

A new species of bumblebee catfish of the genus *Microglanis* (Siluriformes: Pseudopimelodidae) from the upper rio Paraguay basin, Brazil

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A new species of *Microglanis* from upper rio Paraguay basin is described. The species differs from congeners by the following combination of characters: deeply forked caudal fin with pointed lobes, bifurcated hook between antrorse and retrorse hooks on anterior margin of pectoral-fin spine, lateral line relatively long, surpassing the vertical through end of dorsal fin but not reaching adipose fin, color pattern of dorsal region of head dark brown with a restrict thin light area between anterior nostril and eye, broad light stripe on supraoccipital region.

Uma nova espécie de *Microglanis* da bacia do alto rio Paraguai é descrita. A espécie difere das congêneres pela seguinte combinação de caracteres: nadadeira caudal profundamente furcada com lobos pontiagudos, serra bifurcada entre as serras antrorsas e retrorsas da margem anterior do espinho da nadadeira peitoral, linha lateral relativamente longa, ultrapassando a vertical que passa pelo final da base da nadadeira dorsal, mas não atingindo a nadadeira adiposa, padrão de colorido da região dorsal castanho escuro com uma estreita área clara restrita entre a narina anterior e o olho, faixa clara larga na região supraoccipital.

Keywords: *Microglanis carlae*, *Microglanis cottoides*, Multivariate morphometrics, Pantanal, Systematics.

Introduction

Microglanis Eigenmann, 1912 is a genus of Neotropical catfishes composed by small species (smaller than 80 mm SL), identified by the color pattern with large dark brown blotches, eye covered by skin, incomplete lateral line, and lateral of dentigerous plate not prolonged backward (Gomes, 1946; Mees, 1974). It is the most species-rich genus of Pseudopimelodidae, currently comprising 22 described species (Shibatta, 2014).

The geographic distribution of *Microglanis* is the widest among other genera of Pseudopimelodidae, occurring since the transandinean region of Ecuador, and in the main hydrographic basins of cisandinean region. For the upper rio Paraguay basin in Pantanal region, Britski *et al.* (2007) and Polaz *et al.* (2014) mentioned *M. cottoides* Boulenger, 1891, a species originally described to rio Camaquã, laguna dos Patos basin, a coastal system unconnected to Paraná-Paraguay basin. Another species assigned to rio Paraguay basin is *M. carlae* Alcaraz, Graça & Shibatta, 2008, described from its lower region at Paraguay. Alcaraz *et al.* (2008) also examined a specimen from upper rio Paraguay basin (NUP 3533) and supposed it belonged to another species, probably new to science. A detailed morphological analysis of this and additional specimens

highlight differences between specimens collected in upper rio Paraguay basin and *M. cottoides* of coastal region, as well as to *M. carlae*, allowing the description of a new species presented herein.

Material and methods

Morphometric variables of specimens were taken point-to-point with digital caliper with accuracy of 0.01 mm, under a stereomicroscope. Both counts and measurements were taken on the left side of specimens whenever possible. Measurements were taken following Shibatta (2014), totaling 22 morphometric variables. Measurements were presented as percents of standard length (SL), except the subunits of head, presented as percents of head length (HL). Meristic data included counts of gill rakers, serrations of pectoral-fin spine, lateral line pores, and dorsal, pectoral, pelvic, anal and caudal-fin rays. Roman numerals indicate unbranched rays and Arabic numerals represent branched rays. In the diagnoses and descriptions of species, the frequency of each meristic data is presented in brackets and the counts of the holotypes are followed by asterisks. Specimens of *M. carlae* and *M. cottoides* were added to perform the sheared Principal Components Analysis (MacLeod, 1990). For this analysis, 20 variables

were selected from original morphometric list (excluding head depth and body depth, due to limitations on number of morphometric variables accepted by the program). International Union for Conservation of Nature and Natural Resources (IUCN) Red List Categories (2012) was used to infer the conservation status of the new species.

