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Microlepidogaster discontenta, a new species of hypoptopomatine catfish (Teleostei: Loricariidae) from the rio São Francisco basin, Brazil

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Microlepidogaster discontenta, new species, is described from a creek tributary to the upper rio São Francisco basin, central Brazil, and constitutes the first record of the genus in that basin. It is distinguished from all congeners mainly by the odontodes on the caudal peduncle being conspicuously arranged in longitudinal lines (vs. odontodes on the caudal peduncle not arranged in longitudinal lines); and shorter pectoral-pelvic fins distance. Additionally, the new species differs from all congeners except *M. longicolla* by having a wide naked area on the snout tip (vs. an inconspicuous naked area or a rostral plate). *Microlepidogaster discontenta* is further distinguished from its congeners by a series of proportional measurements of the body and osteological features.

Um novo cascudinho, *Microlepidogaster discontenta*, é descrito de um riacho tributário da bacia do alto rio São Francisco, Brasil central, constituindo-se no primeiro registro desse gênero nesta bacia. A nova espécie é distinguida de todos os seus congêneres principalmente por possuir os odontódeos no pedúnculo caudal conspicuamente arranjados em linhas longitudinais (vs. odontódeos no pedúnculo caudal não arranjados em linhas longitunais); e menor distância entre as nadadeiras peitoral e pélvica. Adicionalmente, a nova espécie difere de todos os seus congêneres, exceto *M. longicolla*, por possuir uma grande área nua na ponta do focinho (vs. uma área nua inconspícua ou uma placa rostral). *Microlepidogaster discontenta* é ainda distinguido de seus congêneres por uma série de medidas proporcionais do corpo e características osteológicas.

Introduction

The number of descriptions of new cascudinho species has increased notably in the last decade (Martins et al., 2013), suggesting that the diversity of Hypoptopomatinae is greater than what is currently known. In addition, the phylogenetic relationships among the genera still remain poorly understood. Some genera such as *Epactionotus* Reis & Schafer, 1998, *Eurycheilichthys* Reis & Schaefer, 1993, *Lampiella* Isbrücker, Seidel, Michels & Werner, 2001, *Gymnotocinclus* Carvalho, Lehmann & Reis, 2008, *Pseudotothyris* Britski & Garavello, 1984, *Otothyris* Myers, 1927, *Oxyropsis* Eigenmann & Eigenmann, 1889, *Acestridium* Haseman, 1911, *Hypoptopoma* Günther, 1868 and *Niobichthys* Schaefer & Provenzano, 1998, are well diagnosed from remainder hypoptopomatine

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genera based on derived features. On the other hand, *Hisonotus* Eigenmann & Eigenmann, 1889, *Otothyropsis* Ribeiro, Carvalho & Melo, 2005, *Parotocinclus* Eigenmann & Eigenmann, 1889, *Rhinolekos* Martins & Langeani, 2011a and *Microlepidogaster* Eigenmann & Eigenmann, 1889 are poorly supported by synapomorphies, much of them being non-exclusive within the subfamily, making difficult a clear understanding of the intergeneric limits.

Nonetheless, *Microlepidogaster* was recently re-diagnosed by Calegari & Reis (2010), based on a synapomorphy previously proposed by Schaefer (1998), the possession of the dorsal-fin insertion shifted posteriorly with the compound first pterygiophore (supraneural plus first dorsal-fin proximal radial) articulating with the neural spine of the eighth, ninth or tenth vertebral centrum (Schaefer, 1998: char. 26, state 1, modified), as opposed to most other loricariids in which the first pterygiophore articulates with the seventh vertebral centrum.

Currently, *Microlepidogaster* is represented by four valid species, *M. perforata* Eigenmann & Eigenmann, 1889, *M. longicolla* Calegari & Reis, 2010, *M. dimorpha* Martins & Langeani, 2011b, and *M. arachas* Martins, Calegari & Langeani, 2013, all from the upper rio Paraná basin. Based on the possession of the above synapomorphy, we describe an additional species from the upper rio São Francisco basin, along the border between Minas Gerais and Goiás states of Brazil. The new species is the first record of a *Microlepidogaster* species in the rio São Francisco basin. Also, the biogeography of the central Brazilian shield and ancestral area of endemism for *Microlepidogaster* are discussed, and a key for its species is provided.

