"S, 55°07'41"W, J. D. Bogotá-Gregory, 13 February 2015.

**Paratypes.**—All from Brazil, Pará: LBP 23759, 5, 48.1–58.9 mm SL, MCP 51297, 20, 45.5–52.4 mm SL, UF 238932, 10, 45.1–56.0 mm SL, ZUEC 12425, 41, 45.1–57.6 mm SL, same data as holotype; ANSP 203158, 5, 39.8–49.5 mm SL, MCP 51298, 20, 34.1–45.1 mm SL, MPEG 34742, 5, 34.7–42.3 mm SL, ZUEC 11694, 33, 39.2–47.6 mm SL, Belterra, Rio Tapajós, Igarapé Mato Grosso, Comunidade Jaguarari, 02°55'00"S, 55°03'53"W, W. G. R. Crampton, J. A. Oliveira, F. C. T. Lima, B. B. Calegari, and E. Cerdeira, 13 November 2015; INPA 53234, 5, 30.0–32.8 mm SL, MZUSP 117819, 5, 30.41–33.6 mm SL, ZUEC 11732, 27, 31.1–36.1 mm SL, Belterra, Rio Tapajós, Igarapé Dominginho, Comunidade Piquiatuba, 03°00'48"S, 55°06'21"W, W. G. R. Crampton, J. A. Oliveira,

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**Fig. 1.** (A) *Cyphocharax muyrakytan*, holotype, ZUEC 14100, 54.3 mm SL, Brazil, Pará, Rio Arapiuns, lake at Santa Sofia. (B) *Cyphocharax muyrakytan*, paratype, ZUEC 11694, 40.4 mm SL, Brazil, Pará, Rio Tapajós, Igarapé Mato Grosso.

F. C. T. Lima, B. B. Calegari, and E. Cerdeira, 15–16 November 2015; ZUEC 11859, 1, 43.7 mm SL, Santarém, Igarapé Capixauã/Vista Alegre, Comunidade Vista Alegre, 02°37'23"S, 55°10'58"W, F. C. T. Lima, J. S. Ready, and E. Cerdeira, 14–15 November 2013; ZUEC 13493, 20, 32.2–41.6 mm SL, Santarém, Rio Arapiuns, lake at Arapiranga, 02°31'44"S, 55°12'27"W, J. D. Bogotá-Gregory et al., November 2016.

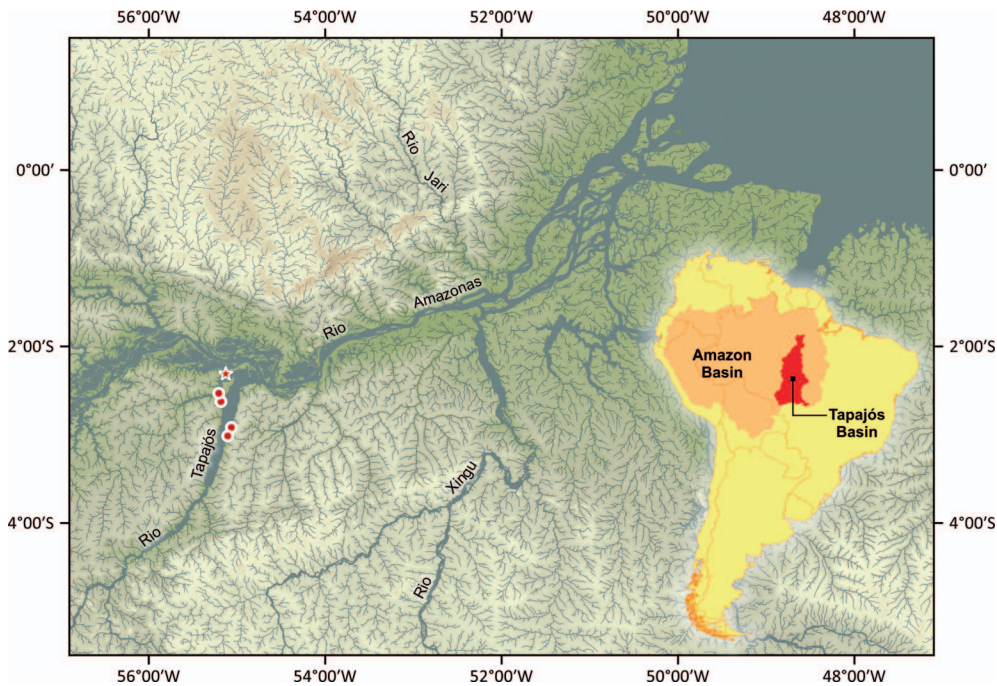
**Diagnosis.**—*Cyphocharax muyrakytan* is distinguished from its congeners, except *C. abramoides*, *C. aspilos*, *C. derhami*, *C.*

**Table 1.** Morphometric data for *Cyphocharax muyrakytan*. *n* (number of specimens measured) = 50. SD = Standard deviation.

