First record of the genus *Tatia* (Siluriformes: Auchenipteridae) in freshwaters of Argentina.

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Abstract
The genus *Tatia is* recorded for the first time from Argentina in Misiones and Corrientes Provinces. *Tatia jaracatia* was captured only in the arroyo Deseado, río Iguazú basin, and *Tatia neivai* has been caught in several streams (tributaries of río Paraná) Piray Guazú, Garuhapé, Tabay, Garupá, and also from the río Paraná in Puerto Nemesio Parma and Ituzaingó.

Resumen
El género *Tatia* se registra por primera vez para Argentina en las provincias de Misiones y Corrientes. *Tatia jaracatia* fue capturada solo en el arroyo Deseado, cuenca del río Iguazú y *Tatia neivai* proviene de diferentes arroyos (tributarios del río Paraná) Piray Guazú, Garuhapé, Tabay, Garupá y también del río Paraná en Puerto Nemesio Parma e Ituzaingó.

Introduction

The catfish family Auchenipteridae, as presently recognized, includes the subfamilies Centromochlinae and Auchenipterinae. The subfamily Centromochlinae contains small to medium sized species from four genera: *Centromochlus*, *Tatia*, *Glanidium*, and *Gelanoglanis*, all of them living in cis-Andean basins.
The genus *Tatia* was proposed by Miranda-Ribeiro (1911) including two species previously recognized as *Centromochlus*: *T. intermedia* (Steindachner, 1877) and *T. aulopygia* (Kner, 1857). The name *Tatia* was almost forgotten by subsequent authors and it was considered a synonym of *Centromochlus* or *Glanidium*. Nonetheless, Mees (1974) redescribed *Tatia* including several species in the genus. Ferraris (2003) considered 12 species and one more has been described in 2009.
The presence of the genus is known in several basins of South America, from Orinoco to Uruguay rivers. The southernmost limit of the geographical distribution of the genus reaches the middle Uruguay, where *T. boemia* was recorded some years ago (Zarucki et al., 2010) although it was considered as an endemic species from the upper Uruguay. In the Paraná basin, the presence of the genus was recorded as far South as 25°S.

Sarmento-Soares & Martins-Pinheiro (2008) diagnosed *Tatia* by having the hyomandibula elongated anterodorsally, the anal-fin base of adult males reduced in length, and the caudal peduncle laterally compressed and deep with a mid-dorsal keel.
In this contribution, we record the presence of two species of *Tatia* for the first time in Argentina. *Tatia neivai* was erected by Ihering (1930) sub *Glanidium neivai* with specimens from the Piracicaba river. All so far known records of the species correspond to basins of the rivers upper Paraná, upper Paraguay and upper Paraíba do Sul. *Tatia jaracatia* was described by Pavanelli & Bifi (2009) with specimens from the lower Iguazú River. This is only the second record of the species.

fig. 1. *Tatia jaracatia* in live

fig. 2. *Tatia jaracatia* colour in life upon capture

Tatia jaracatia Pavanelli & Bifi, 2009
(figs. 1-3)

Material examined
All from: Argentina, Misiones Province, río Iguazú basin, arroyo Deseado (25º40'15.7" S - 53º55'58.7" W): MLP 10608, 1 ex. 45 mm SL, coll: Almirón, Casciotta & Azpelicueta, February 2001. MLP 10609, 1 ex., 53.6 mm SL, coll: Casciotta, Říčan, Piálek, November, 2007

Description
Tatia jaracatia is clearly recognizable from its congeners by its colour pattern showing dark flanks with large whitish or pale yellow rounded or oval dots (figs. 1-3). This colour pattern distinguishes this species from *T. neivai*, the other species inhabiting freshwater environments of Argentina. Morphometric data are presented in table 1.

Habitat
The depth of arroyo Deseado was variable, averaging about 80 cm. The bottom was composed of mud, sand and mainly gravel. The stream has falls and pools with clear, rapidly flowing water. The pools had scarce submerged vegetation. One specimen was collected above a fall and the other in a large pool below (fig. 4).