The type species of *Microlepidogaster* is usually spelt *M. perforatus*. *Microlepidogaster* is a feminine noun; the species name is an adjective and must agree in gender and is correctly spelt *perforata*.

Material and methods

Morphological measurements were made point-to-point to the nearest 0.1 mm with digital calipers. Dermal plate counts followed the schemes of serial homology of Schaefer (1997) and the morphometric measurements followed Lippert et al. (2014). Measurements of bilaterally symmetrical features were made on the left side of the body whenever possible. Morphometric data are expressed as percents of the standard length (SL), except subunits of the head which were expressed in percents of head length (HL). Vertebral counts consider all vertebral centra, including the five centra modified into the Weberian apparatus, and the compound caudal centrum (PU1+U1), counted as a single element. Osteological examination was made on specimens cleared and double-stained for bone and cartilage (c&s) according to the procedure of Taylor & Van Dyke (1985). The following institutions provided material for this study: AMNH, American Museum of Natural History, New York; ANSP, Academy of Natural Sciences, Philadelphia; DZSJRP, Departamento de Zoologia e Botânica, Universidade Estadual Paulista, São José do Rio Preto; LISDEBE, Laboratório de Ictiologia Sistemática, Departamento de Ecologia e Biologia Evolutiva, Universidade Federal de São Carlos, São Carlos; MCP, Museu de Ciências e Tecnologia, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre; MNRJ, Museu Nacional, Rio de Janeiro; MZUSP, Museu de Zoologia da Universidade de São Paulo, São Paulo; and UFRGS, Departamento de Zoologia, Universidade Federal do Rio Grande do Sul, Porto Alegre.

Results

Microlepidogaster discontenta, new species
(Figs. 1–2)

Holotype. MCP 48107, 36.5 mm SL, female; Brazil: Goiás State: Cristalina, córrego Morais, tributary to córrego Arrependido, 1.5 km East of highway BR-251, rio São Francisco basin, 16°14'39" S 47°21'53" W; R. E. Reis and B. B. Calegari, 1 Sep 2012.

Paratypes. MCP 47391, 12, 32.2–40.2 mm SL + 2 c&s, 25.6–39.0 mm SL + 1 tissue sample 23.9 mm SL; USNM 431306, 3, 32.0–36.8 mm SL, collected with holotype. – UFRGS 9877, 4, 29.7–32.9 mm SL + 1 c&s, 32.7 mm SL; Brazil: Minas Gerais State: Unaí, córrego Arrependido at border between Minas Gerais and Goiás on highway BR-251, rio São Francisco basin, 16°14'53" S 47°19'38" W; T. P. Carvalho and F. C. Jerep, 24 May 2008.

Diagnosis. *Microlepidogaster discontenta* is distinguished from all congeners by the possession of odontodes on the caudal peduncle conspicuously

Fig. 1. *Microlepidogaster discontenta*, holotype, MCP 48107, female, 36.5 mm SL; Brazil: Goiás: córrego Arrependido.

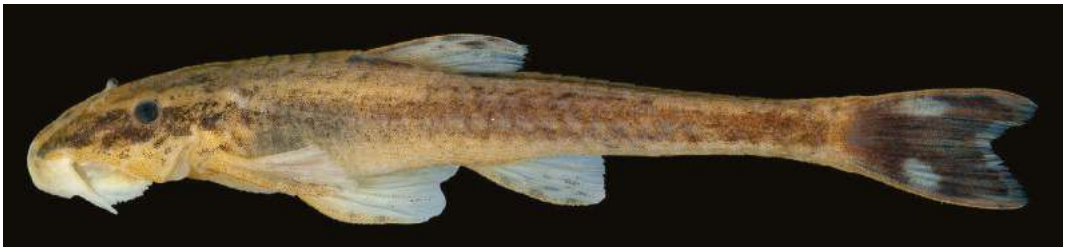

Fig. 2. Color pattern of *Microlepidogaster discontenta*, paratype, MCP 47391, male, 35.6 mm SL; Brazil: Goiás: córrego Arrependido.