	Holotype	Range	Mean±SD
Standard length (mm)	54.3	31.1–56.7	—
Percents of standard length			
Greatest body depth	27.3	23.6–28.7	26.7±1.1
Snout to dorsal-fin origin	48.4	44.4–51.3	47.3±1.4
Snout to pelvic-fin origin	54.3	52.0–56.8	54.1±1.1
Snout to anus	80.1	68.9–81.8	75.0±2.1
Snout to anal-fin origin	84.0	76.7–84.0	80.2±1.5
Origin of rayed dorsal fin to hypural joint	57.8	52.6–58.3	55.4±1.3
Caudal-peduncle depth	11.0	10.0–11.8	10.9±0.4
Pectoral-fin length	16.8	15.1–18.8	16.6±0.8
Pelvic-fin length	18.4	16.7–23.0	18.3±1.3
Head length	27.3	25.1–31.8	27.1±1.3
Percents of head length			
Orbital diameter	29.7	29.7–37.5	32.9±1.4
Snout length	29.1	25.4–35.0	29.5±1.9
Interorbital width	31.1	25.7–37.7	29.6±1.5
Postorbital length	41.2	34.0–43.8	40.0±1.9

*festivus*, *C. leucostictus*, *C. magdalena*, *C. microcephalus*, *C. pinnilepis*, *C. plumbeus*, and *C. stilbolepis* by the absence in adults of longitudinal dark stripes or spots on the body or at the lateral surface of the caudal peduncle, and absence of dark pigmentation on the dorsal or adipose fins. *Cyphocharax muyrakytan* is distinguished from *C. abramoides*, *C. leucostictus*, and *C. stilbolepis* by possessing fewer lateral-line scales from the supracleithrum to the hypural joint (35 to 38 [mean 36]; vs. 77 to 97 [85]; 39 to 45 [45]; and 54 to 62 [56], respectively). The new species is distinguished from *C. festivus*, *C. microcephalus*, and *C. plumbeus* by having a higher number of lateral-line scales from supracleithrum to hypural joint (35 to 38 [mean 36]; vs. 29 to 33 [31]; 29 to 32 [30]; and 30 to 34 [32], respectively). *Cyphocharax muyrakytan* can be diagnosed from *C. derhami* by the absence of a dark stripe from posterior portion of orbit to the rear of the opercle (vs. presence) and from *C. pinnilepis* by the absence of a field of scales over each lobe of the caudal fin (vs. presence). *Cyphocharax muyrakytan* is very similar to *C. nigripinnis* in morphometric data and coloration, but *C. nigripinnis* has a distinct dark spot on the tip of the adipose fin, and, in addition, the new species has a dorsal profile noticeably less convex and more straight than *C. nigripinnis*. *Cyphocharax muyrakytan* is further distinguished from *C. aspilos* and *C. magdalena* by possessing a lower interorbital width (25–33%; vs. 47–52%, and 43–47%, respectively).

**Description.**—Body relatively elongate, somewhat compressed laterally. Dorsal profile of head slightly convex from margin of upper lip to vertical through anterior nares, nearly straight from that point to tip of supraoccipital process. Dorsal profile of body straight to very slightly convex from supraoccipital spine to dorsal-fin origin, straight and posteroventrally slanted at base of dorsal fin, straight to slightly



**Fig. 2.** Map of the eastern Amazon basin showing the distribution of *Cyphocharax muyrakytan* (red circles; red star indicates type locality).

convex and posteroventrally slanted from base of last dorsal-fin ray to adipose-fin origin and then slightly concave from that point to origin of anterior dorsal procurent ray. Ventral profile of body slightly convex to almost straight from tip of dentary to anal-fin origin. Ventral profile of caudal peduncle slightly concave.

