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Microglanis carlae, a new species of bumblebee catfish (Siluriformes: Pseudopimelodidae) from the río Paraguay basin in Paraguay

Héctor S. Vera Alcaraz[1], Weferson J. da Graça[1] and Oscar A. Shibatta[2]

Microglanis carlae, new species, is described from the río Paraguay basin and distinguished from its congeners by the following combination of characters: paired and anal fins mottled or with thin faint bands, trunk with dark-brown saddles, anterior margin of pectoral spine with serrations retrorse proximally and antrorse distally, tip of pectoral spine as a distinct bony point, continuous portion of lateral line reaching vertical through last dorsal-fin ray, caudal peduncle with irregularly shaped, faint to dark blotch, maxillary barbel surpassing vertical through dorsal-spine origin, and dark bar on posterior flank continuous from base of adipose fin to that of anal fin. The new species is included in the *Microglanis parahybae* species complex on the basis of color pattern.

Microglanis carlae, espécie nova, é descrita da bacia do rio Paraguai e distinguida de todas as congêneres pela seguinte combinação de caracteres: nadadeira anal e nadadeiras pares pigmentadas ou com faixas estreitas, corpo com manchas ou faixas escuras, margem anterior do espinho peitoral com serras retrorsas proximalmente e antrorsas distalmente, espinho peitoral terminando numa ponta, parte contínua da linha lateral atingindo a vertical que passa pelo último raio da nadadeira dorsal, pedúnculo caudal com uma mancha tênue a escura de forma irregular, barbilhão maxilar ultrapassando a vertical que passa pela origem do espinho da nadadeira dorsal, e uma barra escura contínua da base da nadadeira adiposa até a anal. A nova espécie é incluída no complexo de espécies *Microglanis parahybae* com base no padrão de colorido.

Key words: *Microglanis parahybae* species complex, río de La Plata basin.

Introduction

The genus *Microglanis* was proposed by Eigenmann (1912) and currently contains 16 valid species (Shibatta 2003a; Shibatta, 2007). This genus comprises catfishes that never grow larger than 110 mm SL, and occur from trans-Andean drainages in Peru and Ecuador eastward to the Orinoco and Amazon basins, Guyana and southward to the río de la Plata basin, Argentina (Shibatta, 2003a; Shibatta & Benine, 2005). Shibatta (2003b) characterized *Microglanis* by its wide mouth (gape width same as head width), short maxillary barbel (occasionally reaching pectoral-fin origin), small eye without free orbital margin, absence of axillary pore near posterior insertion of pectoral fin, a dark saddle straddling supraoccipital area to the end of dorsal-fin base, premaxillary dental plate with rounded lateral margin, and thin mesocoracoid arch.

During inventory field studies conducted by staff of the CZCEN in the arroyo Yacaré (left bank tributary of río Tebicuary, río Paraguay basin), Paraguay, an additional undescribed species of *Microglanis* was collected, and is described herein. This is the first species of *Microglanis* to be described from the río Paraguay basin.

Material and Methods

Measurements were taken point-to-point under a stereomicroscope with a digital caliper to the nearest 0.1 mm on the left side of the specimen following Malabarba & Mahler (1998), Bertaco & Cardoso (2005), and Mori & Shibatta (2006). Measurements are expressed as percents of standard length (SL), except subunits of the head, which are recorded as percents of head length (HL).

