

## First records of *Characidium heirmostigmata* and *C. serrano* (Characiformes: Crenuchidae) from freshwaters of Argentina.

Jorge Casciotta<sup>1,2,\*</sup>, Adriana Almirón<sup>1</sup>, Klára Doubnerová<sup>3</sup>, Lubomír Piálek<sup>3</sup> & Oldřich Říčan<sup>3</sup>

<sup>1</sup> UNLP, Facultad de Ciencias Naturales y Museo, División Zoología Vertebrados, Paseo del Bosque, 1900 La Plata, Bs.As., Argentina

<sup>2</sup> CIC, Comisión de Investigaciones Científicas de la Provincia de Buenos Aires

<sup>3</sup> University of South Bohemia, Faculty of Science, Department of Zoology, Branišovská 31, 37005, České Budějovice, Czech Republic

\* corresponding author: jrcas@fcnym.unlp.edu.ar

### Abstract

*Characidium heirmostigmata* and *C. serrano* are registered for the first time in freshwaters of Argentina in the province of Misiones. *Characidium heirmostigmata* was found in the middle río Paraná basin and *C. serrano* in upper and middle río Uruguay basin.

### Introduction

The genus *Characidium* was diagnosed phylogenetically by the presence of a black spot near the base of the middle caudal-fin ray (Buckup 1993a, b). It includes about 62 valid species distributed from Panamá to the Río de la Plata basin in the Argentinian province of Buenos Aires (Buckup 2003).

Seventeen species of *Characidium* have been reported from La Plata river basin. Among them *C. borellii* (Boulenger, 1895), *C. etzeli* Zarske & Géry, 2001, *C. gomesi* Travassos, 1956, *C. heirmostigmata* da Graça & Pavanelli, 2008, *C. laterale* (Boulenger, 1895), *C. nupelia* da Graça, Pavanelli & Buckup, 2008, *C. occidentale* Buckup & Reis, 1997, *C. oticicai* Travassos, 1967, *C. rachovii* Regan, 1913, *C. stigmosum* Melo & Buckup, 2002, *C. zebra* Eigenmann, 1909, and *Characidium* spp. 1 and 2 by Baumgartner et al. (2012) were mentioned from the río Paraná basin, and *C. occidentale* Buckup & Reis, 1997, *C. pterostictum* Gomes, 1947, *C. rachovii* Regan, 1913, *C. serrano* Buckup & Reis, 1997, *C. tenue* (Cope, 1894), *C. vestigipinne* Buckup & Hahn, 2000, and *C. zebra* Eigenmann, 1909 from the río Uruguay basin. The following species were so far reported from Argentina: *C. borellii*, *C. fasciatum*, *C. occidentale*, *C. pterostictum*, *C. rachovii*, *C. tenuis*, and *C. cf. zebra*. According to Buckup (1992), the records of *C. fasciatum* Reinhardt, 1867 are a misidentification and should be reported as *C. cf. zebra*.

The aim of this paper is to report *C. heirmostigmata* and *C. serrano* for the first time from freshwater environments of Argentina. Thus, there are eight species of *Characidium* in freshwaters of Argentina.

Morphometric and meristic data were taken following Buckup and Reis (1997) and Graça and Pavanelli (2008).

### *Characidium heirmostigmata* Graça & Pavanelli, 2008 (fig. 2)

Morphometric data are given in table 1. Premaxillary teeth 7-8; dentary teeth 5-8. Lateral line scales 33-34. Scale rows above lateral line 4 and below 3. Scales in predorsal series 9-11. Scales around caudal peduncle 12. Dorsal-fin rays iii,9-iv9. Pectoral-fin rays iii,9-iii,10. Anal-fin rays ii, 6-iii,6.

*Characidium heirmostigmata* is only known from tributaries of the río Ivai, upper río Paraná basin in Paraná state, Brazil. We found specimens of *Characidium heirmostigmata* in the arroyo Garuhapé, middle río Paraná basin, Misiones Province Argentina (fig. 1).

Material examined: MLP 10750, 6 ex., 52.0-54.5 mm SL, río Paraná basin, Misiones Province, arroyo Garuhapé (26°53'02.1" S, 54°53'32.6" W), December 2007.

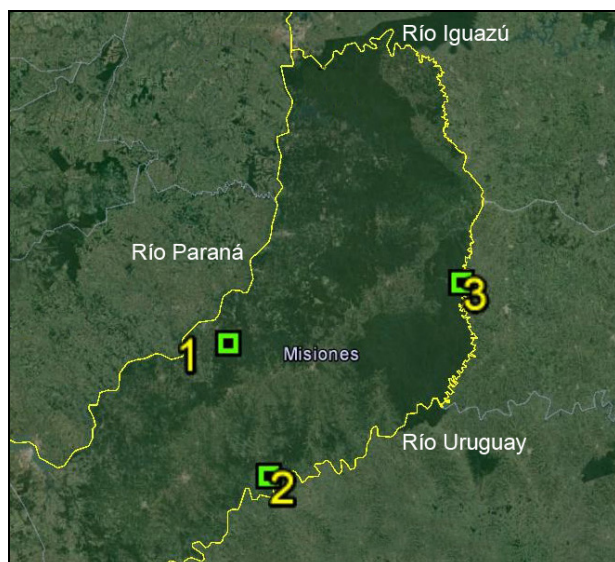


fig 1. (left). Map showing the collecting sites in Misiones, Argentina: 1. arroyo Garuhapé, 2. arroyo Shangay, 3. arroyo Toro



fig 2. (above). *Characidium heirmostigmata*, upon capture. MLP 10750, arroyo Garuhapé



fig 3. (above). *Characidium serrano*, upon capture. MLP 10751, arroyo Shangay

fig 4. (right). Arroyo Shangay at low-water, río Uruguay basin, Misiones Province



