

# Actinopterygii, Characiformes, Characidae: *Ectrepopterus uruguayensis* (Fowler, 1943): New record for Argentina

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**ABSTRACT:** *Ectrepopterus uruguayensis* Fowler was recently redescribed, with occurrence in lower tributaries of Río de la Plata and lower Río Uruguay, Uruguay. Herein its occurrence is extended and confirmed to Argentina, arroyo El Molino, in Uruguay Department, Entre Ríos Province, Uruguay drainage.

The monotypic genus *Ectrepopterus* Fowler was recently resurrected by Malabarba *et al.* (2012) for *Megalamphodus uruguayensis* Fowler, a small-sized fish (up to 47.4 mm SL) which habit the Uruguayan drainages (figure 7 of Malabarba *et al.* 2012). Diagnostic characters for genus include: i) an incomplete foramen in posterior region of metapterygoid, that serves as passage for the *ramus mandibularis* of the *trigeminus* nerve, bordered posteriorly by the hyomandibula and forming an incomplete arch; ii) pectoral-fin rays bearing hooks; iii) posterior margin of second infraorbital posteroventrally oblique and second infraorbital ventrally bordering anterior region of third infraorbital; iv) fourth infraorbital more developed longitudinally than dorsoventrally; v) ascending process of premaxilla reaching just anterior end of nasal, vi) and lateral line interrupted (Malabarba *et al.* 2012).

Besides these characters, a conspicuous feature of *Ectrepopterus uruguayensis* Fowler is the zigzag pattern of narrow stripes on body (Figure 1), like *Hollandichthys*

*multifasciatus* Eigenmann. This condition, probably, leaded Reichert Lang (2001, p. 104) erroneously identify *Ectrepopterus uruguayensis* as *Hollandichthys multifasciatus* in Uruguay country.

In the original description, Fowler (1943) proposed as diagnose to *Megalamphodus uruguayensis* (= *Ectrepopterus uruguayensis*) the lower lobe of the caudal fin longer than the upper lobe. This character is broadly found in the small Characidae, and not constitutes a diagnostic character for genus, as noted by Malabarba *et al.* (2012), because it is greatly variable amidst specimens. The photographed specimen from the arroyo El Molino (Figure 1) shows this condition, which is absent in the specimen of the figure 5 by Malabarba *et al.* (2012).

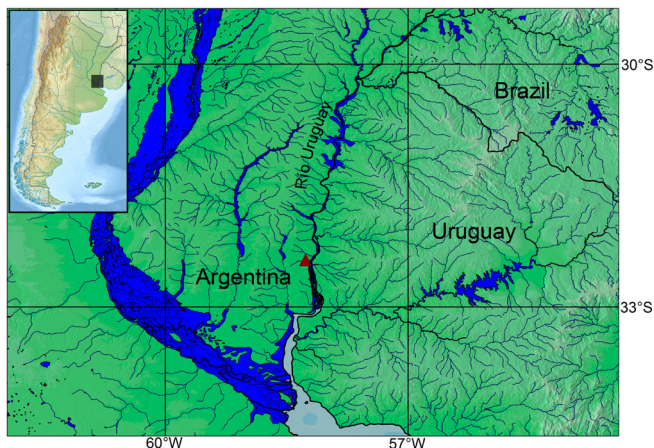
Fowler (1943) described *Megalamphodus* (*Ectrepopterus*) *uruguayensis* (= *E. uruguayensis*) from Uruguay, providing no further locality data. Ever since, few specimens or records for species has been cited in the literature (Géry 1972; Géry 1977; Weitzman and Palmer 1997; Thomaz *et al.* 2010), until to redescription and



**FIGURE 1.** *Ectrepopterus uruguayensis*, ILPLA 1817, female, 44.6 mm SL, El Molino Creek, Entre Ríos Province, Argentina.

resurrection of *Ectrepopterus* by Malabarba *et al.* (2012), that listed many lots of this species but all them restricted to Uruguay.