arranged in longitudinal lines (vs. odontodes on the caudal peduncle not arranged in longitudinal lines) and a shorter pectoral-pelvic fins distance (10.6–12.8 vs. 13.0–18.7 % SL). It further differs from all congeners, except *M. longicolla*, by having a wide naked area on the tip of the snout (Fig. 3; vs. an inconspicuous naked area or a rostral plate); and the anterior portion of the compound first dorsal-fin pterygiophore articulating to the neural spine of the tenth vertebral centrum (vs. articulating to the neural spine of the eighth or ninth centrum in *M. perforata*, ninth centrum in *M. arachas*, and seventh centrum in *M. dimorpha*). *Microlepidogaster discontenta* differs from all congeners, except *M. arachas*, by the smaller interorbital distance (31–37 % HL vs. 48–53 in *M. perforata*, 39–

43 in *M. longicolla*, and 39–45 in *M. dimorpha*). *Microlepidogaster discontenta* is further distinguished from *M. perforata* and *M. longicolla* by the smaller prenasal length (29–32 % HL vs. 42–49 and 45–49, respectively), and from *M. dimorpha* and *M. arachas* by the more slender caudal peduncle depth (depth 6.3–7.3 % SL vs. 10.0–11.4 and 8.1–10.3, respectively). Additionally, *M. discontenta* differs from *M. arachas* and *M. longicolla* by having fewer dentary teeth (9–14 vs. 18–29 and 16–29, respectively), and from *M. perforata* and *M. dimorpha* by the possession of an axillary slit of the pectoral fin in juveniles (up to 25.6 mm SL) but absent in adults (vs. pectoral axillary slit persistent, present in both juveniles and adults). It also differs from *M. perforata* by having the middle series of lateral plates complete, reaching the end of the caudal peduncle (vs. middle series of lateral plates ending two plates before the base of the caudal fin). Finally, *M. discontenta* differs from *M. arachas* by the narrower head (width 61–66 % HL vs. 71–80).

Description. Proportional measurements and counts given in Tables 1 and 2. Dorsal body profile slightly arched from snout tip to anterior margin of orbit. Predorsal region slightly depressed. Profile of posterior portion of head and trunk almost straight and slightly descending from dorsal-fin

Table 1. Morphometric data for *Microlepidogaster discontenta*, holotype and 13 paratypes; low and high values include holotype. SD, standard deviation. Values in bold diagnose *M. discontenta* from *M. perforata*, *M. longicolla* and *M. dimorpha*.