Distribution
Tatia jaracatia is restricted to the río Iguazú basin above the Iguazú falls (Pavanelli & Bifi, 2009). The specimens collected herein come from arroyo Deseado in Misiones Province (fig. 7).

fig. 3. *Tatia jaracatia*, male. Arroyo Deseado, rio Paraná basin, Misiones, Argentina (MLP 10609)

Tatia neivai (Ihering, 1930)
(figs. 5-7)

Material examined
All from Argentina: MISIONES Province: río Paraná basin. MLP 10605, 1 ex., 64.8 mm SL, arroyo Piray Guazú (26°26'34.1" S, 54°08'29.4" W), coll: Almirón, Casciotta, Říčan & Piálek, February, 2012. MLP

10606, 1 ex., 81.4 mm SL, arroyo Tabay (26º59'56.3"S-55º10'44.9"W), coll: Almirón, Casciotta, Říčan & Piálek, October, 2009. MLP 10607, 1 ex., 53.4 mm SL, arroyo Garupá (27º29'10.2"S-55º44'23.1"W), coll: Almirón, Casciotta, Říčan & Piálek, October, 2009. CI-FML 5900, 2 ex., 27.5-80.0 mm SL., camping Tropical en arroyo Garuhapé (26°48'20,24" S-54°56'11,82" W), coll: Aichino & Benitez, May, 2011. Laboratorio de Genética Evolutiva de la UNAM-Peces (LGE-P) 13; 1 ex., 29.3 mm, camping Tropical en arroyo Garuhapé (26°48'20,24" S-54°56'11,82" W), coll: Aichino & Benitez, May, 2011. CI-FML 5901, 1 ex., 35.8 mm SL., río Paraná at Puerto Nemesio Parma (27°21'14,36"S-56°00'15,18" W), coll: Aichino, November, 2011. LGE-P 14; 1 ex., 37.2-40.9 mm, río Paraná at Puerto Nemesio Parma (27°21'14,36"S-56°00'15,18" W), coll: Aichino, November, 2011. CORRIENTES Province: CI-FML 5902, 1 ex, 35.0 mm SL, río Paraná at Ituzaingó (27°29'26,55"S-56°40'51,63"W), coll: Aichino & Benitez, March, 2012

Description

Tatia neivai is distinguished from the other species of the genus by its colour pattern with dark flanks bearing small white horizontally elongated dots, different in small specimens (fig. 5). The species is also distinguished by the presence of a broad third nuchal plate, with a short lateral projection and the cranial fontanel bound by mesethmoid and frontal. Morphometric data are presented in table 1.

Habitat

Most of the environments where *T. neivai* was found had sandy and rocky bottom with fast flowing water, excluding Nemesio Parma and Ituzaingó in which the water is quiet with submerged allochthonous vegetation and sandy and muddy bottom.

Distribution

Tatia neivai is known from the upper Paraguay and Paraná river, and upper Paraíba do Sul in Brazil (Sarmento-Soares & Martins-Pinheiro, 2008). The specimens collected herein come from several streams and the main channel of the middle río Paraná (fig. 7).

fig. 4. collecting site of*Tatia jaracatiá*: Arroyo Deseado, río Iguazú basin, Misiones Province, Argentina

fig. 5. Juveniles of *Tatia neivai*: at top 29.3 mm SL; at bottom 27.5 mm SL

fig. 6. *Tatia neivai*, male. Arroyo Piray-Guazú, rio Paraná basin, Misiones, Argentina (MLP 10605)