Dorsal surface of body with indistinct median keel anterior to dorsal fin and transversely rounded posterior to fin base. Ventral profile of body smoothly convex from tip of lower jaw to caudal peduncle and then slightly concave to origin of anterior ventral procurent ray. Prepelvic region gently flattened transversely, with median series of scales comparable in size to those of proximate ventrolateral portions of body. Postpelvic region of body transversely rounded.

Dorsal fin pointed, with distal margin straight and first and second branched rays longest. Longest ray approximately three times length of ultimate ray. Pectoral-fin profile pointed. Tip of adpressed pectoral fin falling three or four scales short of vertical through pelvic-fin origin. Pelvic-fin profile pointed. Tip of adpressed pelvic fin falling one to three scales short of anus. Caudal fin forked, with lobe tips somewhat pointed. Adipose fin well developed. Anal fin emarginate, with first branched ray longest and about twice the length of ultimate ray. Tip of adpressed anal fin falling four or five scales short of point of origin of ventralmost caudal-fin ray.

Head profile anteriorly somewhat pointed overall from lateral view, but rounded in region of mouth and snout. Upper jaw longer than lower jaw with mouth slightly subterminal. Nostrils very close, anterior circular to ovoid, posterior crescent-shaped with aperture closed by thin flap of skin separating nares. Adipose eyelid well developed and extending posteriorly onto anterodorsal portion of opercle, with vertically ovoid opening over center of eye. Smaller opening in larger specimens with eyelid overlapping anterior and posterior portions of pupil.

All scales of lateral line pored with primary laterosensory canal straight. Pored lateral-line scales from supracleithrum to hypural joint 35\*(14), 36(15), 37(14), or 38(6). Pored scales on basal portions of caudal fin posterior to hypural joint

2\*(49). Scales in transverse series from dorsal-fin origin to lateral line 6\*(49). Scales in transverse series from anal-fin origin to lateral line 4(1), 5\*(48), or 6(1). Scales between anus and anal-fin origin 2(17) or 3\*(12). Middorsal series of scales from rear of supraoccipital spine to dorsal-fin origin 11(10) or 12\*(18). Anterior scales similar in size to those on posterior portion of caudal peduncle, scale size slightly decreasing distally.

Dorsal-fin rays iii,9\*(6), first unbranched ray very short. Anal-fin rays iii,7\*(6), first ray very short. Pelvic-fin rays i,8\*(3). Pectoral-fin rays 12(3), 13(25), 14\*(21), or 15(1). Total vertebrae 31\*(6). Ventral procurent rays 5(2) or 6\*(4). Dorsal procurent rays 6\*(6).

**Coloration in alcohol.**—Overall coloration light brown. Specimens stored longer in formalin lighter, with little remaining guanine pigmentation, rendering them more opaque and less silvery than those retaining more guanine (compare Fig. 1A, B). Coloration darker on dorsal portion of head and dorsolateral portions of body. Scales on dorsolateral and dorsal regions of body pigmented along free border of each scale, forming slightly reticulate pattern. Deep-lying, dark chromatophores forming dusky plumbeous-gray midlateral stripe on body. Stripe most evident on posterior portion of body, terminating immediately anterior to hypural joint. Silvery coloration in opercle, infraorbital bones and lower portion of body ventral to midlateral stripe. Fins hyaline, scattered with small dark chromatophores.

**Coloration in life.**—Based on pictures of living specimens (ZUEC 11694) taken immediately before preservation: overall coloration silvery, plumbeous dorsally, with no distinct pattern of dark coloration on body. All fins hyaline; dorsal, adipose, and caudal fin light yellow.

**Distribution.**—*Cyphocharax muyrakytan* is only known from tributaries of the lower Rio Tapajós, including the Rio Arapiuns, Amazon basin, Pará, Brazil (Fig. 2).

**Habitat notes.**—*Cyphocharax muyrakytan* was collected in floodplain tributaries, i.e., areas within the seasonally

flooded igapó forest, in both black (Rio Arapiuns) and clear (Rio Tapajós) water settings. Physical and chemical parameters of the water taken from collecting sites ranged from 26.9°C (Igarapé Dominginho) to 31.4°C (Santa Sofia), pH 4.02 (Igarapé Mato Grosso) to 5.49 (Igarapé Dominginho), dissolved oxygen 2.8 (Igarapé Dominginho) to 6 (Arapiranga), and conductivity 7.82  $\mu\text{Scm}^{-1}$  (Santa Sofia) to 15.4  $\mu\text{Scm}^{-1}$  (Igarapé Mato Grosso). Collecting sites at the Rio Arapiuns presented lower conductivity and higher water temperatures when compared to localities at the rio Tapajós main channel, which was expected given the black waters and the more open water habitats in the Rio Arapiuns. However, the lowest pH value was measured at a direct, clear water tributary of the Rio Tapajós.