Institutional abbreviations are: ANSP (Academy of Natural Sciences, Philadelphia); CAS (California Academy of Sciences, San Francisco); INPA (Instituto Nacional de Pesquisas da Amazônia, Manaus); MCN (Museu de Ciências Naturais, Fundação Zoobotânica, Porto Alegre); MCP (Museu de Ciências e Tecnologia da Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre); MEPN (Museo de la Escuela Politécnica Nacional de Quito, Ecuador); MNHNP (Museo Nacional de Historia Natural del Paraguay, San Lorenzo); MNRJ (Museu Nacional, Rio de Janeiro); MZUEL (Museu de Zoologia da Universidade Estadual de Londrina, Paraná); MZUSP (Museu de Zoologia da Universidade de São Paulo, São Paulo); MHNG (Muséum D'Histoire Naturelle de Genève, Geneva); USNM (National Museum of Natural History, Smithsonian Institution, Washington); NUP (Coleção ictiológica do Núcleo de Pesquisas em Limnologia, Ictiologia e Aquicultura, Universidade Estadual de Maringá, Maringá), ROM (Royal Ontario Museum, Toronto), and ZUFMS-PIS (Coleção de Peixes da Universidade Federal do Mato Grosso do Sul, Campo Grande).

Results

Microglanis leniceae, new species

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Figs. 1 - 2

Holotype. ZUFMS 4148, 33.0 mm SL, Brazil, Mato Grosso do Sul, Miranda, upper rio Paraguay basin, rio Betione, 20°25'25"S 56°23'57" W, 18 May 2013, H. Gimenes Jr.

Paratypes. Brazil, Mato Grosso do Sul: ZUFMS 4143, 1, 30.1 mm SL, same data as holotype. Mato Grosso: INPA 27582, 4, 19.5-21.0 mm SL, Araputanga, rio das Pitas, 16°09'45"S 58°00'05"W, 28 Ago 1984, V. Py-Daniel. NUP 3533, 1, 29.1 mm SL, Santo Antônio do Leverger, Barão de Melgaço, upper rio Paraguay basin, rio Cuiabá, 15°58'S 55°56'W, 20 Jan 2003.

Diagnosis. *Microglanis leniceae* differs from all congeners, except *M. lundbergi* Jarduli & Shibatta, 2013, by the deeply forked caudal fin with pointed lobes, a character invariable even in small specimens (vs. emarginated, rounded, or bifurcated with rounded lobes). Differs from *M. lundbergi*, by lateral line canal surpassing vertical through end of dorsal fin (vs. not surpassing), 8 to 11 pores on lateral line (vs. 6 to

8), larger dorsal-fin spine length (15.1-17.8% vs. 11.4-15.9% SL), larger predorsal length (38.0-39.5% vs. 35.5-38.6% SL), larger interorbital width (44.1-51.2% vs. 40.4-44.2% HL), and larger mouth width (61.5-72.0% vs. 38.0-47.3% HL). Differs from *M. cottoides*, another species mentioned to the upper rio Paraguay basin, and *M. carlae*, the species from lower rio Paraguai basin, by the bifurcated hook on anterior margin of pectoral-fin spine (vs. antrorse and retrorse only).

Description. Morphometric data are presented in Table 1. Body depressed from snout to dorsal-fin origin; posteriorly compressed. Dorsal profile slightly oblique upward from snout tip to posterior nostril; slightly convex from posterior nostril to nape; slightly oblique from nape to dorsal-fin origin. Profile from dorsal-fin origin to end of adipose-fin base almost straight (not considering adipose fin), oblique downward. Dorsal profile straighter on small specimens. Ventral profile from tip of lower jaw to end of anal-fin base slightly convex, almost straight. Head large, wider than deep. Mouth terminal, slightly prognathous. Opercular membrane large, well developed. Eye relatively small, covered by skin. Anterior nostril tubular, on superior lips. Posterior nostril rounded, membranous flap on posterior margin, near to eye than to anterior nostril. Maxillary and outer mental barbels slightly surpassing pectoral fin base.