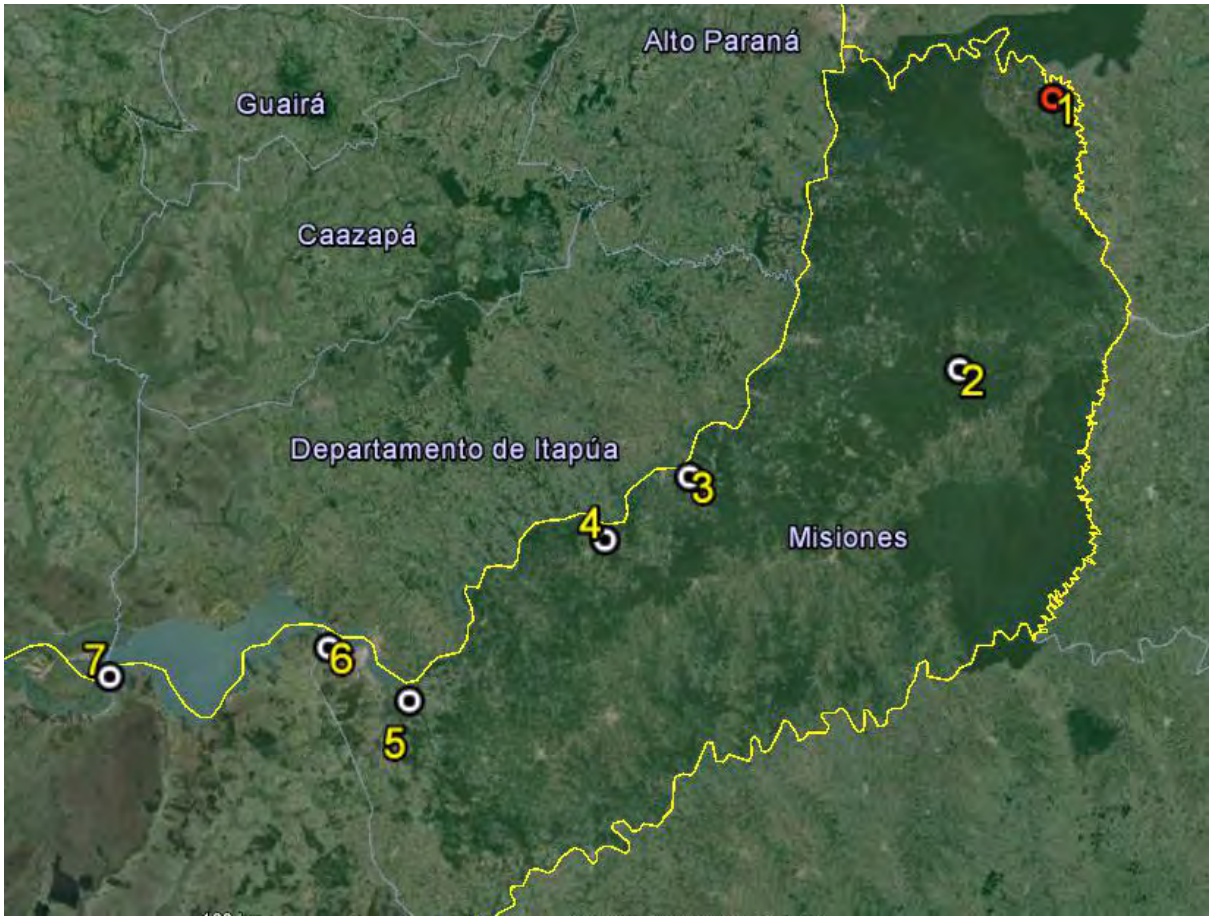

fig. 7. Map showing the collecting sites of *Tatia jaracatia* (red circle) and *T. neivai* (white circles) in Argentina: 1. arroyo Deseado | 2. arroyo Piray Guazú | 3. arroyo Garuhapé | 4. arroyo Tabay | 5. arroyo Garupá | 6. río Paraná at Puerto Nemesio Parma | 7. río Paraná at Ituzaingó

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References

Ferraris, C.J. (2003): Auchenipteridae. 470-482. In: Reis, R.E., S.O. Kullander & C.J. Ferraris (eds.) Check list of the freshwater fishes of South and Central America. Edipucrs, Porto Alegre, Brazil. 729 p.