**Etymology.**—From the Tupi *muyrakytã* (*muiraquitã* in Portuguese), an amulet originally used by Indians of the Amazon valley, especially those belonging to the extinct Tapajó culture, typically carved as a sitting frog from a green jade stone. A noun in apposition.

## DISCUSSION

*Cyphocharax muyrakytan* shares with the congeners *C. abramoides*, *C. aspilos*, *C. derhami*, *C. festivus*, *C. leucostictus*, *C. magdalenae*, *C. microcephalus*, *C. pinnilepis*, *C. plumbeus*, and *C. stilbolepis* an overall light color pattern (silvery in life), lacking dark pigmentation on body or fins. However, as mentioned in the Diagnosis, the new species can be easily distinguished from these congeners by several morphometric and meristic features. Ongoing phylogenetic studies have demonstrated that several species lacking dark pigmentation on body and fins constitute a monophyletic assemblage within what is currently defined as *Cyphocharax* (Melo et al., unpubl.). It is likely that *Cyphocharax muyrakytan* also belongs to this clade.

Perhaps the most striking feature distinguishing *Cyphocharax muyrakytan* from congeners is the distinctive body profile (see Description). Species of *Cyphocharax* typically possess a moderately to pronouncedly convex dorsal and ventral body profiles, and a slightly to pronouncedly convex predorsal profile, with *C. abramoides* having the most disparate body shape among them. Otherwise, both dorsal and ventral body profiles of *C. muyrakytan* are almost straight, imparting a very distinctive body shape even when compared with the most similar-looking congeners, i.e., *C. festivus*, *C. leucostictus*, *C. nigripinnis*, and *C. plumbeus* (see Figs. 3, 4), the latter two occurring sympatrically with *C. muyrakytan* at the lower Rio Tapajós basin. The congener with the most similar body profile is *C. nigripinnis*, but the latter has a larger body depth when compared to *C. muyrakytan*. *Cyphocharax nigripinnis* presents a range of body depth from 27.7% to 32.3% of SL (mean 30.6%), while the new species has a range from 23.6% to 28.7% of SL (mean 26.7%). *Cyphocharax plumbeus* and *C. festivus* also present a larger body depth, ranging from 27.6% to 31.8% (mean 29.5%), and 26.4% to 33.6% (mean 31.1%), respectively.

Problems involving the diagnosis between *Cyphocharax festivus* and *C. plumbeus* were noticed during the conduction of this study. Samples of both species could not be in many cases reliably identified based on the proposed morphometric diagnoses: body depth and postorbital length (Vari, 1992). Vari (1992: 49) cited one lot of *C. festivus* from the Rio Tapajós basin. The analysis of this lot (MZUSP 22100) and some other lots cited by Vari (1992) as *C. festivus* from the

Central Amazon basin (MZUSP 5775, MZUSP 7283) provided evidence that they do not present the morphometric diagnostic features of *C. festivus* but do have, instead, the features of *C. plumbeus*. In fact, several additional lots examined from central and western Amazon basin (cited in the Material Examined, below) could not be readily assigned to either species. In the present study, only specimens of *Cyphocharax festivus* from the western Amazon basin and specimens of *C. plumbeus* from Central Amazon basin (including the lower Rio Tapajós basin) were employed in the comparisons with *C. muyrakytan*. Consequently, we consider the occurrence of *C. festivus* in the central and eastern Amazon (including the Rio Tapajós basin) as doubtful. Further studies involving the combination of both morphological and molecular data might help to establish the taxonomic status for this problematic species/species complex.

The following species of *Cyphocharax* were previously reported to occur sympatrically with *C. muyrakytan* in the Rio Tapajós basin (excluding *C. festivus*, see above): *C. abramoides*, *C. biocellatus*, *C. gangamon*, *C. leucostictus*, *C. nigripinnis*, *C. notatus*, and *C. spilurus* (Vari, 1992; Ohara et al., 2017). All these species can be easily distinguished from *C. muyrakytan* by a combination of morphometric, meristic, and pigmentation features (see Diagnosis, above).