Dorsal fin trapezoidal; posterior border rounded; origin anterior to standard length midpoint; not reaching adipose-fin origin when adressed; first lepidotrichium ("spinelet") small and rigid, forming dorsal-fin locking mechanism; second ray forming spine, smooth on anterior and posterior margin; I, 6*(6). Adipose fin slightly elongated, posterior border angular and free. Pectoral fin triangular, not reaching pelvic-fin origin when adressed; first ray rigid, pointed, flattened, slightly arched, strongly serrated on both sides, bifurcated hook between antrorses (distal) and retrorses (proximal) hooks on anterior margin; retrorses hooks on posterior margin (Fig. 2); I, 5*(6). Specimens larger than 21.0 mm SL: retrorses hooks on anterior margin 8*(2) to 9(1); bifurcated hook 0(1) to 1*(2); antrorses hooks 3*(2) or 7(1); small hooks, straight, near tip 0(1), 1(1), 2*(1); retrorses hooks on posterior margin 7*(1) or 10(2). Specimens smaller than 21.0 mm SL: retrorses hooks, proximal 9(2); smaller and straight hooks, distal 2(2) on anterior margin; retrorses hooks on posterior margin 6(1) or 7(1). Pelvic fin rounded, originating just posterior to vertical through end of dorsal-fin base, not reaching anal-fin origin when adressed; i, 5*(6). Anal fin distal profile rounded; anal-fin base length slightly smaller than adipose-fin base; iii, 6*(5)/iv, 5(1). Caudal fin deeply forked; lobes distal profiles pointed; usually lower lobe slightly longer than upper lobe (opposite in one paratype); principal rays i, 7, 6, i (1)* or i, 6, 7, i (5).

Lateral line incomplete, pores extending just beyond vertical through posterior margin of pelvic-fin, at middle distance between dorsal fin to adipose fin; lateral line pores 8(4), 9(1), or 11*(1). Total gill rakers 5(2), 6(1), 7(2), or 9*(1). Axillary pore absent.



Fig. 1. *Microglanis leniceae*, holotype, ZUFMS 4148, 33.0 mm SL, rio Betione, Miranda, Mato Grosso do Sul State, Brazil.

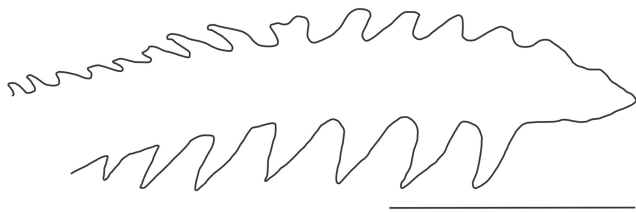


Fig. 2. Dorsal view of right pectoral-fin spine of holotype (ZUFMS 4148, 33.0 mm SL) of *Microglanis leniceae*, from the upper rio Paraguay basin, Mato Grosso State, Brazil. Scale bar = 1 mm.

Table 1. Morphometrics of *Microglanis leniceae* from the upper rio Paraguay (n=6). Minimum and maximum (Min-Max) include the data of holotype. SD = Standard deviation.