In the description, each count is followed by its frequency in parentheses, and counts for the holotype are indicated by an asterisk. Counts of vertebrae, pleural ribs, branchiostegal rays, anal fin proximal and distal radials, and procurrent cau-

[1]Programa de Pós-Graduação em Ecologia de Ambientes Aquáticos Continentais, Universidade Estadual de Maringá, Núcleo de Pesquisas em Limnologia, Ictiologia e Aqüicultura, Av. Colombo 5790, 87020-900 Maringá, PR, Brazil. alcarazhsv@hotmail.com, wefersonwjg@yahoo.com.br
[2]Museu de Zoologia, Departamento de Biologia Animal e Vegetal, Centro de Ciências Biológicas, Universidade Estadual de Londrina, 86051-990 Londrina, PR, Brazil. shibatta@uel.br

dal-fin rays were based on three cleared and stained (c&s) specimens prepared according to Taylor & Van Dyke (1985). Vertebral counts include all rib-bearing centra but do not include any elements of the anterior, complex centrum (without ribs); the compound caudal centrum (pleural 1 + ural 1) is counted as one. The names "rio Paraguai and rio Uruguai" are used for these rivers when they occur in Brazilian territory (Portuguese language), and "río Paraguay and río Uruguay" for when they occur in other South American countries (Spanish language).

Institutional abbreviations follow Leviton *et al*. (1985), with additions of CZCEN (Colección Zoológica de la Facultad de Ciencias Exactas y Naturales, Universidad Nacional de Asunción), MNHNP (Museo Nacional de Historia Natural del Paraguay), MZUEL (Museu de Zoologia da Universidade Estadual de Londrina), and NUP (Coleção Ictiológica do Núcleo de Pesquisas em Limnologia, Ictiologia e Aqüicultura, Universidade Estadual de Maringá).

Microglanis garavelloi (recently described from upper rio Paraná basin) and *M. parahybae* (rio Paraíba do Sul basin) were compared to the new species using Size-Free Canonical Variate Analysis (SFCVA) in order to test hypothesized differences among the species and to identify diagnostic characters. The program PAST (Hammer *et al.*, 2001) was used to calculate the SFCVA; option MANOVA/CVA used with normalized size and log transformed characters to produce a scatter plot of specimens along the first two canonical axes, producing maximal and second to maximal separation between all groups (multigroup discriminant analysis).

Microglanis carlae, new species

Figs. 1-2

Holotype. MNHNP 3667, 32.5 mm SL, Paraguay, Ñeembucú, Mburika, arroyo Yacaré, left bank tributary of río Tebicuary, río Paraguay basin, 26°39'S 58°05'W, 30 Sep 2006, J. J. Resquín Centurión & M. del C. Paradeda.

Paratypes. All from **Paraguay**, río Paraguay basin. CZCEN 312, 4 + 1 c&s, 25.2-33.6 mm SL, Cordillera, Nueva Colombia, río Salado, left bank tributary of río Paraguay, 25º09'S 57º22'W, Sep 1991, C. Dlouhy. CZCEN 313, 6 + 1 c&s, 25.3-33.7 mm SL, Central, Limpio, río Salado, left bank tributary of río Paraguay, 25º06'S 57º28'W, 1994, C. Dlouhy. MNHNP 3668, 5, 15.5-29.1 mm SL, same locality data as holotype, 17 Nov 2006, H. S. Vera Alcaraz *et al*. MZUEL 5021, 5, 24.3-30.0 mm SL; MZUSP 98255, 5, 25.0-28.6 mm SL; NUP 5361, 4, 23.9-28.9 mm SL; NUP 5362, 1 c&s, 24.8 mm SL, same data as holotype.

Diagnosis. The following combination of characters distinguishes *Microglanis carlae* from its congeners: paired and anal fins mottled or with thin faint bands, trunk with dark-brown saddles, anterior margin of pectoral spine with serrations retrorse proximally and antrorse distally, tip of pectoral spine as a distinct bony point, continuous portion of lateral line reaching vertical through last dorsal-fin ray, caudal peduncle with irregularly shaped, faint to dark blotch, maxillary barbel surpassing vertical through dorsal-spine origin, and dark bar on posterior flank continuous from base of adipose fin to that of anal fin.