## MATERIAL EXAMINED

All from Brazil, unless otherwise noted.

*Cyphocharax abramoides*: INPA 3719, 6, 61.7–106.1 mm SL, Amazonas, Rio Negro.

*Cyphocharax aninha*: MZUSP 113703, 2 paratypes, 24.6–27.0 mm SL, Pará, Rio Mopeco, Rio Paru basin.

*Cyphocharax aspilos*: LBP 6109, 2, 54.6–114.8 mm SL, Venezuela, Lake Maracaibo.

*Cyphocharax boiadeiro*: LIRP 14133, holotype, 42.9 mm SL, Mato Grosso, Rio Araguaia.

*Cyphocharax festivus*: MZUSP 41300, 5 paratypes, 50.3–61.4 mm SL, Peru, Loreto, Río Nanay; ZUEC 14198, 13, 53.2–80.4 mm SL, Peru, Loreto, Río Itaya.

*Cyphocharax gangamon*: MZUSP 22037, holotype, 48.4 mm SL, Pará, Monte Cristo, Rio Tapajós.

*Cyphocharax gilbert*: LBP 3460, 3, 49.5–70.7 mm SL, Rio de Janeiro, Campos dos Goytacazes, Rio Itabapoana.

*Cyphocharax gillii*: LBP 10789, 16, 24.8–67.0 mm SL, Mato Grosso do Sul, Coxim, Rio Paraguai.

*Cyphocharax gouldingi*: MZUSP 41762, holotype, 94.0 mm SL, Amapá, Rio Cupixi.

*Cyphocharax* aff. *helleri*: INPA 3261, 15, 78.5–112.5 mm SL, Pará, Oriximiná, Rio Trombetas.

*Cyphocharax leucostictus*: MZUSP 6688, 33, 58.8–103.1 mm SL, Amazonas, Manaus, Rio Negro; MZUSP 101790, 12, 70.7–89.7 mm SL, Amapá, Laranjal do Jari, Rio Jari; ZUEC 8812, 16, 40.1–67.3 mm SL, Pará, Santarém, Rio Arapiuns; ZUEC 10004, 1, 56.9 mm SL, Rondônia, Porto Velho, Rio Jaci-Paraná; ZUEC 12426, 20, 87.8–109.2 mm SL, ZUEC 12712, 1,



**Fig. 3.** (A) *Cyphocharax festivus*, ZUEC 14198, 71.3 mm SL, Peru, Loreto, Río Itaya. (B) *Cyphocharax plumbeus*, ZUEC 13841, 83.9 mm SL, Brazil, Pará, Rio Arapiuns.

86.5 mm SL, ZUEC 13852, 2, 81.5–88.7 mm SL, Pará, Santarém, Rio Tapajós; ZUEC 13853, 1, 109.3 mm SL, Pará, Santarém, Rio Amazonas.

*Cyphocharax mestomyllon*: MZUSP 41755, holotype, 36.0 mm SL, Amazonas, Marauíá, Rio Negro.

*Cyphocharax microcephalus*: MHNG 2723.019, not measured, Suriname, Commewijne River.

*Cyphocharax modestus*: LBP 19718, 3, 118–128.3 mm SL, São Paulo, Salto, Rio Tietê.

*Cyphocharax multilineatus*: LBP 6935, 3, 34.0–73.4 mm SL, Amazonas, São Gabriel da Cachoeira, Rio Negro.

*Cyphocharax naegelii*: LBP 11250, 1, 136.1 mm SL, São Paulo, Anhembi, Rio Tietê.

*Cyphocharax nigripinnis*: MZUSP 8196, 45, 39.9–61.8 mm SL, Pará, Rio Trombetas; MZUSP 42025, holotype, 53.3 mm SL, Roraima, Rio Branco, Rio Xeruini; MZUSP 62122, 222, 24.1–65.6 mm SL, Amazonas, Santa Isabel do Rio Negro, Rio Negro; MZUSP 61933, 2, 54.0–55.3 mm SL, Amazonas, Santa Isabel do Rio Negro, Rio Aiuanã.