	Holotype	Min-Max	Mean±SD
Standard length	33.0	19.5-33.0	25.4±6.0
Proportion of standard length			
Head length	28.4	26.5-29.3	28.0±1.0
Pelvic fin length	17.7	17.7-20.0	19.1±1.0
Dorsal-fin spine length	15.2	15.1-17.8	16.1±1.1
Pectoral-fin spine length	17.3	17.3-23.4	19.3±2.2
Posterior cleithral process length	14.3	9.4-14.3	11.9±1.8
Predorsal length	38.2	38.0-39.5	38.6±0.7
Prepelvic length	52.3	48.2-56.7	51.8±3.0
Preanal length	51.6	51.6-74.5	68.8±8.6
Caudal peduncle depth	10.6	10.6-12.9	11.5±0.9
Caudal peduncle length	12.7	12.7-18.6	15.3±2.1
Body width	29.2	27.3-31.1	29.2±1.7
Body depth at dorsal fin	17.8	17.8-26.7	20.1±3.3
Dorsal-fin base length	14.8	9.1-15.4	12.6±2.5
Adipose-fin base length	19.2	15.0-19.8	18.0±1.8
Anal-fin base length	12.5	9.9-13.1	11.4±1.3
Proportion of head length			
Head depth	42.5	40.8-47.5	44.3±2.6
Interorbital width	44.1	44.1-51.2	46.4±2.7
Orbital diameter	14.3	8.5-14.3	10.6±2.0
Snout length	38.5	37.5-45.8	40.8±3.0
Mouth width	72.0	61.5-72.0	65.8±3.9
Maxillary-barbel length	92.8	92.8-146.1	118.3±17.4

Color in alcohol. Ground color light brown; flanks covered by several darker stripes. Dorsal and lateral head dark brown, limited posterior at vertical trough pectoral fin; light stripe between posterior nostril and eye; thin, undulated light stripe between anterior and posterior nostrils. Large, quadrangular dark brown saddle on trunk, starting soon after vertical through base of pectoral fin, finishing at vertical through posterior dorsal-fin base. Dark brown blotch V-shaped on trunk, starting soon after dorsal fin, finishing at middle adipose fin, rarely surpassing body axis ventrally. Caudal peduncle dark brown blotch Y-shaped. Dorsal-fin base dark brown blotch confluent anteriorly to dark brown arched stripe along superior third dorsal-fin; oval-shaped hyaline blotch between dark brown areas;

hyaline superior margin. Rounded light spot on dorsal-fin anterior base. Pectoral fin hyaline; several dark brown spots on middle region. Pelvic fin hyaline; several spots scattered irregularly. Dark brown blotch on anterior half of adipose fin confluent downward with V-shaped blotch of trunk. Dark brown blotch on anterior region of anal-fin base; dark brown stripe on posterior third. Caudal fin hyaline; dark brown spots scattered irregularly; dark brown stripe on posterior third. Ventral region light brown, covered by dark brown spots.

Distribution. Known from the upper rio Paraguay basin, in Mato Grosso and Mato Grosso do Sul states, Brazil (Fig. 3), in one of the largest wetland regions in the world known as Pantanal. However, *M. leniceae* seems to be not common in the flooded area, occurring preferentially in small streams, as can be inferred from collection localities. Besides that, the species is possibly rare, as noticed by its absence in surveys of fish species for that region (Willink *et al.*, 2000; Teresa *et al.*, 2010; Severo-Neto, 2015).

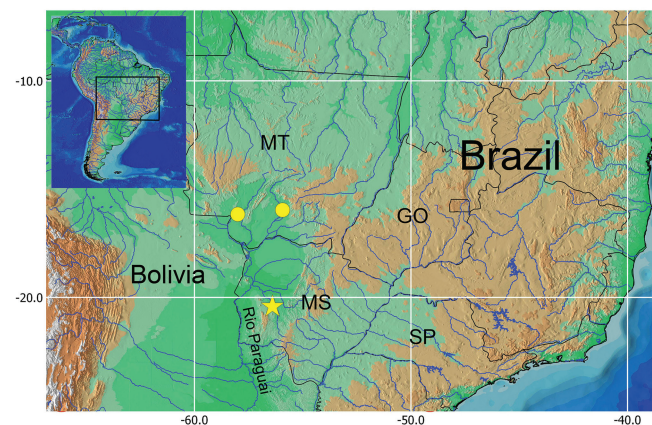


Fig. 3. Geographic distribution of *Microglanis leniceae* in states of Mato Grosso (MT) and Mato Grosso do Sul (MS) (yellow star = type locality). Brazilian states acronyms: GO = Goiás; SP = São Paulo.