Microglanis carlae is further or specifically distinguished from *M. ater*, *M. nigripinnis*, and *M. pellopterygius* by having paired and anal fins mottled or with thin faint bands (*vs.* wide dark bands); from *M. variegatus* by having the trunk with dark-brown saddles (*vs.* mottled); from *M. zonatus* by having anterior margin of pectoral spine with serrations retrorse proximally and antrorse distally (*vs.* all retrorse except ultimate serration on one pectoral spine in holotype according to description and illustrations in Eigenmann & Allen, 1942: 89, pl. 3, figs. 1-2); from *M. secundus* by having the tip of pectoral spine as a distinct bony point (*vs.* tip of pectoral spine soft, not as distinct bony point, but implanted between two serrations, one straight, pointing outwards from anterior margin and the other curved, pointing backwards from posterior margin); from *M. iheringi* by having continuous portion of lateral line reaching vertical through last dorsal-fin ray (*vs.* reaching vertical through adipose-fin origin); from *M. poecilus* by having a caudal peduncle with irregularly shaped, faint to dark blotch (*vs.* triangular); from *M. cibelae, M. cottoides, M. eurystoma,* and *M. malabarbai* by the wider head, 91.6-108.1% of HL (*vs.* 60.2-70.1% in *M. cibelae*, 60.0-72.1% in *M. cottoides,* 50.9-71.8% in *M. eurystoma,* and 61.1-72.4% in *M. malabarbai*), maxillary barbel surpassing vertical through dorsal-spine origin (*vs.* not reaching vertical through dorsal-spine origin), and the dorsal lobe of caudal fin slightly longer than ventral lobe (*vs.* lobes equal in size); from *M. parahybae* by having 7 pleural ribs (*vs.* 6), and a dark bar on posterior flank continuous from base of adipose fin to that of anal fin (*vs*. not reaching blotch on base of anal fin); from *M. garavelloi* and *M. leptostriatus* by having a shallower caudal peduncle, depth 8.4-10.3% of SL (*vs.* 10.8-16.8% in *M. garavelloi* and 11.3-14.4% in *M. leptostriatus*), dark bar on posterior flank continuous from base of adipose fin to that of anal fin (*vs.* not reaching blotch on base of anal fin), and by having caudal fin weakly forked (*vs.* emarginate). In addition, *M. carlae* differs from *M. leptostriatus* by the absence (*vs.* presence) of dark stripe along the axis of each gill filament, and differs from *M. pataxo* by having a wider head, 91.6-108.1% of HL (*vs.* 58.2-64.7% in *M. pataxo*), maxillary barbel surpassing vertical through dorsal-spine origin (*vs.* reaching pectoral-spine origin), and dark bar on posterior flank continuous from base of adipose fin to anal fin (*vs.* not reaching blotch on base of anal fin).

Description. Morphometric data summarized in Table 1. Head and anterior portion of body depressed, becoming laterally compressed from pectoral girdle towards caudal region. Greatest body depth at dorsal-fin origin (14.1-21.0% of SL), greatest body width at pectoral-fin base (25.1-30.6% of SL). Dorsal profile of head and anterior body straight or gently convex, ventral profile gently convex. Head approximately as wide as long (width 91.6-108.1% of HL), anterior margin broadly

Fig. 1. *Microglanis carlae*, holotype, MNHNP 3667, 32.5 mm SL, arroyo Yacaré, left bank tributary of río Tebicuary, río Paraguay basin, Paraguay.

rounded in dorsal view. Eye small (orbital diameter 10.4-15.2% of HL), superior; orbital rim not free, covered by skin. Snout short (34.5-46.1% of HL), anterior nostril tubular, close to upper lip; posterior nostril with raised flap, close to eye. Mouth wide (55.5-72.3% of HL) and terminal.