	holotype	range	mean	SD
Standard length (mm)	36.5	29.7–37.5	34.5	–
Percent of body length				
Head length	29.4	**28.8–30.7**	29.5	0.6
Predorsal length	43.4	42.1–45.1	43.8	1.0
Postdorsal length	46.9	45.2–49.7	47.9	1.4
Prepectoral length	23.6	22.7–25.5	23.9	1.0
Prepelvic length	33.2	31.4–35.7	33.2	1.1
Preanal length	54.1	51.7–56.9	53.4	1.4
Cleithral width	18.8	17.9–19.8	19.0	0.5
Snout-opercle distance	25.1	24.1–26.6	25.1	0.7
Pectoral-pelvic-fins distance	11.3	10.6–12.8	11.7	0.7
Pelvic-anal-fins distance	21.5	19.2–22.8	20.8	1.2
Dorsal-fin spine length	19.1	17.9–20.3	19.2	0.7
Dorsal-fin base length	10.6	9.6–11.4	10.6	0.5
Pectoral-fin spine length	19.2	17.5–19.3	18.6	0.7
First pelvic-fin unbranched ray length	15.6	14.5–19.3	16.3	1.2
Male	–	16.2–19.3	17.0	1.0
Female	15.6	14.5–15.8	15.3	0.5
First anal-fin unbranched ray length	17.2	16.7–18.8	17.7	0.6
Caudal-peduncle length	44.9	43.8–51.1	46.9	1.8
Caudal-peduncle depth	6.5	6.3–7.3	6.6	0.3
Caudal-peduncle width	3.4	2.9–3.9	3.5	0.3
Body depth at dorsal-fin origin	13.8	11.8–15.0	13.5	1.1
Body width at dorsal-fin origin	16.0	12.4–18.0	14.7	1.7
Percent of head length				
Head depth	42	41–46	43.2	1.7
Head width	64	61–66	63.6	1.8
Snout length	58	**56–59**	57.3	0.9
Orbital diameter	11	11–14	11.9	0.7
Interorbital distance	33	31–37	34.0	1.4
Internareal width	9	8–10	9.2	0.7
Nares diameter	7	6–8	7.1	0.9
Prenasal length	29	29–32	31.1	0.7
Suborbital depth	21	18–22	21.0	1.4
Barbel length	9	4–9	6.4	1.3

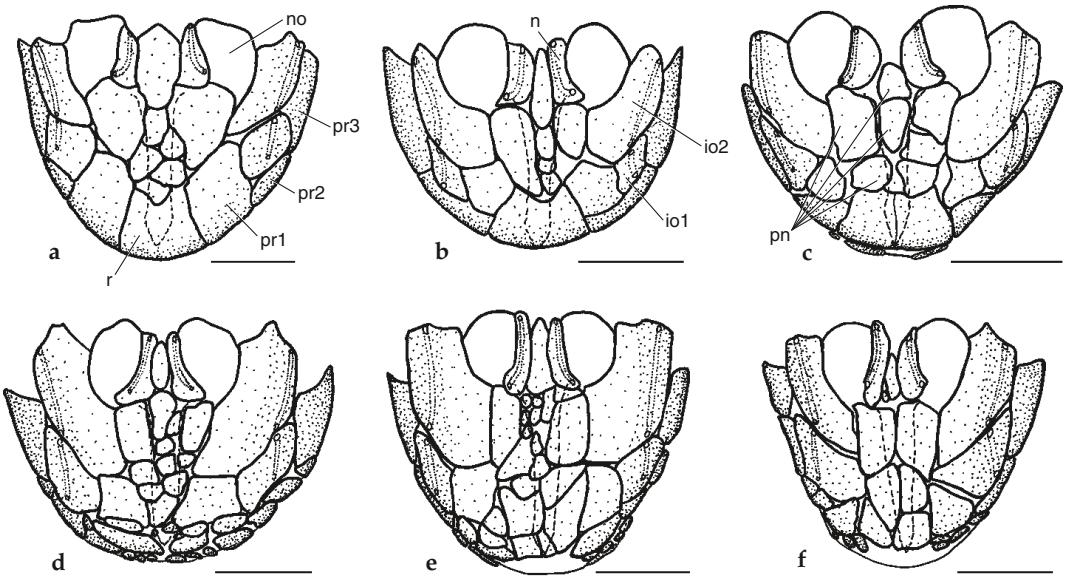

Fig. 3. Snout of hypoptopomatines: **a,** *Hisonotus notatus*, MCP 18098; **b,** *Microlepidogaster perforata*, MCP 17717; **c,** *M. dimorpha*, DZSJRP 10543; **d,** *M. arachas*, MCP 28319; **e,** *M. longicolla*, MCP 23325; **f,** *M. discontenta*, MCP 47391. **io**, infraorbital plate; **n**, nasal; **no**, nostril; **pn**, prenasal plates; **pr**, postrostral plate; **r**, rostral plate. Dashed line represents mesethmoid below snout plates. Odontodes omitted. Scales = 2 mm.

origin to end of caudal peduncle, angling slightly upward immediately before caudal-fin origin. Body deepest at dorsal-fin origin; and shallowest at posterior portion of caudal peduncle. Greatest body width at opercular region with body progressively tapering towards caudal-fin base. Ventral and especially dorsal surface of caudal peduncle transversely flattened, with caudal peduncle somewhat square in cross section.