Etymology. The specific epithet is homage to Lenice Souza Shibatta, for her dedication to the study of biogeography and evolution of Neotropical fishes. A genitive noun.

Multivariate morphometrics analysis. The first Principal Component (PC) retained the largest amount of variance, 90.52% of original data, and all loadings of characters presented positive values. The second PC retained 3.36% and the third, 2.42%, with positive and negative characters loadings (Table 2). *Microglanis leniceae* differs from *M. carlae* in the second PC, and from *M. cottoides* in the third PC (Fig. 4). The variables that distinguish *M. leniceae* from *M. carlae* were the larger preanal length, adipose-fin base length, caudal peduncle depth (highest positive values), and the smaller orbital diameter (highest negative values); *M. leniceae* differs from *M. cottoides* by the larger body width

(highest positive value), and shorter adipose-fin base length, anal-fin base length, posterior cleithral process length, and preanal length (highest negative values).

Table 2. Loadings of characters, eigenvalue and percentages of variance on first three Principal Components axis (PC1-PC3), from the analysis of combined samples of *Microglanis leniceae* (n = 6), *M. carlae* (n = 9) and *M. cottoides* (n = 7).

	PC1	ShearedPC2	ShearedPC3
Standard length	0.195001	-0.008698	0.090347
Head length	0.212373	0.049486	0.045401
Interorbital width	0.197606	-0.018352	-0.033466
Orbital diameter	0.229321	-0.606059	-0.129629
Snout length	0.196460	0.152083	0.052126
Mouth width	0.217175	0.039774	0.049849
Maxillary barbel length	0.161459	-0.036518	0.140108
Pelvic fin length	0.195257	-0.055775	0.146366
Dorsal-fin spine length	0.216646	0.075786	0.154311
Pectoral-fin spine length	0.247000	-0.078143	0.166862
Posterior cleithral process length	0.305656	-0.145145	-0.341022
Predorsal length	0.195277	0.033412	0.086692
Prepelvic length	0.205904	0.019946	0.119410
Preanal length	0.233464	0.567386	-0.192885
Caudal peduncle depth	0.204813	0.211335	0.151192
Caudal peduncle length	0.167568	0.123586	0.033589
Body width	0.208917	0.056911	0.312646
Dorsal-fin base length	0.278154	-0.222623	0.092792
Adipose-fin base length	0.294856	0.254592	-0.636464
Anal-fin base length	0.246763	-0.260195	-0.408984
Eigenvalue	0.319	-0.012	-0.009
Percentage of total variance	90,52	3,36	2,42

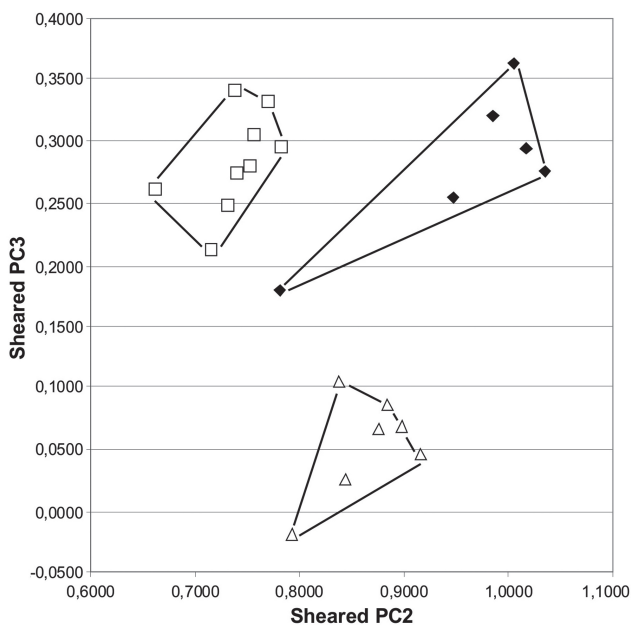


Fig. 4. Scatter diagram of Sheared Principal Components analysis of combined samples of *Microglanis leniceae* (diamond, n = 6), *M. carlae* (squares, n = 9), and *M. cottoides* (triangle, n = 7).