Premaxillary tooth patch rounded laterally, without posteriorly projecting angle; teeth small and villiform. Dentary tooth patch semicircular, longer than premaxillary tooth patch. Barbels thin, flattened in cross section. One maxillary and two mental pairs of barbels. Maxillary barbel longest, surpassing vertical through dorsal-spine origin. Origins of mental barbels arranged in arc near anterior margin of lower jaw. Inner mental barbel one-half length of outer mental barbel. Outer mental barbel extending to pectoral-fin base. Lateral line incomplete, reaching vertical through posterior base of dorsal fin, with 5(2), 6(5), 7(2), 8(1), 9(5), 10(9), 11*(1), 12(1) pores. Lateral line followed by isolated neuromasts as far posteriorly as vertical through middle of adipose-fin base. Preopercular-mandibular branch of cephalic sensory canal system with 10 pores; four anteriormost pores associated with lower lip. Infraorbital and supraorbital branches of cephalic canal system bearing 4 and 5 pores, respectively. Branchiostegal membranes free from isthmus; branchiostegal rays 8(2), 9(1). Gill rakers filiform; 2,1,6(14), 2,1,7*(10), 2,1,8(1) on first arch.

Dorsal fin with one spinelet and I,6(27), margin rounded, entire base anterior to middle of standard length. Dorsal spine short, shorter than tallest dorsal-fin rays, with smooth anterior and posterior margins. Adipose fin elongated anteriorly and with free rounded margin posteriorly. Caudal fin weakly forked, dorsal lobe slightly more developed than ventral lobe; principal caudal-fin rays 11(2), 12*(25); dorsal procurrent rays 14(1); ventral procurrent rays 9(1). Pectoral fin I,5(27), triangular, adpressed tip not reaching base of pelvic fin. Anterior margin of pectoral spine with 7-9 retrorse serrations proximally followed by 2-10 antrorse serrations distally. Posterior margin of pectoral spine with 8(3), 9(11), or 10(10) strong retrorse serrations along entire length, larger than those along anterior margin (Fig. 2). Posterior cleithral process slender and pointed posteriorly. Pelvic fin rounded with i,5(27) rays, adpressed tip not reaching anal-fin origin. Origin of pelvic fin vertically aligned with insertion of last dorsal-fin ray. Anal fin iii,6(2), iii,7*(21), iii,8(4), short and rounded, its base shorter than that of adipose fin and not confluent posteriorly with caudal fin; proximal radials 10(1), 11(2); distal radials 10(1), 11(1).

Fig. 2. Left pectoral spine of *Microglanis carlae* (CZCEN 313, río Paraguay, Limpio, Central). Scale bar = 1 mm.

Table 1. Morphometric data for *Microglanis carlae*, n = 27. Minimum and maximum includes data for holotype and paratypes. SD: standard deviation.

Characters	Holotype	Minimum-maximum	Mean	SD
Standard length (mm)	32.5	24.0-33.7		
	Percents of standard length			
Head length	30.0	25.4-31.3	28.5	1.5
Head width	31.3	24.1-31.3	28.3	1.5
Maxillary-barbel length	34.9	31.5-39.8	35.3	2.1
Humeral-process length	13.2	13.0-16.3	14.5	0.9
Body depth at dorsal fin	21.0	14.1-21.0	17.7	1.4
Body depth at anal fin	16.8	12.9-17.4	15.8	0.9
Body width	30.6	25.1-30.6	27.7	1.6
Dorsal-fin spine length	13.2	12.1-19.1	14.9	1.8
Pectoral-fin spine length	21.9	16.4-23.5	20.1	1.6
Pelvic-fin length	19.5	18.0-22.0	19.7	1.0
Dorsal-fin base length	14.1	11.1-14.5	13.1	0.9
Adipose-fin base length	16.0	13.7-24.8	18.6	2.9
Anal-fin base length	15.1	11.7-16.8	13.8	1.2
Predorsal length	40.1	35.1-40.6	38.4	1.6
Prepelvic length	52.8	47.5-53.2	50.4	1.7
Preanal length	70.3	66.9-74.1	70.0	1.9
Caudal-peduncle length	14.7	13.7-18.4	15.8	1.2
Caudal-peduncle depth	9.4	8.4-10.3	9.4	0.6
	Percents of head length			
Orbital diameter	11.8	10.4-15.2	12.9	1.3
Interorbital width	47.1	42.5-53.8	47.1	2.6
Snout length	40.9	34.5-46.1	40.2	2.7
Internareal distance	16.5	14.6-20.1	16.9	1.4
Head width	104.3	91.6-108.1	99.7	4.8
Head depth	52.9	47.0-57.9	52.4	3.1
Mouth width	60.5	55.5-72.3	63.6	3.8
Maxillary-barbel length	116.3	100.9-149.7	124.7	11.0