### ***Characidium serrano* Buckup & Reis, 1997 (fig. 3)**

Morphometric data are given in table 1. Premaxillary teeth 7-8; dentary teeth 9-10. Lateral line scales 36. Scale rows above lateral line 4-5 and below 3. Scales in predorsal series 11-13. Scales around caudal peduncle 12. Dorsal-fin rays iii,9. Pectoral-fin rays i,9-i,11. Anal-fin rays ii, 6.

*Characidium serrano* is known from the rio Jacutinga, upper río Uruguay basin in Santa Catarina State, Brazil. The specimens of *C. serrano* reported on herein were collected in the arroyo Shangay, middle río Uruguay basin and arroyo Toro, upper río Uruguay basin in Misiones province, Argentina (figs. 1, 4).

Material examined: MLP 10751, 1 ex., 51.7 mm SL, río Uruguay basin, Misiones province, arroyo Shangay (27°28'13.8" S, 54°41'24.5" W), December 2007. MLP 10752, 2 ex., 46.6-51.7 mm SL, río Uruguay basin, Misiones Province, arroyo Toro (26°36'32.81" S, 53°44'13.97" W), February 2012.

### **Acknowledgements**

We thank Google Earth for the map used in this contribution. Financial support was provided by Comisión de Investigaciones Científicas y Técnicas de la Provincia de Buenos Aires (CIC), Facultad de Ciencias Naturales y Museo (UNLP), and Grant Agency of the Czech Republic (GAČR) (grant number. 14-26060P).

## References

- Baumgartner, G., C.S. Pavanelli, D. Baumgartner, A. Gasparetto Bifi, T. Debona & V.A. Frana (2012): Peixes do baixo rio Iguaçu. Maringá: Eduem, 203p.
- Buckup, P.A. (1992): Redescription of *Characidium fasciatum*, type Species of the Characidiinae (Teleostei, Characiformes). *Copeia* 1992 (4): 1066-1073
- Buckup, P.A. (1993a): Phylogenetic interrelationships and reductive evolution in neotropical characidiin fishes (Characiformes, Ostariophysi). *Cladistics* 1993 (9): 305-341
- Buckup, P.A. (1993b): Review of the characidiin fishes (Teleostei: Characiformes) with descriptions of four new genera and ten new species. *Ichthyological Exploration of Freshwaters* 4 (2): 97-154
- Buckup, P.A. (2003): Family Crenuchidae (South American darters). 87-95. *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
- Buckup, P.A & R.E. Reis (1997): Characidiin Genus *Characidium* (Teleostei, Characiformes) in Southern Brazil, with description of three new species. *Copeia* 1997 (3): 531-548
- Graça, W.J. da & C.S. Pavanelli (2008): *Characidium heirmostigmata*, a new characidiin fish (Characiformes: Crenuchidae) from the upper rio Paraná basin, Brazil. *Neotropical Ichthyology* 6 (1): 53-56

table 1. Morphometric data of *Characidium heirmostigmata* (6 specimens) and *C. serrano* (3 specimens)

	<i>C. heirmostigmata</i>	<i>C. serrano</i>
Total length (mm)	63.6-70.6	57.2-62.6
Standard length (mm)	52.0-57.0	46.6-51.7
Percentage of standard length:		
Body depth at dorsal-fin origin	24.6-26.1	19.3-21.9
Body depth at anal-fin origin	16.2-18.3	14.8-16.2
Caudal-peduncle depth	10.8-11.9	9.7-10.8
Head length	25.0-26.7	23.8-26.3
Preanal distance	76.5-78.8	74.5-71.8
Predorsal distance	44.3-47.5	43.6-44.9
Prepectoral distance	24.6-26.1	25.1-25.9
Prepelvic distance	49.7-53.0	46.8-50.1
Body width	15.4-17.0	12.4-14.1
Percentage of head length:		
Snout length	22.4-25.4	24.3-27.0
Orbital diameter	22.4-26.2	27.0-28.7
Anterior naris to orbit	9.0-11.5	11.3-11.8
Posterior naris to orbit	2.2-4.3	2.4-3.7
Snout to maxillary tip	21.7-24.3	22.1-26.1
Interorbital distance	17.0-20.8	14.0-15.3

### recommended form for reference:

Casciotta, J., A. Almirón, K. Doubnerová, L. Piálek & O. Říčan (2015):  
 First records of *Characidium heirmostigmata* and *C. serrano* (Characiformes: Crenuchidae) from freshwaters of Argentina.  
*Ichthyological Contributions of PecesCriollos* 34: 1-3  
 available as pdf-file at [www.pecescrilloos.de](http://www.pecescrilloos.de) since 02.Mar.2015