Ihering, R. von (1930): Notas ecológicas referentes a peixes d'água doce do Estado de S. Paulo e descripção de 4 espécies novas. Archivos do Instituto Biológico, São Paulo 3: 93-103

Mees, G.F. (1974): The Auchenipteridae and Pimelodidae of Suriname (Pisces, Nematognathi). Zoologische Verhandelingen 132: 1-256

Miranda Ribeiro, A. (1911): Fauna brasiliense. Peixes. Tomo IV (A) [Eleutherobranchios Aspirophoros]. Arquivos do Museu Nacional do Rio de Janeiro 16: 1-504

Pavanelli C.S.& A.G. Bifi (2009): A new *Tatia* (Ostariophisi: Siluriformes: Auchenipteridae) from the rio Iguaçu basin, Paraná State, Brazil. Neotropical Ichthyology 7 (2): 199-204

Sarmento-Soares, L.M. & R.F. Martins-Pinheiro (2008): A systematic revision of *Tatia* (Siluriformes: Auchenipteridae: Centromochlinae). Neotropical Ichthyology 6 (3): 495-542

Zarucki, M., I. González-Bergonzoni, F. Teixeira-de-Mello, S. Serra F. Quintans & M. Loureiro (2010). New records of freshwater fish for Uruguay. CheckList 6 (2): 191-194

Table 1. Morphometric data of ten specimens of *Tatia neivai* from río Paraná basin and two specimens of *Tatia jaracatia* from arroyo Deseado.

	Tatia neivai			***Tatia jaracatia***
	Range	Average	SD	Range
Standard length (mm)	53.4-81.4	64.5		45.0-53.6
Percents of standard length				
Body depth	20.4-23.1	21.4	0.99	19.2-28.0
Body width	17.1-20.2	18.8	0.91	18.7-21.1
Caudal-peduncle depth	13.1-14.0	13.5	0.31	13.4-16.6
Caudal peduncle length	16.6-245.2.	21.5	2.74	20.0-22.0
Predorsal length	27.6-34.1	30.7	2.12	29.5-30.4
Preanal length	64.2-74.7	69.1	3.90	65.9-71.6
Prepelvic length	50.5-56.7	53.7	2.30	54.7-60.0
Dorsal origin to pectoral origin	20.4-22.9	22.0	0.82	22.4-23.1
Dorsal origin to pelvic origin	29.3-33.1	31.1	1.49	30.8-38.9
Pectoral origin to pelvic origin	31.4-38.9	36.1	2.59	35.8-39.6
Prepectoral length	16.2-22.7	19.4	1.82	20.7-23.6
Dorsal-fin base length	8.0-10.7	9.5	1.01	9.5-10.2
Adipose-fin base length	6.2-11,0	8.4	1.49	7.7-8.3
Anal fin base length	7.1-11.0	8.9	1.47	9.1-12.0
Dorsal-fin spine length	13.4-20.5	17.3	2.39	18.3-19.1
Pectoral-fin spine length	20.0-25.4	23.3	1.82	21.3-22.7
Poscleithral process length	11.3-15.9	13.2	1.8	12.9-14.2
First branched pelvic-fin ray	9.7-17.5	12.6	2.22	13.1-14.4
Longest anal-fin ray length	3.9-10.2	7.4	2.33	7.3-10.2
Maxillary-barbel length	26.8-39.6	31.8	3.76	31.2-31.8
Outer mental-barbel length	6.3-10.5	8.8	1.34	11.2-11.1
Inner mental-barbel length	3.9-7.2	5.8	0.94	6.0-6.5
Head length	19.5-24.8	21.8	1.64	23.5-25.6
Percents of head length				
Head width	75.7-77.8	76.7	0.9	73.0-75.7
Snout depth	50.0-57.0	51.7	2.97	49.2-55.7
Interorbital distance	52.3-56.4	54.6	1.56	54.8-56.5
Left internarial width	18.1-27.9	22.5	2.80	19.1-19.8
Anterior internarial distance	34.6-42.0	37.8	2.66	28.6-27.8
Posterior internarial distance	33.5-37.1	34.9	1.31	35.7-37.4
Mouth width	50.0-56.8	53.4	2.49	49.6-52.4
Orbital diameter	20.5-27.4	25.2	2.16	22.2-27.8
Snout length	32.9-36.3	33.8	1.46	31.3-33.3

recommended form for reference:
Almirón, A., J. Casciotta, M. Azpelicueta, D. Aichino, M. Benítez, L. Piálek, K. Doubnerová & O. Říčan (2014):
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