Post-Weberian vertebrae 28(2) or 30(1). Weberian complex with centra 1-5 fused, and ventrally open channel for aortic passage; transverse process 4 with anterior and posterior pointed processes; transverse process 5 pointed and shorter than preceding. Pleural ribs 7(3), becoming progressively smaller antero-posteriorly.

Color in alcohol. Head dark brown in dorsal view with two small yellowish blotches near posterior nares and small yellowish tan oblique blotch on posterior cheek extending ventroposteriorly from below eye. Large continuous transverse yellowish tan bar across occipital region between opercular openings. Barbels pale with brown spots. Body with dark brown saddles separated by yellowish tan interspaces. Anteriormost saddle in nuchal region (anterior to dorsal-spine origin), second below dorsal-fin base; first two saddles broadly confluent middorsally except for yellowish tan oval spot at origin of dorsal-fin spine, and confluent ventrally just above horizontal through pectoral-spine origin. Third dark brown saddle extending longitudinally from interdorsal region to middle of adipose-fin base, interrupted middorsally by tan oval patch over anterior base of adipose fin; saddle continuing ventrally as bar on posterior flank and usually reaching dark blotch on base of anal fin (bar faded below midlateral in five specimens). Broad, irregularly shaped dark brown blotch on caudal peduncle largely enclosing two small yellowish tan elliptical spots: middorsal spot located between vertical through posterior tip of adipose fin and base of caudal fin; midventral spot extends between posterior base of anal fin and base of caudal fin. Ventral surfaces of body and head pale yellow with very small tan to light brown spots and blotches.

All fins hyaline with brown spots or bands. Dorsal fin with dark brown base and broad dark brown submarginal band across fin spine, rays and membranes. Adipose fin with narrow dark brown blotch at center along base flanked anteriorly and posteriorly by yellowish tan blotches; distal margin pale. Pectoral fin with dark brown mottling on spine and middle portions of rays and membranes. Pelvic fin lightly speckled with small dark spots. Anal fin with dark blotch on bases of rays 3-7, and dark brown crescentic band on middle portions of rays and membranes. Caudal fin with dark brown (sometimes inconspicuous) vertical band continuous across middle portions of dorsal and ventral lobes.

Distribution. Known from the arroyo Yacaré, left bank tributary of río Tebicuary, and río Salado, left bank tributary of río Paraguay, río Paraguay basin, Paraguay (Fig. 3).

Etymology. The specific name is in honor of Carla Simone Pavanelli (Universidade Estadual de Maringá, Núcleo de Pesquisas em Limnologia, Ictiologia e Aqüicultura) for her contributions to Neotropical Ichthyology.

Ecological notes. The stomach contents of two specimens included algae and insect larvae. Analysis of the reproductive condition in six specimens indicated adult males to be about 23 mm SL and females to be about 25 mm SL. One specimen was infected in the ventral region of the head by a parasite, the metacercaria stage of Digenea (Trematoda). Species found in moderately flowing sections of streams with dark brown water and bottoms of sand and mud; specimens collected with a dip net under floating vegetation at a depth