Head and snout elongated, anterior margin of snout rounded in dorsal view. Snout broadly naked anteriorly, rostral plate absent. Region of prenasal plates between nostrils protuberant, bordered by elongate and shallow depressions extending from each nostril to near snout tip. Dorsal margin of orbit slightly elevated, forming gently horizontal ridge. Interorbital region almost flat. Eye small, dorsolaterally positioned, not visible in ventral view. Compound pterotic completely perforate with middle to large size

Table 2. Frequency of distribution of meristic data for *Microlepidogaster discontenta*. Holotype values are marked with an asterisk. N = 13.

character	range	frenquency
Left premaxillary teeth	12–17	12 (2), 13 (2), 14 (2), 15 (3)*, 16 (3), 17 (1)
Right premaxillary teeth	11–16	11 (1), 13 (3), 14 (1), 15 (6)*, 16 (2)
Left dentary teeth	9–13	9 (1), 10 (1), 11 (1), 12 (6)*, 13 (4)
Right dentary teeth	9–14	9 (1), 10 (2), 11 (2), 12 (3)*, 13 (4), 14 (1)
Plates in median lateral series	26–27	26 (12)*, 27 (1)
Plates in mid-dorsal series	16–19	16 (5)*, 17 (4), 18 (3), 19 (1)
Plates in dorsal series	20–22	20 (2), 21 (9)*, 22 (2)
Plates in mid-ventral series	16–19	16 (3), 17 (4)*, 18 (2), 19 (4)
Plates in ventral series	18–22	18 (3), 19 (3), 20 (2), 21 (2), 22 (3)*
Plates between anal and caudal fins	11–13	11 (2), 12 (10)*, 13 (1)
Plates at dorsal-fin base	4–5	4 (12)*, 5 (1)
Plates at anal-fin base	3–4	3 (10), 4 (3)*
Predorsal plates	3–4	3 (4), 4 (9)*