Conservation status. Few specimens of *M. leniceae* were obtained from collections, even if fish surveys in the region are made with frequency, leading to assume that the species is rare. However, the geographic distribution of *M. leniceae* at Pantanal region must be wide, as noticed from the dispersed localities of studied material in a broad geographic region with up to 115,000 km². In light of extent of occurrence superior to 20,000 km², without fragmentation, and lack of evidence indicating population decline or fluctuations, the current status of *M. leniceae* should be “Least Concern” or LC, according to IUCN Standards and Petitions Subcommittee (2016).

Discussion

Identification of *Microglanis cottoides* made by Britski *et al.* (2007) for the Pantanal, was based on material not catalogued, and using the original description published by Boulenger (1891). Polaz *et al.* (2014) mentioned the species to the National Park of Pantanal Matogrossense, based on specimens deposited in the collection of Embrapa-Pantanal. However, according to its curator Agostinho Catella (pers. comm.), the specimens are not deposited in that collection. Thus, the occurrence of *M. cottoides* in the Pantanal region cannot be confirmed, and may be a misidentification. Therefore, only *M. leniceae* is currently confirmed to occur in the Pantanal, and it is possible that this is the species anteriorly identified as *M. cottoides*. However, only the specimens examined by Britski *et al.* (2007) is recovered, or more effort to collect specimens of *Microglanis* throughout the Pantanal, allow us to test this hypothesis.

Among the diagnostic characters of *M. leniceae*, the caudal fin deeply forked with pointed lobes is uncommon among *Microglanis*, and is shared only with *M. lundbergi* from Amazon basin. This caudal shape easily distinguishes *M. leniceae* from *M. cottoides*, which caudal fin is emarginated with rounded lobes, the most common feature in *Microglanis*. However, a paratype of *M. leniceae* (ZUFMS-PIS 4143) presented a caudal fin with almost straight posterior margin, which should be an anomaly and not a characteristic of the species.

In *Microglanis*, the hooks on the anterior margin of the pectoral-fin spine can be antrorses, retrorses and sometimes bifurcated. The latter condition is usually present in adults of some species, as seen in *M. poecilus* Eigenmann, 1912, *M. iheringi* Gomes, 1946 (Mees, 1974), *M. pellopterygius* Mees, 1978 (Mees, 1978), *M. robustus* Ruiz & Shibatta, 2010 (Ruiz & Shibatta, 2010), *M. xylographicus* Ruiz & Shibatta, 2011, *M. oliveirai* Ruiz & Shibatta, 2011 (Ruiz & Shibatta, 2011), *M. lundbergi* (Jarduli & Shibatta, 2013), and *M. leniceae*. As noted in juvenile of *M. maculatus* Shibatta, 2014 (Shibatta, 2014), the hooks of the anterior margin of the pectoral fin spine are retrorse in the beginning with addition of antrorses hooks throughout the development. In *M. leniceae* the development is similar, but among antrorses and retrorses

hooks, there is a bifurcated hook, which is formed after the development of 8 to 9 proximal retrorse hooks. To date, these bifurcated saws were observed in some species of *Microglanis* from Amazonia and northern South America, and it is the first record more southern.

The incomplete lateral line is shared by all species of *Microglanis*, usually with the canal not surpassing the vertical through end of dorsal fin. The shortest lateral line in *Microglanis* can be observed in *M. oliveirai*, in which the canal not reaches the vertical through the first branched ray of dorsal fin (Ruiz & Shibatta, 2011). The longest lateral line in the genus occurs in *M. iheringi*, in which the canal reaches the vertical through beginning of adipose fin (Mees, 1974). However, in *M. leniceae*, as in *M. maculatus*, the lateral line is intermediary, surpassing the vertical through end of dorsal-fin base, but not reaching the vertical through insertion of adipose fin-base.