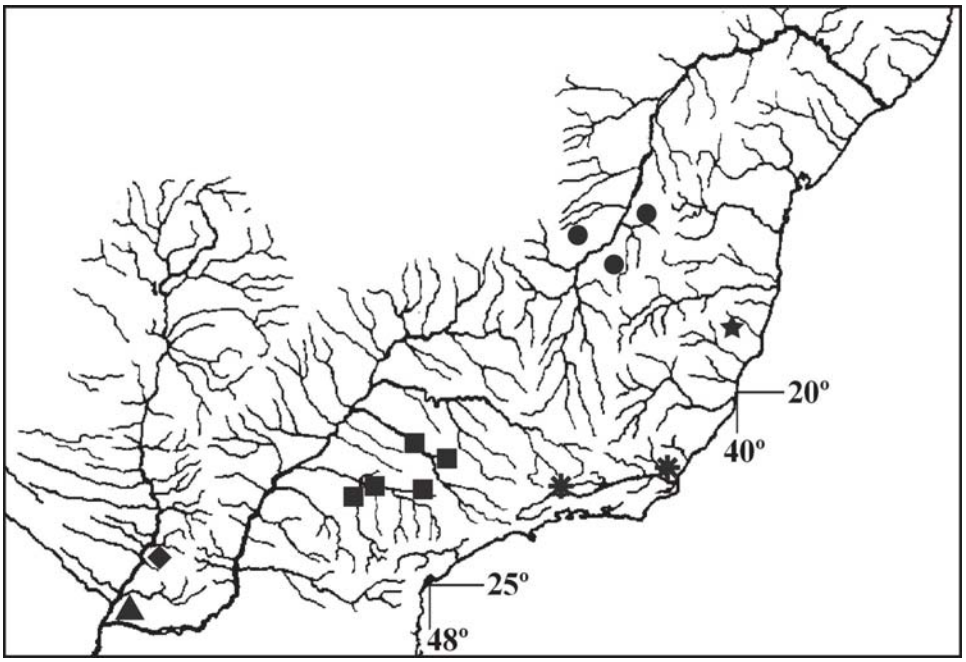

Fig. 3. Partial map of South America showing the distribution of the *Microglanis parahybae* species complex. *Microglanis carlae* (diamond = type locality and triangle), *M. garavelloi* (square), *M. parahybae* (asterisk), *M. pataxo* (star) and *M. leptostriatus* (circle). A symbol may refer to more than one specimen lot.

of 1.5 to 2 m. The arroyo Yacaré (Fig. 4, type locality) is a deep stream of dark brown water with patches of floating vegetation of *Eichhornia* sp. along the margins; riparian vegetation mainly grass for pasture with small patches of original shrubs, lianas and palm trees of *Copernicia alba*.

Discussion

Size-Free Canonical Variate Analysis (SFCVA) of measurements (Fig. 5) discriminate between specimens of *M. carlae* and two species that are geographically nearby and considered to be morphologically similar: *M. garavelloi* (from the upper rio Paraná basin) and *M. parahybae* (from the rio Paraíba do Sul basin). The first and second canonical axes account for 58.7% and 41.3%, respectively, of the variation in the original data. The characters that discriminate the new species from *M. garavelloi* are a longer pelvic-fin to anal-fin distance and greater orbital diameter (Table 2; most negative values in first canonical axis) and a shallower caudal-peduncle, shorter pelvic-fin, and shallower depths for body at dorsal fin, body at beginning of adipose fin and head (most positive values in the first canonical axis). *Microglanis carlae* is discriminated from *M. parahybae* by having a greater interorbital width, and a longer pelvic fin and longer maxillary barbel (most positive values in second canonical axis) and a shorter adipose-fin base and shorter dorsal spine (most negative values in second canonical axis).

The río de La Plata system (Paraguay, upper Paraná and Uruguay river basins) has the highest diversity of *Microglanis* with a total of five species known from the watershed: *Microglanis carlae* (here described from the río Paraguay basin), *M. garavelloi* (upper rio Paraná basin) and *M. cottoides*, *M. eurystoma*, and *M. malabarbai* (rio Uruguai basin) (Shibatta, 2007).