For Argentina, *Ectrepopterus uruguayensis* was mentioned by Menni (2004) (as *Hyphessobrycon uruguayensis*), but no voucher specimens was found in collections to confirm this record. Herein we record the occurrence of this species, which was collected in an expedition in November 24, 2006 (by E. Etcheverry and L. Protogino, in the El Molino Creek (Figure 2). This stream flows into the Uruguay River, Entre Ríos Province, Uruguay Department. Two female specimens of *Ectrepopterus uruguayensis* were collected with seine and deposited at Instituto de Limnología "Dr. Raúl A. Ringuelet" (ILPLA), La Plata, Argentina (ILPLA 1817).



**FIGURE 2.** Geographical record of *Ectrepopterus uruguayensis* in Argentina: arroyo del Molino, Entre Ríos Province, Uruguay Department, Uruguay River drainage.

Counts and measurements in both individuals followed Fink and Weitzman (1974). Measurements were made with a caliper rule to the nearest 0.01 mm, on the left side of the specimen, and presented as percents of standard length (SL) or head length (HL). Counts of vertebrae, supraneurals, gill-rakers of the first arch, branchiostegal rays, procurrent caudal-fin rays, and small dentary teeth were taken in cleared and stained (c&s) individual prepared according to Taylor and van Dyke (1985). Vertebral counts include the four vertebrae in the Weberian apparatus and the fused PU1+U1 of the caudal region as a single element. Morphometric and meristic data are presented in Table 1. Our observations are congruent with the data provided by Malabarba *et al.* (2012), except for 'Predorsal distance', here 56.1-56.6% SL (vs. 57.0-61.3% SL) and Head length 26.9-27.1% SL (vs. 27.5-32.8% SL). These differences are minimal, and reflect the variability/polymorphism of populations of same species.

El Molino creek is a relatively extensive watercourse, with sections about 50 m wide and pools over 2 m deep. The banks are vegetated with grasses and other plants, and the bottom consists of mud and clay (Figure 3). *Ectrepopterus uruguayensis* were found in river- side of stream (ca. 32°25'S 58°16'W), in low population density. Species collected syntopically with *E. uruguayensis* were: *Cyphocharax spilatus*, *Steindachnerina biornata* (Curimatidae); *Characidium rachovii*, *C. tenue* (Crenuchidae); *Astyanax* sp. A, *Astyanax* sp. B, *Astyanax*

sp. C, *Bryconamericus stramineus*, *Charax stenopterus*, *Cheirodon interruptus*, *Diapoma terofali*, *Oligosarcus jenynsii* (Characidae); *Hoplias malabaricus* (Erythrinidae); *Hisonotus maculipinnis*, *Hypostomus commersonii* (Loricariidae); *Cnesterodon decemmaculatus* (Poeciliidae); *Australoheros cf. facetus*, *A. scitulus*, *Crenicichla scotti*, and *Gymnogeophagus meridionalis* (Cichlidae).

**Additional examined material:** All from Uruguay: ANSP 70331, holotype, female, 29.2 mm SL, 1935, F. Felippone. UFRGS 7899, 39.7 mm SL, arroyo Chapicuy Chico, tributary of Río Uruguay on road 3, Paysandu, Paysandu, 31°37'20"S 57°52'51"W, 10 Sep 2005, L. R. Malabarba and party. UFRGS 7909, 9, 33.1-40.2 mm SL, cañada Cecilia on road 3, km 512, Salto, Salto, 31°16'01"S 57°46'42"W, 9 Sep 2005, L. R. Malabarba and party. UFRGS 7918, 2, 38.9-44.4 mm SL, cañada on road 4, tributary of Río Queguay Grande, Paysandu, Paysandu, 32°12'25"S

**TABLE 1.** Morphometric and meristic data of two females of *Ectrepopterus uruguayensis* from arroyo El Molino, Uruguay Department, Entre Ríos, Argentina Province.