The color pattern in *Microglanis* also provides a set of characters, which if used together with other morphological variables, may be useful in the diagnosis of species. For example, the dorsal and lateral surface of head in *Microglanis* is dark brown with light marks on the regions between the nostrils and the eye, on the adductor muscle of mandible, and on operculum. In *M. leniceae* the color pattern of these regions of head is almost homogeneously dark brown, with only a narrow clear stripe between anterior nostril and eye. This color pattern is completely different from *M. lundbergi*, other species with deeply forked caudal fin and pointed lobes, which has a large clear spot between anterior nostril and eye. These two species also differ by the light stripe on the nape, which is almost straight in *M. leniceae* and two juxtaposed oval spots on *M. lundbergi*.

Comparative material. *Microglanis carlae*: Paraguay. MHNHP 3667, 34.1 mm SL, holotype of *Microglanis carlae* Alcaraz, Graça & Shibatta, 2008, rio Salado, rio Paraguay basin, 26°39'S 58°05'W; MZUSP 98255, 5, 23.4-29.1 mm SL, paratypes of *Microglanis carlae* Alcaraz, Graça & Shibatta, 2008. *Microglanis cibela*: Brazil. Rio Grande do Sul. MCP 19822, paratypes, 3, 34.9-48.7 mm SL, arroio do Ouro, tributary of rio Maquiné, 29°34'00"S 50°16'00"W; MCP 21190, 9, 24.6-42.4 mm SL, Osório, rio Tramandaí basin, 29°57'57"S 50°13'45"W. *Microglanis cottoides*: Brazil. Rio Grande do Sul. MCN 3977, 1, 41.57 mm SL, rio Jacuí, Laguna dos Patos basin. MCP 22733, 1, 40.54 mm SL, Arroio do Tigre, Laguna dos Patos basin, 29°29'25"S 53°28'45"W; MCP 23004, 2, 31.8-38.8 mm SL, arroio Bom Jardim, Laguna dos Patos basin, 29°50'19"S 51°23'25"W; MCP 23079, 2, 22.61-25.59 mm SL, rio São Sepe, Laguna dos Patos basin, 30°11'8"S 53°33'35"W; MCP 33560, 1, 54.54 mm SL, rio Taquari, Laguna dos Patos basin, 29°10'10"S 51°53'06"W; *Microglanis eurystoma*: Brazil. Santa Catarina. MCP 13405, holotype, 77.6 mm SL, rio Uruguai, 27°18'00"S 52°20'00"W. Brazil. Rio Grande do Sul; MCP 12698, 10 paratypes, 26.3-41.1 mm SL, arroio do Passo Alto, rio Uruguai