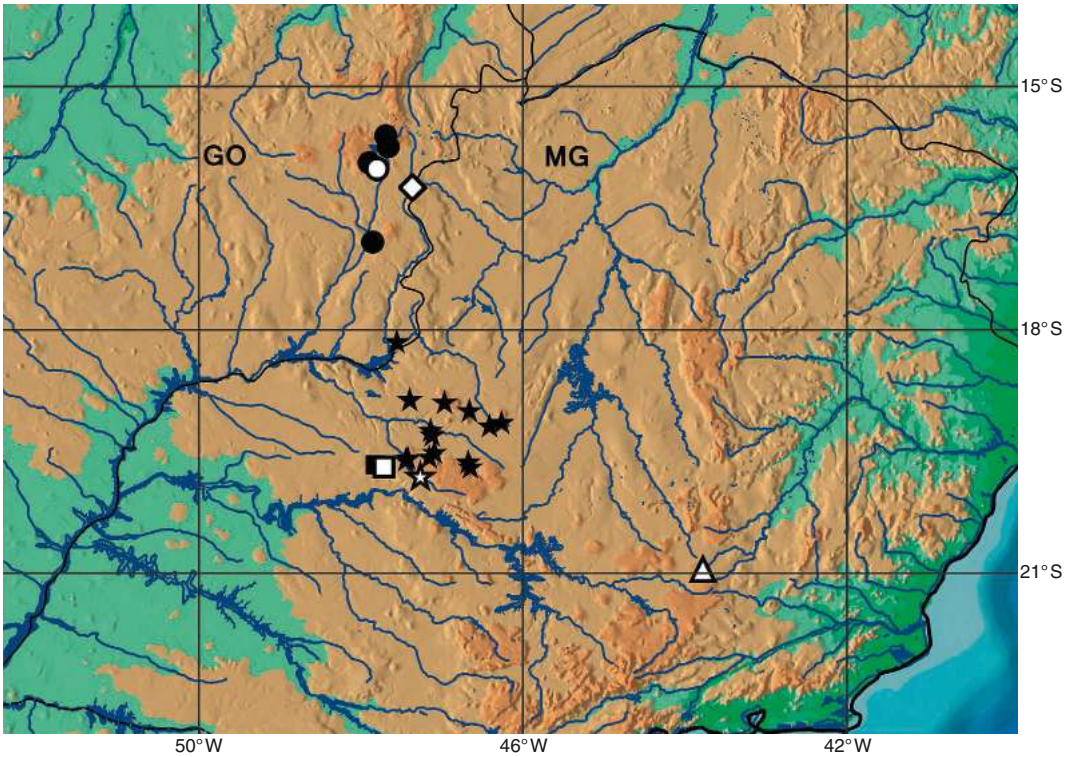

Fig. 4. Southeastern Brazil showing geographic distribution of *Microlepidogaster discontenta* (◆), *M. perforata* (△), *M. longicolla* (●), *M. dimorpha* (■) and *M. arachas* (★). Open symbols represent type locality. A symbol may represent more than one locality.

fenestrae; larger fenestrae on anteroventral region. Four pairs of predorsal plates, not including nuchal plate. Dorsal surface of head lacking crests of odontodes. Lateral line continuous, with median lateral plate series complete. Odontodes on caudal peduncle arranged in conspicuous lines. Odontodes on head and trunk small and pointed, uniform in size and form. Body almost entirely covered by plates, except anterior portion of snout, area around anus, region overlying lateral opening of swimbladder capsule, depression from nostrils, area between lower lip and pectoral girdle, posterior portion of abdominal region, and area around bases of fins. Platelets on abdominal region small, with few odontodes. Series of lateral abdominal plates absent. Ventral portions of cleithrum and coracoid laterally exposed and supporting odontodes. Lips rounded with large globular papillae. Posterior border of lower lip fimbriate. Teeth slender, bifid, with blade-like larger medial cusp and smaller lateral cusp.

Dorsal fin II,7, its origin at vertical through middle of pelvic fin. Dorsal fin located distinctly posterior to parieto-supraoccipital, with neural spine of tenth vertebra supporting compound supraneural plus first dorsal-fin proximal radial. Compound supraneural with pair of processes along anterior margin. Spinelet reduced, platelike; dorsal-fin locking mechanism non functional. Total vertebrae 30. Adipose fin absent. Pectoral fin I,6, with axillary slit present only in juveniles. Tip of adpressed pectoral fin almost reaching or reaching to dorsal-fin origin. Pelvic fin i,5, short, with robust thickened first ray shorter than two first pectoral-fin branched rays. Anal fin i,5. Caudal fin i,14,i (one specimen with i,13,i), with upper and lower lobes with same size.

Color in alcohol. Ground color of dorsal surface of head and body light to medium brown; pale yellow, mostly unpigmented ventrally. Longitudinal dark brown stripe present on lateral surface of head and trunk. Stripe beginning laterally on snout tip, partially covering eye but leaving vent-

rolateral margin of head from upper lip to opercle and pectoral-fin insertion creamy white, strongly contrasting with longitudinal dark brown stripe; stripe continuing to end of caudal peduncle. Two light, irregular stripes dorsally on snout, beginning at snout tip, passing just dorsal to eye and ending at posterodorsal corner of compound pterotic. Predorsal region with two lighter stripes on each side, beginning behind compound pterotic and joining each other into single stripe lateral to dorsal fin. Stripes extending to caudal fin, leaving darker stripe middorsally from parieto-supraoccipital to caudal fin. All fins mostly hyaline with chromatophores forming scattered brown spots most conspicuous on unbranched rays; dorsal-fin tip more densely pigmented. Caudal fin uniformly dark-brown, except for two, variably conspicuous hyaline, ovoid areas on middle of three dorsal most and three ventral most soft rays; hyaline areas sometimes absent.