CHARACTER	A	B
Standard length (mm)	40.0	44.6
<b>Percents of standard length</b>		
Predorsal distance	56.1	56.3
Prepelvic distance	49.6	50.6
Prepectoral distance	31.0	29.5
Preanal distance	62.6	65.7
Depth at dorsal-fin origin	46.7	42.6
Caudal peduncle depth	14.2	14.4
Caudal peduncle length	9.6	10.4
Anal-fin base	31.0	29.9
Dorsal-fin base	29.1	28.6
Pelvic-fin length	19.8	16.3
Pectoral-fin length	19.6	19.0
Head length	27.1	26.9
<b>Percents of head length</b>		
Snout length	21.8	24.4
Upper jaw length	56.5	55.7
Orbital diameter	39.0	37.3
Interorbital width	32.7	32.1
<b>Counts</b>		
Dorsal-fin rays	ii,9	ii,9
Pectoral-fin rays	i,10	i,12
Pelvic-fin rays	i,7	i,7
Anal-fin rays	iii,23	iii,22
Caudal principal rays	i,17,i	i,17,i
Dorsal procurrent rays	-	11
Ventral procurrent rays	-	8
Perforated scales	7	7
Scale longitudinal series	35	34
Scale rows/dorsal-fin origin > lateral line	7	7
Scale rows/lateral line > pelvic-fin origin	5	5
Predorsal scales	12	11
Scale rows around caudal peduncle	14	14
Anal-fin base scales	8	8
Total vertebrae	-	33
Supraneurals	-	6
Gill rakers on upper limb	-	6
Gill rakers on lower limb	-	11
Premaxilla teeth	-	7
Maxilla teeth	-	10
Dentary teeth	-	5+13

57°12'47"W, 10 Sep 2005, L. R. Malabarba and party. UFRGS 7945, 36.9 mm SL, cañada on road 4, tributary of Río Queguay Chico, Paysandu, Paysandu, 32°01'57"S 57°19'30"W, 10 Sep 2005, L. R. Malabarba and party.



**FIGURE 3.** Arroyo del Molino in Entre Ríos Province, Argentina: locality of record of *Ectrepopterus uruguayensis*.

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#### LITERATURE CITED

- Fink, W.L. and S.H. Weitzman. 1974. The so-called Cheirodontin fishes of Central America with descriptions of two new species (Pisces: Characidae). *Smithsonian Contributions of Zoology* 172: 1-46.
- Fowler, H.W. 1943. Notes and descriptions of new or little known fishes from Uruguay. *Proceedings of the Academy of Natural Science of Philadelphia* 95: 311-334.
- Géry, J. 1972. Corrected and supplemented descriptions of certain characoid fishes described by Henry W. Fowler, with revisions of several of their genera. *Studies on the Neotropical Fauna* 7: 1-35.
- Géry, J. 1977. *Characoids of the World*. Neptune City: T.H.F. Publications. 672 p.
- Reichert Lang, J.J. 2001. *Atlas ilustrado de los peces de agua dulce del Uruguay*. Rocha: PROBIDES. 327 p.
- Malabarba, L.R., V.A. Bertaco, F.R. Carvalho and T.O. Litz. 2012. Revalidation of the genus *Ectrepopterus* Fowler (Teleostei: Characiformes), with the redescription of its type species, *E. uruguayensis*. *Zootaxa* 3204: 47-60.
- Menni, R.C. 2004. *Peces y ambientes en la Argentina continental*. Monografías del Museo Argentino de Ciencias Naturales, N° 5, Buenos Aires. 316 p.
- Taylor, W.R. and G.C. Van Dyke. 1985. Revised procedures for staining and clearing small fishes and other vertebrates for bone and cartilage study. *Cybiurn* 9: 107-119.
- Thomaz, A.T., L.R. Malabarba and S.L. Bonatto. 2010. The phylogenetic placement of *Hollandichthys* Eigenmann 1909 (Teleostei: Characidae) and related genera. *Molecular Phylogenetics and Evolution* 57(3): 1347-1352.
- Weitzman, S.H. and L. Palmer. 1997. A new species *Hypessobrycon* (Teleostei: Characidae) from the Neblina region of Venezuela and Brazil, with comments on the putative 'rosy tetra clade'. *Ichthyological Exploration of Freshwaters* 7(3): 209-242.

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