*Cyphocharax notatus*: LBP 5734, 87.4–119.6 mm SL Mato Grosso, Barra do Garças, Rio Araguaia.

*Cyphocharax oenas*: LBP 18659, 6, 46.3–58.3 mm SL, Venezuela, Meta, Río Orinoco.

*Cyphocharax pantostictos*: INPA 35813, 1, 33.8 mm SL, Amazonas, Canutama, Rio Purus.

*Cyphocharax plumbeus*: ZUEC 11869, 1, 57.3 mm SL, ZUEC 13841, 20, 76.4–90.0 mm SL, ZUEC 13860, 4, 42.2–81.6 mm SL, Pará, Santarém, Rio Arapiuns; MZUSP 74970, 7, 51.3–61.3 mm SL, Amazonas, Rio Japurá; MZUSP 89291, 8, 36.5–64.2 mm SL, Goiás, Aruanã, Rio Araguaia basin; MZUSP 116850, 58, 40.1–57.8 mm SL, Mato Grosso, Alta Floresta, Rio Teles Pires; ZUEC 9193, 23, 28.5–72.9 mm SL, Amazonas, Manaquiri, Paraná do Janauacá; ZUEC 11642, 2, 32.0–32.9 mm SL, Pará, Santarém, Rio Mentaí; ZUEC 12675, 1, 43.2 mm SL, Pará, Santarém, Rio Amazonas; ZUEC 12988, 116, 35.9–49.2 mm SL, Amazonas, Manaquiri, Lago Murumuru; ZUEC 12992, 52, 37.4–49.3 mm SL, Amazonas, Manaus, Lago Camaleão; ZUEC 13851, 2, 85.7–86.0 mm SL, Pará, Santarém, Rio Tapajós.



**Fig. 4.** (A) *Cyphocharax leucostictus*, ZUEC 8812, 61.3 mm SL, Brazil, Pará, Santarém, Rio Arapiuns. (B) *Cyphocharax nigripinnis*, MZUSP 8196, 54.8 mm SL, Brazil, Pará, Rio Trombetas.

*Cyphocharax punctatus*: MZUSP 38998, 23 paratypes, 16.9–24.8 mm SL, Suriname, Marowijne River.

*Cyphocharax saladensis*: LBP 6034, 8, 28.1–43.0 mm SL, Rio Grande do Sul, Osório, Rio Maquiné.

*Cyphocharax sanctigabrielis*: MZUSP 115004, holotype, 60.7 mm SL, Amazonas, São Gabriel da Cachoeira, Rio Negro.

*Cyphocharax santacatarinae*: LBP 766, 1, 39.0 mm SL, Paraná, Morretes, Rio Marumbi.

*Cyphocharax signatus*: MZUSP 41757, holotype, 33.8 mm SL, Goiás, Britânia, Rio Araguaia basin.

*Cyphocharax spiluroopsis*: LBP 22424, 2, 78.3–83.0 mm SL, Colombia, Leticia, Rio Solimões.

*Cyphocharax spilurus*: LBP 15612, 4, 39.3–59.9 mm SL, Roraima, Bonfim, Rio Takutu.

*Cyphocharax stilbolepis*: MZUSP 41759, holotype, 108.1 mm SL, Pará, Belo Monte, Rio Xingu.

*Cyphocharax vanderi*: MZUSP 4325, holotype, 42.6 mm SL, São Paulo, Corumbataí.

*Cyphocharax vexillapinnus*: MZUSP 41761, 3 paratypes, 50.8–55.0 mm SL, Peru, Loreto, Río Itaya.

*Cyphocharax voga*: LBP 17002, 9, 36.0–42.3 mm SL, Rio Grande do Sul, Rio Grande, Lagoa dos Patos.

*Cyphocharax* sp. (*C. festivus*/*C. plumbeus* complex): MZUSP 5775, 1, 80.7 mm SL, Amazonas, Uruará, Paraná de Uruará; MZUSP 6684, 4, 61.9–68.5 mm SL, Amazonas, Manaus, Rio Negro; MZUSP 7283, 2, 47.6–51.0 mm SL, Amazonas, Maués, Rio Marauá; MZUSP 22100, 58, 71.8–96.9 mm SL, Pará, Rio Tapajós; MZUSP 99781, 25, 67.1–83.2 mm SL, Mato Grosso, Aripuanã, Rio Aripuanã.

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