basin, 28°11'00"S 55°16'00"W. *Microglanis garavello*: Brazil. Paraná, MZUSP 88006, holotype, 31.7 mm SL, ribeirão Taquari, upper rio Paraná basin; MZUSP 1732, paratypes, 2, 23.7-30.8 mm SL, ribeirão Taquari, 23°12'24"S 50°56'50"W; MCP 1678, 4 paratypes (3c&s), 24.6-27.9 mm SL, ribeirão Taquari. *Microglanis iheringi*: Venezuela. Aragua. USNM 121985, 1 paratype, 31.3 mm SL, Rio Turmero, Portuguesa. CAS 64403, 3, 27.4-41.0 mm SL, Rio Orinoco. *Microglanis leptostriatus*: Brazil. Minas Gerais. MZUSP 47456, 2 paratypes, 28.4-28.7 mm SL, rio Verde, rio São Francisco basin; MZUEL 3733, 6 paratypes, 19.3-27.4 mm SL, rio Cruz, rio São Francisco basin. *Microglanis maculatus*: Brazil. Goiás. INPA 41133, holotype, 36.5 mm SL, município de Barro Alto, upper rio Tocantins basin, ribeirão Pouso Alegre, tributary of rio dos Patos, 15°01'26"S 48°49'51"W; INPA 24044, paratypes, 2, 21.4-25.8 mm SL, município de Barro Alto, Igarapé Veredas, rio dos Patos basin; MZUEL 5925, paratype, 1, 20.5 mm SL, same data as holotype. *Microglanis malabarbai*: Brazil. Rio Grande do Sul. MCP 37252, 1, 47.7 mm SL, arroio Alexandrino, rio Ijuí basin, 28°10'25"S 54°48'05"W; MCP 37187, 1, 50.1 mm SL, arroio das Pedras, rio Ijuí basin, 28°12'07"S 54°04'30"W. *Microglanis nigripinnis*: Brazil. Rio de Janeiro. MZUSP 80223, 1, 47.2 mm SL, tributary of rio São João, Eastern basin; MZUSP 80229, 2, 38.3-43.5 mm SL, tributary of rio São João. *Microglanis parahybae*: Brazil. Rio de Janeiro. MNRJ 15989, 5, 30.3-34.2 mm SL, rio Dois Rios, rio Paraíba do Sul basin; MNRJ 16047, 5, 28.6-38.9 mm SL, rio Muriaé, rio Paraíba do Sul basin. *Microglanis pataxo*: Brazil. Bahia. MZUSP 54516, 10, 24.9-31.4 mm SL, rio Mucuri, East coast basin. *Microglanis pellopterygius*: Ecuador. Napo. ANSP 130437, holotype, 68.1 mm SL, Río Aguatico, 00° 06'N 76° 51'W; MEPN 88.4-12, 2, 22.4-23.1 mm SL, tributary of the Río Aguatico. *Microglanis poecilus*: Guiana. Kurupukari. ROM 60738, 1, 22.5 mm SL, unknown stream of Essequibo River, 4°46'20"S 58°45'W; ROM 62390, 1, 17.1 mm SL, Shimiri Stream, Yawiri, Essequibo River basin, 4°42'13"S 58°42'43"W; ROM 62391, 1, 17.1 mm SL, Essequibo River, 4°48'22"S 58°46'14"W. Brazil. Amazonas. INPA 28575, 3, 18.6-20.6 mm SL, rio Aripuanã, rio Madeira basin. Brazil. Roraima. INPA 28576, 3, 19.8-20.4 mm SL, igarapé Ano Bom, rio Branco basin; INPA 8052, 3, 24.8-26.2 mm SL, igarapé Maracá, rio Branco basin, Pará. INPA 6828, 3, 19.2-25.8 mm SL, rio Jamanxin, rio Tapajós basin, 5°27'11"S 55°52'40"W. *Microglanis robustus*: Brazil. Pará. INPA 8053, holotype, 20.3 mm SL, lower rio Tocantins, rio Tocantins-Araguaia basin; INPA 32885, 11 paratypes (2 c&s), 18.4-23.3 mm SL, same data as holotype; INPA 7943, 2 paratypes, 20.0-22.2 mm SL; INPA 7957, 3 paratypes, 19.2-21.7 mm SL, Jatobal, lower rio Tocantins. *Microglanis secundus*: Suriname. Brokopondo. MHNG 2621.038, 6, 18.9-27.1 mm SL, rio Mindrineti. Brazil. Pará. INPA 5730, 7, 18.5-31.1 mm SL, rio Trombetas, rio Amazonas basin; INPA 7950, 3 (2 c&s), 24.4-28.1 mm SL, rio Trombetas, rio Amazonas basin. *Microglanis variegatus*: Ecuador. Vices. USNM 083653, 1 paratype, 29.1 mm SL, pools in forests near Vices. Los rios. MHNG 298.033, 2, 25.2-27.7 mm SL, Río Palenque; MHNG 1232.11, 2, 23.6-26.2 mm SL, Hazienda Clementina.

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