Sexual dimorphism. Males with conical urogenital papilla, positioned just behind anal opening; absent in females. Adult males with fleshy flap along dorsal margin of first thickened pelvic-fin ray, absent in females. Males with longer pelvic fin, extending to or surpassing anal-fin origin, whereas pelvic fin in females never reaching that point. First thickened pelvic-fin ray slightly more arched in female than in males.

Distribution. *Microlepidogaster discontenta* is known from the córrego Arrependido and one tributary creek, in the upper reaches of the rio São Francisco basin, along the border between Minas Gerais and Goiás States, in central Brazil (Fig. 4).

Ecological notes. *Microlepidogaster discontenta* seems to be naturally not abundant. It seems to have strict ecological requirements, as all specimens were found in clear and fast flowing water, at low depth, and always associated to marginal grasses or aquatic weeds.

Etymology. The species epithet, *discontentus* is from Latin *dis*, meaning not, and *contentus*, meaning satisfied, thus regretful, in allusion to the córrego Arrependido, type locality of the species. The córrego Arrependido, meaning regretful, received its name after the supposed shift in its direction. Apparently, the córrego Arrependido earlier flowed to the south and was a tributary to the rio São Marcos, itself a tributary of the upper rio Paraná. Due to a headwater capture, the córrego Arrependido shifted its course around 16°16'29"S 47°20'53"W, and now runs to the North and is a tributary to the rio Preto, itself a tributary to the rio São Francisco.

Discussion

Schaefer (1998) diagnosed *Microlepidogaster* based on five non-exclusive synapomorphies: (1) dorsal fin shifted posteriorly relative to the parieto-supraoccipital, with the compound supraneural plus first dorsal-fin proximal radial contacting the neural spine of the ninth vertebra (eighth to eleventh vertebra, according to Calegari & Reis, 2010); (2) the possession of a median or paired rostral plate; (3) the possession of a pair of anterior processes in the supraneural; (4) the median series of lateral plates truncated in the posterior portion, ending one or two plates before the caudal fin; and (5) the absence of the levator crest on the hyomandibula. As previous authors (Calegari & Reis, 2010; Martins & Langeani, 2011b; Martins et al., 2013) had already reported in subsequent descriptions of additional species, however, most of these synapomorphies are not shared by all congeners and seem to be autapomorphic features of *M. perforata*, the type species.

The posterior displacement of the dorsal fin is the only feature that holds as a distinguishing, derived feature in all congeners, and *M. discontenta* has the first pterygiophore of the dorsal fin articulating to the neural spine of the tenth vertebral centrum. There is a fair amount of variation in this feature among the species of *Microlepidogaster*, with the first dorsal-fin pterygiophore articulating to the neural spines of the ninth centrum in *M. arachas*, between seventh and eighth centra in *M. dimorpha*, the tenth or eleventh centrum in *M. longicolla*, and the eighth or ninth centrum in *M. perforata*. The posterior displacement of the dorsal fin is likely to have evolved independently more than once in the Hypoptopomatinae, since it is present in the unrelated *Epactionotus* and in the probably closely related *Rhinolekos*.

Contrary to the above feature a rostral plate, either single or paired, is not present in all species of *Microlepidogaster*. The typical configuration of plates forming the snout of most Hypoptopomatinae is that illustrated for *Hisonotus notatus* (Fig. 3a), with a single, robust, medial rostral plate, a condition shared solely by *M. perforata*

(Fig. 3b) and *M. dimorpha* (Fig. 3c). Alternatively, *M. arachas* possesses many platelets on the snout tip (Fig. 3d), and *M. discontenta* and *M. longicolla* share a broad naked area at the snout tip, lacking a rostral plate (Fig. 3e–f).

The remaining synapomorphies of Schaefer (1998) are also variable among the species of *Microlepidogaster*. The possession of a pair of anteriorly directed processes in the compound supraneural is shared by *M. perforata* and *M. discontenta*, and the incomplete lateral line is solely present in *M. perforata*. However, the crest on the hyomandibula for the insertion of the *levator arcus palatine* muscle, is present in all species, including *M. perforata* (see Calegari & Reis, 2010: 629), and represent a plesiomorphic trait shared with most hypoptopomatines.