Britski *et al*. (1999) included *Microglanis cottoides* in their identification manual on fishes from the Pantanal (upper rio Paraguai basin in Brazil); but Malabarba & Mahler (1998) and Shibatta (2003a; 2007) reported that the distribution of this species was restricted to the laguna dos Patos and Uruguai basins. A *Microglanis* specimen from the rio Cuiabá, upper rio Paraguai basin (NUP 3533), does not correspond to nearby *M. carlae* or *M. cottoides*, and is possibly another new species.

Mori & Shibatta (2006) suggested the *Microglanis parahybae* species complex for species with the following combination of characters: body light brown with first and second dark brown saddles not extending ventrally below

Table 2. First two size-free Canonical Variate axes (CV 1 and CV 2) from the analysis of combined samples of *Microglanis carlae*, *M. garavelloi* and *M. parahybae* (Total = 88 specimens).

	CV 1 (58.7%)	CV 2 (41.3%)
Standard length	0.1521	-0.1287
Orbital diameter	-0.2128	-0.0747
Interorbital width	0.0096	0.5059
Head depth	0.2194	0.1418
Snout length	-0.0198	-0.0207
Mouth width	0.0885	-0.0011
Head length	0.0405	0.2024
Predorsal length	0.1965	0.1259
Dorsal-fin base length	-0.0879	0.1318
Prepelvic length	0.0079	0.1118
Pelvic-fin to anal-fin distance	-0.2327	-0.0164
Body depth at dorsal fin	0.3023	-0.1373
Caudal-peduncle depth	0.5961	0.0902
Body width	-0.0657	0.0852
Maxillary-barbel length	-0.1677	0.3067
Pelvic-fin length	0.3813	0.4427
Anal-fn base length	0.0406	-0.1557
Pectoral-spine length	0.1443	-0.1338
Dorsal-spine length	0.1876	-0.2940
Body depth at beginning of adipose fin	0.2528	-0.1683
Adipose-fin base length	0.1628	-0.3647

Fig. 4. Arroyo Yacaré, Mburika, Ñeembucú, Paraguay, type locality of *Microglanis carlae*.

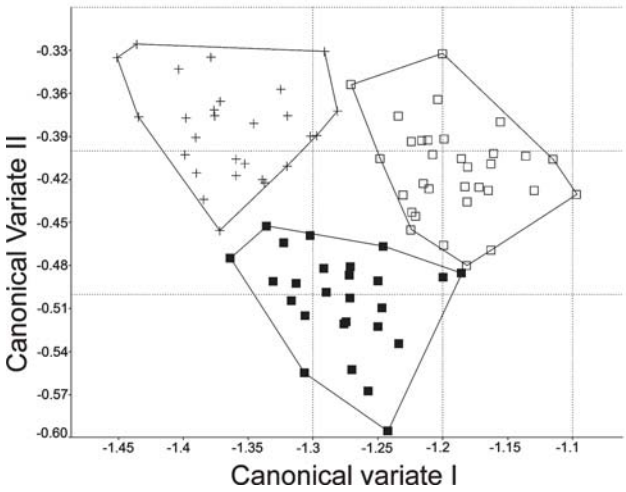

Fig. 5. Scatter diagram of scores of specimens on first and second axes of Size-Free Canonical Variate Analysis of *Microglanis carlae* (cross, n = 30), *M. garavelloi* (open square, n = 32), and *M. parahybae* (dark square, n = 26).

horizontal through pectoral-fin origin; light oval spot located below dorsal-fin spine; third dark brown saddle, not reaching dark blotch on base of anal fin; and caudal fin with dorsal lobe slightly longer than ventral lobe. *Microglanis carlae* is added to this species complex because it shares three of the four characters. *Microglanis carlae* differs by having the third dark brown saddle usually continuing ventrally as a bar on posterior flank and reaching dark blotch on base of anal fin (bar faded below midlateral in five specimens). The *M. parahybae* species complex includes two species in rivers along the Brazilian coast, *M. pataxo* (State of Bahia) and *M. parahybae* (State of Rio de Janeiro), two species in the interior of Brazil, *M. leptostriatus* (rio São Francisco) and *M. garavelloi* (upper rio Paraná), and now one species in the interior South American plateau: *M. carlae* (río Paraguay in Paraguay). The distribution of this species complex is extended to the upper portions of the rio Paraguai basin by the aforementioned specimen of *Microglanis* sp. (NUP 3533). Although species of this complex share similar color patterns, only a phylogenetic analysis can determine whether these species are closely related.

Comparative material examined (SL in mm). *Microglanis ater*. '**Mittelbrazil**': ZMB 20932 (1, 66.0), Holotype. *Microglanis cibelae*. **Brazil:** Rio Grande do Sul: MCP 20724 (5, 37.1-48.1), arroio Água Parada (rio Tramandaí basin); MCP 26962 (5, 38.6-58.5), tributary of arroio Pinheiro (rio Tramandaí basin). Santa Catarina: MCP 14686 (5, 37.1-67.9), rio Canoas (rio Mampituba basin). *Microglanis cottoides*. **Brazil**: Rio Grande do Sul: MCP 22733 (1, 40.8), arroio do Tigre (laguna dos Patos basin); MCP 23004 (2, 32.3-38.7), arroio Bom Jardim (laguna dos Patos basin); MCP 23079 (2, 22.5-25.8), rio São Sepé (laguna dos Patos basin); MCP 23786 (6, 23.2-27.6), arroio do Tigre (laguna dos Patos basin); MCP 23787 (1, 24.8), arroio Teixeira (laguna dos Patos basin); MCP 23788 (2, 24.6-45.7), rio Buricá (laguna dos Patos basin); MCP 33560 (1, 55.5), rio Taquari (rio Jacuí basin). *Microglanis eurystoma*. **Brazil**: Rio Grande do Sul: MCP 12698 (12 of 13, 26.7-40.8), Paratypes, arroio do Passo Alto (rio Uruguay basin). *Microglanis garavelloi*. **Brazil**: Paraná: MZUSP 88006 (1, 31.7), Holotype, ribeirão Taquari (upper rio Paraná basin). *Microglanis iheringi*. **Venezuela**: Portuguesa: CAS 64403 (9, 23.4-39.5), Caño Maraca (río Orinoco basin); Turmero: USNM 121985 (1 of 2, 30.0), Paratype, río Turmero (Lago de Valencia basin). *Microglanis nigripinnis*. **Brazil**: Rio de Janeiro: MZUSP 80223 (1, 45.2), tributary of rio São João; MZUSP 80229 (2, 39.3-47.0), tributary of rio São João. *Microglanis parahybae*. **Brazil**: Minas Gerais: LBP 1111 (1, 34.1), rio Cachoeira do Pacu (rio Paraíba do Sul basin). Rio de Janeiro: MNRJ 15989 (5, 29.4-34.0), rio Dois Rios (rio Paraíba do Sul basin); MNRJ 16047 (5, 29.4-38.7), rio Muriaé (rio Paraíba do Sul basin). *Microglanis poecilus*. **Guyana**: CAS 63679 (2, 24.1-25.3), Paratypes, Essequibo River basin. *Microglanis secundus*. **Brazil**: Pará: INPA 5730 (7, 17.9-30.4), rio Trombetas (rio Amazonas basin); INPA 7950 (6, 17.1-26.2), rio Trombetas (rio Amazonas basin). *Microglanis variegatus*. **Ecuador**: Vinces: CAS 17971 (1, 45.0), Holotype. CAS 63688 (2, 28.5-36.7), Paratype. *Microglanis zonatus*. **Peru**: CAS 17970 (1, 19.9), Holotype, río Morona (río Marañon basin). *Microglanis* sp. **Brazil**: NUP 3533 (1, 26.9), rio Cuiabá (rio Paraguai basin).

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