Accordingly, some of the synapomorphies previously proposed for *Microlepidogaster* are no longer supported following the discovery of additional species. As proposed by Schaefer (1998) and modified by Calegari & Reis (2010), only one, non-exclusive synapomorphy, remains for *Microlepidogaster*, which is the dorsal fin shifted posteriorly relative to the parieto-supraoccipital, with the first dorsal-fin pterygiophore articulating to the neural spine of the eighth to eleventh vertebral centrum. On the other hand, however, Martins et al. (2014) did not find *Microlepidogaster* as monophyletic, since *Rhinolekos* was recovered as sister to a clade formed by *M. longicolla*, *M. arachas*, and an undescribed species, and *M. perforata* and *M. dimorpha* forming a separate clade, sister to most remaining Hypoptopomatinae. The nodes of both clades including *Microlepidogaster* species, however, were poorly supported (Bremer index = 1), suggesting that the phylogenetic position of *Microlepidogaster* within the Hypoptopomatinae is still uncertain.

Key to the species of *Microlepidogaster*

1 – Snout tip with wide naked area (Fig. 3e–f). 2
– Snout tip with rostral plate or several small platelets (Fig. 3b–d). 3

2 – Odontodes on caudal peduncle conspicuously arranged in longitudinal lines; dentary teeth 9–14. ..... *M. discontenta*
– Odontodes on caudal peduncle not arranged in longitudinal lines; dentary teeth 16–29. ..... *M. longicolla*

3 – Mid-dorsal series with 9–13 lateral plates; middle series of lateral plates discontinuous and incomplete, ending two plates before caudal fin. ..... *M. perforata*
– Mid-dorsal series with 18–24 lateral plates; middle series of lateral plates continuous and complete. 4

4 – Pectoral axillary slit present only in juveniles (up to 32.2 mm SL); dentary teeth 18–29. .. .. *M. arachas*
– Pectoral axillary slit present in both, adult and juveniles; dentary teeth 11–15. .... *M. dimorpha*

Comparative material. All from Brazil. *Hisonotus notatus*: MCP 18098, 1 c&s, 40.1 mm SL.

Microlepidogaster arachas: MCP 28330, 16 paratypes (1 c&s), 27–40.4 mm SL, MCP 47026, 28 paratypes, 25.7–37.6 mm SL, MCP 28333, 5 paratypes (1 c&s), 24–37.2 mm SL, MCP 28359, 30 paratypes, 23.8–37.7 mm SL, MCP 28319, 19 paratypes (3 c&s), 17.4–41 mm SL. *M. dimorpha*: MCP 45866, 2 paratypes, 26.7–30.8 mm SL; DZSJRP 10543, 1 paratype (c&s), 30.8 mm SL. *M. longicolla*: MCP 44877, holotype, 39.8 mm SL; MCP 23323, 18 paratypes (5 c&s), 18.5–42.5 mm SL; MCP 23322, 10 paratypes, 18.1–36.5 mm SL; MCP 23324, 1 paratype, 38.3 mm SL; MCP 23325, 12 paratypes, 19.3–41.2 mm SL; AMNH 251432, 5 paratypes, 23.5–35.7 mm SL. *M. perforata*: MCP 17717, 4 (1 c&s), 14.7–34.5 mm SL; MNRJ 31886, 13 (2 c&s), 27.6–32.9 mm SL; ANSP 174718, 1 (1 c&s), 28–32.4 mm SL.

Rhinolekos britskii: MCP 44058, 5 paratypes, 22.2–36 mm SL. *R. garavelloi*: MCP 44057, 6 paratypes, 24.8–32.2 mm SL. *R. schaeferi*: MCP 26939, holotype, 35.4 mm SL; MCP 44056, 12 paratypes (2 c&s), 27.2–37.3 mm SL.

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